



SV660F Series Servo Drive Communication Guide



Industrial
Automation



Intelligent
Elevator



New Energy
Vehicle



Industrial
Robot



Rail
Transit



Data code 19011670A02

Preface

Introduction

The SV660F series high performance AC servo drive provides a power range from 0.05 kW to 7.5 kW. It supports Profinet communication protocol and carries Ethernet communication interfaces to work with the host controller for a networked operation of multiple servo drives.

The SV660N series servo drive supports stiffness level setting, inertia auto-tuning and vibration suppression to simplify the operation process. It allows a quiet and stable operation through cooperating with the MS1 series medium-to-small inertia high-response servo motors configured with a 23-bit multi-turn absolute encoder.

It is suitable for lithium battery PACK, printing and packaging, logistics, automobile manufacturing, tobacco and other industries to achieve fast and accurate collaborative control.

Presents functions and parameters of the servo drive, including Profinet communication configuration, parameter description, and communication application cases.

More documents

Name	Data Code	Description
SV660F Series Servo Drive Selection Guide	19011667	Provides instructions on product selection, including the list of supporting components, technical data on the drive and motor, and the selection guide of cables.
SV660F Series Servo Drive Hardware Guide	19011666	Presents electrical design guidance of the equipment, description of terminals, required certificates and standards and solutions to common EMC problems.
SV660F Series Servo Drive Commissioning Guide	19011668	Presents servo commissioning, parameter descriptions, including the operating panel, commissioning software, commissioning procedure and a parameter list.
SV660F Series Servo Drive Communication Guide	19011670	Presents functions and parameters of the servo drive, including Profinet communication configuration, parameter description, and communication application cases.
SV660F Series Servo Drive Function Guide	19011669	Presents functions and parameters, including function overview, basic servo functions, adjustment and parameter list.

Name	Data Code	Description
SV660F Series Servo Drive installation Guide	19012103	Presents installation of the servo drive, including installation steps, mechanical installation, and electrical installation.
SV660F Series Servo Drive Troubleshooting Guide	19012104	Introduces faults and fault levels, the troubleshooting process, warning codes and fault codes.
SV660F Series Servo Drive Maintenance Guide	19012105	Provides instructions on maintenance and repair of the equipment.
SV660F Series Servo Drive Safety Guide	19012110	Presents the safety function and related certifications and standards, wiring, commissioning process, troubleshooting, and functions.
SV660F Series Servo Drive Manual Package	PS00005951	Provides information on selection, installation, commissioning, function, troubleshooting and parameters of the equipment.

Revision History

Date	Version	Description
2023-10	A02	- Changed the modulo axis activation function code to H02.01, and optimized some contents on the modulo axis. - Added configuration cases for the program block and modulo axis sections. - Optimized section SinaPOS Pins. - Improved the description of the number of slaves in Profinet communication specifications. - Deleted the description for frequency division output, analog, and fully closed loop in parameters. - Added description of H05.80.
2022-11	A01	- Added warranty information in the preface. - Optimized the description of H02.18, and groups H03, H07.07, H0A.27, H0A.90, H0A.91, H0A.92, H17 and H29.27. - Adjusted the range of OverV, OverAcc, OverDec in the description of SinaPos. - Optimized information on the program block.
2022-07	A00	First release

Access to the Guide

This guide is not delivered with the product. You can obtain the PDF version in the following way:

- Do keyword search at <http://www.inovance.com>.
- Scan the QR code on the equipment to acquire more.

- Scan the QR code below to install the app, where you can search for and download manuals.



Warranty

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is not caused by improper operation of the user. You will be charged for any repair work after the warranty period expires.

Within the warranty period, maintenance fee will be charged for the following damage:

- Damage caused by operations not following the instructions in the user guide
- Damage caused by fire, flood, or abnormal voltage
- Damage caused by unintended use of the product
- Damage caused by use beyond the specified scope of application of the product
- Damage or secondary damage caused by force majeure (natural disaster, earthquake, and lightning strike)

The maintenance fee is charged according to the latest Price List of Inovance. If otherwise agreed upon, the terms and conditions in the agreement shall prevail.

For details, see the Product Warranty Card.

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Fundamental Safety Instructions

Safety Precautions

- This chapter presents essential safety instructions for a proper use of the equipment. Before operating the equipment, read through the guide and comprehend all the safety instructions. Failure to comply with the safety precautions may result in death, serious injury, or equipment damage.
- "CAUTION", "WARNING", and "DANGER" items in the guide only indicate some of the precautions that need to be followed; they just supplement the safety precautions.
- Use this equipment according to the designated environment requirements. Damage caused by improper use is not covered by warranty.
- Inovance shall take no responsibility for any personal injuries or property damage caused by improper usage.

Safety Levels and Definitions



Indicates that failure to comply with the notice will result in death or severe personal injuries.



Indicates that failure to comply with the notice may result in death or severe personal injuries.



Indicates that failure to comply with the notice may result in minor or moderate personal injuries or equipment damage.

Fundamental Safety Instructions

- Drawings in the guide are sometimes shown without covers or protective guards. Remember to install the covers or protective guards as specified first, and then perform operations in accordance with the instructions.
- The drawings in the guide are shown for illustration only and may be different from the product you purchased.
- Users must take mechanical precautions to protect personal safety and wear protective equipment, such as anti-smashing shoes, safety clothing, safety glasses, protective gloves, and protective sleeves.

Unpacking



WARNING

- Do not install the equipment if you find damage, rust, or signs of use on the equipment or accessories upon unpacking.
- Do not install the equipment if you find water seepage or missing or damaged components upon unpacking.
- Do not install the equipment if you find the packing list does not conform to the equipment you received.



CAUTION

- Check whether the packing is intact and whether there is damage, water seepage, dampness, and deformation before unpacking.
- Unpack the package by following the unpacking sequence. Do not strike the package violently.
- Check whether there is damage, rust, or injuries on the surface of the equipment and equipment accessories before unpacking.
- Check whether the package contents are consistent with the packing list before unpacking.

Storage and Transportation



WARNING

- Large-scale or heavy equipment must be transported by qualified professionals using specialized hoisting equipment. Failure to comply may result in personal injuries or equipment damage.
- Before hoisting the equipment, ensure the equipment components such as the front cover and terminal blocks are secured firmly with screws. Loosely-connected components may fall off and result in personal injuries or equipment damage.
- Never stand or stay below the equipment when the equipment is being hoisted by the hoisting equipment.
- When hoisting the equipment with a steel rope, ensure the equipment is hoisted at a constant speed without suffering from vibration or shock. Do not turn the equipment over or let the equipment stay hanging in the air. Failure to comply may result in personal injuries or equipment damage.

 CAUTION

- Handle the equipment with care during transportation and mind your steps to prevent personal injuries or equipment damage.
- When carrying the equipment with bare hands, hold the equipment casing firmly with care to prevent parts from falling. Failure to comply may result in personal injuries.
- Store and transport the equipment based on the storage and transportation requirements. Failure to comply will result in equipment damage.
- Avoid storing or transporting the equipment in environments with water splash, rain, direct sunlight, strong electric field, strong magnetic field, and strong vibration.
- Avoid storing the equipment for more than three months. Long-term storage requires stricter protection and necessary inspections.
- Pack the equipment strictly before transportation. Use a sealed box for long-distance transportation.
- Never transport the equipment with other equipment or materials that may harm or have negative impacts on this equipment.

Installation DANGER

- The equipment must be operated only by professionals with electrical knowledge. Non-professionals are not allowed.

 WARNING

- Read through the guide and safety instructions before installation.
- Do not install this equipment in places with strong electric or magnetic fields.
- Before installation, check that the mechanical strength of the installation site can bear the weight of the equipment. Failure to comply will result in mechanical hazards.
- Do not wear loose clothes or accessories during installation. Failure to comply may result in an electric shock.
- When installing the equipment in a closed environment (such as a cabinet or casing), use a cooling device (such as a fan or air conditioner) to cool the environment down to the required temperature. Failure to comply may result in equipment over-temperature or a fire.
- Do not retrofit the equipment.
- Do not fiddle with the bolts used to fix equipment components or the bolts marked in red.
- When the equipment is installed in a cabinet or final assembly, a fireproof enclosure providing both electrical and mechanical protections must be provided. The IP rating must meet IEC standards and local laws and regulations.
- Before installing equipments with strong electromagnetic interference, such as a transformer, install a shielding equipment for the equipment to prevent malfunction.
- Install the equipment onto an incombustible object such as a metal. Keep the equipment away from combustible objects. Failure to comply will result in a fire.

**CAUTION**

- Cover the top of the equipment with a piece of cloth or paper during installation. This is to prevent unwanted objects such as metal chippings, oil, and water from falling into the equipment and causing faults. After installation, remove the cloth or paper on the top of the equipment to prevent over-temperature caused by poor ventilation due to blocked ventilation holes.
- Resonance may occur when the equipment operating at a constant speed executes variable speed operations. In this case, install the vibration-proof rubber under the motor frame or use the vibration suppression function to reduce resonance.

Wiring**DANGER**

- Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed only by professionals.
- Before wiring, cut off all the power supplies of the equipment. and wait for at least the time designated on the equipment warning label before further operations because residual voltage still exists after power-off. After waiting for the designated time, measure the DC voltage in the main circuit to ensure the DC voltage is within the safe voltage range. Failure to comply will result in an electric shock.
- Do not perform wiring, remove the equipment cover, or touch the circuit board with power ON. Failure to comply will result in an electric shock.
- Check that the equipment is grounded properly. Failure to comply can result in electric shock.

**WARNING**

- Do not connect the input power supply to the output end of the equipment. Failure to comply can result in equipment damage or even a fire.
- When connecting a drive to the motor, check that the phase sequences of the drive and motor terminals are consistent to prevent reverse motor rotation.
- Cables used for wiring must meet cross sectional area and shielding requirements. The shield of the cable must be reliably grounded at one end.
- Fix the terminal screws with the tightening torque specified in the user guide. Improper tightening torque may overheat or damage the connecting part, resulting in a fire.
- After wiring is done, check that all cables are connected properly and no screws, washers or exposed cables are left inside the equipment. Failure to comply may result in an electric shock or equipment damage.

**CAUTION**

- Follow the proper electrostatic discharge (ESD) procedure and wear an anti-static wrist strap to perform wiring. Failure to comply may result in damage to the equipment or to the internal circuit of the product.
- Use shielded twisted pairs for the control circuit. Connect the shield to the grounding terminal of the equipment for grounding purpose. Failure to comply will result in equipment malfunction.

Power-on



- Before power-on, check that the equipment is installed properly with reliable wiring and the motor can be restarted.
- Check that the power supply meets equipment requirements before power-on to prevent equipment damage or a fire.
- After power-on, do not open the cabinet door or protective cover of the equipment, touch any terminal, or disassemble any unit or component of the equipment. Failure to comply will result in an electric shock.



- Perform a trial run after wiring and parameter setting to ensure the equipment operates safely. Failure to comply may result in personal injuries or equipment damage.
- Before power-on, check that the rated voltage of the equipment is consistent with that of the power supply. Failure to comply may result in a fire.
- Before power-on, check that no one is near the equipment, motor, or machine. Failure to comply may result in death or personal injuries.

Operation



- The equipment must be operated only by professionals. Failure to comply will result in death or personal injuries.
- Do not touch any connecting terminals or disassemble any unit or component of the equipment during operation. Failure to comply will result in an electric shock.



- Do not touch the equipment casing, fan, or resistor with bare hands to feel the temperature. Failure to comply may result in personal injuries.
- Prevent metal or other objects from falling into the equipment during operation. Failure to comply may result in a fire or equipment damage.

Maintenance



- Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed only by professionals.
- Do not maintain the equipment with power ON. Failure to comply will result in an electric shock.
- Before maintenance, cut off all the power supplies of the equipment and wait for at least the time designated on the equipment warning label.
- In case of a permanent magnet motor, do not touch the motor terminals immediately after power-off because the motor terminals will generate induced voltage during rotation even after the equipment power supply is off. Failure to comply will result in an electric shock.

 WARNING Perform routine and periodic inspection and maintenance on the equipment according to maintenance requirements and keep a maintenance record.
Repair
 DANGER - Equipment installation, wiring, maintenance, inspection, or parts replacement must be performed only by professionals. - Do not repair the equipment with power ON. Failure to comply will result in an electric shock. - Before inspection and repair, cut off all the power supplies of the equipment and wait for at least the time designated on the equipment warning label.
 WARNING - Submit the repair request according to the warranty agreement. - When the fuse is blown or the circuit breaker or earth leakage current breaker (ELCB) trips, wait for at least the time designated on the equipment warning label before power-on or further operations. Failure to comply may result in death, personal injuries or equipment damage. - When the equipment is faulty or damaged, the troubleshooting and repair work must be performed by professionals that follow the repair instructions, with repair records kept properly. - Replace quick-wear parts of the equipment according to the replacement instructions. - Do not use damaged equipment. Failure to comply may result in death, personal injuries, or severe equipment damage. - After the equipment is replaced, check the wiring and set parameters again.
Disposal
 WARNING - Dispose of retired equipment in accordance with local regulations and standards. Failure to comply may result in property damage, personal injuries, or even death. - Recycle retired equipment by observing industry waste disposal standards to avoid environmental pollution.

Additional Precautions

Cautions for the dynamic brake

- Dynamic braking can only be used for emergency stop in case of failure and sudden power failure. Do not trigger failure or power failure frequently.
- Ensure that the dynamic braking function has an operation interval of more than 5 minutes at high speed, otherwise the internal dynamic braking circuit may be damaged.

- Dynamic braking is common in rotating mechanical structures. For example, when a motor has stopped running, it keeps rotating due to the inertia of its load. In this case, this motor is in the regenerative state and short-circuit current passes through the dynamic brake. If this situation continues, the drive, and even the motor, may be burned.

Safety label

For safe equipment operation and maintenance, comply with the safety labels on the equipment. Do not damage or remove the safety labels. The following table describes the meaning of the safety labels.

Safety label	Description
	• Never fail to connect the protective earth (PE) terminal. Read through the guide and follow the safety instructions before use. • Never fail to connect Protective Earth (PE) terminal. Read the manual and follow the safety instructions before use. • Do not touch terminals within 15 minutes after disconnecting the power supply to prevent the risk of electric shock. • Do not touch terminals with 15 minutes after Disconnect the power. Risk of electrical shock. • Do not touch the heatsink with power ON to prevent the risk of burn. • Do not touch heatsink when power is ON. Risk of burn.

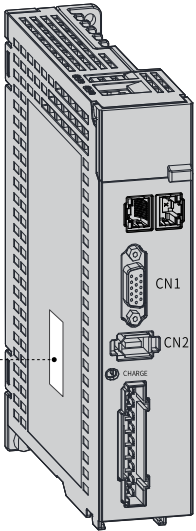
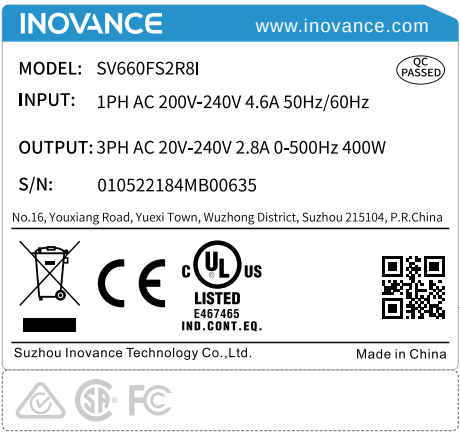
1 Product Information

1.1 Nameplate and Model Number

Nameplate and Model Number

SV660 F S 2R8 I - FH
 ① ② ③ ④ ⑤ ⑥

1 Product Series SV660: SV660 series servo drive	4 Rated output current S: 220 V 1R6: 1.6 A 2R8: 2.8 A 5R5: 5.5 A 7R6: 7.6 A 012: 11.6 A T: 380 V 3R5: 3.5 A 5R4: 5.4 A 8R4: 8.4 A 012: 11.9 A 017: 16.5 A 021: 20.8 A 026: 25.7 A	5 Installation Mode I: Base plate-mounted
2 Product type F: Profinet		6 Non-standard features Blank: standard FH: High protection FS: STO
3 Voltage class S: 220 V T: 380 V		



Encryption of the production serial number

01050202 4 H 7 00001
① ② ③ ④ ⑤

1 Internal code Material code	3 Year 9: 2009 A: 2010 ... N: 2021 ... Note: I/L/O/Q is not used.	5 Lot number 00001: 1st in current month 00002: 2nd in current month 00003: 3rd in current month ... Range: 00001 to 99999
2 Manufacturer code 4: Suzhou Inovance	4 Month 1: January 2: February ... A: October B: November C: December	

Example: The S/N 010502024H700001 indicates the drive is manufactured in July, 2017.

2 Profinet Communication

Profinet is an automation bus standard based on the industrial Ethernet technology. Profinet provides two types of real-time communication: Profinet IO RT and Profinet IO IRT.

In the Profinet IO RT channel, real-time data is transmitted through Ethernet, with no special hardware requirements.

The Profinet I/IRT channel is used to transmit data with more accurate time requirements, with a cycle of up to 500 μ s. But it requires special I/O devices and switches.

All diagnostic and configuration data are transmitted through non-real-time channels.

2.1 Profinet Communication Technical Specifications

Profinet Comprehensive Parameters	
Item	Description
Communication protocol	Profinet
Process data	RT and IRT
Acyclic	Support for access to industry standard parameters and function code parameters
Bus period	RT mode: min. 1 ms IRT mode: min. 500 μ s
Sync jitter	< 1 μ s
Physical layer	100BASE-TX
Baud rate	100 Mbits/s (100Base-TX)
Duplex mode	Full duplex
Topology	Ring, linear, star, and tree types
Transmission medium	Shielded cables of Cat 5e or higher
Number of slaves	Up to 65535 by protocol, not exceeding 100 in actual use
Communication code error rate	10^{-10} Ethernet standard
I&M data	I&M0 to I&M4
Configuration version	TIA Portal V13 SP1 or higher STEP7 V5.5 SP4 or higher
Profinet version	V2.4
Profinet interface	Number of ports: 2

Description	Profinet IO devices, support for medium redundancy
Alarm/diagnosis information	Supported
DCP CALL (search for device)	Supported
MRP (ring-type network)	Supported
MRPD (Quick reset ring-type network)	Supported
Profinet system redundancy	Supported
Start priority	Supported
Disabled port	Supported
No configuration is required when you change the configuration.	Supported

2.2 Messages

2.2.1 Supported Telegrams

The drive supports the application of AC1, AC3 and AC4 and supports standard and Siemens telegrams in speed control and basic positioning controller control. The auxiliary telegrams can only be used with the main telegram. From the drive device point of view, the process data received is the receive word, and the process data to be sent is the transmit word. See the following table for details.

Telegram	Maximum number of PZDs (1 PZD = 1 word)	
	Receive word	Transmit word
Standard telegram 1	2	2
Standard telegram 2	4	4
Standard telegram 3	5	9
Siemens telegram 102	6	10
Siemens telegram 105	10	10
Siemens telegram 111	12	12
Siemens telegram 750 (auxiliary)	3	1
Inovance telegram 850 (auxiliary)	1	1

- **Telegram for speed control mode**

Tele gram	1		2		3		102		105	
Applica tion Mode	AC1		AC1		AC4		AC4		AC4	
PZD1	STW1	ZSW1	STW1	ZSW1	STW1	ZSW1	STW1	ZSW1	STW1	ZSW1
PZD2	NSOLL_A	NIST_A	NSOLL_B	NIST_B	NSOLL_B	NIST_B	NSOLL_B	NIST_B	NSOLL_B	NIST_B
PZD3										
PZD4			STW2	ZSW2	STW2	ZSW2	STW2	ZSW2	STW2	ZSW2
PZD5					G1_STW	G1_ZSW	MOMRED	MELDW	MOMRED	MELDW
PZD6							G1_STW	G1_ZSW	G1_STW	G1_ZSW
PZD7						G1_XIST1			G1_XIST1	XERR
PZD8						G1_XIST2				
PZD9									G1_XIST2	KPC
PZD10										

• Description of auxiliary telegrams

- When the 750 telegram is used, an uncontrollable acceleration occurs when either of the following settings is made:
 - Set the torque upper limit to a negative value through PZD M_LIMIT_POS.
 - Set the torque lower limit to a positive value through PZD M_LIMIT_NEG.

Telegram	750	
Application mode	-	
PZD1	M_ADD1	M_ACT
PZD2	M_LIMIT_POS	-
PZD3	M_LIMIT_NEG	

- When the 850 telegram is used, you can customize the receive word and transmit word, and select the function through H24.35 and H24.36.

Telegram	850	
Application mode	-	
PZD1	USER_SEND	USER_RECIEVE

• Telegrams for basic positioner mode

Telegram	111	
Application mode	AC3	
PZD1	STW1	ZSW1
PZD2	POS_STW1	POS_ZSW1
PZD3	POS_STW2	POS_ZSW2
PZD4	STW2	ZSW2
PZD5	OVERRIDE	MELDW
PZD6	MDI_TARPOS	XIST_A
PZD7		

Telegram	111	
Application mode	AC3	
PZD8	MDI_VELOCITY	NIST_B
PZD9		
PZD10	MDI_ACC	FAULT_CODE
PZD11	MDI_DEC	WARN_CODE
PZD12	User	User

Note

user means user-defined receive word or send word.

2.2.2 IO Data Signal

Signal	Description	Receive/ transmit word	Data Type	Scaling
STW1	Control word 1	Receive word	U16	
STW2	Control word 2	Receive word	U16	
ZSW1	Status word 1	Transmit word	U16	
ZSW2	Status word 2	Transmit word	U16	
NSOLL_A	Speed setpoint A	Receive word	I16	4000H $\hat{=}$ Rated motor speed
NSOLL_B	Speed setpoint B	Receive word	I32	40000000H $\hat{=}$ Rated motor speed
NIST_A	Actual speed A	Transmit word	I16	4000H $\hat{=}$ Rated motor speed
NIST_B	Actual speed B	Transmit word	I32	40000000H $\hat{=}$ Rated motor speed
G1_STW	Encoder 1 control word	Receive word	U16	
G1_ZSW	Encoder 1 status word	Transmit word	U16	
G1_XIST1	Encoder 1 actual position value 1	Transmit word	U32	
G1_XIST2	Encoder 1 actual position 2	Transmit word	U32	
MOMRED	Torque decrease	Receive word	I16	4000H $\hat{=}$ Max. torque
MELDW	Message word	Transmit word	U16	
MDI_TARPOS	MDI position	Receive word	I32	1H $\hat{=}$ 1 LU

Signal	Description	Receive/ transmit word	Data Type	Scaling
MDI_VELOCITY	MDI speed	Receive word	I32	1H $\div$ 1000 LU/ min
MDI_ACC	MDI acceleration override	Receive word	I16	4000H $\div$ 100%
MDI_DEC	MDI deceleration override	Receive word	I16	4000H $\div$ 100%
XIST_A	Actual position A	Transmit word	I32	1H $\div$ 1 LU
OVERRIDE	Position speed override	Receive word	I16	4000H $\div$ 100%
FAULT_CODE	Fault code	Transmit word	U16	
WARN_CODE	Warning code	Transmit word	U16	
User	Customized receive word 0: None 1: Additive torque	Receive word	I16	4000H $\div$ Max. torque/Motor rated torque $\times$ 100%
User	Customized transmit word 0: None 1: Actual torque 2: Actual current 3: DI state	Transmit word	I16	4000H $\div$ Max. torque/Motor rated torque $\times$ 100%

2.2.3 Control Words

● STW1 control word (for messages 1, 2, 3, 102)

Signal	Description
STW1.0	1 = ON (pulse can be enabled) 0 = OFF1 (ramp stop, pulse cleared, and ready to switch on)
STW1.1	1 = No OFF2 (pulse can be enabled) 0 = OFF2 (coast to stop, pulse cleared, and switch-on prohibited)
STW1.2	1 = No OFF3 (pulse can be enabled) 0 = OFF3 (fast stop, pulse cleared, and switch-on prohibited)
STW1.3	1 = Enable allowed 0 = Running prohibited (pulse cleared)
STW1.4	1 = Running condition (enable ramp function generator) 0 = Disable RFG (set RFG output to 0)

Signal	Description
STW1.5	1 = Continue RFG 0 = Freeze RFG output, not applicable to AC4
STW1.6	1 = Setpoint enabled 0 = Setpoint prohibited (set RFG input to 0)
STW1.7	Rising edge-triggered, response fault
STW1.8 to STW1.9	Reserved
STW1.10	1 = Controlled by PLC 0 = Not controlled by PLC
STW1.11 to STW1.13	Reserved
STW1.14	Reserved
STW1.15	Reserved

● **STW1 control word (for message 105)**

Signal	Description
STW1.0	1 = ON (pulse can be enabled) 0 = OFF1 (ramp stop, pulse cleared, and ready to switch on)
STW1.1	1 = No OFF2 (pulse can be enabled) 0 = OFF2 (coast to stop, pulse cleared, and switch-on prohibited)
STW1.2	1 = No OFF3 (pulse can be enabled) 0 = OFF3 (fast stop, pulse cleared, and switch-on prohibited)
STW1.3	1 = Enable allowed 0 = Running prohibited (pulse cleared)
STW1.4	1 = RFG enabled 0 = RFG disabled
STW1.5	1 = Continue RFG 0 = Freeze RFG output, not applicable to AC4
STW1.6	1 = Setpoint enabled 0 = Setpoint prohibited (set RFG input to 0)
STW1.7	Rising edge-triggered, response fault
STW1.8	Reserved
STW1.9	Reserved
STW1.10	1 = Controlled by PLC 0 = Not controlled by PLC
STW1.11 to STW1.13	Reserved
STW1.14	1 = Closed-loop torque control enabled 0 = Closed-loop speed control enabled
STW1.15	Reserved

● **STW1 control word (for message 111)**

Signal	Description
STW1.0	1 = ON (pulse can be enabled) 0 = OFF1 (ramp stop, pulse cleared, and ready to switch on)
STW1.1	1 = No OFF2 (pulse can be enabled) 0 = OFF2 (coast to stop, pulse cleared, and switch-on prohibited)
STW1.2	1 = No OFF3 (pulse can be enabled) 0 = OFF3 (fast stop, pulse cleared, and switch-on prohibited)
STW1.3	1 = Enable allowed 0 = Running prohibited (pulse cleared)
STW1.4	1 = Do not refuse to run task 0 = Refuse to run task
STW1.5	1 = Do not pause task 0 = Pause task
STW1.6	Rising edge-triggered, activate operation task
STW1.7	Rising edge-triggered, response fault
STW1.8	1 = Start JOG1 0 = Stop JOG1
STW1.9	1 = Start JOG2 0 = Stop JOG2
STW1.10	1 = Controlled by PLC 0 = Not controlled by PLC
STW1.11 to STW1.12	Reserved
STW1.13	1 = External program block switchover
STW1.14	1 = Closed-loop torque control
STW1.15	Reserved

● **STW2 control word (for messages 2, 3, 102, 105)**

Signal	Description
STW2.0 to STW2.7	Reserved
STW2.8	1 = Run to the stopper
STW2.9 to STW2.11	Reserved
STW2.12	PLC heartbeat count value, bit 0
STW2.13	PLC heartbeat count value, bit 1
STW2.14	PLC heartbeat count value, bit 2
STW2.15	PLC heartbeat count value, bit 3

● **G1_STW status word (for messages 3, 102 and 105)**

Signal	Description
G1_STW.0	• When G1_STW.7 = 0, search for reference point 1 • When G1_STW.7 = 1, probe 1 positive edge
G1_STW.1	1: • When G1_STW.7 = 0, search for reference point 2 • When G1_STW.7 = 1, probe 1 negative edge
G1_STW.2	1: • When G1_STW.7 = 0, search for reference point 3 • When G1_STW.7 = 1, probe 2 positive edge
G1_STW.3	1: • When G1_STW.7 = 0, search for reference point 4 • When G1_STW.7 = 1, probe 2 positive edge
G1_STW.4	
G1_STW.5	
G1_STW.6	
G1_STW.7	1 = Real-time measurement 0 = Search for reference point
G1_STW.8 to G1_STW.10	Reserved
G1_STW.11	1 = Relative position 0 = Absolute position
G1_STW.12	Rising-edge triggered, request for zero setting
G1_STW.13	Rising-edge triggered, request for cyclic transmission of the absolute position in G1_XIST2
G1_STW.14	Parking encoder
G1_STW.15	Rising edge-triggered, response encoder fault

● **POS_STW1 position control word (for telegram 111)**

Signal	Description
POS_STW1.0	Program block selection, bit 0
POS_STW1.1	Program block selection, bit 1
POS_STW1.2	Program block selection, bit 2
POS_STW1.3	Program block selection, bit 3
POS_STW1.4	Program block selection, bit 4
POS_STW1.5	Program block selection, bit 5
POS_STW1.6 to POS_STW1.7	Reserved
POS_STW1.8	1 = Absolute positioning 0 = Relative positioning
POS_STW1.9	1 = Forward run

Signal	Description
POS_STW1.10	1 = Reverse run
POS_STW1.11	Reserved
POS_STW1.12	1 = Continuous transmission 0 = Activate MDI program block change by by running program block (STW1.6) rising edge
POS_STW1.13	Reserved
POS_STW1.14	1 = Setup signal selected 0 = Positioning signal selected
POS_STW1.15	1 = MDI selection 0 = Program block sub-mode

● **POS_STW2 position control word (for telegram 111)**

Signal	Description
POS_STW2.0	1 = Tracking mode enabled
POS_STW2.1	1 = Set reference point
POS_STW2.2	1 = Reference point stopper activated
POS_STW2.3 to POS_STW2.4	Reserved
POS_STW2.5	1: Jog increment effective 0 = Speed effective
POS_STW2.6 to POS_STW2.8	Reserved
POS_STW2.9	1 = Start reverse search for reference point 0 = Start forward search for reference point
POS_STW2.10 to POS_STW2.13	Reserved
POS_STW2.14	1 = Software limit switch activated 0 = Software limit switch deactivated
POS_STW2.15	1 = Stopper activated

2.2.4 Status Words

● **ZSW1 status word (for telegrams 1, 2 and 3)**

Signal	Description
ZSW1.0	1 = Ready to switch on 0 = Not ready to switch on
ZSW1.1	1 = Ready to run, power supplied by main circuit 0 = Not ready to run
ZSW1.2	1 = Operation enabled 0 = Operation not enabled

Signal	Description
ZSW1.3	1 = Faulty 0 = Normal
ZSW1.4	1 = Coast to stop disabled 0 = Coast to stop enabled
ZSW1.5	1 = Fast stop disabled 0 = Fast stop enabled
ZSW1.6	1 = Switch-on prohibit enabled 0 = Switch-on prohibit disabled
ZSW1.7	1 = Warning 0 = No warning
ZSW1.8	1 = Speed error within tolerance 0 = Speed error exceeds tolerance
ZSW1.9	1 = Control request 0 = No control request
ZSW1.10	1 = Reached or exceeded frequency/speed comparison value 0 = Not reached or exceeded frequency/speed comparison value
ZSW1.11	1 = Limit of I, M or P reached
ZSW1.12	1 = Release the motor brake
ZSW1.13	1: No motor over-temperature alarm
ZSW1.14	1 = Motor forward run ($n_{act} \geq 0$) 0 = Motor reverse run ($n_{act} < 0$)
ZSW1.15	1 = No overheat or overload alarm in the power unit

• **ZSW1 status word (for telegram 102)**

Signal	Description
ZSW1.0	1 = Ready to switch on 0 = Not ready to switch on
ZSW1.1	1 = Ready to run, power supplied by main circuit 0 = Not ready to run
ZSW1.2	1 = Operation enabled 0 = Operation not enabled
ZSW1.3	1 = Faulty 0 = Normal
ZSW1.4	1 = Coast to stop disabled 0 = Coast to stop enabled
ZSW1.5	1 = Fast stop disabled 0 = Fast stop enabled
ZSW1.6	1 = Switch-on prohibit enabled 0 = Switch-on prohibit disabled
ZSW1.7	1 = Warning 0 = No warning

Signal	Description
ZSW1.8	1 = Speed error within tolerance 0 = Speed error exceeds tolerance
ZSW1.9	1 = Control request 0 = No control request
ZSW1.10	1 = Reached or exceeded frequency/speed comparison value 0 = Not reached or exceeded frequency/speed comparison value
ZSW1.11	1 = Limit of I, M or P reached
ZSW1.12	1 = Brake released 0 = Brake not released
ZSW1.13	1: No motor over-temperature alarm 0: Motor over-temperature alarm
ZSW1.14	1 = Motor forward run ($n_{act} \geq 0$) 0 = Motor reverse run ($n_{act} < 0$)
ZSW1.15	1 = No overheat alarm in the power unit 0 = Heat alarm occurs in the power unit

● **ZSW1 status word (for telegram 105)**

Signal	Description
ZSW1.0	1 = Ready to switch on 0 = Not ready to switch on
ZSW1.1	1 = Ready to run, power supplied by main circuit 0 = Not ready to run
ZSW1.2	1 = Operation enabled 0 = Operation not enabled
ZSW1.3	1 = Faulty 0 = Normal
ZSW1.4	1 = Coast to stop disabled 0 = Coast to stop enabled
ZSW1.5	1 = Fast stop disabled 0 = Fast stop enabled
ZSW1.6	1 = Switch-on prohibit enabled 0 = Switch-on prohibit disabled
ZSW1.7	1 = Warning 0 = No warning
ZSW1.8	1 = Speed error within tolerance 0 = Speed error exceeds tolerance
ZSW1.9	1 = Control request 0 = No control request
ZSW1.10–ZSW1.13	Reserved
ZSW1.14	1 = Closed-loop torque control enabled
ZSW1.15	Reserved

● **ZSW1 status word (for telegram 111)**

Signal	Description
ZSW1.0	1 = Ready to switch on 0 = Not ready to switch on
ZSW1.1	1 = Ready to run, power supplied by main circuit 0 = Not ready to run
ZSW1.2	1 = Operation enabled 0 = Operation not enabled
ZSW1.3	1 = Faulty 0 = Normal
ZSW1.4	1 = Coast to stop disabled 0 = Coast to stop enabled
ZSW1.5	1 = Fast stop disabled 0 = Fast stop enabled
ZSW1.6	1 = Switch-on prohibit enabled 0 = Switch-on prohibit disabled
ZSW1.7	1 = Warning 0 = No warning
ZSW1.8	1 = Position following error within tolerance 0 = Position following error exceeds tolerance
ZSW1.9	1 = Control request 0 = No control request
ZSW1.10	1 = Target position reached 0 = Target position not reached
ZSW1.11	1 = Reference point is set, back to reference point is executed, reference point is valid 0 = Reference point not set
ZSW1.12	Rising edge move task confirmed, accept new move tasks or confirm MDI setpoint through the rising edge
ZSW1.13	1 = Drive stopped 0 = Drive is running
ZSW1.14	1 = Axis accelerated
ZSW1.15	1 = Axis decelerated

● **ZSW2 status word (for messages 2, 3, 102, 105)**

Signal	Description
ZSW2.0–ZSW2.7	Reserved
ZSW2.8	1 = Run to the stopper
ZSW2.9	Reserved
ZSW2.10	1 = Pulse enabled
ZSW2.11	Reserved
ZSW2.12	Drive heartbeat count value, uploaded to PLC, bit 0

Signal	Description
ZSW2.13	Drive heartbeat count value, uploaded to PLC, bit 1
ZSW2.14	Drive heartbeat count value, uploaded to PLC, bit 2
ZSW2.15	Drive heartbeat count value, uploaded to PLC, bit 3

● **G1_ZSW status word (for telegrams 3, 102 and 105)**

Signal	Description
G1_ZSW.0	1 = Function 1 activated
G1_ZSW.1	1 = Function 2 activated
G1_ZSW.2	1 = Function 3 activated
G1_ZSW.3	1 = Function 4 activated
G1_ZSW.4	1 = Actual value 1 readable
G1_ZSW.5	1 = Actual value 2 readable
G1_ZSW.6	1 = Actual value 3 readable
G1_ZSW.7	1 = Actual value 4 readable
G1_ZSW.8	Touch probe 1
G1_ZSW.9	Touch probe 2
G1_ZSW.10	Reserved
G1_ZSW.11	Response encoder fault
G1_ZSW.12	Set zero response
G1_ZSW.13	Cyclic transmission of the absolute position in G1_XIST2
G1_ZSW.14	Reserved encoder activated
G1_ZSW.15	The encoder is faulty.

● **POS_ZSW1 status word (for telegram 111)**

Signal	Description
POS_ZSW1.0	Running program block, bit 0
POS_ZSW1.1	Running program block, bit 1
POS_ZSW1.2	Running program block, bit 2
POS_ZSW1.3	Running program block, bit 3
POS_ZSW1.4	Running program block, bit 4
POS_ZSW1.5	Running program block, bit 5
POS_ZSW1.6 to POS_ZSW1.7	Reserved
POS_ZSW1.8	1 = Reverse stopper activated 0 = Reverse stopper not activated
POS_ZSW1.9	1 = Forward stopper activated 0 = Forward stopper not activated
POS_ZSW1.10	1 = Jog mode activated 0 = Jog mode not activated
POS_ZSW1.11	1 = Back to reference point activated

Signal	Description
POS_ZSW1.12	Reserved
POS_ZSW1.13	1 = Operating program block activated
POS_ZSW1.14	1 = Setting effective
POS_ZSW1.15	1 = MDI enabled 0 = MDI disabled

● **POS_ZSW2 status word (for telegram 111)**

Signal	Description
POS_ZSW2.0	1 = Tracking mode enabled
POS_ZSW2.1	1 = Speed limit enabled
POS_ZSW2.2	1 = Setpoint is available
POS_ZSW2.3	Reserved
POS_ZSW2.4	1 = Axis moves forward 0 = Axis not moving
POS_ZSW2.5	1 = Axis moves reversely 0 = Axis not moving
POS_ZSW2.6	1 = Hit negative soft limit switch 0 = Not hit negative soft limit switch
POS_ZSW2.7	1 = Hit positive soft limit switch 0 = Not hit positive soft limit switch
POS_ZSW2.8	1 = Position actual value $\leq$ Limit switch position 1
POS_ZSW2.9	1 = Position actual value $\leq$ Limit switch position 2
POS_ZSW2.10	1 = Direct output 1 set through the running program block
POS_ZSW2.11	1 = Direct output 2 set through the running program block
POS_ZSW2.12	1 = Fixed stop point reached
POS_ZSW2.13	1 = Fixed stop point clamped torque reached
POS_ZSW2.14	1 = Run to fixed stop point enabled
POS_ZSW2.15	Reserved

2.3 AC1 mode

2.3.1 Overview

Siemens S7-200 Smart, S7-1200, S7-1500PLC can perform speed control with the drive through Profinet. The Profinet RT communication mode and standard telegram 1 are used. A PLC is used for start-up and speed setting. Speed control calculation is done within the servo drive.

2.3.2 Configuration Notes

1. Connect the PC to CN3 or CN4 of the drive through a communication cable. Go to network configuration in the commissioning software, and set the device name and IP address of the servo drive as shown in the figure.

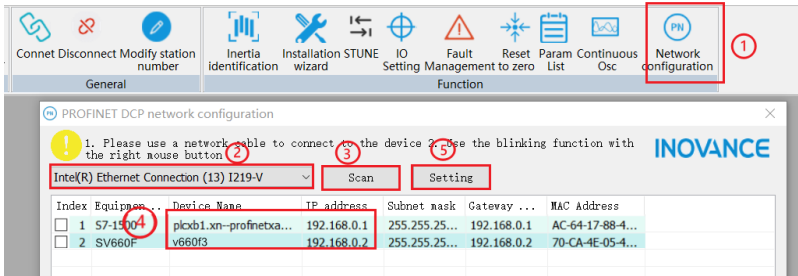


Figure 2-1 Setting the device name and IP address

2. Installing SV660F GSD file: Run the PLC programming software → Options → Manage general-purpose station description file.

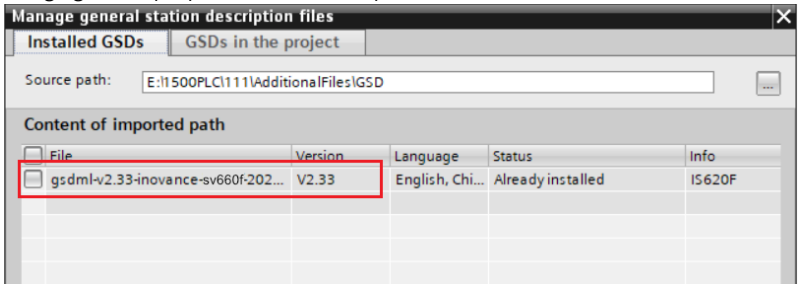


Figure 2-2 Installing the GSD file

3. Select Device and Network, and import SV660F and establish connection with the PLC in the network view.

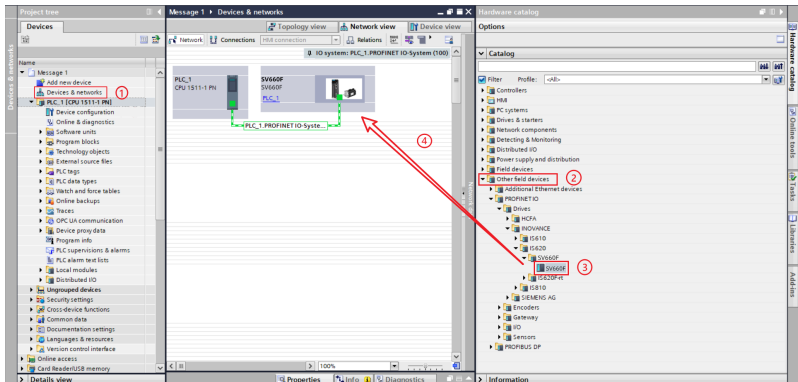


Figure 2-3 Connecting the PLC and drive

4. Double-click SV660F in the device view and add telegram 1.

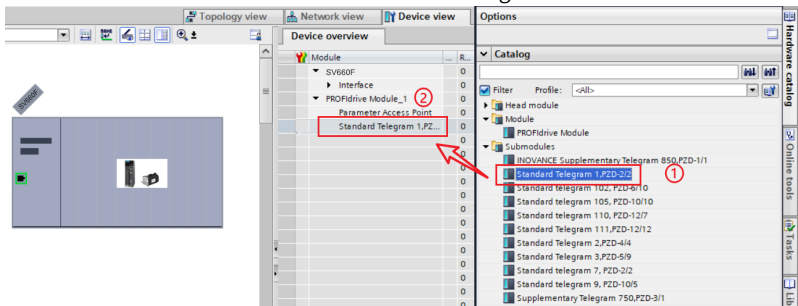


Figure 2-4 Adding telegram 1

5. Find the hardware identifier: Select telegram 1 and right click. Select System constant → Hardware identifier.

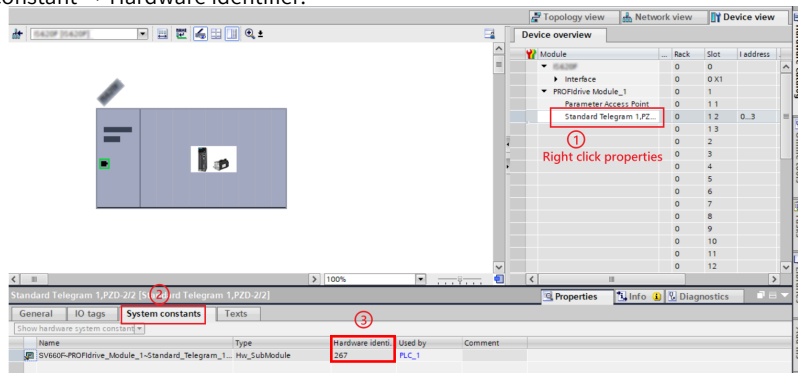


Figure 2-5 Finding hardware identifier

6. Drag and drop the SINA_Speed (FB285) block to the programming network.

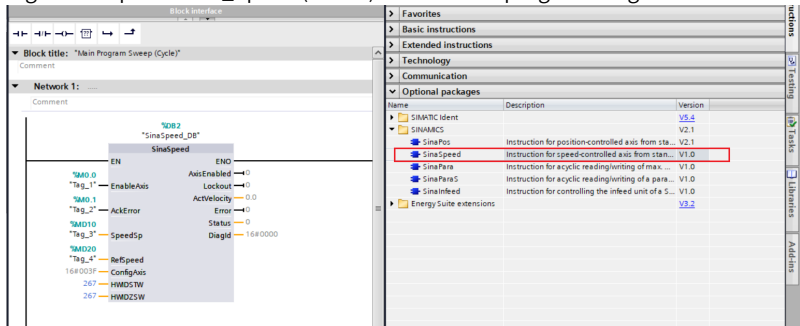


Figure 2-6 Using FB285 function block

7. Note that in the device view, the configured IP address and device name must be consistent with the IP address and device name set in the commissioning software.

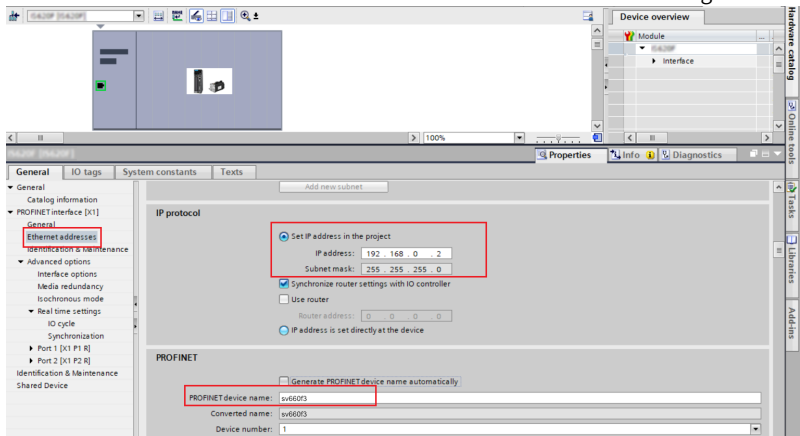


Figure 2-7 Configuring the IP address and device name

2.4 AC3 mode

2.4.1 Overview

S7-1200 and 1500 PLC can be connected to the drive through Profinet communication and set the control mode of the drive to "Basic Position Control (EPOS)". The PLC performs basic positioning control through telegram 111 and SINA_POS (FB284) in the drive library provided by TIA Portal.

2.4.2 Configuration Notes

1. Add the drive to the network view and create network connection with the PLC.

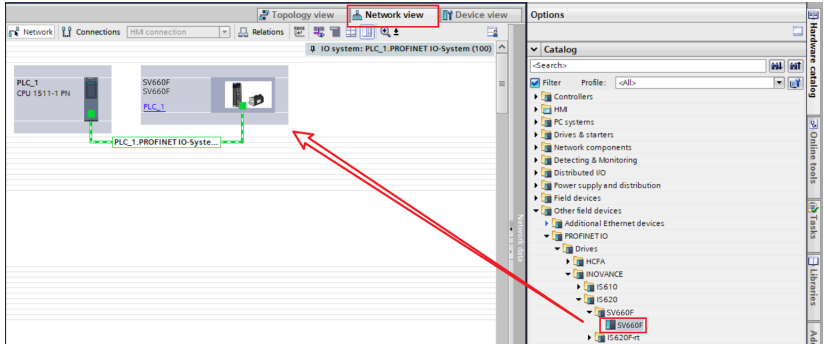


Figure 2-8 Connecting the PLC and drive

2. Delete telegram 3 and replace it with telegram 111.

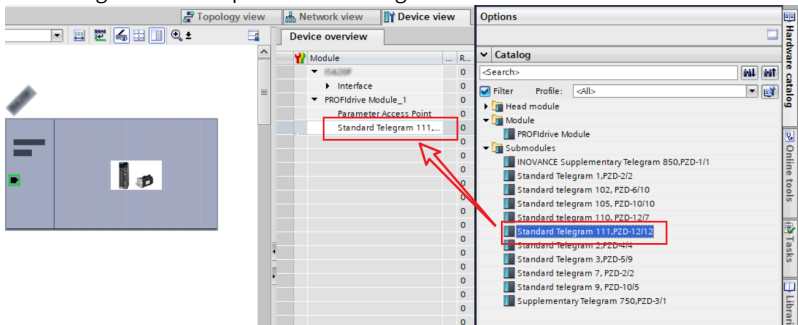


Figure 2-9 Adding telegram 111

3. Set the IP address of the PLC and the drive. Set the Profinet device name.

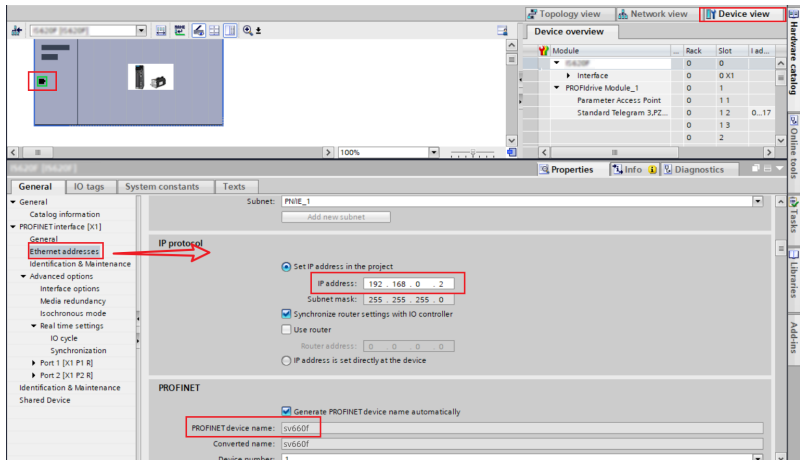


Figure 2-10 Configuring the IP address and device name

4. Apply the SinaPOS function block in the main program.

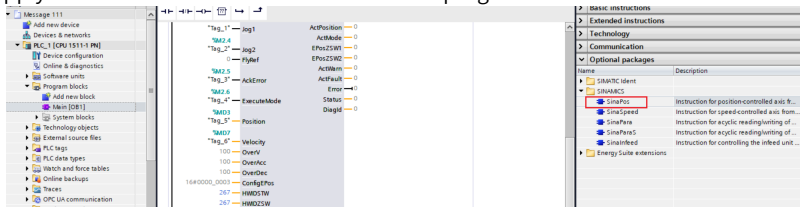


Figure 2-11 Using the SinaPOS function block

5. Assignments of HWI DSTW and HWI DSZW: Device view → Double-click "SV660F" → Right-click "Telegram 111" → Select "Properties".

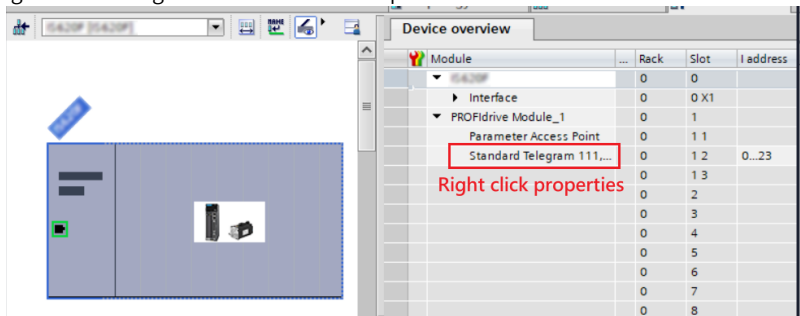


Figure 2-12 Assigning value to function block

6. Find the hardware identifier in the system constant.

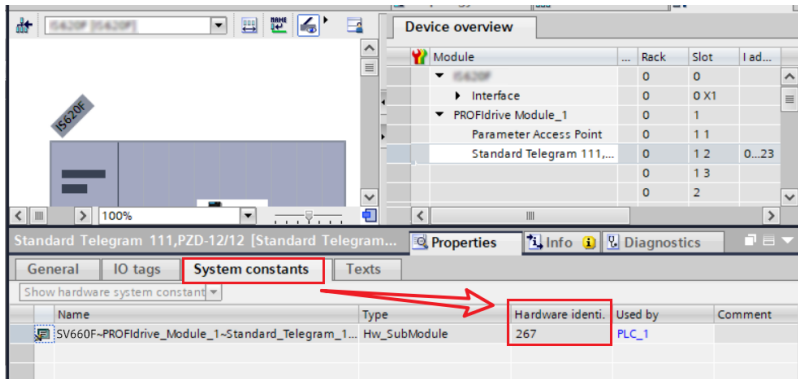


Figure 2-13 Finding hardware identifier

7. If torque limit and torque read is needed, set H24.38 and H24.39 to 1.

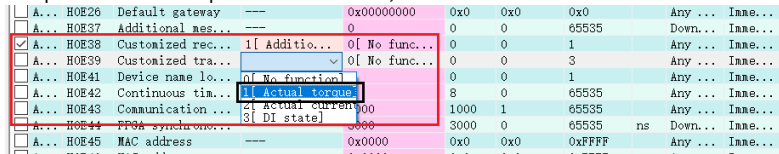


Figure 2-14 Torque function setting

8. Telegram 111 configuration is completed.

2.4.3 SinaPOS Pins

Pin	Data type	Default	Description
Input			
ModePos	INT	0	Operation mode: 1: MDI relative positioning 2: MDI absolute positioning 3: MDI adjustment mode (run continuously at the specified speed) 4: Homing mode 5: Set homing mode 6: Running program blocks 0 to 15 7: Jog 8: Jog increment
EnableAxis	BOOL	0	0: OFF 1: ON
CancelTransng	BOOL	1	0: Cancel 1: Do not cancel
IntermediateStop	BOOL	1	0: Pause task 1: Do not pause

Pin	Data type	Default	Description
Jog1	BOOL	0	Jog in the reverse direction
Jog2	BOOL	0	Forward jog
AckError	BOOL	0	Fault reset
ExecuteMode	BOOL	0	Active positioning or receive set point
Position	DINT	0[LU]	MDI position
Velocity	DINT	0 [LU/min]	MDI speed setting 1000 [LU/min]
OverV	INT	100[%]	Speed ratio 1.0% to 199.00%
OverAcc	INT	100[%]	Speed ratio 1.0% to 100.00%
OverDec	INT	100[%]	Deceleration ratio 1.0% to 100.00%
configEPOS	DWORD	3	The control bit of the 111 telegram can be used to transmit signals such as hardware limit enabling and home switch. If variables are assigned to the pin in the program, ensure that both ConfigEpos.%X0 and ConfigEpos.%X1 are 1, so that the drive can run. ConfigEpos.%X0: OFF2 stop ConfigEpos.%X1: OFF3 stop ConfigEpos.%X2: Enable software limit ConfigEpos.%X3: Enable hardware limit ConfigEpos.%X6: Home switch ConfigEpos.%X7: External program switchover ConfigEpos.%X8: When ModePos = 2, the setpoint can change continuously and takes effect in real time.
HWIDSTW	HW_IO	0	Hardware identifier for telegram 111
Output			
Error	BOOL	0	1: error
Status	Word	0	Display Status
DiagID	Word	0	Expansion communication fault
ErrorID	INT	0	Operation mode error/block error: 0: No error 1: Communication activated 2: Incorrect operation mode selected 3: Incorrect parameter setting 4: Invalid running block number 5: Drive fault activated 6: Switch prohibition activated 7: Homing cannot start during operation
AxisEnabled	BOOL	0	Drive enabled
AxisError	BOOL	0	3. The servo drive is faulty.
AxisWarn	BOOL	0	Drive alarm
AxisPosOK	BOOL	0	The target position is reached.
AxisRef	BOOL	0	Completion of return to zero
ActVelocity	DINT	0[LU/min]	Actual speed (40000000h corresponds to the speed set by H00.14)
ActPosition	DINT	0[LU/min]	Current position LU

Pin	Data type	Default	Description
ActMode	INT	0	Current running mode
EposZSW1	WORD	0	EPOS ZSW1 state
EposZSW2	WORD	0	EPOS ZSW2 state
ActWarn	WORD	0	Warning code
ActFault	WORD	0	Error code

2.4.4 Telegram 111 Homing Mode

H25.22 = 1

Mechanical home: Z signal

Deceleration point: negative limit switch (N-OT)

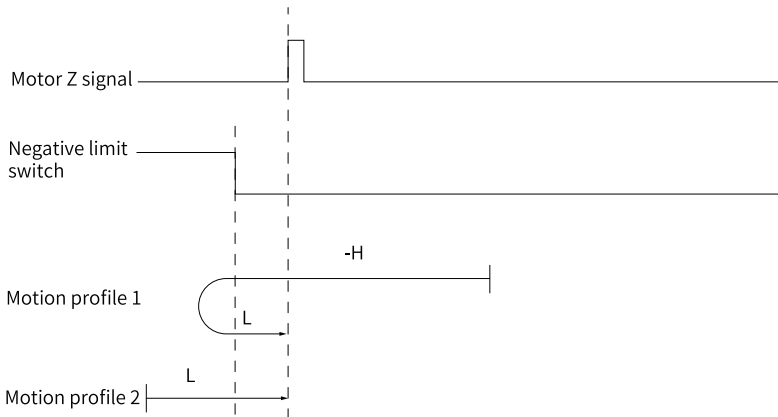


Figure 2-15 Motor running curve and speeds in Mode 1

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

Note

Note: In the figure, "H" represents high speed H25.23, and "L" represents low speed H25.25, and "-" indicates reverse run.

H25.22 = 2

Home: Z signal

Deceleration point: positive limit switch (P-OT)

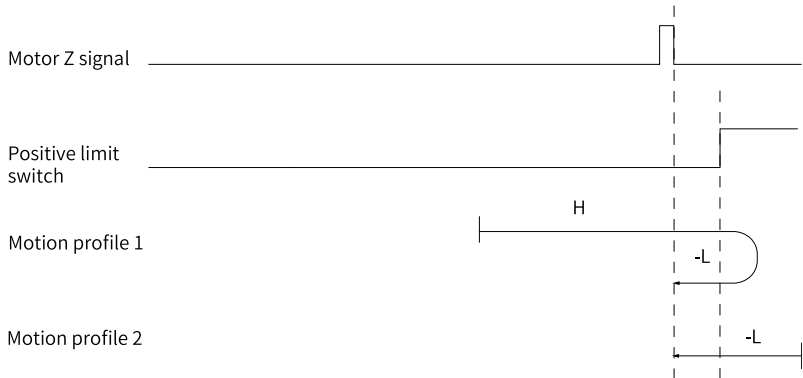


Figure 2-16 Motor running curve and speeds in Mode 2

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 3

Home: Z signal

Deceleration point: home switch (HW)

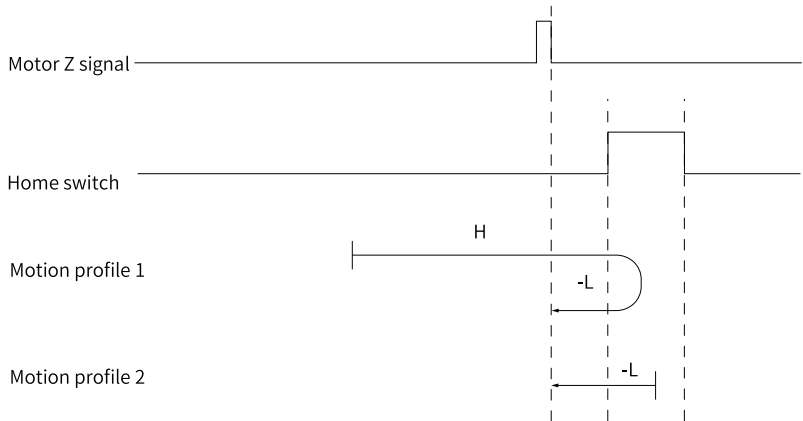


Figure 2-17 Motor running curve and speeds in Mode 3

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 4

Home: Z signal

Deceleration point: home switch (HW)

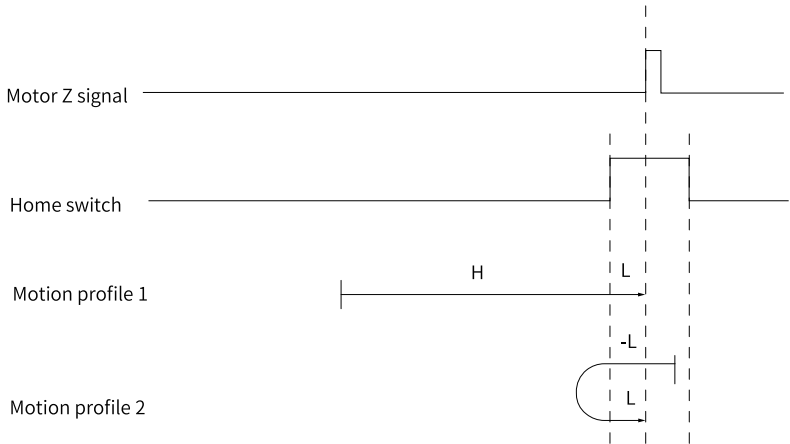


Figure 2-18 Motor running curve and speeds in Mode 4

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 5

Home: Z signal

Deceleration point: home switch (HW)

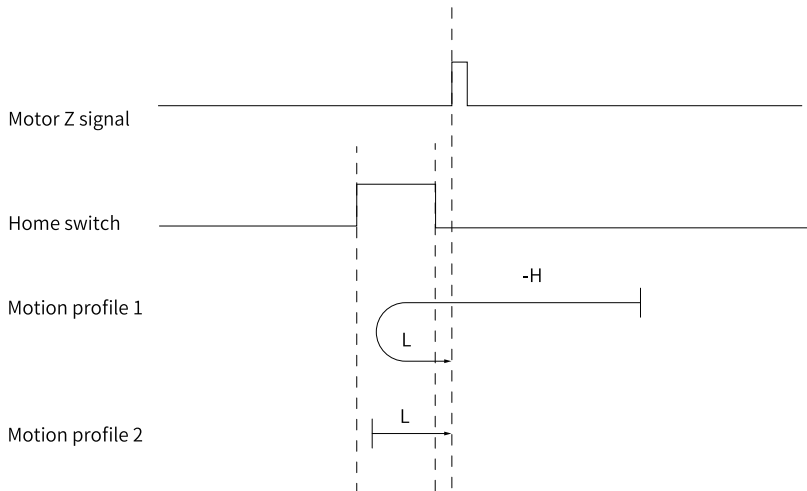


Figure 2-19 Motor running curve and speeds in Mode 5

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 6

Home: Z signal

Deceleration point: home switch (HW)

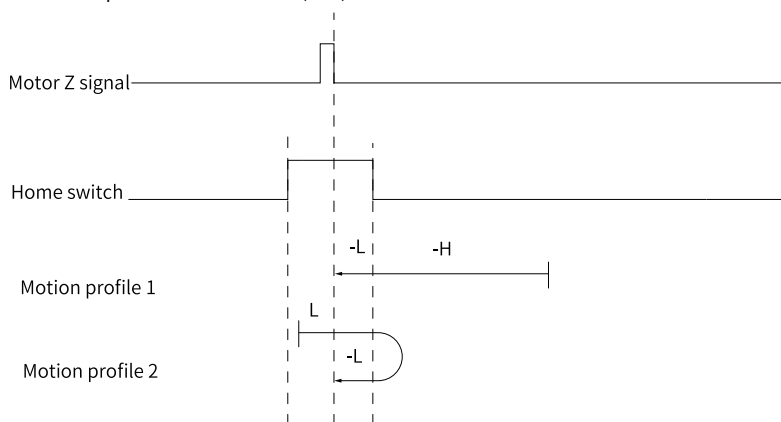


Figure 2-20 Motor running curve and speeds in Mode 6

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 7

Home: Z signal

Deceleration point: home switch (HW)

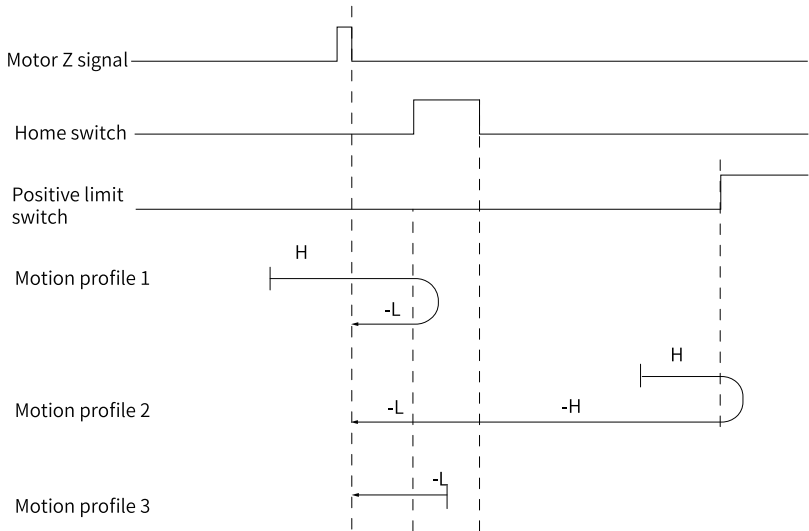


Figure 2-21 Motor running curve and speeds in Mode 7

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 8

Home: Z signal

Deceleration point: home switch (HW)

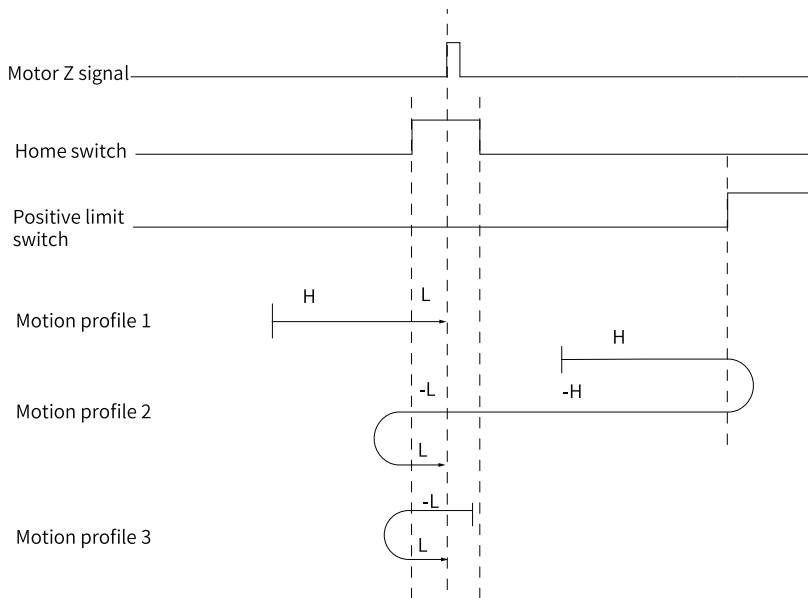


Figure 2-22 Motor running curve and speeds in Mode 8

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 9

Home: Z signal

Deceleration point: home switch (HW)

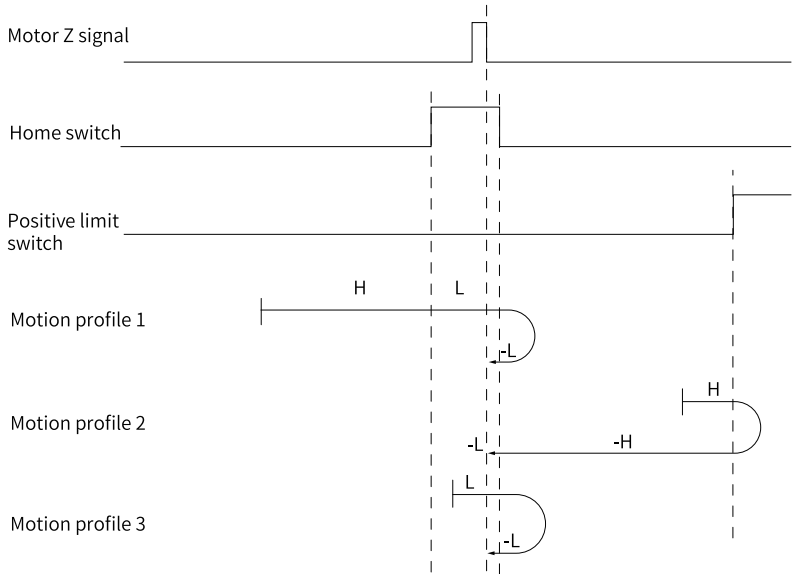


Figure 2-23 Motor running curve and speeds in Mode 9

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 10

Home: Z signal

Deceleration point: home switch (HW)

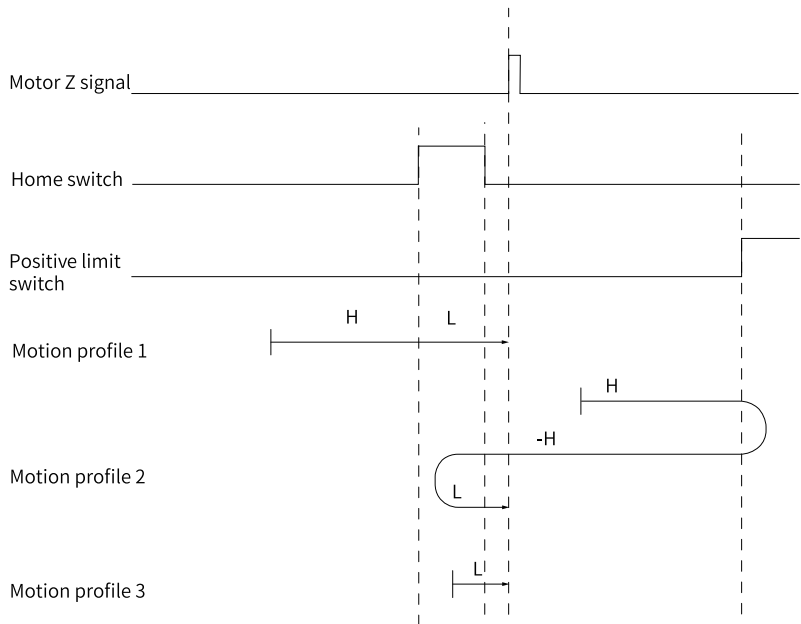


Figure 2-24 Motor running curve and speeds in Mode 10

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 11

Home: Z signal

Deceleration point: home switch (HW)

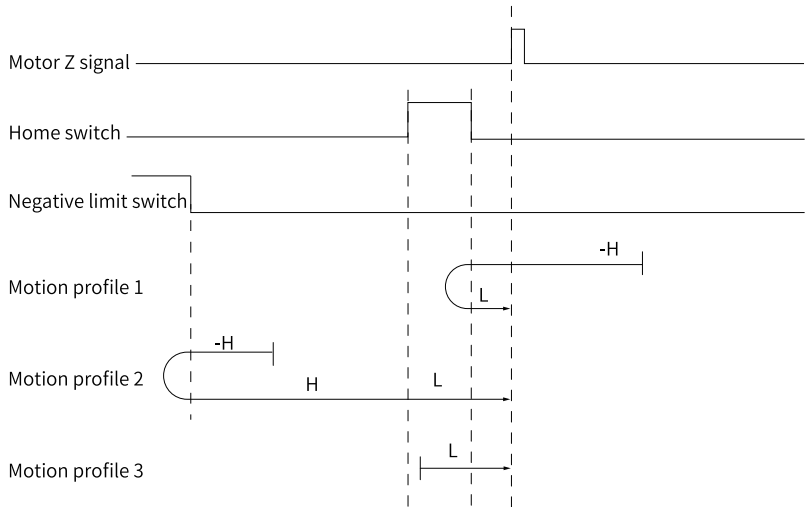


Figure 2-25 Motor running curve and speeds in Mode 11

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 12

Home: Z signal

Deceleration point: home switch (HW)

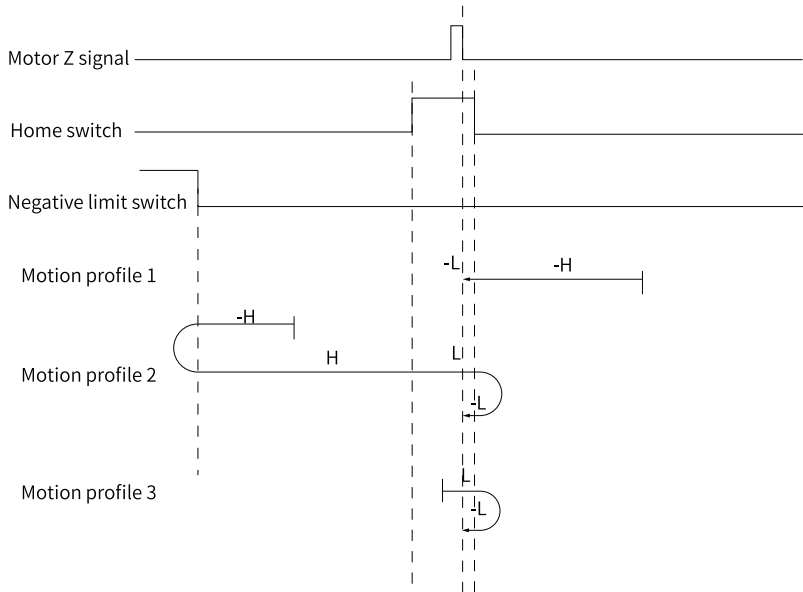


Figure 2-26 Motor running curve and speeds in Mode 12

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 13

Home: Z signal

Deceleration point: home switch (HW)

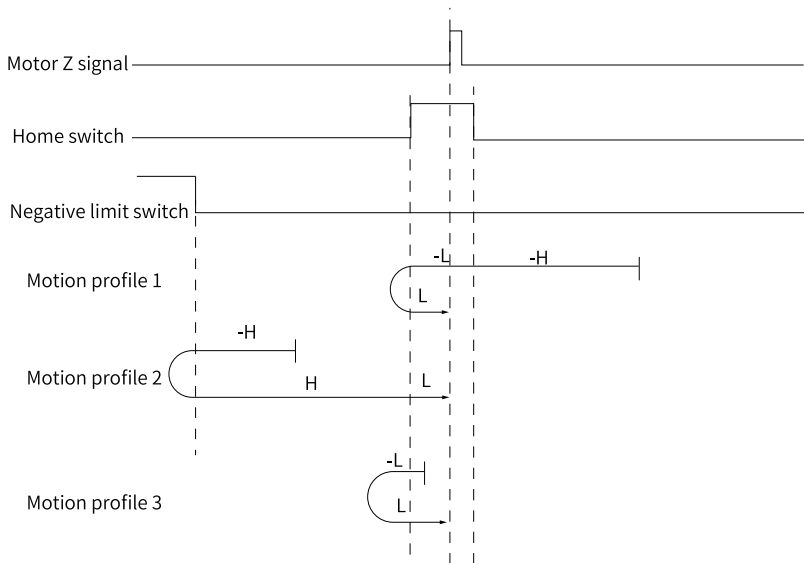


Figure 2-27 Motor running curve and speeds in Mode 13

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 14

Home: Z signal

Deceleration point: home switch (HW)

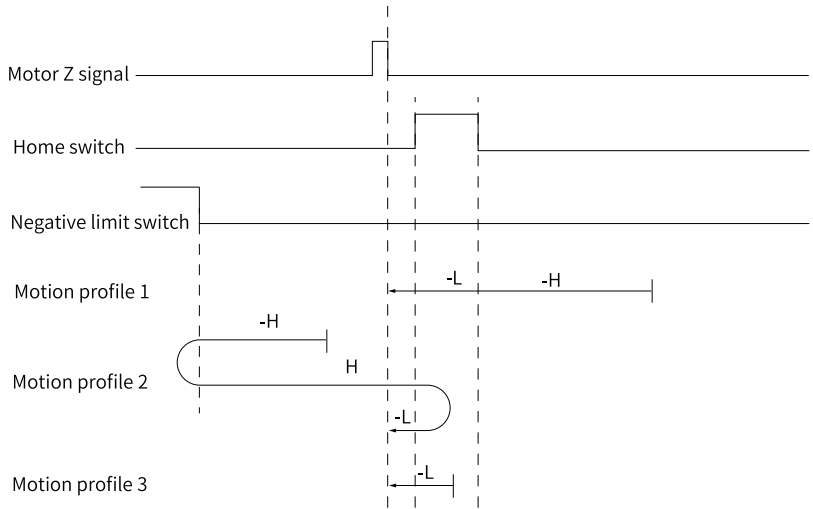


Figure 2-28 Motor running curve and speeds in Mode 14

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 17

Home: negative limit switch

Deceleration point: negative limit switch (N-OT)

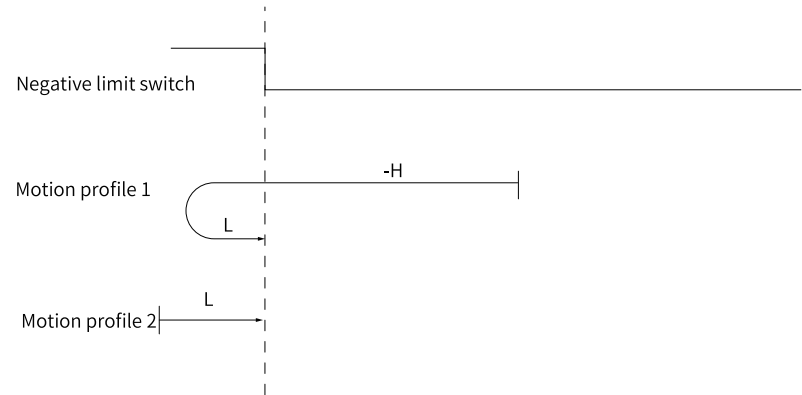


Figure 2-29 Motor running curve and speeds in Mode 17

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 18

Home: positive limit switch

Deceleration point: positive limit switch (P-OT)

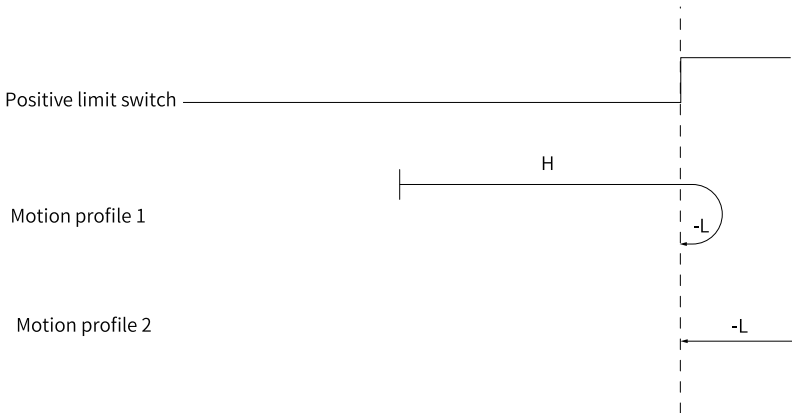


Figure 2-30 Motor running curve and speeds in Mode 18

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 19

Home: home switch (HW)

Deceleration point: home switch (HW)

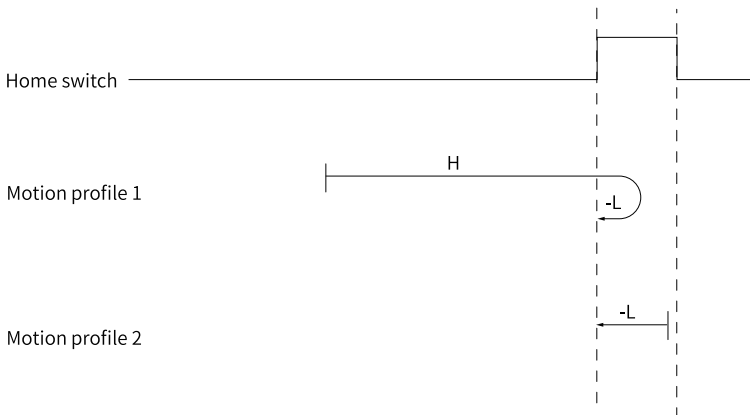


Figure 2-31 Motor running curve and speeds in Mode 19

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 20

Home: home switch (HW)

Deceleration point: home switch (HW)

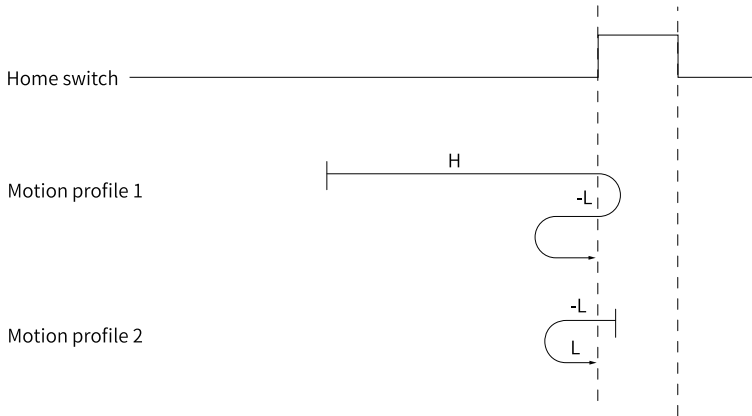


Figure 2-32 Motor running curve and speeds in Mode 20

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 21

Home: home switch (HW)

Deceleration point: home switch (HW)

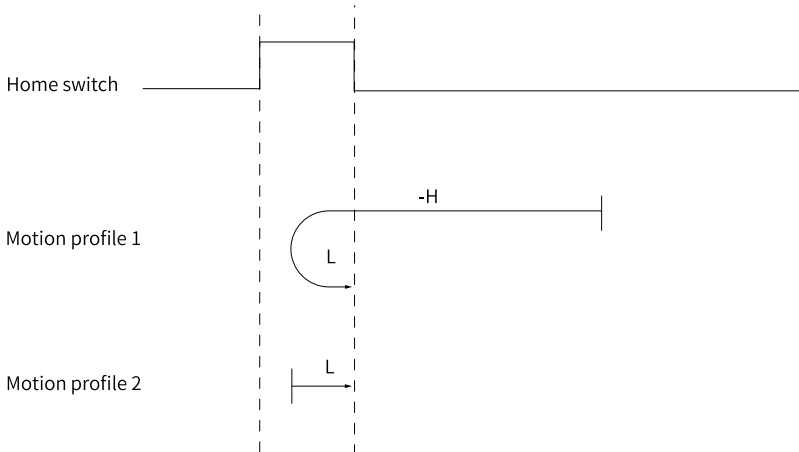


Figure 2-33 Motor running curve and speeds in Mode 21

- Motion profile 1: Deceleration point signal inactive at start.

- Motion profile 2: Deceleration point signal active at start.

H25.22 = 22

Home: home switch (HW)

Deceleration point: home switch (HW)

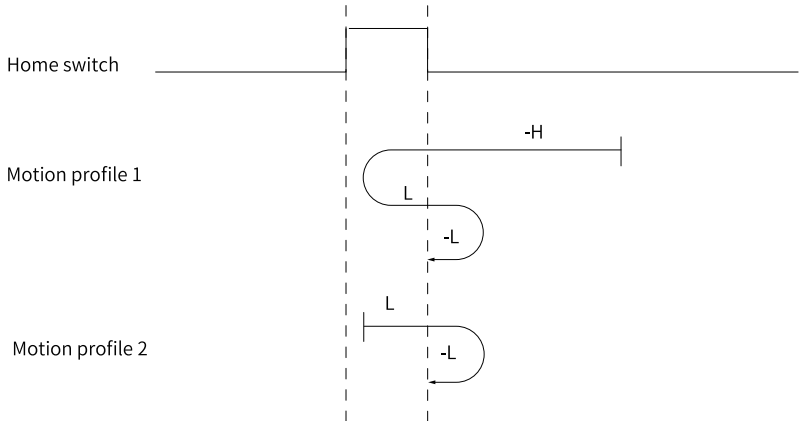


Figure 2-34 Motor running curve and speeds in Mode 20

- Motion profile 1: Deceleration point signal inactive at start.
- Motion profile 2: Deceleration point signal active at start.

H25.22 = 23

Home: home switch (HW)

Deceleration point: home switch (HW)

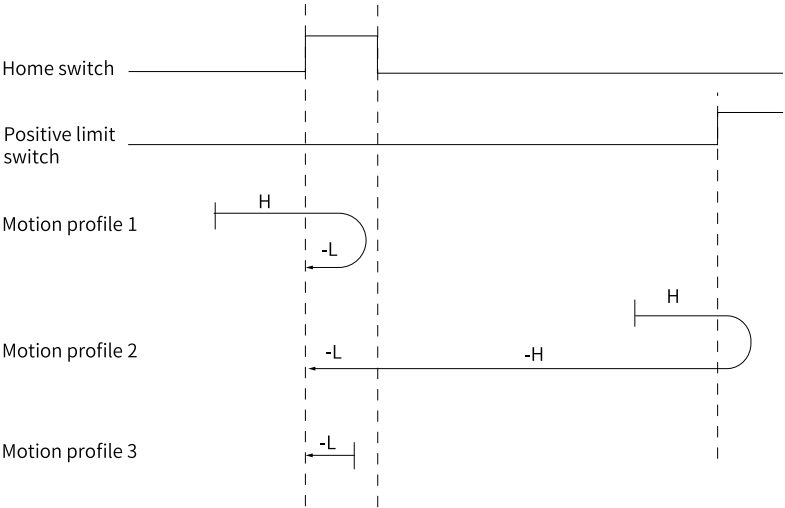


Figure 2-35 Motor running curve and speeds in Mode 23

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 24

Home: home switch (HW)

Deceleration point: home switch (HW)

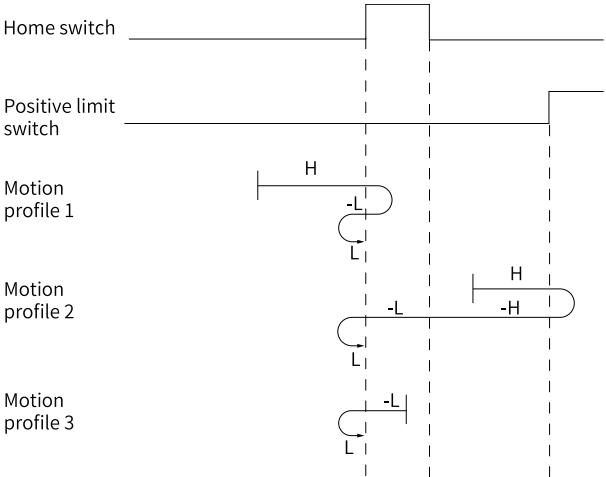


Figure 2-36 Motor running curve and speeds in Mode 24

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 25

Home: home switch (HW)

Deceleration point: home switch (HW)

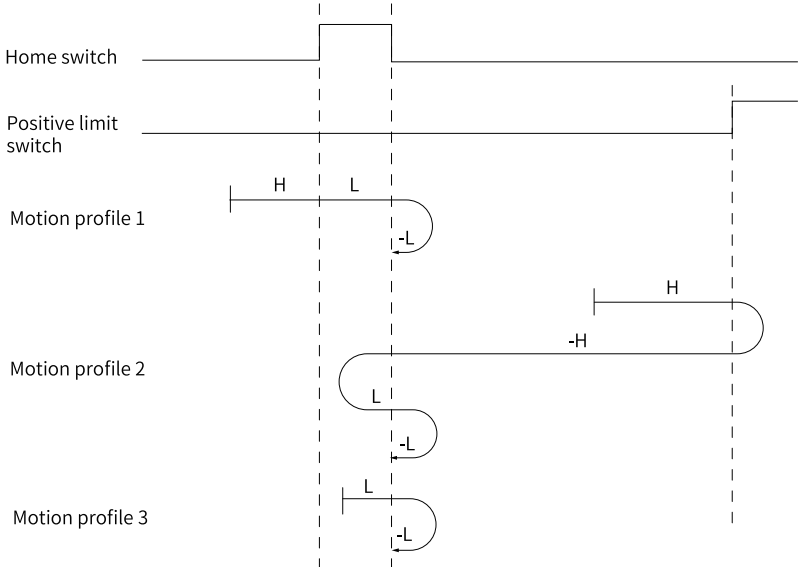


Figure 2-37 Motor running curve and speeds in Mode 25

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 26

Home: home switch (HW)

Deceleration point: home switch (HW)

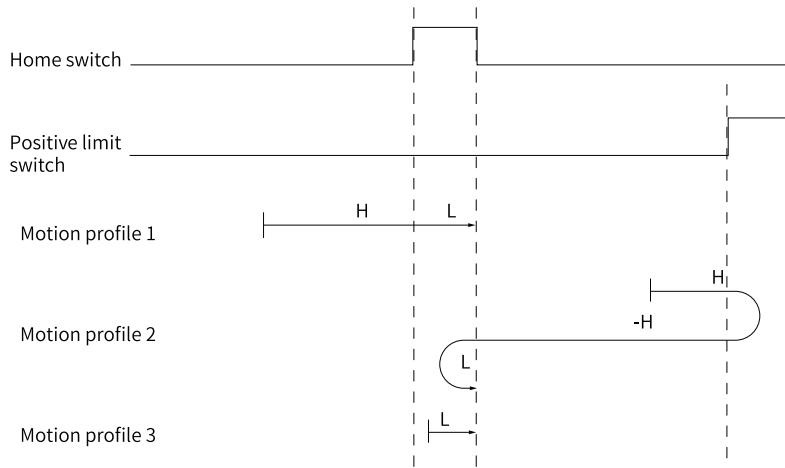


Figure 2-38 Motor running curve and speeds in Mode 26

- Motion profile 1: Deceleration point signal inactive at start, not hitting the positive limit switch.
- Motion profile 2: HW signal inactive at start, hitting the positive limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 27

Home: home switch (HW)

Deceleration point: home switch (HW)

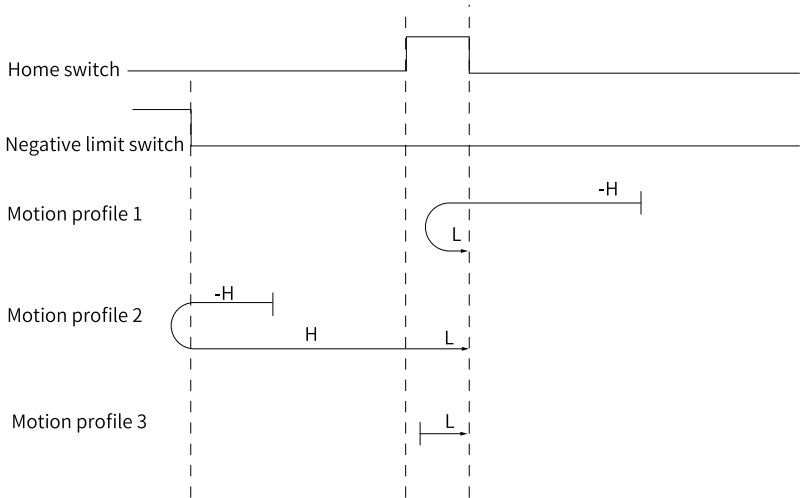


Figure 2-39 Motor running curve and speeds in Mode 27

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 28

Home: home switch (HW)

Deceleration point: home switch (HW)

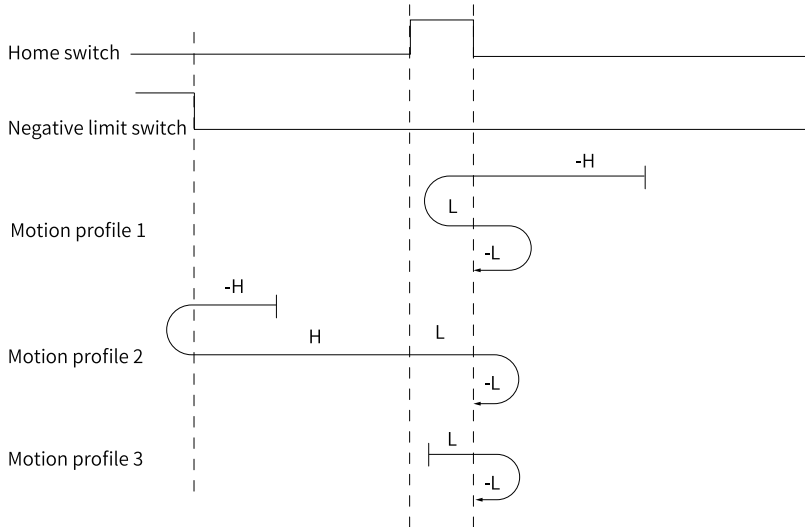


Figure 2-40 Motor running curve and speeds in Mode 28

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 29

Home: home switch (HW)

Deceleration point: home switch (HW)

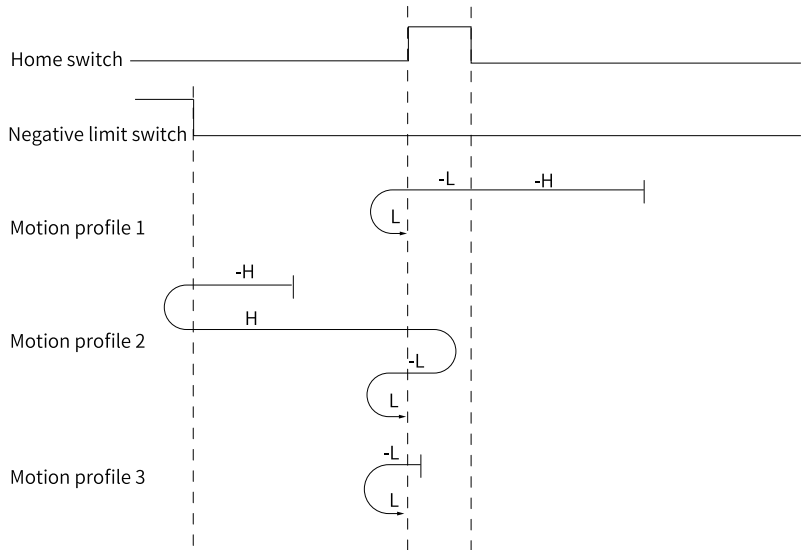


Figure 2-41 Motor running curve and speeds in Mode 29

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 30

Home: home switch (HW)

Deceleration point: home switch (HW)

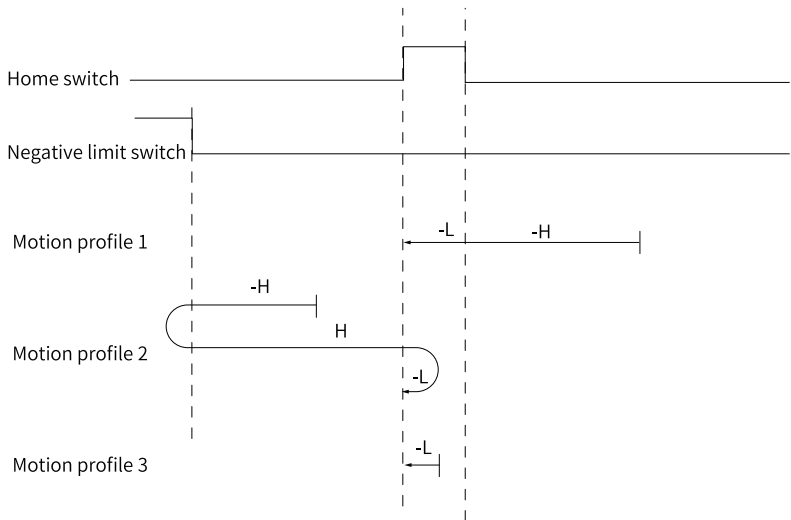


Figure 2-42 Motor running curve and speeds in Mode 30

- Motion profile 1: Deceleration point signal inactive at start, not hitting the reverse limit switch.
- Motion profile 2: HW signal inactive at start, hitting the reverse limit switch.
- Motion profile 3: Deceleration point signal active at start.

H25.22 = 31/32

Homing method is not defined.

H25.22 = 33/34

Home: Z signal

Deceleration point: None

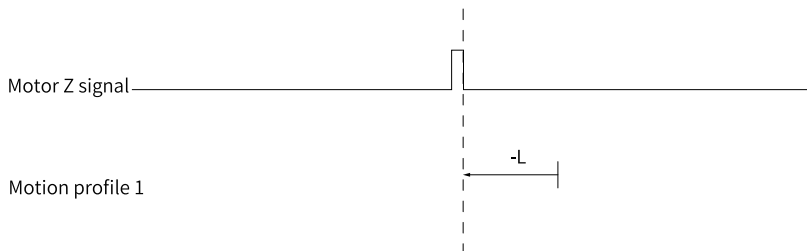


Figure 2-43 Motor running curve and speeds in Mode 33

- Motion profile 1: The motor runs in the reverse direction at low speed and stops at the first Z signal..

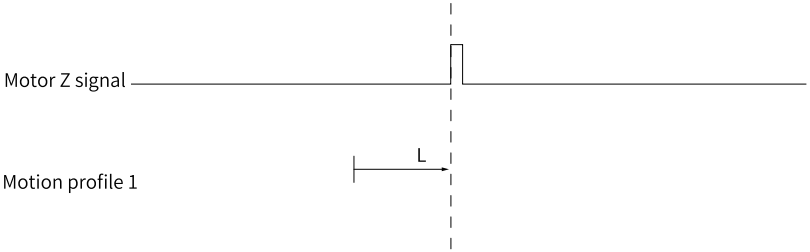


Figure 2-44 Motor running curve and speeds in Mode 34

- Motion profile 1: The motor runs in the forward direction at low speed and stops at the first Z signal..

H25.22 = 35

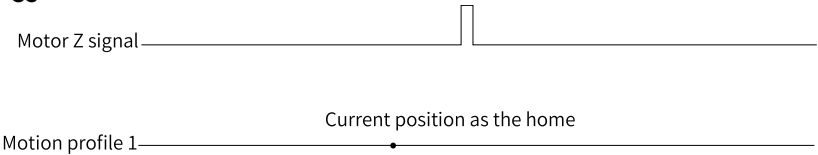


Figure 2-45 Motor running curve and speeds in Mode 35

The current position is the home. The motor starts homing after the homing signal is triggered.

H25.22 = -1

The motor runs in the reverse direction at high speed first. If the status where the torque reaches the limit and the speed is near zero after the axis hits the mechanical limit persists, it indicates the axis has reached the mechanical limit position. In this case, the motor runs in the forward direction at low speed and stops after reaching the rising edge of the Z signal for the first time.

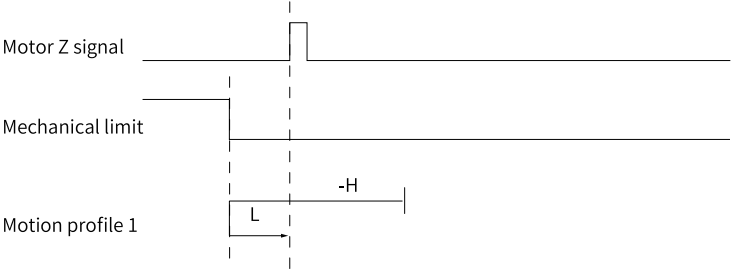


Figure 2-46 Motor running curve and speeds in Mode -1

H25.22 = -2

The servo motor runs in the forward direction at a high speed first. If the torque reaches the limit and the speed is near zero when the motor hits the mechanical limit, and such status persists, it indicates the motor reaches the mechanical limit position. In this case, the motor runs in the reverse direction at a low speed and stops at the first Z signal after reaching the rising edge.

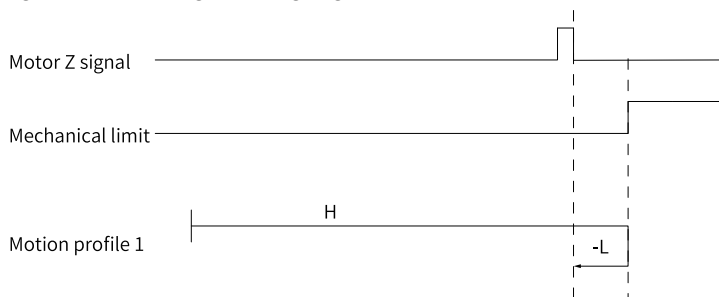


Figure 2-47 Motor running curve and speeds in Mode -2

Evaluation condition for torque homing: After the motor reaches the hard limit, and the torque feedback reaches the limit value defined in H05.58 (mechanical torque limit, in 0.1%), the first Z signal in the reverse direction is searched for and regarded as the home after the motor stops.

2.4.5 Program Block

Overview

Up to 16 different operating tasks can be stored in the drive system and can be used by the controller to control the drive.

Configuration Notes

You can configure program block parameters in the commissioning software through Graphical Configuration. You can also achieve that through parameters H27 and H28, as shown in ["Figure 2-48 " on page 60](#) and ["Figure 2-49 " on page 60](#).

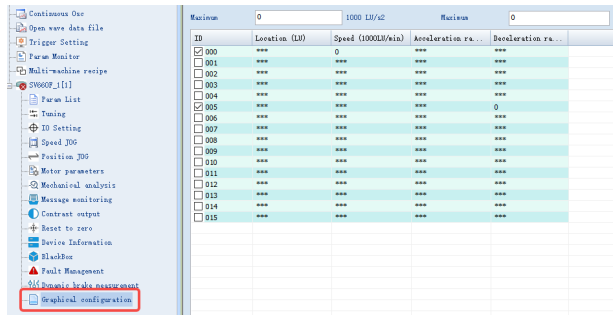


Figure 2-48 Configuration through Graphical Configuration

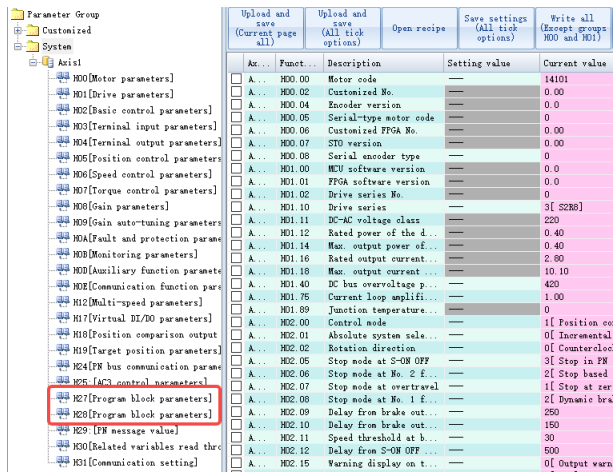


Figure 2-49 Configuration through H27 and H28

Task setting

Open the Graphical Configuration page and click **Task settings** to select the task mode, as shown in *"Figure 2-50" on page 61* . The task modes are positioning, fixed stopper, forward cycle, reverse cycle, waiting, switching, setting I/O and resetting I/O.

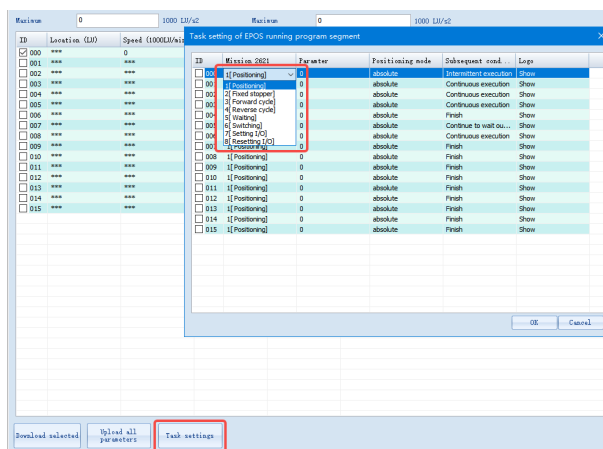
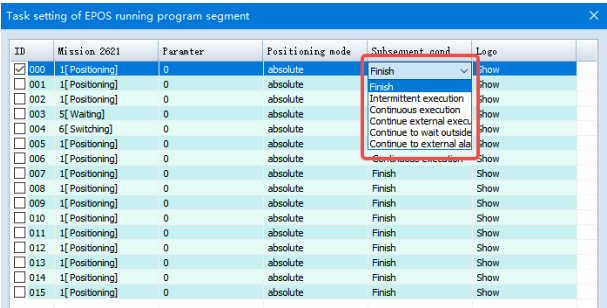


Figure 2-50 Task setting of the program block

The task modes are described as follows:

- Positioning: Positioning mode.
- Fixed stopper: The shaft runs to the stopper when the torque is reached.
- Forward cycle: Rotation in the forward direction.
- Reverse cycle: Rotation in the reverse direction.
- Waiting: You can set the waiting time (ms) before executing the next task.
- Switching: Move to the specified program block and determine the program block number to be switched to according to the parameters.
- Setting IO:
 - Sets OUTPUT1 and OUTPUT2 (POS_ZSW2.10 and POS_ZSW2.11). If H28.32 to H28.62 are 1, OUTTPUT1 = 1 (POS_ZSW2.10 = 1).
 - If H28.32 to H28.62 are 2, OUTTPUT2 = 1 (POS_ZSW2.11 = 1).
 - If H28.32 to H28.62 are 3, OUTTPUT1 = 1 (POS_ZSW2.10 = 1) and OUTPUT2 = 1 (POS_ZSW2.11 = 1).
- Resetting IO:
 - Resets OUTPUT1 and OUTPUT2 (POS_ZSW2.10 and POS_ZSW2.11). If H28.32 to H28.62 are 1, OUTPUT1 = 0 (POS_ZSW2.10 = 0).
 - If H28.32 to H28.62 are 2, OUTTPUT2 = 0 (POS_ZSW2.11 = 0).
 - If H28.32 to H28.62 are 3, OUTTPUT1 = 0 (POS_ZSW2.10 = 0) and OUTPUT2 = 0 (POS_ZSW2.11 = 0).

The subsequent conditions are **finish**, **intermittent execution**, **continuous execution**, **continue external execution**, **continue to wait outside** and **continue external alarm**. as shown in "Figure 2-51 " on page 62 .



ID	Mission 2621	Parameter	Positioning mode	Subsequent cond	Logo
☒ 000	I [Positioning]	0	absolute	Finish	Show
☐ 001	I [Positioning]	0	absolute	Finish	Show
☐ 002	I [Positioning]	0	absolute	Intermittent execution	Show
☐ 003	I [Waiting]	0	absolute	Continuous execution	Show
☐ 004	I [Switching]	0	absolute	Continue external execi	Show
☐ 005	I [Positioning]	0	absolute	Continue to wait outside	Show
☐ 006	I [Positioning]	0	absolute	Continue to external ala	Show
☐ 007	I [Positioning]	0	absolute	Finish	Show
☐ 008	I [Positioning]	0	absolute	Finish	Show
☐ 009	I [Positioning]	0	absolute	Finish	Show
☐ 010	I [Positioning]	0	absolute	Finish	Show
☐ 011	I [Positioning]	0	absolute	Finish	Show
☐ 012	I [Positioning]	0	absolute	Finish	Show
☐ 013	I [Positioning]	0	absolute	Finish	Show
☐ 014	I [Positioning]	0	absolute	Finish	Show
☐ 015	I [Positioning]	0	absolute	Finish	Show

Figure 2-51 Subsequent condition of the program block

- Finish: Operation stops after the program block finishes.
- Intermittent execution: The axis stops after reaching the target position before carrying out the next task.
- Continuous execution: The next program block is executed without deceleration.
- Continue external execution: Defines the external execution signal source based on H28.68. If the signal does not trigger, execute the next program block continuously. If the signal triggers, run the next program block in advance.
- Continue to wait outside: Waits for the execution signal after the program block finishes. The signal source is determined by H28.68. When the signal is 1, the next program block is executed.
- Waits for the execution signal after the program block finishes. The signal source is determined by H28.68. When the signal is 1, the next program block is executed. Warning E550.2 is issued during waiting.

Configuration case

1. Connect the PLC to the drive through telegram 111. If the drive shows 43ry, the communication is successful.
2. Set FB284 ModePos to 6 to enter program block control. FB284 position now represents the selected program block. Select the program block to be run and send a rising edge signal to ExecuteMode to activate the selected block. as shown in "Figure 2-52 " on page 62 .

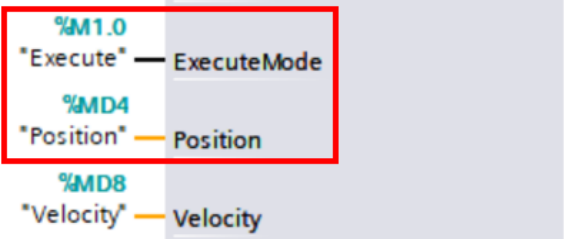


Figure 2-52 Related pins

3. Set the program block parameters as shown in *"Figure 2-53 " on page 63* . Blocks 1, 2, 6, 7, 8 are in the positioning mode, and block 3 is in the waiting mode. Block 4 is set directly to switch to block 6. Block 5 is skipped.

ID	Location (LU)	Speed (1000LU/min)	Acceleration ra...	Deceleration ra...
☒ 001	100000	1000	100	100
☒ 002	200000	600	100	100
☒ 003	0	600	100	100
☒ 004	0	600	100	100
☒ 005	0	600	100	100
☒ 006	300000	600	100	100
☒ 007	400000	600	100	100
☒ 008	600000	1200	100	100
☒ 009	0	600	100	100
☐ 010	0	600	100	100
☐ 011	0	600	100	100
☐ 012	0	600	100	100
☐ 013	0	600	100	100
☐ 014	0	600	100	100
☐ 015	0	600	100	100
☐ 016	0	600	100	100

Figure 2-53 Program block setting

4. The task settings are shown in *"Figure 2-54 " on page 63* . The subsequent condition for block 1 is set to intermittent execution, that for block 6 is set to continue to wait outside, and that for other blocks to be used is set to continuous execution.

Task setting of EPOS running program segment					
ID	Mission 2621	Parameter	Positioning mode	Subsequent cond...	Logo
☐ 000	1[Positioning]	0	absolute	Intermittent execution	Show
☐ 001	1[Positioning]	0	absolute	Continuous execution	Show
☐ 002	1[Positioning]	0	absolute	Continuous execution	Show
☐ 003	5[Waiting]	0	absolute	Continuous execution	Show
☐ 004	6[Switching]	0	absolute	Finish	Show
☐ 005	1[Positioning]	0	absolute	Continue to wait ou...	Show
☐ 006	1[Positioning]	0	absolute	Continuous execution	Show
☐ 007	1[Positioning]	0	absolute	Finish	Show
☐ 008	1[Positioning]	0	absolute	Finish	Show
☐ 009	1[Positioning]	0	absolute	Finish	Show
☐ 010	1[Positioning]	0	absolute	Finish	Show
☐ 011	1[Positioning]	0	absolute	Finish	Show
☐ 012	1[Positioning]	0	absolute	Finish	Show
☐ 013	1[Positioning]	0	absolute	Finish	Show
☐ 014	1[Positioning]	0	absolute	Finish	Show
☐ 015	1[Positioning]	0	absolute	Finish	Show

Figure 2-54 Task setting for the running block

5. Set the parameters as shown above to get the servo axis operation curve as shown in *"Figure 2-55 " on page 64* . The numbers on the diagram correspond to the program blocks.

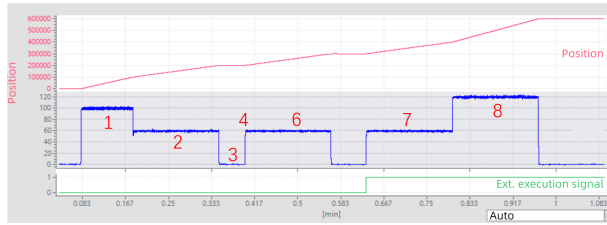


Figure 2-55 Servo axis operation curve

- As shown in "Figure 2-55" on page 64, the subsequent condition of block 1 is intermittent execution, so there is a certain deceleration and acceleration process between blocks 1 and 2.
- Block 3, which waits for 3s, is executed after block 2.
- After 3s, block 4 is executed, that is directly switching to block 6, whose subsequent condition is continue to wait outside. Then block 7 waits to be executed until the external execution signal (determined by H28.68) is 1.
- The subsequent condition for block 7 is set to continuous execution. After the end of block 7, block 8 is executed directly without deceleration.

2.4.6 Model Axis

Overview

The modal axis feature restates the position signal to 0 after a distance. If it is applied to a rotary axis, you can set the angle signal to return to zero after a specific angle, or a specific distance if applied to a linear axis.

Description

Set H02.01 = 2 or 5 when using the modal axis feature.

- When H02.01 = 2, the absolute position command in this mode can be greater than the modulus. If it is greater than N times the modulus, then the distance of movement exceeds N modulus revolutions.
- When H02.01 = 5, the position command number is first modulated in this mode and then the modulus is fed into the position loop as a new command, that is, the distance of movement is always less than 1 modulus revolution.

When H02.01 = 5, the direction of motion for absolute positioning can be selected by the control words POS_STW1.bit9 and POS_STW1.bit10.

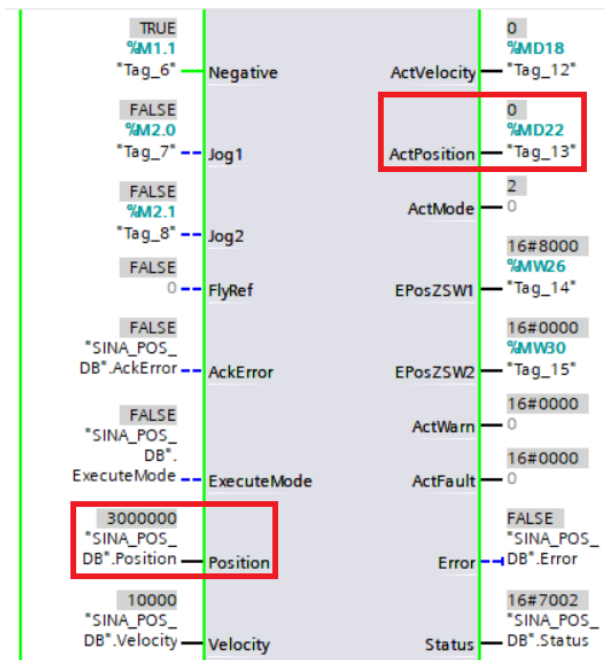
- The direction is forward only if POS_STW1.bit9 is 1.
- The direction is reverse only if POS_STW1.bit10 is 1.
- When both POS_STW1.bit9 and POS_STW1.bit10 are 1 or 0, the axis moves in the direction with the least distance.

Configuration case

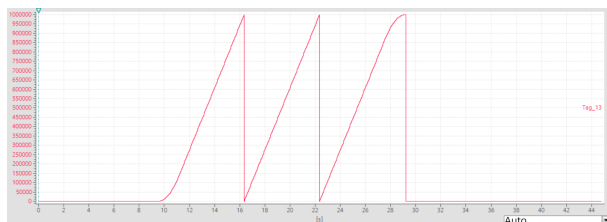
1. Connect the PLC to the drive through telegram 111. If the drive shows 43ry, the communication is successful. Set H02.01 = 2 to enter absolute position rotation mode.

☐	Axis1	H02.00	Control mode	—	1[Position control m...
☒	Axis1	H02.01	Absolute system selection	2[Absolute pos...	0[Incremental mode]
☐	Axis1	H02.02	Rotation direction	—	0[Counterclockwise (...]

2. The axis is controlled by telegram 111. The operating mode is MDI absolute positioning. Set H29.90 = 1000000 and the absolute position is 3000000. Current axis position is 0.



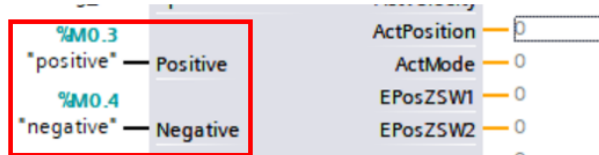
The position feedback curve is as follows:



3. Set H02.01 = 5 to enter absolute position rotation mode, modal axis single modulus revolution absolute command. Set the absolute position to 3995000. The motion distance of the axis is 1000000–995000 = 5000.

Setting H02.01 = 5 allows direction selection.

- When FB284 Function Block Pin Positive is set to 1, the motion direction is positive.
- When Negative is set to 1, the direction is negative.
- When positive and negative pins are 1 or 0, the axis moves in the direction with the least distance.



Modulus formula

- **When the pulses per revolution of the load in absolute rotation mode (H05.52 and H05.54) is not 0:**

The absolute position rotation mode mechanical gear ratios (H05.50 and H05.51) become ineffective, and the pulses per revolution of absolute rotation mode load (H05.52 and H05.54) take effect:

$$\text{Modal axis modulus} = \text{PPR of load in abs. rotation mode} \div \frac{\text{E-gear ratio numerator}}{\text{E-gear ratio denominator}}$$

- **When the pulses per revolution of the load in absolute rotation mode (H05.52 and H05.54) is 0:**

The pulses per revolution of absolute rotation mode load (H05.52 and H05.54) become ineffective, and the absolute position rotation mode mechanical gear ratio (H05.50 and H05.51) takes effect:

$$\text{Modal axis modulus} = \text{Encoder resolution} \div \frac{\text{E-gear ratio numerator}}{\text{E-gear ratio denominator}} \times \frac{\text{Abs. pos. rotation mode mechanical GR numerator}}{\text{Abs. pos. rotation mode mechanical GR denominator}}$$

Example

When the drive works with a 23-bit motor, the encoder resolution is a fixed value of 8388608. Set H05.07 = 8388608, H05.09 = 10000, H05.02 = 0.

- When H05.52 = 838860800 and H05.54 = 0, H05.50 and H05.51 become ineffective, and the modulus of the modal axis is:

$$\text{Modal axis modulus} = 838860800 \div \frac{8388608}{10000} = 1000000$$

- When H05.52 = 0, H05.54 = 0, H05.50 = 60000, H05.51 = 100, The modal axis modulus is:

$$\text{Modal axis modulus} = 8388608 \div \frac{8388608}{10000} \times \frac{60000}{100} = 6000000$$

- If the user wants to set the modal axis modulus to 360, the parameters can be set as follows:

H05.02 = 0

H05.07 = 8388608

H05.09 = 36

H05.52 = 83886080

H05.54 = 0

Then, the modal axis modulus H29.90 = 360.

2.5 AC4 mode

2.5.1 Overview

Axis technology objects are configured in the PLC. The drive uses standard telegrams 3, 102 or 105 for control through PLC Open standard program blocks such as MC_Power and MC_MoveAbsolute. Below is a configuration example of S7-1500PLC telegram 3.

2.5.2 Configuration Notes

1. Configure SV660F and add telegram 3.

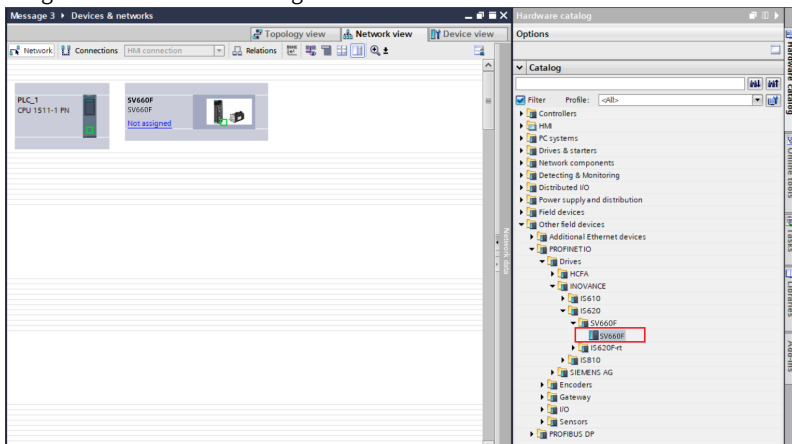


Figure 2-56 Configuring SV660F

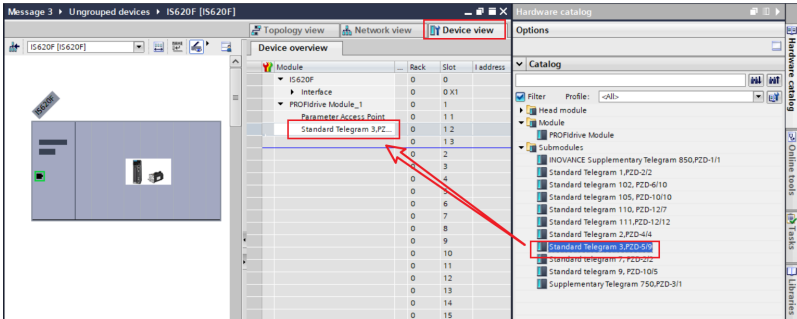


Figure 2-57 Adding telegram 3

2. Connect PLC to SV660F in the Network view.

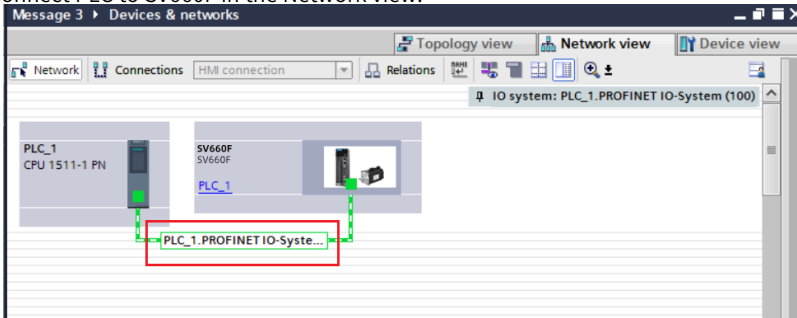


Figure 2-58 Network view connection

3. If you need IRT communication between the PLC and drive, you must make connection in the topology view, which must be consistent with the actual physical connection. If only RT communication is performed (default), you need not topology view connection.

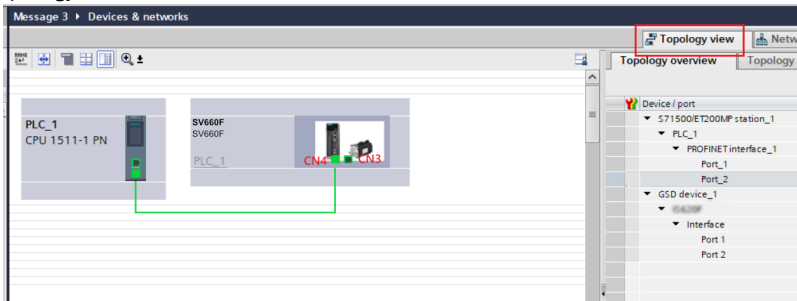


Figure 2-59 Topology view connection

4. Add the technology object.

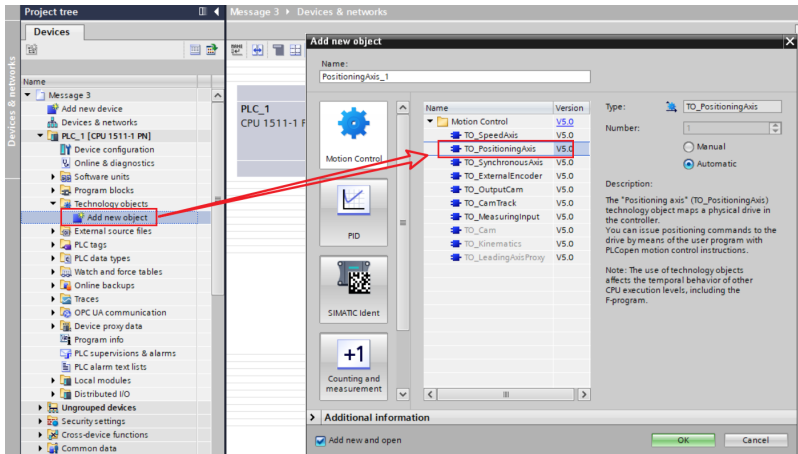


Figure 2-60 Adding the technology object

5. From networking configuration, select PROFIdrive and Standard telegram 3.

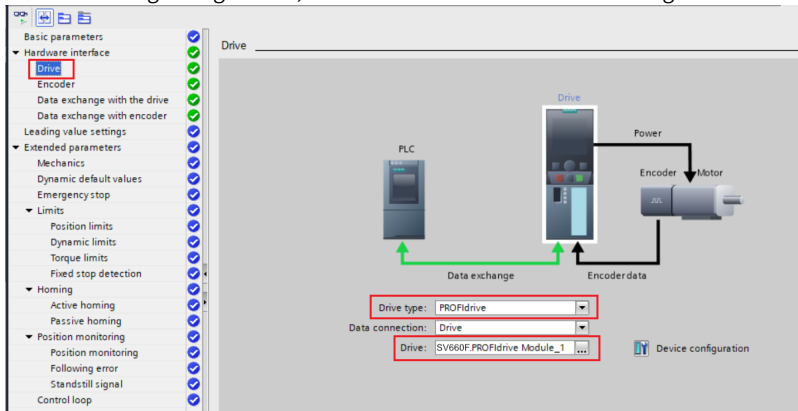


Figure 2-61 Selection of PROFIdrive and telegram

6. If H02-01 is set to 0 (Incremental position mode), select "Incremental" from the drop-down list of "Encoder type". If H02-01 is set to 1 (Absolute position linear mode), select "Cyclic absolute" from the drop-down list of "Encoder type".

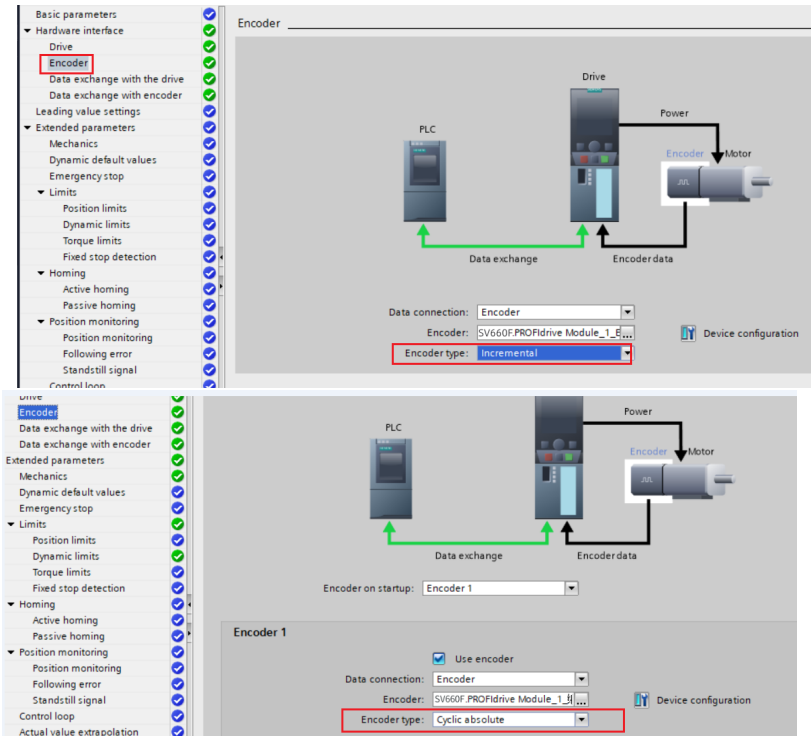


Figure 2-62 Selecting an encoder type

7. If "Automatically apply drive values at runtime" cannot be selected for reference speed, maximum speed, and base torque of the motor, manually set them according to the drive parameters. The reference speed is the rated speed of the motor, corresponding to the servo drive parameter H00.14. Maximum speed corresponds to the servo drive parameter H00.15.

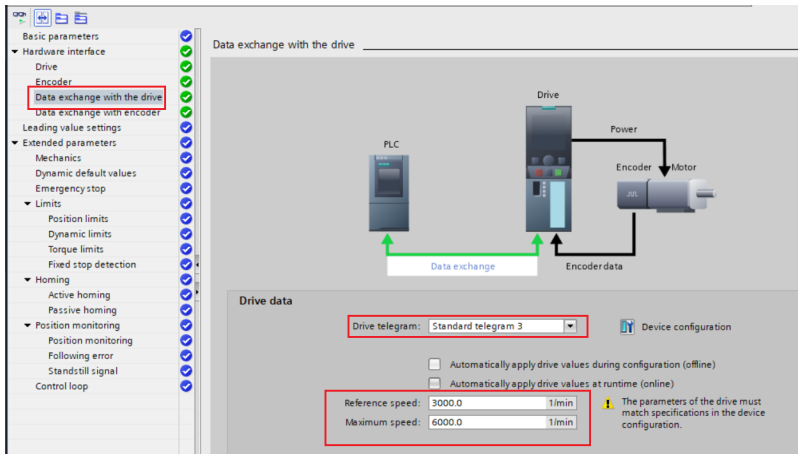


Figure 2-63 Setting drive parameters manually

8. In the "Data exchange with encoder" section, select "Automatically apply encoder values during runtime". If you do not want to select this item:

- If H02-01 is set to 0 (Incremental position mode), select "Incremental" from the drop-down list of "Encoder type".

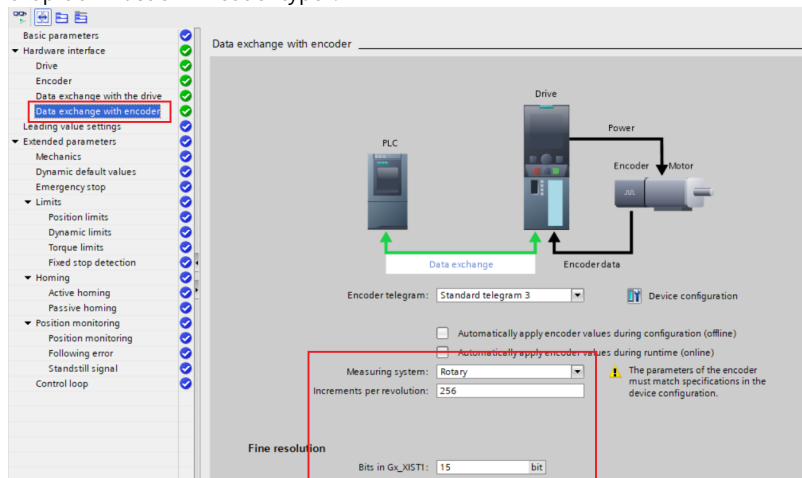


Figure 2-64 Encoder configuration in incremental position mode

- If H02-01 is set to 1 (Absolute position linear mode), select "Cyclic absolute" from the drop-down list of "Encoder type".

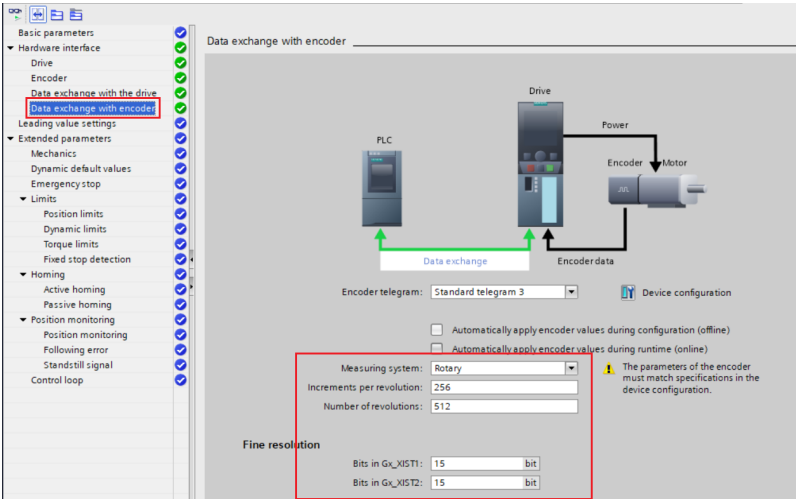


Figure 2-65 Encoder configuration in absolute position linear mode

9. In the "Extended parameters" section, select "On motor shaft" from the drop-down list of "Encoder mounting type", and set the position.

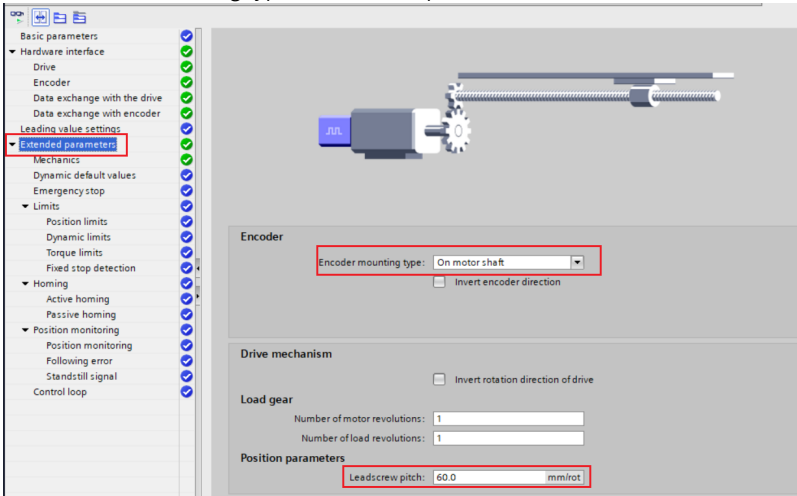


Figure 2-66 Setting the encoder mounting type

10. You can deselect the "Enable following error monitoring". If this item is selected and a small following error is set, the host controller reports an error when the motor runs.

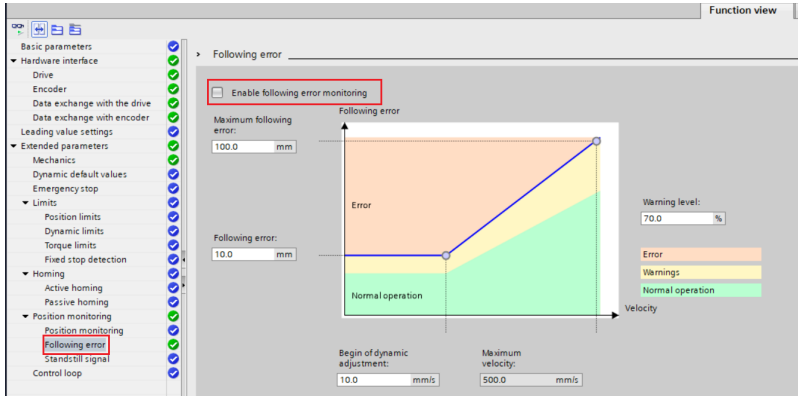


Figure 2-67 Deselecting following error monitoring

11. Write a program in the main program.

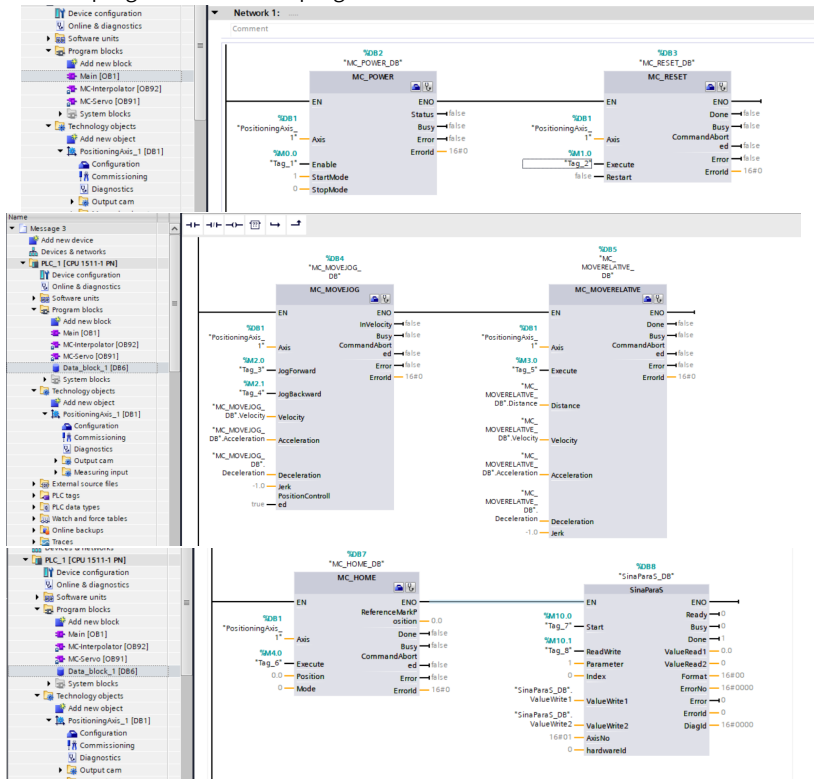


Figure 2-68 Writing the motion control program

12. Go to the "Device view" section, double-click IS620F, and set the IP address and PROFINET device name for the servo drive.

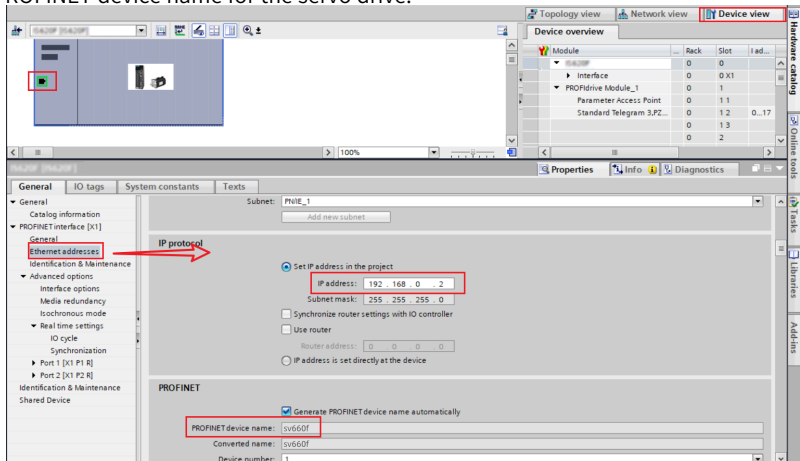


Figure 2-69 Configuring the IP address and device name

13. Download the PLC program.

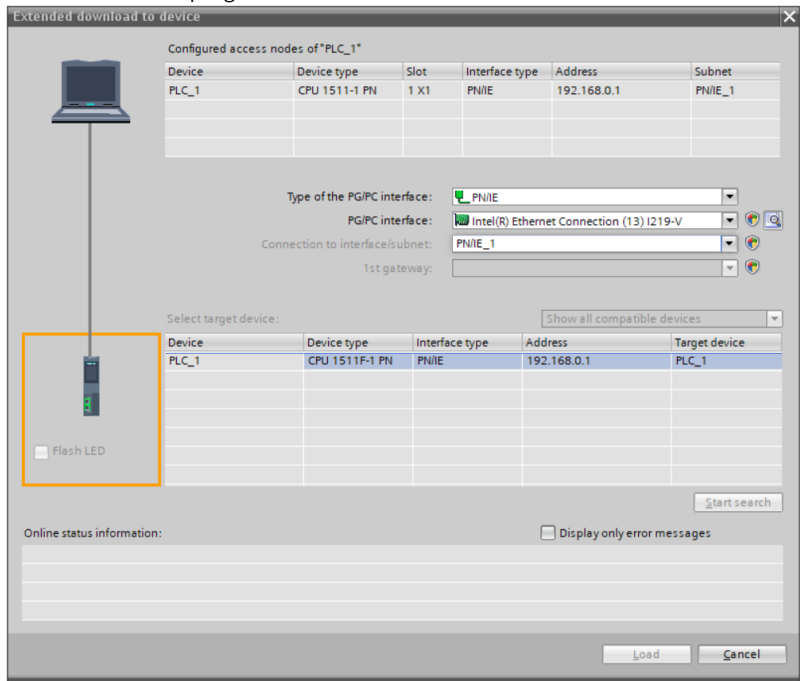


Figure 2-70 Downloading the PLC program

14. After the program is downloaded, check whether the PLC reports an error or the servo panel switches to the 44ry status. If any problem exists, right-click SV660F in the device view, and select "Assign device name".

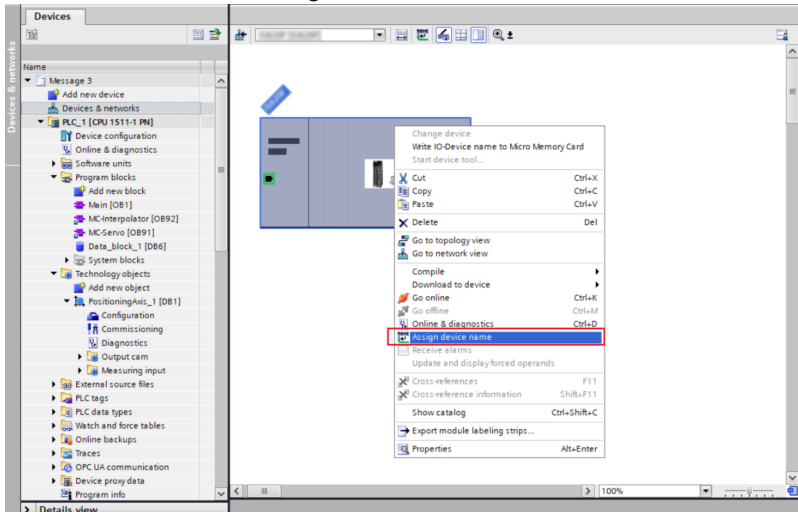


Figure 2-71 Assigning a name for the device

15. To assign a name for SV660F, click "Update list", select the servo drive for which you want to assign a name, and then click "Assign device name". After assigning a name for the device, click "Update list", check whether the device name is updated, and whether the servo drive status and PLC status errors are cleared.

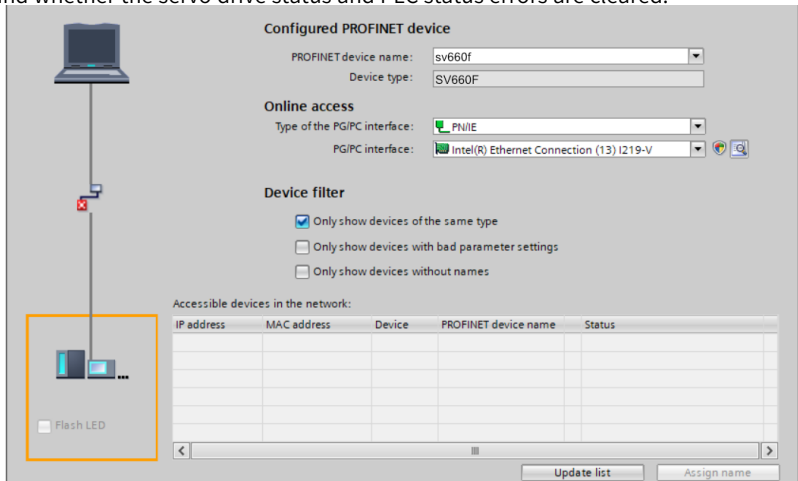


Figure 2-72 Assigning a name for the device

16. Telegram 3 networking and programming are completed.

3 Description

3.1 H00 Servo Motor Parameters

H00.00	Motor SN		
	Hex:	2000-01h	Effective mode: Upon the next power-on
	Min.:	0	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	14101	Change: At stop
	Value Range:		
	0–65535		
	Description		
	Defines the code of the servo motor. Fixed to 14XXX. Setting the motor code to a wrong value will result in E120.0 (Unknown motor model).		
H00.02	Customized No.		
	Hex:	2000-03h	Effective mode: -
	Min.:	0.00	Unit: -
	Max.:	4294967295.00	Data Type: UInt32
	Default:	0.00	Change: Unchangeable
	Value Range:		
	0.00–4294967295.00		
	Description		
	Displays customized software code in hexadecimal.		
	The display format is: XXX.YY.		
	XXX: Fixed No. for customized software		
	YY: Upgrade record No. for customized software		
H00.04	Encoder version		
	Hex:	2000-05h	Effective mode: -
	Min.:	0.0	Unit: -
	Max.:	6553.5	Data Type: UInt16
	Default:	0.0	Change: Unchangeable
	Value Range:		
	0.0–6553.5		
	Description		
	Displays the software version number of the encoder.		
	The display format is 2XXX.Y.		

H00.05	Serial-type motor code		
	Hex:	2000-06h	Effective mode:
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	0	Change:
	Value Range:		
	0–65535		
	Description		
	Displays the code of the serial-type motor, which is determined by the motor model and changeable.		
H00.06	FPGA customized SN		
	Hex:	2000-07h	Effective mode:
	Min.:	0.00	Unit:
	Max.:	655.35	Data Type:
	Default:	0.00	Change:
	Value Range:		
	0.00–655.35		
	Description		
	-		
H00.07	STO version		
	Hex:	2000-08h	Effective mode:
	Min.:	0.0	Unit:
	Max.:	6553.5	Data Type:
	Default:	0.0	Change:
	Value Range:		
	0.0–6553.5		
	Description		
	-		
H00.08	Bus encoder type		
	Hex:	2000-09h	Effective mode: Real time
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	0	Change:
	Value Range:		
	0–65535		

Description

-

H00.09**Rated voltage**

Hex: 2000-0Ah

Effective mode: Upon the next power-on

Min.: 0

Unit: V

Max.: 1

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0: [0–220V]

1: [0–380V]

Description

-

H00.10**Rated power**

Hex: 2000-0Bh

Effective mode: Upon the next power-on

Min.: 0.01

Unit: kW

Max.: 655.35

Data Type: UInt16

Default: 0.75

Change: At stop

Value Range:

0.01 kW–655.35kW

Description

-

H00.11**Rated current**

Hex: 2000-0Ch

Effective mode: Upon the next power-on

Min.: 0.01

Unit: A

Max.: 655.35

Data Type: UInt16

Default: 4.70

Change: At stop

Value Range:

0.01 A–655.35 A

Description

-

H00.12**Rated torque**

Hex: 2000-0Dh

Effective mode: Upon the next power-on

Min.: 0.10

Unit: N·m

Max.: 655.35

Default: 2.39

Data Type: UInt16

Change: At stop

Value Range:

0.10N·m–655.35N·m

Description

-

H00.13**Max. torque**

Hex: 2000-0Eh

Effective mode: Upon the next power-on

Min.: 0.10

Unit: N·m

Max.: 655.35

Data Type: UInt16

Default: 7.16

Change: At stop

Value Range:

0.10N·m–655.35N·m

Description

-

H00.14**Rated speed**

Hex: 2000-0Fh

Effective mode: Upon the next power-on

Min.: 100

Unit: RPM

Max.: 10000

Data Type: UInt16

Default: 3000

Change: At stop

Value Range:

100rpm to 10000rpm

Description

-

H00.15**Maximum speed**

Hex: 2000-10h

Effective mode: Upon the next power-on

Min.: 100

Unit: RPM

Max.: 10000

Data Type: UInt16

Default: 6000

Change: At stop

Value Range:

100rpm to 10000rpm

Description

-

H00.16	Moment of inertia		
	Hex:	2000-11h	Effective mode: Upon the next power-on
	Min.:	0.01	Unit: kgcm ²
	Max.:	655.35	Data Type: UInt16
	Default:	1.30	Change: At stop
	Value Range:	0.01 kgcm ² –655.35 kgcm ²	
	Description	-	
H00.17	Number of PMSM pole pairs		
	Hex:	2000-12h	Effective mode: Upon the next power-on
	Min.:	2	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	5	Change: At stop
	Value Range:	2–65535	
	Description	-	
H00.18	Stator resistance		
	Hex:	2000-13h	Effective mode: Upon the next power-on
	Min.:	0.001	Unit: Ω
	Max.:	65.535	Data Type: UInt16
	Default:	0.500	Change: At stop
	Value Range:	0.001Ω to 65.535Ω	
	Description	-	
H00.19	Stator inductance Lq		
	Hex:	2000-14h	Effective mode: Upon the next power-on
	Min.:	0.01	Unit: mH
	Max.:	655.35	Data Type: UInt16
	Default:	3.27	Change: At stop
	Value Range:	0.01mH–655.35mH	

Description

-

H00.20

Stator inductance Ld

Hex: 2000-15h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: mH

Max.: 655.35

Data Type: UInt16

Default: 3.87

Change: At stop

Value Range:

0.01mH–655.35mH

Description

-

H00.21

Linear back EMF coefficient

Hex: 2000-16h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: mV/rpm

Max.: 655.35

Data Type: UInt16

Default: 33.30

Change: At stop

Value Range:

0.01 mV/RPM to 655.35 mV/RPM

Description

-

H00.22

Torque coefficient Kt

Hex: 2000-17h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: N·m/Arms

Max.: 655.35

Data Type: UInt16

Default: 0.51

Change: At stop

Value Range:

0.01 N·m/Arms to 655.35 N·m/Arms

Description

-

H00.23

Electrical constant Te

Hex: 2000-18h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: ms

Max.: 655.35

Data Type: UInt16

Change: At stop

Value Range:

0.01 ms to 655.35 ms

Description

—

H00.24 Mechanical constant T_m

Hex: 2000-19h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: ms

Max.: 655.35

Data Type: UInt16

Default: 0.24

Change: At stop

Value Range:

0.01 ms to 655.35 ms

Description

—

H00.25 Interpolator temperature detection enable and threshold

Hex: 2000-1Ah

Effective mode: Upon the next power-on

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0-65535

Description

—

H00.26 Configuration for connecting the interpolator to encoder

Hex: 2000-1Bh

Effective mode: Upon the next power-on

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0-65535

Description

 Springer

H00.27 **Input PPR of the interpolator**

Hex: 2000-1Ch

Effective mode: Upon the next power-on

Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop
Value Range:			
0–65535			
Description			
-			

H00.28 Absolute encoder position offset

Hex:	2000-1Dh	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	4294967295	Data Type:	UInt32
Default:	8192	Change:	At stop
Value Range:			
0–4294967295			
Description			
-			

H00.30 Encoder selection (HEX)

Hex:	2000-1Fh	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	4095	Data Type:	UInt16
Default:	19	Change:	At stop
Value Range:			
19: 0x013-Inovance encoder			
Description			
-			

H00.31 Encoder PPR

Hex:	2000-20h	Effective mode:	Upon the next power-on
Min.:	1	Unit:	PPR
Max.:	1073741824	Data Type:	UInt32
Default:	67108864	Change:	At stop
Value Range:			
1 P/Rev–1073741824 P/Rev			
Description			
-			

H00.33 Electrical angle of Z signal

Hex:	2000-22h	Effective mode:	Upon the next power-on
Min.:	0.0	Unit:	°
Max.:	360.0	Data Type:	UInt16
Default:	180.0	Change:	At stop

Value Range:

0.0° to 360.0°

Description

-

H00.34 Electrical angle of phase U rising edge

Hex:	2000-23h	Effective mode:	Real time
Min.:	0.0	Unit:	°
Max.:	360.0	Data Type:	UInt16
Default:	180.0	Change:	At stop

Value Range:

0.0° to 360.0°

Description

-

H00.35 Serial-type motor model

Hex:	2000-24h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–65535

Description

-

H00.37 Absolute encoder function setting bit

Hex:	2000-26h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–65535

Description

-

H00.60**Motor attribute**

Hex: 2000-3Dh

Effective mode: Upon the next power-on

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0–65535

Description

-

H00.61**Brake close time**

Hex: 2000-3Eh

Effective mode: Upon the next power-on

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0 ms to 65535 ms

Description

-

H00.62**Brake release time**

Hex: 2000-3Fh

Effective mode: Upon the next power-on

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0 ms to 65535 ms

Description

-

H00.63**Maximum motor current**

Hex: 2000-40h

Effective mode: Upon the next power-on

Min.: 0.00

Unit: A

Max.: 65535.00

Data Type: UInt32

Default: 0.00

Change: At stop

Value Range:

0.00 A–65535.00 A

Description

-

H00.65**Motor rated current**

Hex: 2000-42h

Effective mode: Upon the next power-on

Min.: 0.00

Unit: A

Max.: 65535.00

Data Type: UInt32

Default: 0.00

Change: At stop

Value Range:

0.00 A–65535.00 A

Description

-

H00.67**Moment of inertia**

Hex: 2000-44h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: kgcm²

Max.: 655.35

Data Type: UInt32

Default: 0.01

Change: At stop

Value Range:0.01 kgcm²–655.35 kgcm²**Description**

-

H00.69**Linear back EMF**

Hex: 2000-46h

Effective mode: Upon the next power-on

Min.: 0.00

Unit: mV/rpm

Max.: 655.35

Data Type: UInt32

Default: 0.00

Change: At stop

Value Range:

0.00 mV/RPM to 655.35 mV/RPM

Description

-

H00.71**Motor carrier frequency**

Hex: 2000-48h

Effective mode: Upon the next power-on

Min.:	0	Unit:	Hz
Max.:	65535	Data Type:	UInt16
Default:	8000	Change:	At stop

Value Range:

0 Hz–65535 Hz

Description

-

H00.72 Max. motor allowable demagnetizing current

Hex:	2000-49h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	%
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0% to 65535%

Description

-

H00.73 Bit01 of motor SN code

Hex:	2000-4Ah	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–65535

Description

-

H00.74 Bit23 of motor SN code

Hex:	2000-4Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–65535

Description

-

H00.75	Bit45 of motor SN code			
	Hex:	2000-4Ch	Effective mode:	Real time
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	At stop
	Value Range:			
	0-65535			
	Description			
	-			
H00.76	Bit67 of motor SN code			
	Hex:	2000-4Dh	Effective mode:	Real time
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	At stop
	Value Range:			
	0-65535			
	Description			
	-			
H00.77	Bit89 of motor SN code			
	Hex:	2000-4Eh	Effective mode:	Real time
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	At stop
	Value Range:			
	0-65535			
	Description			
	-			
H00.78	Bit11 of motor SN code			
	Hex:	2000-4Fh	Effective mode:	Real time
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	At stop
	Value Range:			
	0-65535			

Description

-

H00.79**Bit13 of motor SN code**

Hex: 2000-50h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0–65535

Description

-

H00.80**Bit15 of motor SN code**

Hex: 2000-51h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0–65535

Description

-

H00.98**Motor attribute check**

Hex: 2000-63h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0–65535

Description

-

3.2 H01 Servo Drive Parameters

H01.00**MCU software version**

Hex: 2001-01h

Effective mode: -

Min.:	0.0	Unit:	-
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0–6553.5

Description

It displays the MCU firmware version.

The display format is XXXX.Y, with one decimal place.

H01.01 FPGA software version

Hex:	2001-02h	Effective mode:	-
Min.:	0.0	Unit:	-
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0–6553.5

Description

It displays the FPGA firmware version.

The display format is XXXX.Y, with one decimal place.

H01.02 Servo drive series No.

Hex:	2001-03h	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H01.07 Software test version

Hex:	2001-08h	Effective mode:	-
Min.:	0.00	Unit:	-
Max.:	655.35	Data Type:	UInt16
Default:	0.00	Change:	Unchangeable

Value Range:

0.00–655.35

Description

-

H01.08	Model parameter version 1		
	Hex:	2001-09h	Effective -
			mode:
	Min.:	0.0	Unit: -
	Max.:	6553.5	Data Type: UInt16
	Default:	0.0	Change: Unchangeable
	Value Range: 0.0–6553.5		
H01.09	Model parameter version 2		
	Hex:	2001-0Ah	Effective -
			mode:
	Min.:	0	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	0	Change: Unchangeable
	Value Range: 0–65535		
H01.10	Drive series No.		
	Hex:	2001-0Bh	Effective Upon the next power-on
			mode:
	Min.:	0	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	3	Change: At stop
	Value Range:		

2: S1R6
3: S2R8
5: S5R5
60005: S6R6
6: S7R6
7: S012
8: S018
9: S022
10: S027
10001: T3R5
10002: T5R4
10003: T8R4
10004: T012
10005: T017
10006: T021
10007: T026

Description

Defines the servo drive model.
If the voltage input to the main circuit of the servo drive does not comply with the preceding specifications, E420.0 (Main circuit phase loss) occurs.
Note: The main circuit of the servo drive supports single-phase 220 V power supplies without derating.

H01.11 DC-AC voltage class

Hex:	2001-0Ch	Effective	-
		mode:	
Min.:	0	Unit:	V
Max.:	65535	Data Type:	UInt16
Default:	220	Change:	Unchangeable

Value Range:

0 V–65535 V

Description

-

H01.12 Drive rated power

Hex:	2001-0Dh	Effective	-
		mode:	
Min.:	0.00	Unit:	kW
Max.:	10737418.24	Data Type:	UInt32
Default:	0.40	Change:	Unchangeable

Value Range:

0.00 kW–10737418.24kW

Description

-

H01.14

Max. output power of the drive

Hex: 2001-0Fh

Effective -

mode:

Min.: 0.00

Unit: kW

Max.: 10737418.24

Data Type: UInt32

Default: 0.40

Change: Unchangeable

Value Range:

0.00 kW–10737418.24kW

Description

-

H01.16

Rated output current of the drive

Hex: 2001-11h

Effective -

mode:

Min.: 0.00

Unit: A

Max.: 10737418.24

Data Type: UInt32

Default: 2.80

Change: Unchangeable

Value Range:

0.00 A–10737418.24 A

Description

-

H01.18

Max. output current of the drive

Hex: 2001-13h

Effective -

mode:

Min.: 0.00

Unit: A

Max.: 10737418.24

Data Type: UInt32

Default: 10.10

Change: Unchangeable

Value Range:

0.00 A–10737418.24 A

Description

-

H01.20

Carrier frequency

Hex: 2001-15h

Effective Upon the next power-on

mode:

Min.: 4000

Unit: Hz

Max.: 20000

Data Type: UInt16

Default: 8000

Change: At stop

Value Range:

4000 Hz–20000 Hz

Description

-

H01.21**Dead zone time**

Hex: 2001-16h

Effective mode: Upon the next power-on

Min.: 0.01

Unit: us

Max.: 20.00

Data Type: UInt16

Default: 2.00

Change: At stop

Value Range:

0.01 us to 20.00 us

Description

-

H01.22**D-axis coupling voltage compensation coefficient**

Hex: 2001-17h

Effective mode: Real time

Min.: 0.0

Unit: %

Max.: 6000.0

Data Type: UInt16

Default: 50.0

Change: Real-time

Value Range:

0.0% to 6000.0%

Description

-

H01.23**Q-axis back EMF compensation coefficient**

Hex: 2001-18h

Effective mode: Real time

Min.: 0.0

Unit: %

Max.: 6000.0

Data Type: UInt16

Default: 50.0

Change: Real-time

Value Range:

0.0% to 6000.0%

Description

-

H01.24**D-axis current loop gain**

Hex: 2001-19h

Effective mode: Real time

Min.:	0	Unit:	Hz
Max.:	20000	Data Type:	UInt16
Default:	500	Change:	Real-time

Value Range:

0 Hz–20000 Hz

Description

-

H01.25 D-axis current loop integral compensation factor

Hex:	2001-1Ah	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	100.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.01–100.00

Description

-

H01.26 Sinc3 filter data extraction rate in current sampling

Hex:	2001-1Bh	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Extraction rate 32

1: Extraction rate 64

2: Extraction rate 128

3: Extraction rate 256

Description

-

H01.27 Q-axis current loop gain

Hex:	2001-1Ch	Effective mode:	Real time
Min.:	0	Unit:	Hz
Max.:	20000	Data Type:	UInt16
Default:	500	Change:	Real-time

Value Range:

0 Hz–20000 Hz

Description

-

H01.28 Q-axis current loop integral compensation factor

Hex:	2001-1Dh	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	100.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.01–100.00

Description

-

H01.29 Q-axis coupling voltage compensation coefficient

Hex:	2001-1Eh	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	6553.5	Data Type:	UInt16
Default:	50.0	Change:	Real-time

Value Range:

0.0% to 6553.5%

Description

-

H01.30 Bus voltage gain tuning

Hex:	2001-1Fh	Effective mode:	Upon the next power-on
Min.:	50.0	Unit:	%
Max.:	150.0	Data Type:	UInt16
Default:	100.0	Change:	At stop

Value Range:

50.0% to 150.0%

Description

-

H01.31 Minimum ON time of bootstrap circuit lower bridge

Hex:	2001-20h	Effective mode:	Upon the next power-on
Min.:	0.0	Unit:	us
Max.:	20.0	Data Type:	UInt16

Default: 0.0

Change: At stop

Value Range:

0.0 us to 20.0 us

Description

-

H01.32 Relative gain of UV sampling

Hex: 2001-21h

Effective mode: Upon the next power-on

Min.: 1

Unit: -

Max.: 65535

Data Type: UInt16

Default: 32768

Change: At stop

Value Range:

1–65535

Description

-

H01.34 Drive over-temperature threshold

Hex: 2001-23h

Effective mode: Upon the next power-on

Min.: 0

Unit: °C

Max.: 150

Data Type: UInt16

Default: 95

Change: Real-time

Value Range:

0°C–150°C

Description

-

H01.36 Current sensor range

Hex: 2001-25h

Effective mode: Upon the next power-on

Min.: 0.00

Unit: A

Max.: 9999.99

Data Type: UInt32

Default: 21.33

Change: At stop

Value Range:

0.00 A–9999.99 A

Description

-

H01.38 FPGA phase current protection threshold

Hex: 2001-27h

Effective mode: Upon the next power-on

Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16
Default:	90.0	Change:	At stop

Value Range:

0.0% to 100.0%

Description

-

H01.39 Current loop version

Hex:	2001-28h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–65535

Description

-

H01.40 DC bus overvoltage protection threshold

Hex:	2001-29h	Effective mode:	Real time
Min.:	0	Unit:	V
Max.:	2000	Data Type:	UInt16
Default:	420	Change:	Real-time

Value Range:

0 V–2000 V

Description

-

H01.41 DC bus voltage discharge threshold

Hex:	2001-2Ah	Effective mode:	Real time
Min.:	0	Unit:	V
Max.:	2000	Data Type:	UInt16
Default:	380	Change:	Real-time

Value Range:

0 V–2000 V

Description

-

H01.42 DC bus undervoltage threshold

Hex:	2001-2Bh	Effective mode:	Real time
Min.:	0	Unit:	V
Max.:	2000	Data Type:	UInt16
Default:	200	Change:	Real-time

Value Range:
0 V–2000 V

Description
-

H01.52 D-axis proportional gain in performance priority mode

Hex:	2001-35h	Effective mode:	Real time
Min.:	0	Unit:	Hz
Max.:	20000	Data Type:	UInt16
Default:	2000	Change:	Real-time

Value Range:
0 Hz–20000 Hz

Description
-

H01.53 D-axis integral gain in performance priority mode

Hex:	2001-36h	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	100.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:
0.01–100.00

Description
-

H01.54 Q-axis proportional gain in performance priority mode

Hex:	2001-37h	Effective mode:	Real time
Min.:	0	Unit:	Hz
Max.:	20000	Data Type:	UInt16
Default:	2000	Change:	Real-time

Value Range:
0 Hz–20000 Hz

Description

-

H01.55 Q-axis integral gain in performance priority mode

Hex:	2001-38h	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	100.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.01–100.00

Description

-

H01.56 Current loop low-pass cutoff frequency

Hex:	2001-39h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	Hz
Max.:	65535	Data Type:	UInt16
Default:	11000	Change:	At stop

Value Range:

0 Hz–65535 Hz

Description

-

H01.59 Serial encoder data transmission compensation time

Hex:	2001-3Ch	Effective mode:	Upon the next power-on
Min.:	0.000	Unit:	us
Max.:	10.000	Data Type:	UInt16
Default:	0.000	Change:	At stop

Value Range:

0.000 us to 10.000 us

Description

-

H01.60 FPGA scheduling frequency selection

Hex:	2001-3Dh	Effective mode:	Upon the next power-on
Min.:	1	Unit:	-
Max.:	2	Data Type:	UInt16

Default: 1

Change: At stop

Value Range:

1: 16 kHz

2: 8 kHz

Description

-

H01.61 Command scheduling frequency

Hex: 2001-3Eh

Effective mode: Upon the next power-on

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0: 0-4Khz

1: 1-2Khz

2: 2-1Khz

3: 3-8KHz

Description

-

H01.62 Auto-tuning of drive model

Hex: 2001-3Fh

Effective mode: -

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0-65535

Description

-

H01.66 Current loop configuration

Hex: 2001-43h

Effective mode: Real time

Min.: 0

Unit: kHz

Max.: 31

Data Type: UInt16

Default: 12

Change: Real-time

Value Range:

0 kHz-31 kHz

Description

-

H01.67 Dead zone compensation coefficient

Hex:	2001-44h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	2.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–2.00

Description

-

H01.68 Current observer cutoff frequency

Hex:	2001-45h	Effective mode:	Real time
Min.:	200	Unit:	-
Max.:	5000	Data Type:	UInt16
Default:	2000	Change:	Real-time

Value Range:

200–5000

Description

-

H01.69 Current observer correction coefficient

Hex:	2001-46h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	9.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–9.00

Description

-

H01.72 Hide IGBT model identification

Hex:	2001-49h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H01.73 Sigma-delta signal phase compensation time

Hex:	2001-4Ah	Effective mode:	Upon the next power-on
Min.:	0	Unit:	us
Max.:	65535	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

0 us to 65535 us

Description

-

H01.75 Current loop amplification factor

Hex:	2001-4Ch	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	655.35	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–655.35

Description

-

H01.78 Control voltage undervoltage threshold

Hex:	2001-4Fh	Effective mode:	Real time
Min.:	0	Unit:	V
Max.:	2000	Data Type:	UInt16
Default:	200	Change:	Real-time

Value Range:

0 V–2000 V

Description

-

H01.79 Control voltage gain adjustment

Hex:	2001-50h	Effective mode:	Upon the next power-on
Min.:	50.0	Unit:	%
Max.:	150.0	Data Type:	UInt16

Default: 100.0 Change: At stop
Value Range:
 50.0% to 150.0%
Description
 -

H01.82 Filter time of PL and CPL

Hex: 2001-53h Effective Real time
 mode:
 Min.: 0 Unit: -
 Max.: 32767 Data Type: UInt16
 Default: 4000 Change: At stop
Value Range:
 0–32767
Description
 -

H01.88 Junction temperature parameter version 1

Hex: 2001-59h Effective -
 mode:
 Min.: 0.0 Unit: -
 Max.: 6553.5 Data Type: UInt16
 Default: 0.0 Change: Unchangeable
Value Range:
 0.0–6553.5
Description
 -

H01.89 Junction temperature parameter version 2

Hex: 2001-5Ah Effective -
 mode:
 Min.: 0 Unit: -
 Max.: 65535 Data Type: UInt16
 Default: 0 Change: Unchangeable
Value Range:
 0–65535
Description
 -

3.3 H02 Basic Control Parameters

H02.00 Control mode

Hex:	2002-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	11	Data Type:	UInt16
Default:	11	Change:	At stop

Value Range:

- 0: Speed control mode
- 1: Position control mode
- 2: Torque control mode
- 3: Torque<->Speed control mode
- 4: Speed<->Position control mode
- 5: Torque<->Position control mode
- 6: Torque<->Speed<->Position compound mode
- 11: PN communication mode

Description

Defines the control mode of the servo drive.

H02.01 Absolute system selection

Hex:	2002-02h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	5	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

- 0: Incremental mode
- 1: Absolute position linear mode
- 2: Absolute position rotation mode
- 3: Absolute position linear mode (without encoder overflow warning)
- 4: Absolute position single-turn mode
- 5: Absolute position rotational mode, modal axis single modal revolution absolute command

Description

Defines the mode of the absolute system.

H02.02 Rotation direction selection

Hex:	2002-03h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16

Default: 0

Change: At stop

Value Range:

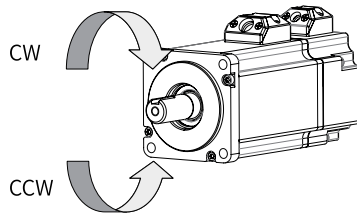
0: Counterclockwise (CCW) as forward direction

1: Clockwise (CW) as forward direction

Description

Defines the forward direction of the motor when viewed from the motor shaft side.

Value	Rotating direction	Remarks
0	Counterclockwise (CCW) as forward direction	Defines the CCW direction as the forward direction when a forward run command is received, indicating the motor rotates in the CCW direction when viewed from the motor shaft side.
1	Counterclockwise (CW) as forward direction	When a forward command is input, the motor rotates in CW direction viewed from the motor shaft side, that is, the motor rotates clockwise.

**H02.05 Stop mode at S-ON OFF**

Hex: 2002-06h

Effective mode: At stop

Min.: -5

Unit: -

Max.: 3

Data Type: Int16

Default: 3

Change: Real-time

Value Range:

-5: Stop in PN communication state (ramp-to-stop/quick stop/coast-to-stop), keeping dynamic braking state

-4: Stop based on ramp 2, keeping dynamic braking state

-3: Stop at zero speed, keeping dynamic braking state

-2: Stop based on ramp 1, keeping dynamic braking state

-1: Dynamic braking stop, keeping dynamic braking state

0: Coast to stop, keeping de-energized state

1: Stop based on ramp 1, keeping de-energized state

2: Dynamic braking stop, keeping de-energized state

3: Stop in PN communication state (ramp-to-stop/quick stop/coast-to-stop), keeping de-energized state

Description

Defines the deceleration mode of the motor for stopping rotating upon S-ON OFF and the motor status after stop.

Set a proper stop mode according to the mechanical status and operation requirements.

H02.06 Stop mode at No.2 fault

Hex:	2002-07h	Effective mode:	At stop
Min.:	-5	Unit:	-
Max.:	3	Data Type:	Int16
Default:	2	Change:	Real-time

Value Range:

- 5: Stop at zero speed, keeping dynamic braking state
- 4: Stop at emergency stop torque, keeping dynamic braking state
- 3: Stop based on ramp 2, keeping dynamic braking state
- 2: Stop based on ramp 1, keeping dynamic braking state
- 1: Dynamic braking stop, keeping dynamic braking state
- 0: Coast to stop, keeping de-energized state
- 1: Stop based on ramp 1, keeping de-energized state
- 2: Stop based on ramp 2, keeping de-energized state
- 3: Stop at emergency stop torque, keeping de-energized state
- 4: Dynamic braking stop, keeping de-energized state

Description

Defines the deceleration mode of the motor for stopping rotating upon occurrence of a No. 2 fault and the motor status after stop.

After the brake (BK) output function is enabled, the stop mode at No. 2 fault is forcibly set to "Ramp to stop as defined by 6085h, keeping dynamic braking status".

H02.07 Stop mode at overtravel

Hex:	2002-08h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	8	Data Type:	UInt16
Default:	8	Change:	Real-time

Value Range:

- 0: Coast to stop, keeping de-energized state
- 1: Stop at zero speed, keeping position lock state
- 2: Stop at zero speed, keeping de-energized state
- 3: Stop based on ramp 2, keeping de-energized state
- 4: Stop based on ramp 2, keeping position lock state
- 5: Dynamic braking stop, keeping de-energized state
- 6: Dynamic braking stop, keeping dynamic braking state
- 7: Not responding to overtravel

Description

Defines the deceleration mode of the motor for stopping rotating upon overtravel and the motor status after stop.

When the servo motor drives vertical axis, your setting must make the motor axis in position locking state after the limit switch signal is active to ensure safety.

H02.08

Stop mode at No.1 fault

Hex:	2002-09h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

- 0: Coast to stop, keeping de-energized state
- 1: Dynamic braking stop, keeping de-energized state
- 2: Dynamic braking stop, keeping dynamic braking state

Description

Defines the deceleration mode of the motor for stopping rotating when a No. 1 fault occurs and the motor status after stop.

For details on No.1 errors, see section Troubleshooting.

H02.09

Delay from brake output ON to command received

Hex:	2002-0Ah	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	500	Data Type:	UInt16
Default:	250	Change:	Real-time

Value Range:

0 ms to 500 ms

Description

Defines the delay from the moment the brake (BK) output signal is ON to the moment the servo drive starts to receive commands after power-on.

H02.10 Delay from brake output OFF to motor de-energized

Hex:	2002-0Bh	Effective mode:	Real time
Min.:	50	Unit:	ms
Max.:	1000	Data Type:	UInt16
Default:	150	Change:	Real-time

Value Range:

50 ms to 1000 ms

Description

Defines the delay from the moment brake (BK) output is OFF to the moment when the motor at standstill enters the de-energized status.

H02.11 Motor speed threshold at brake output OFF in rotation state

Hex:	2002-0Ch	Effective mode:	Real time
Min.:	20	Unit:	RPM
Max.:	3000	Data Type:	UInt16
Default:	30	Change:	Real-time

Value Range:

20 rpm to 3000 rpm

Description

Defines the motor speed threshold when brake (BK) output is OFF in the rotation state.

H02.12 Delay from S-ON OFF to brake output OFF in rotation state

Hex:	2002-0Dh	Effective mode:	Real time
Min.:	1	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	500	Change:	Real-time

Value Range:

1 ms to 65535 ms

Description

Defines the delay from the moment the S-ON signal is OFF to the moment the brake (BK) output is OFF in the rotation state.

H02.15 LED warning display

Hex:	2002-10h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16

Default: 0 Change: Real-time

Value Range:

0: Output warning information immediately

1: Not output warning information

Description

Defines whether to switch the keypad to the fault display mode when a No. 3 fault occurs.

For details on No.3 warnings, see section Troubleshooting.

H02.17 Stop mode upon main circuit power failure

Hex:	2002-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0: Keep current action

1: Stop upon fault as defined by H0206

2: Stop at S-ON OFF as defined by H0205

3: Stop quickly as defined by H0218

Description

-

H02.18 DI emergency stop mode selection

Hex:	2002-13h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0: Coast to stop, keeping de-energized state

1: Ramp 1 stop, keeping de-energized state

2: Ramp 2 stop, keeping de-energized stat

3: Stop at emergency stop torque, keeping de-energized state

Description

-

H02.20 Dynamic brake relay coil ON delay

Hex:	2002-15h	Effective mode:	Real time
Min.:	10	Unit:	ms

Max.:	30000	Data Type:	UInt16
Default:	30	Change:	Real-time

Value Range:

10 ms to 30000 ms

Description

-

H02.21 Permissible minimum resistance of regenerative resistor

Hex:	2002-16h	Effective	-
		mode:	
Min.:	1	Unit:	Ω
Max.:	1000	Data Type:	UInt16
Default:	40	Change:	Unchangeable

Value Range:1 Ω to 1000 Ω **Description**

The permissible minimum resistance of the regenerative resistor is only related to the servo drive model.

H02.22 Power of built-in regenerative resistor

Hex:	2002-17h	Effective	-
		mode:	
Min.:	0	Unit:	W
Max.:	65535	Data Type:	UInt16
Default:	50	Change:	Unchangeable

Value Range:

0 W–65535W

Description

The power of the built-in regenerative resistor is only related to the servo drive model, which is unmodifiable.

H02.23 Resistance of built-in regenerative resistor

Hex:	2002-18h	Effective	-
		mode:	
Min.:	0	Unit:	Ω
Max.:	65535	Data Type:	UInt16
Default:	50	Change:	Unchangeable

Value Range:0 Ω to 65535 Ω **Description**

The resistance of the built-in braking resistor is only related to the servo drive model, which is unmodifiable.

The built-in braking resistor comes into rescue when the maximum braking energy calculated exceeds the absorption capacity of the capacitor.

When using the built-in braking resistor, connect a jumper bar between terminals P and D.

When H01-02 (servo drive No.) = 2 or 3, there is no built-in braking resistor.

Table 3-1 Specifications of the regenerative resistor

Servo Drive Model	Specifications of Built-in Regenerative Resistor			External regenerative resistor Min. Allowable Resistance (Ω) (H02.21)
	Resistance (Ω)	Power (Pr) (W)	Processing Power (Pa) (W)	
SV660FS1R6I	-	-	-	50
SV660FS2R8I	-	-	-	45
SV660FS5R5I	50	50	25	40
SV660FS7R6I	25	80	40	20
SV660FS012I				15
SV660FT3R5I	100	80	40	80
SV660FT5R4I	100	80	40	60
SV660FT8R4I	50	80	40	45
SV660FT012I				40
SV660FT017I	35	100	50	35
SV660FT021I				25
SV660FT026I				

H02.24 Resistor heat dissipation coefficient

Hex:	2002-19h	Effective mode:	Real time
Min.:	10	Unit:	%
Max.:	100	Data Type:	UInt16
Default:	30	Change:	Real-time

Value Range:

10% to 100%

Description

Defines the heat dissipation coefficient of the regenerative resistor, which is applicable to both external and built-in regenerative resistors.

Set this parameter properly according to actual heat dissipation conditions of the resistor (heat dissipation coefficient).

Recommendations:

Generally, the coefficient cannot exceed 30% for natural cooling.
It cannot exceed 50% for forced air cooling.

H02.25 Regenerative resistor type

Hex:	2002-1Ah	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	3	Change:	Real-time

Value Range:

- 0: Built-in
- 1: External, natural cooling
- 2: External, forced air cooling
- 3: No resistor needed

Description

Defines the regenerative resistor type and the mode of absorbing and releasing the braking energy.

H02.26 Power of external regenerative resistor

Hex:	2002-1Bh	Effective mode:	Real time
Min.:	1	Unit:	W
Max.:	65535	Data Type:	UInt16
Default:	40	Change:	Real-time

Value Range:

1 W–65535W

Description

Defines the power of the external braking resistor.

Note: The value of this parameter cannot be lower than the calculated braking power.

H02.27 Resistance of external regenerative resistor

Hex:	2002-1Ch	Effective mode:	Real time
Min.:	15	Unit:	Ω
Max.:	1000	Data Type:	UInt16
Default:	50	Change:	Real-time

Value Range:

15 Ω to 1000 Ω

Description

Defines the power of the external braking resistor.

Note: The value of this parameter cannot be lower than the calculated braking power.

H02.30 User password

Hex:	2002-1Fh	Effective mode:	N/A
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H02.31 System parameter initialization

Hex:	2002-20h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: No operation

1: Restore default settings

2: Clear fault records

Description

Used to restore default values or clear fault records.

If necessary, use Inovance software tool to back up parameters except those in groups 2000h and 2001h.

H02.32 Selection of parameters in group H0b

Hex:	2002-21h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	99	Data Type:	UInt16
Default:	50	Change:	Real-time

Value Range:

0–99

Description

-

H02.33	200P software version		
	Hex:	2002-22h	Effective mode:
	Min.:	0.0	Unit:
	Max.:	65535.0	Data Type:
	Default:	0.0	Change:
	Value Range:		
	0.0–65535.0		
	Description		
	-		
H02.35	Keypad data update frequency		
	Hex:	2002-24h	Effective mode:
	Min.:	0	Unit:
	Max.:	20	Data Type:
	Default:	0	Change:
	Value Range:		
	0 Hz–20 Hz		
	Description		
	-		
H02.41	Manufacturer password		
	Hex:	2002-2Ah	Effective mode:
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	0	Change:
	Value Range:		
	0–65535		
	Description		
	-		

3.4 H03 Terminal Input Parameters

H03.00	DI function allocation 1 (activated upon power-on)		
	Hex:	2003-01h	Effective mode:
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	0	Change:

Value Range:

- 0: 0x00: Corresponding to null
- 1: 0x01: Corresponding to FunIN.1
- 2: 0x02: Corresponding to FunIN.2
- 4: 0x04: Corresponding to FunIN.3
- 8: 0x08: Corresponding to FunIN.4
- 16: 0x10: Corresponding to FunIN.5
- 32: 0x20: Corresponding to FunIN.6
- 64: 0x40: Corresponding to FunIN.7
- 128: 0x80: Corresponding to FunIN.8
- 256: 0x100: Corresponding to FunIN.9
- 512: 0x200: Corresponding to FunIN.10
- 1024: 0x400: Corresponding to FunIN.11
- 2048: 0x800: Corresponding to FunIN.12
- 4096: 0x1000: Corresponding to FunIN.13
- 8192: 0x2000: Corresponding to FunIN.14
- 16384: 0x4000: Corresponding to FunIN.15
- 32768: 0x8000: Corresponding to FunIN.16

Description

-

H03.01 DI function allocation 2 (activated upon power-on)

Hex:	2003-02h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: 0x00: Corresponding to null
1: 0x01: Corresponding to FunIN.17
2: 0x02: Corresponding to FunIN.18
4: 0x04: Corresponding FunIN.19
8: 0x08: Corresponding FunIN.20
16: 0x10: Corresponding FunIN.21
32: 0x20: Corresponding FunIN.22
64: 0x40: Corresponding FunIN.23
128: 0x80: Corresponding FunIN.24
256: 0x100: Corresponding FunIN.25
512: 0x200: Corresponding FunIN.26
1024: 0x400: Corresponding FunIN.27
2048: 0x800: Corresponding FunIN.28
4096: 0x1000: Corresponding FunIN.29
16384: 0x4000: Corresponding FunIN.31
32768: 0x8000: Corresponding FunIN.32

Description

-

H03.02

D11 function

Hex:	2003-03h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	14	Change:	Real-time

Value Range:

0: Undefined
 1: S-ON
 3: Gain switchover
 14: Forward overtravel switch
 15: Reverse overtravel switch
 16: Positive external torque limit
 17: Negative external torque limit
 18: Forward jog
 19: Reverse jog
 31: Home switch
 32: Homing enabled
 34: Emergency stop
 36: Internal speed limit source
 38: Probe 1
 39: Probe 2
 41: Current position as home
 56: EPOS program block external toggle switch

Description

Defines the function of DI1. Descriptions for the setpoints are shown in the following table.

H03.03

DI1 logic selection

Hex:	2003-04h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active low
 1: Active high

Description

Used to set the level logic of DI1 when the function assigned to DI1 is active. DI1 to DI4 are normal DIs, requiring the input signal width to be larger than 1 ms. Set active level logic correctly according to the host controller and peripheral circuits. The width of the input signal is shown in the following table for your reference.

H03.04

DI2 function

Hex:	2003-05h	Effective mode:	At stop
------	----------	-----------------	---------

Min.: 0
Max.: 56
Default: 15

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H03.02

Description

-

H03.05 DI2 logic selection

Hex: 2003-06h

Effective mode: At stop

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Active low

1: Active high

Description

-

H03.06 DI3 function

Hex: 2003-07h

Effective mode: At stop

Min.: 0
Max.: 56
Default: 31

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H03.02

Description

-

H03.07 DI3 logic selection

Hex: 2003-08h

Effective mode: At stop

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Active low

1: Active high

Description

-

H03.08	DI4 function			
	Hex:	2003-09h	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	56	Data Type:	UInt16
	Default:	34	Change:	Real-time
	Value Range:			
	Same as H03.02			
	Description			
	-			
H03.09	DI4 logic selection			
	Hex:	2003-0Ah	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	1	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			
	0: Active low			
	1: Active high			
	Description			
	-			
H03.10	DI5 function			
	Hex:	2003-0Bh	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	56	Data Type:	UInt16
	Default:	38	Change:	Real-time
	Value Range:			
	Same as H03.02			
	Description			
	-			
H03.11	DI5 logic selection			
	Hex:	2003-0Ch	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	1	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			

0: Active low
1: Active high

Description

-

H03.34 DI function allocation 3 (activated upon power-on)

Hex:	2003-23h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: 0x00: Corresponding to null
1: 0x01: Corresponding to FunIN.33
2: 0x02: Corresponding to FunIN.34
4: 0x04: Corresponding to FunIN.35
8: 0x08: Corresponding to FunIN.36
16: 0x10: Corresponding to FunIN.37
32: 0x20: Corresponding to FunIN.38
64: 0x40: Corresponding to FunIN.39
128: 0x80: Corresponding to FunIN.40
256: 0x100: Corresponding to FunIN.41
512: 0x200: Corresponding to FunIN.42
1024: 0x400: Corresponding to FunIN.43
2048: 0x800: Corresponding to FunIN.44
4096: 0x1000: Corresponding to FunIN.45
8192: 0x2000: Corresponding to FunIN.46
16384: 0x4000: Corresponding to FunIN.47
32768: 0x8000: Corresponding to FunIN.48

Description

-

H03.35 DI function allocation 4 (activated upon power-on)

Hex:	2003-24h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: 0x00: Corresponding to null
 1: 0x01: Corresponding to FunIN.49
 2: 0x02: Corresponding to FunIN.50
 4: 0x04: Corresponding FunIN.51
 8: 0x08: Corresponding FunIN.52
 16: 0x10: Corresponding FunIN.53
 32: 0x20: Corresponding FunIN.54
 64: 0x40: Corresponding FunIN.55
 128: 0x80: Corresponding FunIN.56
 256: 0x100: Corresponding FunIN.57
 512: 0x200: Corresponding FunIN.58
 1024: 0x400: Corresponding FunIN.59
 2048: 0x800: Corresponding FunIN.60
 4096: 0x1000: Corresponding FunIN.61
 8192: 0x2000: Corresponding FunIN.62
 16384: 0x4000: Corresponding FunIN.63

Description

-

H03.60**D11 fitter time**

Hex:	2003-3Dh	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	500.00	Data Type:	UInt16
Default:	3.00	Change:	Real-time

Value Range:

0.00 ms to 500.00 ms

Description

-

H03.61**D12 fitter time**

Hex:	2003-3Eh	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	500.00	Data Type:	UInt16
Default:	3.00	Change:	Real-time

Value Range:

0.00 ms to 500.00 ms

Description

-

H03.62	DI3 fitter time		
	Hex:	2003-3Fh	Effective Real time
			mode:
	Min.:	0.00	Unit: ms
	Max.:	500.00	Data Type: UInt16
	Default:	3.00	Change: Real-time
	Value Range:		
	0.00 ms to 500.00 ms		
	Description		
	-		

H03.63	DI4 fitter time		
	Hex:	2003-40h	Effective Real time
			mode:
	Min.:	0.00	Unit: ms
	Max.:	500.00	Data Type: UInt16
	Default:	3.00	Change: Real-time
	Value Range:		
	0.00 ms to 500.00 ms		
	Description		
	-		

H03.64	DI5 fitter time		
	Hex:	2003-41h	Effective Real time
			mode:
	Min.:	0.00	Unit: ms
	Max.:	500.00	Data Type: UInt16
	Default:	3.00	Change: Real-time
	Value Range:		
	0.00 ms to 500.00 ms		
	Description		
	-		

3.5 H04 Terminal Output Parameters

H04.00	DO1 function		
	Hex:	2004-01h	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	1	Change: Real-time

Value Range:

0: No function
 1: Servo ready
 2: Motor rotation signal
 3: Zero speed signal
 4: Speed matching signal
 5: Positioning completed
 6: Positioning near
 7: Torque limited signal
 8: Speed limited signal
 9: Braking
 10: Warning
 11: Fault
 16: Homing completed
 18: Torque reached signal
 19: Speed reached signal
 21: Enable completed
 30: Warning or fault output
 32: EDM output

Description

Defines the function of DO1.

Descriptions for the setpoints are shown in the following table.

Different VDOs can be assigned with the same function.

H04.01**DO1 logic selection**

Hex:	2004-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Normally open
 1: Closed

Description

Defines the level logic of DO1 when the function assigned to DO1 is active.

DO1 to DO3 are normal DOs, requiring the minimum output signal width to be 1 ms. The host controller must be able to receive valid DO logic changes.

Before receiving DO logic changes, check the setting of forced DI/DO selection to see whether the DO level is determined by the actual operating status of the drive or by forced DO.

H04.02**DO2 function**

Hex:	2004-03h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	11	Change:	Real-time

Value Range:

0: No function
1: Servo ready
2: Motor rotation signal
3: Zero speed signal
4: Speed matching signal
5: Positioning completed
6: Positioning near
7: Torque limited signal
8: Speed limited signal
9: Braking
10: Warning
11: Fault
16: Homing completed
18: Torque reached signal
19: Speed reached signal
21: Enable completed
30: Warning or fault output
32: EDM output

Description

-

H04.03**DO2 logic selection**

Hex:	2004-04h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Normally open
1: Closed

Description

-

H04.04**DO3 function**

Hex: 2004-05h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 9

Change: Real-time

Value Range:

0: No function

1: Servo ready

2: Motor rotation signal

3: Zero speed signal

4: Speed matching signal

5: Positioning completed

6: Positioning near

7: Torque limited signal

8: Speed limited signal

9: Braking

10: Warning

11: Fault

16: Homing completed

18: Torque reached signal

19: Speed reached signal

21: Enable completed

30: Warning or fault output

32: EDM output

Description

-

H04.05**DO3 logic selection**

Hex: 2004-06h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Normally open

1: Closed

Description

-

H04.22**DO source selection**

Hex: 2004-17h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 31

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

bit0: DO1

0: DO1 function output

1: H04.bit0

bit1: DO2

0: DO2 function output

1: H04.bit1

bit2: DO3

0: DO3 function output

1: H04.bit2

bit	Name	Description
0	DO1	0: DO1 function output
		1: Bit 0 of H31.04 set through communication
1	DO2	0: DO2 function output
		1: Bit 1 of H31.04 set through communication
2	DO3	0: DO3 function output
		1: Bit 2 of H31.04 set through communication

Description

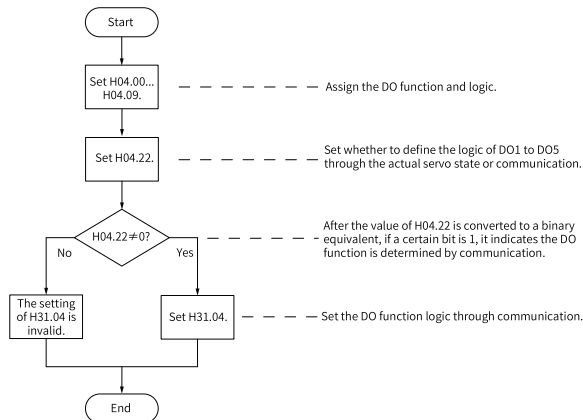
Defines whether the logic of a physical DO terminal is defined by the actual state of the drive or by communication.

The value of H04.22 is displayed in decimal on the keypad. When the value is converted to a binary equivalent: If bit(n) is 0, it indicates the logic of DO(n+1) is defined by the actual state of the drive. If bit(n) is 1, it indicates the logic of DO (n+1) is defined by communication (H31.04).

Setpoint (decimal)				DO logic	
	bit2	bit1	bit0	Defined by the Drive State	Defined by Communication (H31.04)
	DO3	DO2	DO1		
0	0	0	0	DO1 to DO3	N/A
1	0	0	1	DO2 to DO3	DO1
...	...	...	...	...	...
31	1	1	1	N/A	DO1 to DO3

Set H04.22 to a value listed in the preceding table.

H31.04 is not displayed on the keypad and can only be modified through communication. For H31.04, "bit(n) = 1" indicates the logic of DO(n+1) is active. "bit(n) = 0" indicates the logic of DO(n+1) is inactive.



3.6 H05 Position Control Parameters

H05.02 Pulses per revolution

Hex: 2005-03h

Effective mode: Upon the next power-on

Min.: 0

Unit: PPR

Max.: 4294967295

Data Type: UInt32

Default: 0

Change: At stop

Value Range:

0 PPR to 4294967295 PPR

Description

-

H05.04 First-order low-pass filter time constant

Hex:	2005-05h	Effective mode:	Real time
Min.:	0.0	Unit:	ms
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	At stop

Value Range:

0.0 ms to 6553.5 ms

Description

-

H05.06 Moving average filter time constant 1

Hex:	2005-07h	Effective mode:	Real time
Min.:	0.0	Unit:	ms
Max.:	128.0	Data Type:	UInt16
Default:	0.0	Change:	At stop

Value Range:

0.0 ms to 128.0 ms

Description

-

H05.07 Electronic gear ratio 1 (numerator)

Hex:	2005-08h	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	1073741824	Data Type:	UInt32
Default:	8388608	Change:	Real-time

Value Range:

1–1073741824

Description

-

H05.09 Electronic gear ratio 1 (denominator)

Hex:	2005-0Ah	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	1073741824	Data Type:	UInt32
Default:	10000	Change:	Real-time

Value Range:

1–1073741824

Description

-

H05.11 Electronic gear ratio 2 (numerator)

Hex:	2005-0Ch	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	1073741824	Data Type:	UInt32
Default:	8388608	Change:	Real-time

Value Range:

1–1073741824

Description

-

H05.13 Electronic gear ratio 2 (denominator)

Hex:	2005-0Eh	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	1073741824	Data Type:	UInt32
Default:	10000	Change:	Real-time

Value Range:

1–1073741824

Description

-

H05.16 Clear action

Hex:	2005-11h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Position deviation cleared upon S-OFF or non-operational state

1: Position deviation cleared upon S-OFF or fault

2: Position deviation cleared upon S-OFF or active DI function 35

Description

-

H05.19 Speed feedforward control

Hex:	2005-14h	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

0: No speed feedforward

1: Internal speed feedforward

2: PLC speed feedforward

Description

Defines the source of the speed loop feedforward signal.

In the position control mode, speed feedforward can be used to improve the position reference response speed.

Speed feedforward control parameters include speed feedforward filter time constant and speed feedforward gain. See section "Feedforward Gain" for details.

H05.20 Condition for positioning completed signal output

Hex:	2005-15h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	10	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

- 0: Absolute position deviation lower than the setpoint of H05.21
- 1: Absolute position deviation lower than the setpoint of H05.21 and the filtered position reference is 0
- 2: Absolute position deviation lower than the setpoint of H05.21 and the unfiltered position reference is 0
- 3: Absolute position deviation kept lower than the setpoint of H05.21 within the time defined by H05.60 and the unfiltered position reference is 0
- 4: Absolute value of position deviation lower than threshold, window time being active and filtered position reference being 0
- 5: Absolute value of position deviation lower than threshold, with zero speed signal being active and filtered position reference being 0
- 6: Absolute value of position deviation lower than threshold, with zero speed signal being active and filtered position reference being 0
- 7: COIN signal judged after the change (available→unavailable) of the position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than threshold
- 8: COIN signal judged after the change (available→unavailable) of the filtered position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than the threshold
- 9: COIN signal judged after the change (available→unavailable) of the position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than the threshold
- 10: COIN signal judged after the change (available→unavailable) of the filtered position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than threshold

Description

-

H05.21 Threshold of positioning completed

Hex:	2005-16h	Effective mode:	Real time
Min.:	1	Unit:	Encoder unit
Max.:	65535	Data Type:	UInt16
Default:	7	Change:	Real-time

Value Range:

1 to 65535

Description

-

H05.22 Proximity threshold

Hex:	2005-17h	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	1	Unit:	Encoder unit
Max.:	65535	Data Type:	UInt16
Default:	65535	Change:	Real-time

Value Range:

1 to 65535

Description

-

H05.32 Speed of high-speed search for home switch signal

Hex:	2005-21h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	3000	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

0 RPM–3000 RPM

Description

-

H05.33 Speed of low-speed search for home switch signal

Hex:	2005-22h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	1000	Data Type:	UInt16
Default:	10	Change:	Real-time

Value Range:

0 rpm to 1000 rpm

Description

-

H05.34 Acceleration/Deceleration time during homing

Hex:	2005-23h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	1000	Data Type:	UInt16
Default:	1000	Change:	Real-time

Value Range:

0 ms to 1000 ms

Description

-

H05.35 Home search time limit

Hex:	2005-24h	Effective	Real time
		mode:	
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	10000	Change:	Real-time

Value Range:

0 ms to 65535 ms

Description

-

H05.36 Mechanical home offset

Hex:	2005-25h	Effective	Real time
		mode:	
Min.:	-2147483648	Unit:	Reference unit
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

-2147483648 to 2147483647

Description

-

H05.39 Electronic gear ratio switchover condition

Hex:	2005-28h	Effective	Real time
		mode:	
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Switchover after position reference is kept 0 for 2.5 ms

1: Switched in real time

Description

-

H05.40 Mechanical home offset and action upon overtravel

Hex:	2005-29h	Effective	Real time
		mode:	
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: H05.36 as the coordinate after homing, reverse homing applied after homing triggered again on overtravel

1: H05.36 as the relative offset after homing, reverse homing applied after homing triggered again on overtravel

2: H05.36 as the coordinate after homing, reverse homing auto-applied on overtravel

3: H05.36 as the relative offset after homing, reverse homing auto-applied on overtravel

Description

-

H05.50 Mechanical gear ratio in absolute position rotation mode (numerator)

Hex:	2005-33h	Effective mode:	Upon the next power-on
Min.:	1	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

1–65535

Description

-

H05.51 Mechanical gear ratio in absolute position rotation mode (denominator)

Hex:	2005-34h	Effective mode:	Upon the next power-on
Min.:	1	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

1–65535

Description

-

H05.52 Pulses per revolution of the load in absolute position rotation mode (low 32 bits)

Hex:	2005-35h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	Encoder unit
Max.:	2147483647	Data Type:	UInt32
Default:	0	Change:	At stop

Value Range:

0 to 2147483647

Description

-

H05.54 Pulses per revolution of the load in absolute position rotation mode (high 32 bits)

Hex:	2005-37h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	Encoder unit
Max.:	2147483647	Data Type:	UInt32
Default:	0	Change:	At stop

Value Range:

0 to 2147483647

Description

-

H05.56 Speed threshold in homing upon hit-and-stop

Hex:	2005-39h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	1000	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0 rpm to 1000 rpm

Description

-

H05.58 Torque threshold in homing upon hit-and-stop

Hex:	2005-3Bh	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	300.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

0.0% to 300.0%

Description

-

H05.59 Positioning window time

Hex:	2005-3Ch	Effective mode:	Real time
Min.:	0	Unit:	ms

Max.: 30000

Default: 0

Data Type: UInt16

Change: Real-time

Value Range:

0 ms to 30000 ms

Description

-

H05.60 Hold time of positioning completed

Hex: 2005-3Dh

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 30000

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0 ms to 30000 ms

Description

-

H05.66 Homing time unit

Hex: 2005-43h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 2

Data Type: UInt16

Default: 2

Change: At stop

Value Range:

0: 1 ms

1: 10 ms

2: 100 ms

Description

-

H05.67 Offset between zero point and single-turn absolute position

Hex: 2005-44h

Effective Real time

mode:

Min.: -2147483648

Unit: Encoder unit

Max.: 2147483647

Data Type: Int32

Default: 0

Change: At stop

Value Range:

-2147483648 to 2147483647

Description

-

H05.69 Auxiliary homing function

Hex:	2005-46h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Inhibited

1: Record offset position

2: Clear offset position

Description

-

H05.70 Moving average filter time constant 2

Hex:	2005-47h	Effective mode:	Real time
Min.:	0.0	Unit:	ms
Max.:	1000.0	Data Type:	UInt16
Default:	0.0	Change:	At stop

Value Range:

0.0 ms to 1000.0 ms

Description

-

H05.71 Motor Z signal width

Hex:	2005-48h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	100	Data Type:	UInt16
Default:	4	Change:	Real-time

Value Range:

0 ms to 100 ms

Description

-

H05.80 Reference operation mode in rotation mode

Hex:	2005-51h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–4

Description

Value	Description
0	Nearest
1	Forward
2	Reverse
3	Current direction
4	Direction where the upper and lower limits of the ring counter are not passed

3.7 H06 Speed Control Parameters

H06.00 Source of main speed reference A

Hex:	2006-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Digital setting (H06.03)

Description

-

H06.01 Source of auxiliary speed reference B

Hex:	2006-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	5	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Digital setting (H06.03)

5: Multi-speed reference

Description

-

H06.02 Speed reference source

Hex:	2006-03h	Effective mode:	Real time
Min.:	0	Unit:	-

Max.:	4	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Source of main speed reference A

1: Source of auxiliary speed reference B

2: A+B

3: Switched between A and B

4: Communication

Description

-

H06.03 Speed reference set through keypad

Hex:	2006-04h	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	200	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H06.04 DI speed reference

Hex:	2006-05h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	150	Change:	Real-time

Value Range:

0 rpm to 10000 rpm

Description

-

H06.05 Acc. ramp time of speed reference

Hex:	2006-06h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0 ms to 65535 ms

Description

Acc. ramp time of speed reference in the local speed mode.

H06.06 Dec. ramp time of speed reference

Hex:	2006-07h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0 ms to 65535 ms

Description

Dec. ramp time of speed reference in the local speed mode.

H06.07 Max. speed limit

Hex:	2006-08h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	7000	Change:	Real-time

Value Range:

0 rpm to 10000 rpm

Description

-

H06.08 Forward speed limit

Hex:	2006-09h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	7000	Change:	Real-time

Value Range:

0 rpm to 10000 rpm

Description

-

H06.09 Reverse speed limit

Hex:	2006-0Ah	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16

Default: 7000 Change: Real-time

Value Range:
0 rpm to 10000 rpm

Description
-

H06.10 Deceleration unit in emergency stop

Hex: 2006-0Bh Effective Real time
mode:

Min.: 0 Unit: -

Max.: 2 Data Type: UInt16

Default: 0 Change: At stop

Value Range:

0: Multiplied by 1
1: Multiplied by 10
2: Multiplied by 100

Description

The default value is 0. When ramp stop is set to the maximum value but the ramp time still exceeds the expected value, you can use this parameter to reduce the stop time.

H06.11 Torque feedforward control

Hex: 2006-0Ch Effective Real time
mode:

Min.: 0 Unit: -

Max.: 1 Data Type: UInt16

Default: 1 Change: Real-time

Value Range:

0: No torque feedforward
1: Internal torque feedforward

Description

Defines whether to enable internal torque feedforward in the control modes other than torque control.

Torque feedforward can be used to improve the torque reference response speed and reduce the position deviation during acceleration/deceleration at constant speed.

Parameters of the torque feedforward function include torque feedforward filter time constant and torque feedforward gain. For details, see section Feedforward Gain.

In non-torque control, the control block diagram of torque feedforward is shown in the following figure.

H06.12 Acceleration ramp time of jog speed

Hex:	2006-0Dh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	10	Change:	Real-time

Value Range:

0 ms to 65535 ms

Description

Defines the acceleration/deceleration time of jog speed references in the jog mode set through H0d.11 or the software tool.

H06.13 Speed feedforward smoothing filter

Hex:	2006-0Eh	Effective mode:	Real time
Min.:	0	Unit:	us
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0 us to 65535 us

Description

Defines the speed feedforward filter time constant.

H06.15 Zero clamp speed threshold

Hex:	2006-10h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	10	Change:	Real-time

Value Range:

0 rpm to 10000 rpm

Description

-

H06.16 Threshold of TGON (motor rotation) signal

Hex:	2006-11h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	1000	Data Type:	UInt16
Default:	20	Change:	Real-time

Value Range:

0 rpm to 1000 rpm

Description

-

H06.17 Threshold of V-Cmp (speed matching) signal

Hex:	2006-12h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	100	Data Type:	UInt16
Default:	10	Change:	Real-time

Value Range:

0 RPM –100 RPM

Description

-

H06.18 Threshold of speed reach signal

Hex:	2006-13h	Effective mode:	Real time
Min.:	20	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	1000	Change:	Real-time

Value Range:

20 rpm to 10000 rpm

Description

-

H06.19 Threshold of zero speed output signal

Hex:	2006-14h	Effective mode:	Real time
Min.:	1	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	10	Change:	Real-time

Value Range:

1 rpm to 10000 rpm

Description

-

H06.26 Torque fluctuation auto-tuning enable

Hex:	2006-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-

Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0–1			
Description			
-			

H06.28 Cogging torque ripple compensation

Hex:	2006-1Dh	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	1	Change:	At stop
Value Range:			
0–1			
Description			
-			

H06.31 Sine reference frequency

Hex:	2006-20h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	16000	Data Type:	UInt16
Default:	50	Change:	Real-time
Value Range:			
0–16000			
Description			
-			

H06.32 Sine reference amplitude

Hex:	2006-21h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	30000	Data Type:	UInt16
Default:	30	Change:	Real-time
Value Range:			
0–30000			
Description			
-			

H06.33	Sine reference enable		
	Hex:	2006-22h	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	3	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0–3		
	Description		
	-		
H06.34	Sine reference initial phase		
	Hex:	2006-23h	Effective Real time
			mode:
	Min.:	0.0	Unit: -
	Max.:	360.0	Data Type: UInt16
	Default:	0.0	Change: Real-time
	Value Range:		
	0.0–360.0		
	Description		
	-		
H06.35	Sine reference offset		
	Hex:	2006-24h	Effective Real time
			mode:
	Min.:	-9900	Unit: -
	Max.:	9900	Data Type: Int16
	Default:	0	Change: Real-time
	Value Range:		
	-9900–9900		
	Description		
	-		
H06.36	Moving average filter time constant of speed references		
	Hex:	2006-25h	Effective Real time
			mode:
	Min.:	0.0	Unit: ms
	Max.:	100.0	Data Type: UInt16
	Default:	0.0	Change: At stop
	Value Range:		
	0.0 ms to 100.0 ms		

Description

-

H06.40**Deceleration time of ramp 1/PN ramp stop**

Hex:	2006-29h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0 ms to 65535 ms

Description

-

H06.41**Dec. time of ramp 2/PN quick stop**

Hex:	2006-2Ah	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0 ms to 65535 ms

Description

-

H06.50**Speed S-curve enable switch**

Hex:	2006-33h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–1

Description

-

H06.51**Increasing acceleration of speed S-curve acceleration segment**

Hex:	2006-34h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16

Default: 50.0

Change: At stop

Value Range:

0.0% to 100.0%

Description

-

H06.52 Decreasing acceleration of speed S-curve acceleration segment

Hex: 2006-35h

Effective Real time
mode:

Min.: 0.0

Unit: %

Max.: 100.0

Data Type: UInt16

Default: 50.0

Change: At stop

Value Range:

0.0% to 100.0%

Description

-

H06.53 Increasing acceleration of speed S-curve deceleration segment

Hex: 2006-36h

Effective Real time
mode:

Min.: 0.0

Unit: %

Max.: 100.0

Data Type: UInt16

Default: 50.0

Change: At stop

Value Range:

0.0% to 100.0%

Description

-

H06.54 Decreasing acceleration of speed S-curve deceleration segment

Hex: 2006-37h

Effective Real time
mode:

Min.: 0.0

Unit: %

Max.: 100.0

Data Type: UInt16

Default: 50.0

Change: At stop

Value Range:

0.0% to 100.0%

Description

-

3.8 H07 Torque Control Parameters

H07.00	Source of main torque reference A		
	Hex:	2007-01h	Effective mode:
	Min.:	0	Unit:
	Max.:	2	Data Type:
	Default:	0	Change:
	Value Range:		
	0: Keypad (H7.03)		
	Description		
	-		
H07.01	Source of auxiliary torque reference B		
	Hex:	2007-02h	Effective mode:
	Min.:	0	Unit:
	Max.:	2	Data Type:
	Default:	0	Change:
	Value Range:		
	0: Keypad (H7.03)		
	Description		
	-		
H07.02	Torque reference source		
	Hex:	2007-03h	Effective mode:
	Min.:	0	Unit:
	Max.:	4	Data Type:
	Default:	0	Change:
	Value Range:		
	0: Source of main torque reference A		
	1: Source of auxiliary torque reference B		
	2: Source of A+B		
	3: Switched between A and B		
H07.03	Torque reference set through keypad		
	Hex:	2007-04h	Effective mode:

Min.:	-400.0	Unit:	%
Max.:	400.0	Data Type:	Int16
Default:	0.0	Change:	Real-time

Value Range:

-400.0% to 400.0%

Description

-

H07.05 Torque reference filter time constant 1

Hex:	2007-06h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	30.00	Data Type:	UInt16
Default:	0.50	Change:	Real-time

Value Range:

0.00 ms to 30.00 ms

Description

-

H07.06 Torque reference filter time constant 2

Hex:	2007-07h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	30.00	Data Type:	UInt16
Default:	0.27	Change:	Real-time

Value Range:

0.00 ms to 30.00 ms

Description

Defines the torque reference filter time constant.

Low-pass filtering of torque references helps smoothen torque references and reduce vibration.

Pay attention to the responsiveness during setting as an excessively high setpoint lowers down the responsiveness.

H07.07 Torque Limit source

Hex:	2007-08h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	5	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Positive/Negative internal torque limit
 1: Positive/Negative external torque limit
 5: PN torque limit

Description

-

H07.09 Positive internal torque limit

Hex:	2007-0Ah	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	350.0	Change:	Real-time

Value Range:

0.0% to 400.0%

Description

-

H07.10 Negative internal torque limit

Hex:	2007-0Bh	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	350.0	Change:	Real-time

Value Range:

0.0% to 400.0%

Description

-

H07.11 Positive external torque limit

Hex:	2007-0Ch	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	350.0	Change:	Real-time

Value Range:

0.0% to 400.0%

Description

-

H07.12 Negative external torque limit

Hex:	2007-0Dh	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	350.0	Change:	Real-time

Value Range:

0.0% to 400.0%

Description

-

H07.15 Emergency-stop torque

Hex:	2007-10h	Effective mode:	At stop
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

0.0% to 400.0%

Description

-

H07.17 Speed limit source

Hex:	2007-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Internal speed limit

2: H07.19 or H07.20 as defined by DI

Description

-

H07.19 Positive speed limit/Speed limit 1 in torque control

Hex:	2007-14h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	3000	Change:	Real-time

Value Range:

0 rpm to 10000 rpm

Description

-

H07.20 Negative speed limit/Speed limit 2 in torque control

Hex:	2007-15h	Effective mode:	Real time
Min.:	0	Unit:	RPM
Max.:	10000	Data Type:	UInt16
Default:	3000	Change:	Real-time

Value Range:
0 rpm to 10000 rpm

Description
-

H07.21 Torque reach base value

Hex:	2007-16h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:
0.0% to 400.0%

Description
-

H07.22 Torque reach valid value

Hex:	2007-17h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	20.0	Change:	Real-time

Value Range:
0.0% to 400.0%

Description
-

H07.23 Torque reach invalid value

Hex:	2007-18h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	400.0	Data Type:	UInt16
Default:	10.0	Change:	Real-time

Value Range:
0.0% to 400.0%

Description

-

H07.24 Field weakening depth

Hex:	2007-19h	Effective mode:	Real time
Min.:	60	Unit:	%
Max.:	115	Data Type:	UInt16
Default:	115	Change:	Real-time

Value Range:

60% to 115%

Description

Use the default value in general cases. Reducing the flux weakening depth improves the dynamic performance of flux-weakening area and reduces current ripple, but also leads to load rate rise.

H07.25 Max. permissible demagnetizing current

Hex:	2007-1Ah	Effective mode:	Real time
Min.:	0	Unit:	%
Max.:	200	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

0% to 200%

Description

Use the default value in general cases. Increasing the demagnetizing current extends the motor speed range, but also poses a greater challenge on the bearing capacity of the motor. If you need to increase the setpoint of 2007-1Ah, contact Inovance first.

H07.26 Field weakening selection

Hex:	2007-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Disabled

1: Enabled

Description

0: Disabled; 1: Enabled

H07.27	Flux weakening gain		
	Hex: 2007-1Ch	Effective mode:	Real time
	Min.: 0.001	Unit:	Hz
	Max.: 1.000	Data Type:	UInt16
	Default: 0.030	Change:	Real-time
	Value Range: 0.001 Hz–1.000 Hz		
	Description -		
H07.28	Speed of flux weakening point		
	Hex: 2007-1Dh	Effective mode:	Real time
	Min.: 0	Unit:	-
	Max.: 65535	Data Type:	UInt16
	Default: 0	Change:	Unchangeable
	Value Range: 0–65535		
	Description -		
H07.36	Time constant of low-pass filter 2		
	Hex: 2007-25h	Effective mode:	Real time
	Min.: 0.00	Unit:	ms
	Max.: 10.00	Data Type:	UInt16
	Default: 0.00	Change:	Real-time
	Value Range: 0.00 ms to 10.00 ms		
	Description -		
H07.37	Torque reference filter selection		
	Hex: 2007-26h	Effective mode:	Real time
	Min.: 0	Unit:	-
	Max.: 1	Data Type:	UInt16
	Default: 0	Change:	Real-time
	Value Range: 0: First-order filter 1: Biquad filter		

Description

0: First-order filter

1: Biquad filter

H07.38 Biquad filter attenuation ratio

Hex:	2007-27h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	50	Data Type:	UInt16
Default:	16	Change:	At stop

Value Range:

0–50

Description

-

H07.40 Speed limit threshold in torque control mode

Hex:	2007-29h	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	30	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0 ms to 30 ms

Description

-

3.9 H08 Gain Parameters**H08.00 Speed loop gain**

Hex:	2008-01h	Effective mode:	Real time
Min.:	0.1	Unit:	Hz
Max.:	2000.0	Data Type:	UInt16
Default:	40.0	Change:	Real-time

Value Range:

0.1 Hz–2000.0 Hz

Description

Defines the proportional gain of the speed loop.

2008-01h determines the responsiveness of the speed loop. The higher the setpoint, the higher the responsiveness. Note that an excessively high setpoint may cause vibration.

In the position control mode, the position loop gain must be increased together with the speed loop gain.

H08.01 Speed loop integral time constant

Hex:	2008-02h	Effective mode:	Real time
Min.:	0.15	Unit:	ms
Max.:	512.00	Data Type:	UInt16
Default:	19.89	Change:	Real-time

Value Range:

0.15 ms to 512.00 ms

Description

Defines the integral time constant of the speed loop.

The lower the setpoint, the better the integral action, and the quicker will the deviation value be close to 0.

Note: There is no integral action when H08.01 is set to 512.00.

H08.02 Position loop gain

Hex:	2008-03h	Effective mode:	Real time
Min.:	0.1	Unit:	Hz
Max.:	2000.0	Data Type:	UInt16
Default:	64.0	Change:	Real-time

Value Range:

0.1 Hz–2000.0 Hz

Description

Defines the proportional gain of the position loop.

Defines the responsiveness of the position loop. A high setpoint shortens the positioning time.

Note that an excessively high setpoint may cause vibration. The torque reference filter time constant is called the 1st gain.

H08.03 2nd speed loop gain

Hex:	2008-04h	Effective mode:	Real time
Min.:	0.1	Unit:	Hz
Max.:	2000.0	Data Type:	UInt16
Default:	75.0	Change:	Real-time

Value Range:

0.1 Hz–2000.0 Hz

Description

-

H08.04 2nd speed loop integral time constant

Hex:	2008-05h	Effective mode:	Real time
Min.:	0.15	Unit:	ms
Max.:	512.00	Data Type:	UInt16
Default:	10.61	Change:	Real-time

Value Range:

0.15 ms to 512.00 ms

Description

-

H08.05 2nd position loop gain

Hex:	2008-06h	Effective mode:	Real time
Min.:	0.1	Unit:	Hz
Max.:	2000.0	Data Type:	UInt16
Default:	120.0	Change:	Real-time

Value Range:

0.1 Hz–2000.0 Hz

Description

Defines the second gain set of the position loop and speed loop. The 2nd torque reference filter time constant is called 2nd gain. For details on gain switchover, see section "Gain Switchover".

H08.08 2nd gain mode setting

Hex:	2008-09h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0: Fixed to the 1st group of gains, P/PI switched through external
 DI1: Switched between the 1st and 2nd group of gains as defined by H08.09

Description

Defines the mode for switching to the 2nd gain set.

H08.09**Gain switchover condition**

Hex:	2008-0Ah	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	10	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

- 0: Fixed to the 1st gain set (PS)
- 1: Switched as defined by Func3 of DI
- 2: Torque reference too large (PS)
- 3: Speed reference too large (PS)
- 4: Speed reference change rate too large (PS)
- 5: Speed reference low/high speed threshold (PS)
- 6: Position deviation too large (P)
- 7: Position reference available (P)
- 8: Positioning unfinished (P)
- 9: Actual speed (P)
- 10: Position reference + Actual speed (P)

Description

See the following table for gain switchover conditions.

Value	Gain switchover condition	Remarks
0	Fixed to the 1st gain set	The 1st gain set applies.
1	DI (Func3) switchover	-
2	Torque reference too large	If the torque reference absolute value exceeds (Level + Dead time) [%] in the last 1st gain set, the drive switches to the 2nd gain set. If the absolute value of the torque reference is lower than (level – Dead time) [%] and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain, the drive returns to the 1st gain set.
3	Speed reference too large	If the speed reference absolute value exceeds (Level + Dead time) [rpm] in the last 1st gain set, the drive switches to the 2nd gain set. If the absolute value of the speed reference is lower than (level - Dead time) [rpm] and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain, the drive returns to the 1st gain set.
4	Speed reference too large	Active in the control modes other than speed control If the absolute value of the change rate of the speed reference exceeds (Level + Dead time) [10 rpm/s] in the last 1st gain set, the drive switches to the 2nd gain set. If the absolute value of the speed reference change rate is lower than (level – hysteresis) [10 rpm/s] and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain, the drive returns to the 1st gain set. In the speed control mode, the 1st gain set always applies.

Value	Gain switchover condition	Remarks
5	Speed reference high/low-speed threshold	If the speed reference absolute value exceeds (Level - Dead time) [rpm] in the last 1st gain set, the drive starts to switch to the 2nd gain set, with gains changed gradually. When the speed reference absolute value reaches (Level + Dead time) [rpm], the 2nd gain set applies. If the speed reference absolute value is lower than (Level + Dead time) [rpm] in the last 2nd gain set, the drive starts to return to the 1st gain set, with gains changed gradually. When the speed reference absolute value reaches (Level - Dead time) [rpm], the 1st gain set applies.
6	Position deviation too large	Active only in the position control mode If the position deviation absolute value exceeds (Level + Dead time) [encoder unit] in the last 1st gain set, the drive switches to the 2nd gain set. When the absolute value of the position deviation is lower than (Level - Dead time) [encoder unit] and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain, the drive returns to the 1st gain set. The 1st gain set applies in control modes other than position control.
7	Position reference available	Active only in the position control mode If the position reference is not 0 in the last 1st gain set, the drive switches to the 2nd gain set. When the position reference is 0 and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain, the drive returns to the 1st gain set. The 1st gain set applies in control modes other than position control.
8	Positioning uncompleted	Active only in the position control mode If positioning has not been completed in the last 1st gain set, the drive switches to the 2nd gain set. If positioning is not completed and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain set, the servo drive returns to the 1st gain set. The 1st gain set applies in control modes other than position control.
9	Actual speed	Active only in the position control mode If the absolute value of actual speed exceeds (Level + Dead time) [rpm] in the last 1st gain set, the drive switches to the 2nd gain set. If the absolute value of actual speed is lower than (Level - Dead time) [rpm] and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain set, the drive returns to the 1st gain set. The 1st gain set applies in control modes other than position control.
10	Position reference + Actual speed	Active only in the position control mode If the position reference is not 0 in the last 1st gain set, the drive switches to the 2nd gain set. If the position reference is 0 and such status lasts within the delay defined by H08.10 (Gain switchover delay) in the 2nd gain set, the 2nd gain set applies. When the position reference is 0 and the delay defined by (H08.10) is reached, if the absolute value of actual speed is lower than (Level) [rpm], the speed loop integral time constant is fixed to the setpoint of H08.04 (2nd speed loop integral time constant), and others return to the 1st gain set; if the absolute value of actual speed does not reach (Level - Dead time) [rpm], the speed integral also returns to the setpoint of H08.01 (Speed loop integral time constant). The 1st gain set applies in control modes other than position control.

H08.10 Gain switchover delay

Hex: 2008-0Bh

Effective Real time
mode:

Min.:	0.0	Unit:	ms
Max.:	1000.0	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0 ms to 1000.0 ms

Description

Defines the delay when the drive switches from the 2nd gain set to the 1st gain set.

H08.11 Gain switchover level

Hex:	2008-0Ch	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20000	Data Type:	UInt16
Default:	50	Change:	Real-time

Value Range:

0–20000

Description

Defines the gain switchover level.

Defines the gain switchover level. The unit of gain switchover level varies with the switchover condition.

H08.12 Gain switchover hysteresis

Hex:	2008-0Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20000	Data Type:	UInt16
Default:	30	Change:	Real-time

Value Range:

0–20000

Description

Defines the dead time for gain switchover.

Defines the gain switchover level. The unit of gain switchover hysteresis varies with the switchover condition.

H08.13 Position gain switchover time

Hex:	2008-0Eh	Effective mode:	Real time
Min.:	0.0	Unit:	ms
Max.:	1000.0	Data Type:	UInt16
Default:	3.0	Change:	Real-time

Value Range:

0.0 ms to 1000.0 ms

Description

In position control, if 2nd position loop gain is much higher than position loop gain, set the time for switching from the latter to the former.

This parameter can be used to reduce the impact caused by an increase in the position loop gain.

H08.15 Load moment of inertia ratio

Hex:	2008-10h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	120.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–120.00

Description

Defines the mechanical load inertia ratio relative to the motor moment of inertia.

The servo drive automatically calculates and updates the value of H08.15 through inertia auto-tuning (including offline and online).

When online inertia auto-tuning is used, the servo drive set H08-15 automatically. To set H08-15 manually set online inertia auto-tuning mode to 0 (Disabled).

H08.16 ITune parameter save

Hex:	2008-11h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H08.17 Zero phase delay

Hex:	2008-12h	Effective mode:	Real time
Min.:	0.0	Unit:	ms
Max.:	4.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0 ms to 4.0 ms

Description

-

H08.18 Time constant of speed feedforward filter

Hex:	2008-13h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	64.00	Data Type:	UInt16
Default:	0.50	Change:	Real-time

Value Range:

0.00 ms to 64.00 ms

Description

Defines the filter time constant of speed feedforward.

H08.19 Speed feedforward gain

Hex:	2008-14h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0% to 100.0%

Description

Increasing the setpoint improves the responsiveness to position references and reduces the position deviation during operation at a constant speed.

H08.20 Torque feedforward filter time constant

Hex:	2008-15h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	64.00	Data Type:	UInt16
Default:	0.50	Change:	Real-time

Value Range:

0.00 ms to 64.00 ms

Description

Defines the filter time constant of torque feedforward.

H08.21 Torque feedforward gain

Hex:	2008-16h	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	0.0	Unit:	%
Max.:	300.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0% to 300.0%

Description

Increasing the setpoint improves the responsiveness to variable speed references.

Increasing the setpoint improves the responsiveness to position references and reduces the position deviation during operation at a constant speed.

H08.22 Speed feedback filtering option

Hex:	2008-17h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Inhibited

1: 2 times

2: 4 times

3: 8 times

4: 16 times

Description

Defines the moving average filtering times for speed feedback.

The higher the setpoint, the weaker the speed feedback fluctuation, but the longer the feedback delay will be.

H08.23 Cutoff frequency of speed feedback low-pass filter

Hex:	2008-18h	Effective mode:	Real time
Min.:	100	Unit:	Hz
Max.:	8000	Data Type:	UInt16
Default:	8000	Change:	Real-time

Value Range:

100 Hz–8000 Hz

Description

Defines the cutoff frequency for first-order low-pass filtering on the speed feedback.

H08.24 PDFF control coefficient

Hex:	2008-19h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	200.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

0.0% to 200.0%

Description

Defines the control mode of the speed loop.

When the parameter is set to 200.0, PI control (default control mode of the speed loop) is applied to the speed loop, which features fast dynamic response. When this parameter is set to 0.0, speed loop integral action is enhanced, which filters out low-frequency interference but also slows down the dynamic response.

H08.27 Speed observer cutoff frequency

Hex:	2008-1Ch	Effective mode:	Real time
Min.:	50	Unit:	Hz
Max.:	600	Data Type:	UInt16
Default:	170	Change:	Real-time

Value Range:

50 Hz–600 Hz

Description

-

H08.28 Speed observer inertia correction coefficient

Hex:	2008-1Dh	Effective mode:	Real time
Min.:	1	Unit:	%
Max.:	1600	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

1% to 1600%

Description

-

H08.29 Speed observer filter time

Hex:	2008-1Eh	Effective mode:	Real time
Min.:	0.00	Unit:	ms

Max.:	10.00	Data Type:	UInt16
Default:	0.80	Change:	Real-time
Value Range:			
0.00 ms to 10.00 ms			
Description			
-			

H08.30 Disturbance compensation time

Hex:	2008-1Fh	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	100.00	Data Type:	UInt16
Default:	0.20	Change:	Real-time
Value Range:			
0.00 ms to 100.00 ms			
Description			
-			

H08.31 Disturbance cutoff frequency

Hex:	2008-20h	Effective mode:	Real time
Min.:	1	Unit:	Hz
Max.:	4000	Data Type:	UInt16
Default:	600	Change:	Real-time
Value Range:			
1 Hz–4000 Hz			
Description			
-			

H08.32 Disturbance compensation gain

Hex:	2008-21h	Effective mode:	Real time
Min.:	0	Unit:	%
Max.:	100	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0% to 100%			
Description			
-			

H08.33	Disturbance observer inertia correction coefficient		
	Hex:	2008-22h	Effective Real time
			mode:
	Min.:	0	Unit: %
	Max.:	1600	Data Type: UInt16
	Default:	100	Change: Real-time
	Value Range:		
	0% to 1600%		
	Description		
	-		
H08.37	Phase modulation for medium-frequency jitter suppression 2		
	Hex:	2008-26h	Effective Real time
			mode:
	Min.:	-90	Unit: °
	Max.:	90	Data Type: Int16
	Default:	0	Change: Real-time
	Value Range:		
	-90° to 90°		
	Description		
	-		
H08.38	Medium-frequency suppression 2 frequency		
	Hex:	2008-27h	Effective Real time
			mode:
	Min.:	0	Unit: Hz
	Max.:	1000	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0 Hz–1000 Hz		
	Description		
	-		
H08.39	Compensation gain of medium-frequency jitter suppression 2		
	Hex:	2008-28h	Effective Real time
			mode:
	Min.:	0	Unit: %
	Max.:	300	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0% to 300%		
	Description		
	-		

Description

-

H08.40**Speed observer selection**

Hex: 2008-29h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Disabled

1: Enabled

Description

-

H08.42**Model control selection**

Hex: 2008-2Bh

Effective mode: Real time

Min.: 0

Unit: -

Max.: 2

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Disable

1: Enable

2: Dual-inertia model

Description

-

H08.43**Model gain**

Hex: 2008-2Ch

Effective mode: Real time

Min.: 0.1

Unit: -

Max.: 2000.0

Data Type: UInt16

Default: 40.0

Change: Real-time

Value Range:

0.1–2000.0

Description

-

H08.45**Model feedforward position**

Hex: 2008-2Eh

Effective mode: Real time

Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–1

Description

-

H08.46**Feedforward value**

Hex:	2008-2Fh	Effective mode:	Real time
Min.:	0.0	Unit:	-
Max.:	102.4	Data Type:	UInt16
Default:	95.0	Change:	Real-time

Value Range:

0.0–102.4

Description

-

H08.50**Model torque feedforward differential time**

Hex:	2008-33h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	100.00	Data Type:	UInt16
Default:	0.00	Change:	Real-time

Value Range:

0.00 ms to 100.00 ms

Description

-

H08.51**Model speed feedforward differential time**

Hex:	2008-34h	Effective mode:	Real time
Min.:	0.00	Unit:	ms
Max.:	100.00	Data Type:	UInt16
Default:	0.00	Change:	Real-time

Value Range:

0.00 ms to 100.00 ms

Description

-

H08.53 Medium- and low-frequency jitter suppression frequency 3

Hex:	2008-36h	Effective	Real time
		mode:	
Min.:	0.0	Unit:	Hz
Max.:	300.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0 Hz–300.0 Hz

Description

-

H08.54 Medium- and low-frequency jitter suppression compensation 3

Hex:	2008-37h	Effective	Real time
		mode:	
Min.:	0	Unit:	%
Max.:	200	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0% to 200%

Description

-

H08.56 Medium- and low-frequency jitter suppression phase modulation 3

Hex:	2008-39h	Effective	Real time
		mode:	
Min.:	0	Unit:	%
Max.:	600	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

0% to 600%

Description

-

H08.59 Medium- and low-frequency jitter suppression frequency 4

Hex:	2008-3Ch	Effective	Real time
		mode:	
Min.:	0.0	Unit:	Hz
Max.:	300.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0 Hz–300.0 Hz

Description

-

H08.60 Medium- and low-frequency jitter suppression compensation 4

Hex:	2008-3Dh	Effective mode:	Real time
Min.:	0	Unit:	%
Max.:	200	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0% to 200%

Description

-

H08.61 Medium- and low-frequency jitter suppression phase modulation 4

Hex:	2008-3Eh	Effective mode:	Real time
Min.:	0	Unit:	%
Max.:	600	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

0% to 600%

Description

-

H08.62 Position loop integral time constant

Hex:	2008-3Fh	Effective mode:	Real time
Min.:	0.15	Unit:	-
Max.:	512.00	Data Type:	UInt16
Default:	512.00	Change:	Real-time

Value Range:

0.15–512.00

Description

-

H08.63 2nd position loop integral time constant

Hex:	2008-40h	Effective mode:	Real time
Min.:	0.15	Unit:	-
Max.:	512.00	Data Type:	UInt16

Default: 512.00

Change: Real-time

Value Range:

0.15–512.00

Description

-

H08.64 Speed observer feedback source

Hex: 2008-41h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Disabled

1: Enabled

Description

-

H08.65 Zero deviation control selection

Hex: 2008-42h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Disabled

1: Enabled

Description

-

H08.66 Zero deviation control position average filter

Hex: 2008-43h

Effective mode: Real time

Min.: 0.0

Unit: ms

Max.: 320.0

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0 ms to 320.0 ms

Description

-

H08.67 Zero deviation control position low-pass filter

Hex:	2008-44h	Effective mode:	Real time
Min.:	0.0	Unit:	us
Max.:	5120.0	Data Type:	UInt16
Default:	190.0	Change:	Real-time

Value Range:

0.0us to 5120.0us

Description

-

H08.68 Speed feedforward of zero deviation control

Hex:	2008-45h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

0.0% to 100.0%

Description

-

H08.69 Torque feedforward of zero deviation control

Hex:	2008-46h	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

0.0% to 100.0%

Description

-

H08.71 Zero deviation control encoder delay

Hex:	2008-48h	Effective mode:	Real time
Min.:	0.00	Unit:	us
Max.:	512.00	Data Type:	UInt16
Default:	31.25	Change:	Real-time

Value Range:

0.00us to 512.00us

Description

-

H08.81 Anti-resonance frequency of dual-inertia model

Hex:	2008-52h	Effective mode:	Real time
Min.:	0.0	Unit:	Hz
Max.:	300.0	Data Type:	UInt16
Default:	20.0	Change:	Real-time

Value Range:

0.0 Hz–300.0 Hz

Description

-

H08.82 Resonance frequency of dual-inertia model

Hex:	2008-53h	Effective mode:	Real time
Min.:	0.0	Unit:	Hz
Max.:	300.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0 Hz–300.0 Hz

Description

-

H08.83 Dual-inertia model gain

Hex:	2008-54h	Effective mode:	Real time
Min.:	0.1	Unit:	Hz
Max.:	2000.0	Data Type:	UInt16
Default:	60.0	Change:	Real-time

Value Range:

0.1 Hz–2000.0 Hz

Description

-

H08.84 Inertia ratio of dual-inertia model

Hex:	2008-55h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	120.00	Data Type:	UInt16

Default: 1.00

Change: Real-time

Value Range:

0.00–120.00

Description

-

H08.88 Speed feedforward value of dual-inertia model

Hex: 2008-59h

Effective mode: Real time

Min.: 0.0

Unit: -

Max.: 100.0

Data Type: UInt16

Default: 100.0

Change: Real-time

Value Range:

0.0–100.0

Description

-

H08.89 Torque feedforward value of dual-inertia model

Hex: 2008-5Ah

Effective mode: Real time

Min.: 0.0

Unit: -

Max.: 100.0

Data Type: UInt16

Default: 100.0

Change: Real-time

Value Range:

0.0–100.0

Description

-

3.10 H09 Auto-tuning Parameters

H09.00 Auto-adjustment mode

Hex: 2009-01h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 6

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Disabled, manual gain tuning required

1: Enabled, gain parameters generated automatically based on the stiffness level

2: Positioning mode, gain parameters generated automatically based on the stiffness level

4: Normal mode+Inertia auto-tuning

6: Quick positioning mode+Inertia auto-tuning

Description

2009-01h is set to 4 by default.

H09.01 Stiffness level selection

Hex:	2009-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	41	Data Type:	UInt16
Default:	15	Change:	Real-time

Value Range:

0–41

Description

Defines the stiffness level of the servo system. The higher the stiffness level, the stronger the gains and the quicker the response will be. But an excessively high stiffness level will cause vibration.

The setpoint 0 indicates the weakest stiffness and 41 indicates the strongest stiffness.

H09.02 Adaptive notch mode

Hex:	2009-03h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Adaptive notch no longer updated;

1: One adaptive notch activated (3rd notch)

2: Two adaptive notches activated (3rd and 4th notches)

3: Resonance point tested only (displayed in H09.24)

4: Adaptive notch cleared, values of 3rd and 4th notches restored to default

Description

Defines the operation mode of the adaptive notch.

H09.03 Online inertia auto-tuning mode

Hex:	2009-04h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Disabled

1: Enabled, changing slowly

2: Enabled, changing normally

3: Enabled, changing quickly

Description

Defines whether to enable online inertia auto-tuning and the inertia ratio update speed during online inertia auto-tuning.

H09.05 Offline inertia auto-tuning mode

Hex:	2009-06h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Bi-directional

1: Unidirectional

Description

Set the offline inertia auto-tuning mode.

For details on offline inertia auto-tuning, see section "Inertia Auto-tuning" in SV660N Series Servo Drive Function Guide.

H09.06 Max. speed of inertia auto-tuning

Hex:	2009-07h	Effective mode:	Real time
Min.:	100	Unit:	RPM
Max.:	1000	Data Type:	UInt16
Default:	500	Change:	At stop

Value Range:

100 RPM to 1000 RPM

Description

Defines the maximum permissible speed reference in offline inertia auto-tuning mode.

During inertia auto-tuning, the higher the speed, the more accurate the auto-tuned values. Use the default setpoint in general cases.

H09.07 Time constant for accelerating to max. speed during inertia auto-tuning

Hex:	2009-08h	Effective mode:	Real time
Min.:	20	Unit:	ms
Max.:	800	Data Type:	UInt16
Default:	125	Change:	At stop

Value Range:

20 ms to 800 ms

Description

Defines the time for the motor to accelerate from 0 rpm to the maximum speed of inertia auto-tuning during offline inertia auto-tuning.

H09.08 Interval time after an individual inertia auto-tuning

Hex:	2009-09h	Effective mode:	Real time
Min.:	50	Unit:	ms
Max.:	10000	Data Type:	UInt16
Default:	800	Change:	At stop

Value Range:

50 ms to 10000 ms

Description

Defines the time interval between two consecutive speed references when bi-directional offline inertia auto-tuning mode is used.

H09.09 Number of motor revolutions per inertia auto-tuning

Hex:	2009-0Ah	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	100.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–100.00

Description

Displays the number of motor revolutions needed when bi-directional offline inertia auto-tuning mode is used.

H09.11 Vibration threshold

Hex:	2009-0Ch	Effective mode:	Real time
Min.:	0.0	Unit:	%
Max.:	100.0	Data Type:	UInt16

Default: 5.0 Change: Real-time

Value Range:

0.0% to 100.0%

Description

Defines the threshold of vibration detected by the notch. When the current feedback exceeds the threshold, the notch starts working.

H09.12 Frequency of the 1st notch

Hex: 2009-0Dh Effective mode: Real time

Min.: 50 Unit: Hz

Max.: 8000 Data Type: UInt16

Default: 8000 Change: Real-time

Value Range:

50 Hz–8000 Hz

Description

Defines the center frequency of the notch, which is the mechanical resonance frequency.

In the torque control mode, setting the notch frequency to 8000 Hz deactivates the notch function.

H09.13 Width level of the 1st notch

Hex: 2009-0Eh Effective mode: Real time

Min.: 0 Unit: -

Max.: 20 Data Type: UInt16

Default: 2 Change: Real-time

Value Range:

0–20

Description

Defines the width level of the notch. Use the default setpoint in general cases. Width level is the ratio of the notch width to the notch center frequency.

H09.14 Depth level of the 1st notch

Hex: 2009-0Fh Effective mode: Real time

Min.: 0 Unit: -

Max.: 99 Data Type: UInt16

Default: 0 Change: Real-time

Value Range:

0–99

Description

Defines the depth level of the notch.

The depth level of the notch is the ratio between the input to the output at the notch center frequency.

The higher the setpoint, the lower the notch depth and the weaker the mechanical resonance suppression will be. Note that an excessively high setpoint may cause system instability.

For use of notches, see section "Vibration Suppression" in SV660P Series Servo Drive Function Guide.

H09.15 Frequency of the 2nd notch

Hex:	2009-10h	Effective mode:	Real time
Min.:	50	Unit:	Hz
Max.:	8000	Data Type:	UInt16
Default:	8000	Change:	Real-time

Value Range:

50 Hz–8000 Hz

Description

-

H09.16 Width level of the 2nd notch

Hex:	2009-11h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0–20

Description

-

H09.17 Depth level of the 2nd notch

Hex:	2009-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	99	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–99

Description

Descriptions for parameters of the 2nd notch are the same as that of the 1st notch.

H09.18 Frequency of the 3rd notch

Hex:	2009-13h	Effective mode:	Real time
Min.:	50	Unit:	Hz
Max.:	8000	Data Type:	UInt16
Default:	8000	Change:	Real-time

Value Range:

50 Hz–8000 Hz

Description

-

H09.19 Width level of the 3rd notch

Hex:	2009-14h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0–20

Description

-

H09.20 Depth level of the 3rd notch

Hex:	2009-15h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	99	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–99

Description

The parameter for the 3rd notch.

H09.21 Frequency of the 4th notch

Hex:	2009-16h	Effective mode:	Real time
Min.:	50	Unit:	Hz

Max.:	8000	Data Type:	UInt16
Default:	8000	Change:	Real-time

Value Range:

50 Hz–8000 Hz

Description

-

H09.22 Width level of the 4th notch

Hex:	2009-17h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20	Data Type:	UInt16
Default:	2	Change:	Real-time

Value Range:

0–20

Description

-

H09.23 Depth level of the 4th notch

Hex:	2009-18h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	99	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–99

Description

The parameter for the 4th notch.

H09.24 Auto-tuned resonance frequency

Hex:	2009-19h	Effective mode:	-
Min.:	0	Unit:	Hz
Max.:	5000	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0 Hz–5000 Hz

Description

When adaptive notch mode is set to 3, the current mechanical resonance frequency is displayed.

H09.26	ITune response		
	Hex:	2009-1Bh	Effective mode:
	Min.:	50.0	Unit:
	Max.:	500.0	Data Type:
	Default:	100.0	Change:
	Value Range:		
	50.0% to 500.0%		
	Description		
	-		
H09.27	ITune mode		
	Hex:	2009-1Ch	Effective mode:
	Min.:	0	Unit:
	Max.:	2	Data Type:
	Default:	0	Change:
	Value Range:		
	0: Disabled		
	1: ITune mode 1		
	2: ITune mode 2		
	Description		
	-		
H09.28	Minimum inertia ratio of ITune		
	Hex:	2009-1Dh	Effective mode:
	Min.:	0.0	Unit:
	Max.:	80.0	Data Type:
	Default:	0.0	Change:
	Value Range:		
	0.0% to 80.0%		
	Description		
	-		
H09.29	Maximum inertia ratio of ITune		
	Hex:	2009-1Eh	Effective mode:
	Min.:	1.0	Unit:
	Max.:	120.0	Data Type:
	Default:	30.0	Change:
	Value Range:		

1.0% to 120.0%

Description

-

H09.32 Gravity compensation value

Hex: 2009-21h

Effective mode: Real time

Min.: 0.0

Unit: %

Max.: 100.0

Data Type: UInt16

Default: 0.0

Change: Real-time

Value Range:

0.0% to 100.0%

Description

-

H09.33 Positive friction compensation value

Hex: 2009-22h

Effective mode: Real time

Min.: 0.0

Unit: %

Max.: 100.0

Data Type: UInt16

Default: 0.0

Change: Real-time

Value Range:

0.0% to 100.0%

Description

-

H09.34 Negative friction compensation value

Hex: 2009-23h

Effective mode: Real time

Min.: -100.0

Unit: %

Max.: 0.0

Data Type: Int16

Default: 0.0

Change: Real-time

Value Range:

-100.0% to 0.0%

Description

-

H09.35 Friction compensation speed

Hex: 2009-24h

Effective mode: Real time

Min.: 0.0

Unit: -

Max.: 20.0

Default: 2.0

Data Type: UInt16

Change: Real-time

Value Range:

0.0–20.0

Description

-

H09.36 Friction compensation speed

Hex: 2009-25h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 19

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: 0x00 Slow mode+Speed reference

0: 0x01 Slow mode+Model speed

0: 0x02 Slow mode+Speed feedback

0: 0x03 Slow mode+Observe speed

0: 0x10 Quick mode +Speed reference

0: 0x11 Quick mode +Model speed

0: 0x12 Quick mode +Speed feedback

0: 0x13 Quick mode+Observe speed

Description

Description

H09.37 Vibration monitoring time

Hex: 2009-26h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 300

Change: Real-time

Value Range:

0–65535

Description

-

H09.38 Frequency of low-frequency resonance suppression 1 at the mechanical end

Hex: 2009-27h

Effective mode: Real time

Min.: 1.0

Unit: Hz

Max.:	100.0	Data Type:	UInt16
Default:	100.0	Change:	Real-time

Value Range:

1.0 Hz–100.0 Hz

Description

-

H09.39 Low-frequency resonance suppression 1 at the mechanical end

Hex:	2009-28h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	2	Change:	At stop

Value Range:

0–3

Description

-

H09.41 Frequency of the 5th notch

Hex:	2009-2Ah	Effective mode:	Real time
Min.:	50	Unit:	Hz
Max.:	8000	Data Type:	UInt16
Default:	8000	Change:	Real-time

Value Range:

50 Hz–8000 Hz

Description

-

H09.42 Width level of the 5th notch

Hex:	2009-2Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20	Data Type:	UInt16
Default:	2	Change:	At stop

Value Range:

0–20

Description

-

H09.43 Depth level of the 5th notch

Hex:	2009-2Ch	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	99	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–99

Description

-

H09.44 Frequency of low-frequency resonance suppression 2 at mechanical load end

Hex:	2009-2Dh	Effective mode:	Real time
Min.:	0.0	Unit:	-
Max.:	100.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0–100.0

Description

-

H09.45 Responsiveness of low-frequency resonance suppression 2 at mechanical load end

Hex:	2009-2Eh	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	5.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.01–5.00

Description

-

H09.47 Width of low-frequency resonance suppression 2 at mechanical load end

Hex:	2009-30h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	2.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–2.00

Description

-

H09.49 Frequency of low-frequency resonance suppression 3 at mechanical load end

Hex:	2009-32h	Effective mode:	Real time
Min.:	0.0	Unit:	-
Max.:	100.0	Data Type:	UInt16
Default:	0.0	Change:	Real-time

Value Range:

0.0–100.0

Description

-

H09.50 Responsiveness of low-frequency resonance suppression 3 at mechanical load end

Hex:	2009-33h	Effective mode:	Real time
Min.:	0.01	Unit:	-
Max.:	5.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.01–5.00

Description

-

H09.52 Width of low-frequency resonance suppression 3 at mechanical load end

Hex:	2009-35h	Effective mode:	Real time
Min.:	0.00	Unit:	-
Max.:	2.00	Data Type:	UInt16
Default:	1.00	Change:	Real-time

Value Range:

0.00–2.00

Description

-

H09.54 Vibration threshold

Hex:	2009-37h	Effective mode:	Real time
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Min.:	0.0	Unit:	%
Max.:	300.0	Data Type:	UInt16
Default:	50.0	Change:	Real-time

Value Range:

0.0% to 300.0%

Description

Defines the threshold of vibration detected by the notch. When the current feedback exceeds the threshold, the notch starts working.

H09.56 Max. overshoot allowed by ETune

Hex:	2009-39h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	2936	Change:	Real-time

Value Range:

0–65535

Description

-

H09.57 STune resonance suppression switchover frequency

Hex:	2009-3Ah	Effective mode:	Real time
Min.:	0	Unit:	Hz
Max.:	4000	Data Type:	UInt16
Default:	900	Change:	Real-time

Value Range:

0 Hz–4000 Hz

Description

-

H09.58 STune resonance suppression reset selection

Hex:	2009-3Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Disabled

1: Enabled

Description

-

3.11 H0A Fault and Protection Parameters

H0A.00 Power input phase loss protection

Hex:	200A-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Enable

1: Disable

Description

Inovance provides servo drives with single phase 220V, three phase 220V and three phase 380V input voltages. When large fluctuation or phase loss occurs on the input voltage, the drive can activate the protection method for input voltage phase loss according to the setting.

H0A.01 Absolute position limit

Hex:	200A-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Disabled

1: Enabled

2: Enabled after homing

Description

Defines whether the absolute position limit is active and the condition for activation.

After the absolute position limit is enabled, when the target position reference exceeds the position limit in the position control mode, the servo drive takes the position limit as the target and stops after reaching the limit; when the absolute position feedback reaches the position limit in other control modes, the servo drive reports an overtravel warning and stops in the mode defined by stop mode at overtravel.

H0A.04 Motor overload protection gain

Hex:	200A-05h	Effective mode:	Real time
Min.:	50	Unit:	-
Max.:	300	Data Type:	UInt16

Default: 100

Change: Real-time

Value Range:

50–300

Description

Defines the motor overload duration before E620.0 (Motor overload fault) is reported.

You can change the setpoint to advance or delay the time when overload protection is triggered based on the motor temperature. The setpoint 50% indicates the time is cut by half; 150% indicates the time is increased by 50%. Set this parameter based on the actual temperature of the motor.

H0A.08**Overspeed threshold**

Hex: 200A-09h

Effective mode: Real time

Min.: 0

Unit: RPM

Max.: 20000

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0 rpm to 20000 rpm

Description

Defines the overspeed threshold of the motor.

Value	Threshold	Condition for Reporting E500.0
0	Maximum motor speed x 1.2	If the speed feedback exceeds the overspeed threshold several times, the drive reports E500.0 (Motor overspeed).
1–20000	If $H0A-08 \geq$ (Maximum motor speed x 1.2): Overspeed threshold = Maximum motor speed x 1.2	
	If $H0A-08 <$ (Maximum motor speed x 1.2): Overspeed threshold = H0A.08	

H0A.10**Threshold of excessive local position deviation**

Hex: 200A-0Bh

Effective mode: Real time

Min.: 0

Unit: -

Max.: 4294967295

Data Type: UInt32

Default: 27486951

Change: Real-time

Value Range:

0–4294967295

Description

Defines the threshold for reporting EB00.0 (Position deviation too large). The function of 200A-0Bh is the same as 6065h (Following error window), both of which are active.

H0A.12 Runaway protection enable

Hex:	200A-0Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0: Disable

1: Enable

Description

Used to enable runaway protection.

H0A.17 Reference unit

Hex:	200A-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Pulse unit

1: Reference unit

Description

-

H0A.18 IGBT over-temperature threshold

Hex:	200A-13h	Effective mode:	Real time
Min.:	120	Unit:	°C
Max.:	175	Data Type:	UInt16
Default:	140	Change:	Real-time

Value Range:

120°C–175°C

Description

Defines the over-temperature protection threshold of the power module.

H0A.19 Filter time constant of touch probe 1

Hex:	200A-14h	Effective mode:	Real time
Min.:	0.00	Unit:	us
Max.:	6.30	Data Type:	UInt16
Default:	2.00	Change:	Real-time

Value Range:

0.00us–6.30us

Description

-

H0A.20 Filter time constant of touch probe 2

Hex:	200A-15h	Effective mode:	Real time
Min.:	0.00	Unit:	us
Max.:	6.30	Data Type:	UInt16
Default:	2.00	Change:	Real-time

Value Range:

0.00us–6.30us

Description

Touch probe 1 and touch probe 2 are high-speed DIs. When external input signals suffer from spike interference, set H0A.20 to filter the out spike interference.

Note: The oscilloscope in the software tool displays the unfiltered signals of touch probe 1 and touch probe 2. Signals with width lower than 0.25 ms will not be displayed.

H0A.22 Sigma_Delta filter time

Hex:	200A-17h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

0–65535

Description

-

H0A.23 TZ signal filter time

Hex:	200A-18h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	25ns

Max.:	31	Data Type:	UInt16
Default:	15	Change:	At stop

Value Range:
0 ns to 31 ns

Description
-

H0A.26 Motor overload detection

Hex:	200A-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Show motor overload warning (E909.0) and fault (E620.0)

1: Hide motor overload warning (E909.0) and fault (E620.0)

Description

Defines whether to enable motor overload detection.

H0A.27 Motor rotation DO speed filter time

Hex:	200A-1Ch	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	100	Data Type:	UInt16
Default:	50	Change:	At stop

Value Range:

0 ms to 100 ms

Description

Defines the low-pass filter time constant of speed feedback signals.

This parameter is effective only when the speed feedback signals are used to judge the speed-related DO signals.

H0A.32 Time threshold for locked motor overhear protection

Hex:	200A-21h	Effective mode:	Real time
Min.:	10	Unit:	ms
Max.:	65535	Data Type:	UInt16
Default:	200	Change:	Real-time

Value Range:

10 ms to 65535 ms

Description

Defines the overtemperature duration before E630.0 (Motor stall) is detected by the servo drive.

H0A.33 Locked motor overheat protection

Hex:	200A-22h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0: Disabled

1: Enabled

Description

Defines whether to enable the detection for E630.0 (Motor stall overtemperature protection).

H0A.36 Encoder multi-turn overflow fault selection

Hex:	200A-25h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Not hide

1: Hide

Description

Defines whether to hide E735.0 (Encoder multi-turn counting overflow) in the absolute position linear mode.

H0A.39 Current sampling clock signal tolerance count

Hex:	200A-28h	Effective mode:	Upon the next power-on
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–3

Description

-

H0A.40 Compensation function selection

Hex: 200A-29h Effective mode: Real time
 mode:
 Min.: 0 Unit: -
 Max.: 15 Data Type: UInt16
 Default: 6 Change: At stop

Value Range:

bit	Name	Description
0	Overtravel compensation	0: Enabled
		1: Disabled
1	Proberising edge compensation	0: Disabled
		1: Enabled
2	Probefalling edge compensation	0: Disabled
		1: Enabled
3	Probesolution	0: New solution
		1: Old solution (same as SV660N)

Description

-

H0A.41 Forward position of software position limit

Hex: 200A-2Ah Effective mode: Real time
 mode:
 Min.: -2147483648 Unit: Reference unit
 Max.: 2147483647 Data Type: Int32
 Default: 2147483647 Change: At stop

Value Range:

-2147483648 to 2147483647

Description

-

H0A.43**Reverse position of software position limit**

Hex:	200A-2Ch	Effective mode:	Real time
Min.:	-2147483648	Unit:	Reference unit
Max.:	2147483647	Data Type:	Int32
Default:	-2147483648	Change:	At stop

Value Range:

-2147483648 to 2147483647

Description

-

H0A.49**Regenerative resistor overtemperature threshold**

Hex:	200A-32h	Effective mode:	Real time
Min.:	100	Unit:	°C
Max.:	175	Data Type:	UInt16
Default:	115	Change:	Real-time

Value Range:

100°C–175°C

Description

-

H0A.50**Encoder communication fault tolerance threshold**

Hex:	200A-33h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	31	Data Type:	UInt16
Default:	31	Change:	Real-time

Value Range:

0–31

Description

-

H0A.51**Phase loss detection filter times**

Hex:	200A-34h	Effective mode:	Real time
Min.:	3	Unit:	55ms
Max.:	36	Data Type:	UInt16
Default:	20	Change:	Real-time

Value Range:

3 ms to 36 ms

Description

-

H0A.52 Encoder temperature protection threshold

Hex:	200A-35h	Effective mode:	Real time
Min.:	0	Unit:	°C
Max.:	175	Data Type:	UInt16
Default:	105	Change:	Real-time

Value Range:

0°C–175°C

Description

0: Disable

H0A.53 Probe DI ON compensation time

Hex:	200A-36h	Effective mode:	Real time
Min.:	-3000	Unit:	25ns
Max.:	3000	Data Type:	Int16
Default:	200	Change:	Real-time

Value Range:

-3000 ns to 3000 ns

Description

-

H0A.54 Probe DI OFF compensation time

Hex:	200A-37h	Effective mode:	Real time
Min.:	-3000	Unit:	25ns
Max.:	3000	Data Type:	Int16
Default:	1512	Change:	Real-time

Value Range:

-3000 ns to 3000 ns

Description

-

H0A.55 Runaway current threshold

Hex:	200A-38h	Effective mode:	Real time
Min.:	100.0	Unit:	%
Max.:	400.0	Data Type:	UInt16

Default: 200.0

Change: Real-time

Value Range:

100.0% to 400.0%

Description

-

H0A.56 Fault reset delay

Hex: 200A-39h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 60000

Data Type: UInt16

Default: 10000

Change: Real-time

Value Range:

0 ms to 60000 ms

Description

Faults E620.0, E630.0, E640.0, E640.1, and E650.0 can be reset only after the set delay.

H0A.57 Runaway speed threshold

Hex: 200A-3Ah

Effective Real time

mode:

Min.: 1

Unit: RPM

Max.: 1000

Data Type: UInt16

Default: 50

Change: Real-time

Value Range:

1 rpm to 1000 rpm

Description

-

H0A.58 Runaway speed filter time

Hex: 200A-3Bh

Effective Upon the next power-on

mode:

Min.: 0.1

Unit: ms

Max.: 100.0

Data Type: UInt16

Default: 2.0

Change: Real-time

Value Range:

0.1 ms to 100.0 ms

Description

-

H0A.59	Runaway protection detection time		
	Hex:	200A-3Ch	Effective mode: Real time
	Min.:	10	Unit: ms
	Max.:	1000	Data Type: UInt16
	Default:	30	Change: Real-time
	Value Range: 10 ms to 1000 ms		
	Description -		
H0A.60	Black box function mode		
	Hex:	200A-3Dh	Effective mode: Real time
	Min.:	0	Unit: -
	Max.:	3	Data Type: UInt16
	Default:	1	Change: Real-time
	Value Range: 0: Disable 1: Any fault 2: Designated fault 3: Triggered based on designated condition		
	Description -		
H0A.61	Designated fault code		
	Hex:	200A-3Eh	Effective mode: Real time
	Min.:	0.0	Unit: -
	Max.:	6553.5	Data Type: UInt16
	Default:	0.0	Change: Real-time
	Value Range: 0.0–6553.5		
	Description -		
H0A.62	Trigger source		
	Hex:	200A-3Fh	Effective mode: Real time
	Min.:	0	Unit: -
	Max.:	31	Data Type: UInt16
	Default:	0	Change: Real-time

Value Range:

0–31

Description

-

H0A.63

Trigger level

Hex: 200A-40h

Effective mode: Real time

Min.: -2147483648

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648–2147483647

Description

-

H0A.65

Trigger level

Hex: 200A-42h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 3

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Rising edge

1: Equal

2: Falling edge

3: Edge-triggered

Description

-

H0A.66

Trigger position

Hex: 200A-43h

Effective mode: Real time

Min.: 0

Unit: %

Max.: 100

Data Type: UInt16

Default: 75

Change: Real-time

Value Range:

0% to 100%

Description

-

H0A.67	Sampling frequency		
	Hex:	200A-44h	Effective mode:
	Min.:	0	Unit:
	Max.:	2	Data Type:
	Default:	0	Change:
	Value Range:		
	0: Current loop		
	1: Position loop		
	2: Main cycle		
	Description		
	-		
H0A.70	Overspeed threshold 2		
	Hex:	200A-47h	Effective mode:
	Min.:	0	Unit:
	Max.:	20000	Data Type:
	Default:	0	Change:
	Value Range:		
	0 rpm to 20000 rpm		
	Description		
	-		
H0A.71	MS1 motor overload curve switchover		
	Hex:	200A-48h	Effective mode:
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	4098	Change:
	Value Range:		
	0–65535		
	Description		
	-		
H0A.72	Maximum stop time in ramp-to-stop		
	Hex:	200A-49h	Effective mode:
	Min.:	0	Unit:
	Max.:	65535	Data Type:
	Default:	10000	Change:
	Value Range:		

0 ms to 65535 ms

Description

Defines the maximum time taken by the motor in decelerating from 6000 RPM to 0 RPM under ramp stop.

H0A.73 STO 24 V disconnection filter time

Hex:	200A-4Ah	Effective mode:	Real time
Min.:	1	Unit:	ms
Max.:	5	Data Type:	UInt16
Default:	5	Change:	Real-time

Value Range:

1 ms to 5 ms

Description

-

H0A.74 Filter time for two inconsistent STO channels

Hex:	200A-4Bh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	1000	Data Type:	UInt16
Default:	100	Change:	Real-time

Value Range:

0 ms to 1000 ms

Description

-

H0A.75 Servo OFF delay after STO triggered

Hex:	200A-4Ch	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	25	Data Type:	UInt16
Default:	20	Change:	Real-time

Value Range:

0 ms to 25 ms

Description

-

H0A.90 Average filter time constant for speed display

Hex:	200A-5Bh	Effective mode:	Real time
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Min.:	0	Unit:	ms
Max.:	100	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0 ms to 100 ms

Description

-

H0A.91 Average filter time constant for torque display

Hex:	200A-5Ch	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	100	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0 ms to 100 ms

Description

-

H0A.92 Average filter time constant for position display

Hex:	200A-5Dh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	100	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0 ms to 100 ms

Description

-

H0A.93 Low-pass filter time constant for voltage display

Hex:	200A-5Eh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	250	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0 ms to 250 ms

Description

-

H0A.94	Low-pass filter time constant for thermal display		
Hex:	200A-5Fh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	250	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0 ms to 250 ms			
Description			
-			

3.12 H0B Monitoring Parameters

H0b.00	Motor speed actual value		
Hex:	200b-01h	Effective mode:	-
Min.:	-32767	Unit:	RPM
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable
Value Range:			
-32767rpm to 32767rpm			
Description			
It displays the actual speed of the servo motor after round-off, in unit of 1 RPM. You can set the filter time constant for H0B-00 in filter time constant of speed feedback display.			
H0b.01	Speed reference		
Hex:	200b-02h	Effective mode:	-
Min.:	-32767	Unit:	RPM
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable
Value Range:			
-32767rpm to 32767rpm			
Description			
Local speed mode, speed reference			
H0b.02	Internal torque reference		
Hex:	200b-03h	Effective mode:	-

Min.:	-500.0	Unit:	%
Max.:	500.0	Data Type:	Int16
Default:	0.0	Change:	Unchangeable

Value Range:

-500.0% to 500.0%

Description

Displays present torque reference (accurate to 0.1%). The value 100.0% corresponds to the rated torque of the motor.

H0b.03 Input (DI) signal monitoring

Hex:	200b-04h	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

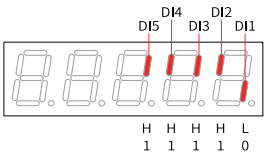
Description

Indicates the level status of DI1 to DI5 without filtering.

Upper LED segments ON: high level (indicated by "1") Lower LED segments ON: low level (indicated by "0")

For example, if DI1 is low level and DI2 to DI5 are high level, and the binary value is 11110, then the decimal value read from H0b.03 in the Inovance servo commissioning software is 30.

The panel display is as follows:



H0b.05 Output (DO) signal monitoring

Hex:	200b-06h	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

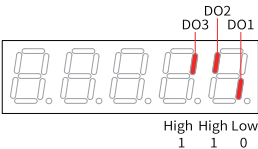
Description

It displays the level states of the 3 DO terminals without filtering.

Upper LED segments ON: high level (indicated by "1") Lower LED segments ON: low level (indicated by "0")

For example, if DO1 is low level and DO2 to DO3 are high level, and the binary value is 110, then the decimal value of H0b.05 read from Inovance servo commissioning software is 6.

The panel display is as follows:



H0b.07 Absolute position counter

Hex:	200b-08h	Effective	-
Min.:	-2147483648	mode:	
Max.:	2147483647	Unit:	p
Default:	0	Data Type:	Int32
		Change:	Unchangeable

Value Range:

-2147483648 p to +2147483647 p

Description

It displays the current motor absolute position (reference unit) in the position control mode.

This parameter is a 32-bit integer, which is displayed as a decimal on the keypad.

H0b.09 Mechanical angle

Hex:	200b-0Ah	Effective	-
Min.:	0.0	mode:	
Max.:	360.0	Unit:	°
Default:	0.0	Data Type:	UInt16
		Change:	Unchangeable

Value Range:

0.0° to 360.0°

Description

Displays present mechanical angle (encoder unit) of the motor. The setpoint 0 indicates the mechanical angle is 0°.

H0b.10 Electrical angle

Hex:	200b-0Bh	Effective	-
		mode:	

Min.:	0.0	Unit:	°
Max.:	360.0	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0° to 360.0°

Description

Indicates the present electrical angle of the motor, which is accurate to 0.1°.

The electrical angle varies from -360° to +360.0° when the motor is rotating.

Similarly, if the motor has 4 pairs of poles, each revolution generates 4 rounds of angle changes from 0° to 359.9°.

Also, if the motor has 5 pairs of poles, each revolution generates 5 rounds of angle changes from 0° to 359.9°.

H0b.12 Average load ratio

Hex:	200b-0Dh	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	800.0	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0% to 800.0%

Description

Displays the percentage of the average load torque to the rated torque of the motor, which is accurate to 0.1%. The value 100.0% corresponds to the rated torque of the motor.

H0b.13 Input reference counter

Hex:	200b-0Eh	Effective mode:	-
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648 p to +2147483647 p

Description

-

H0b.15 Position following error (encoder unit)

Hex:	200b-10h	Effective mode:	-
Min.:	-2147483648	Unit:	p

Max.: 2147483647 Data Type: Int32
Default: 0 Change: Unchangeable

Value Range:

–2147483648 p to +2147483647 p

Description

Used to count the position pulses fed back by the encoder in any control mode.
This parameter is a 32-bit integer, which is displayed as a decimal on the keypad.

H0b.17 Feedback pulse counter

Hex: 200b-12h Effective mode: -
Min.: -2147483648 Unit: p
Max.: 2147483647 Data Type: Int32
Default: 0 Change: Unchangeable

Value Range:

–2147483648 p to +2147483647 p

Description

-

H0b.19 Total power-on time

Hex: 200b-14h Effective mode: -
Min.: 0.0 Unit: -
Max.: 429496729.5 Data Type: UInt32
Default: 0.0 Change: Unchangeable

Value Range:

0.0s–429496729.5s

Description

Used to record the total operating time of the servo drive.
This parameter is a 32-bit integer, which is displayed as a decimal on the keypad.

H0b.24 Phase current RMS value

Hex: 200b-19h Effective mode: -
Min.: 0.0 Unit: A
Max.: 6553.5 Data Type: UInt16
Default: 0.0 Change: Unchangeable

Value Range:

0.0 A–6553.5 A

Description

Displays the RMS value of the phase current of the motor, accurate to 0.1 A.

H0b.25 Angle obtained upon voltage injection auto-tuning

Hex:	200b-1Ah	Effective mode:	-
Min.:	0.0	Unit:	°
Max.:	360.0	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0° to 360.0°

Description

-

H0b.26 Bus voltage

Hex:	200b-1Bh	Effective mode:	-
Min.:	0.0	Unit:	V
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0 V–6553.5 V

Description

Displays the DC bus voltage of the main circuit input voltage after rectification, which is accurate to 0.1V.

H0b.27 Module temperature

Hex:	200b-1Ch	Effective mode:	-
Min.:	-20	Unit:	°C
Max.:	200	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

-20°C–200°C

Description

Indicates the temperature of the module inside the servo drive, which can be used as a reference for estimating the actual temperature of the drive.

H0b.28 Absolute encoder fault information given by FPGA

Hex:	200b-1Dh	Effective mode:	-
------	----------	-----------------	---

Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.29 Axis status information given by FPGA

Hex:	200b-1Eh	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.30 Axis fault information given by FPGA

Hex:	200b-1Fh	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.31 Encoder fault information

Hex:	200b-20h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H0b.33**Fault log**

Hex:	200b-22h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	20	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Present fault
 1: Last fault
 2: 2nd to last fault
 3: 3rd to last fault
 4: 4th to last fault
 5: 5th to last fault 6: 6th to last fault
 7: 7th to last fault
 8: 8th to last fault
 9: 9th to last fault
 10: 10th to last fault
 11: 11th to last fault
 12: 12th to last fault
 13: 13th to last fault
 14: 14th to last fault
 15: 15th to last fault
 16: 16th to last fault
 17: 17th to last fault
 18: 18th to last fault
 19: 19th to last fault

Description

Used to view any one of the latest 10 faults that occurred on the servo drive.

H0b.34**Fault code set by H0B-33**

Hex:	200b-23h	Effective mode:	-
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.35 Timestamp of the selected fault

Hex:	200b-24h	Effective	-
		mode:	
Min.:	0.0	Unit:	-
Max.:	429496729.5	Data Type:	UInt32
Default:	0.0	Change:	Unchangeable

Value Range:

0.0s–429496729.5s

Description

-

H0b.37 Motor speed upon occurrence of the selected fault

Hex:	200b-26h	Effective	-
		mode:	
Min.:	-32767	Unit:	RPM
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

-32767rpm to 32767rpm

Description

-

H0b.38 Motor phase U current upon occurrence of the selected fault

Hex:	200b-27h	Effective	-
		mode:	
Min.:	-3276.7	Unit:	A
Max.:	3276.7	Data Type:	Int16
Default:	0.0	Change:	Unchangeable

Value Range:

-3276.7 A–3276.7 A

Description

-

H0b.39 Motor phase V current upon occurrence of the selected fault

Hex:	200b-28h	Effective	-
		mode:	
Min.:	-3276.7	Unit:	A
Max.:	3276.7	Data Type:	Int16
Default:	0.0	Change:	Unchangeable

Value Range:

-3276.7 A–3276.7 A

Description

-

H0b.40 Bus voltage upon occurrence of the selected fault

Hex:	200b-29h	Effective	-
		mode:	
Min.:	0.0	Unit:	V
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0 V–6553.5 V

Description

-

H0b.41 Input terminal state on selected fault

Hex:	200b-2Ah	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.43 Output terminal status upon occurrence of the selected fault

Hex:	200b-2Ch	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

Displays the related data when a fault occurred.

H0b.45 Internal fault code

Hex:	200b-2Eh	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H0b.46 Absolute encoder fault information given by FPGA upon occurrence of the selected fault

Hex: 200b-2Fh

Effective -

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H0b.47 System status information given by FPGA upon occurrence of the selected fault

Hex: 200b-30h

Effective -

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H0b.48 System fault information given by FPGA upon occurrence of the selected fault

Hex: 200b-31h

Effective -

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H0b.49	Encoder fault information upon occurrence of the selected fault		
Hex:	200b-32h	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
	Value Range:		
	0–65535		
	Description		
	-		
H0b.51	Internal fault code upon occurrence of the selected fault		
Hex:	200b-34h	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
	Value Range:		
	0–65535		
	Description		
	-		
H0b.52	FPGA timeout fault standard bit upon occurrence of the selected fault		
Hex:	200b-35h	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
	Value Range:		
	0–65535		
	Description		
	-		
H0b.53	Position following error (reference unit)		
Hex:	200b-36h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable
	Value Range:		
	–2147483648 p to +2147483647 p		

Description

-

H0b.55 Motor speed actual value

Hex:	200b-38h	Effective	-
		mode:	
Min.:	-2147483648.0	Unit:	RPM
Max.:	2147483647.0	Data Type:	Int32
Default:	0.0	Change:	Unchangeable

Value Range:

-2147483648.0rpm to 2147483647.0rpm

Description

It displays the actual speed of the servo motor after round-off, in unit of 1 RPM. You can set the filter time constant for H0B-00 in filter time constant of speed feedback display.

H0b.57 Control circuit bus voltage

Hex:	200b-3Ah	Effective	-
		mode:	
Min.:	0.0	Unit:	V
Max.:	6553.5	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0 V–6553.5 V

Description

It displays the DC bus voltage of the input control power after rectification.

H0b.58 Mechanical absolute position (low 32 bits)

Hex:	200b-3Bh	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

–2147483648 p to +2147483647 p

Description

Displays the low 32-bit value (encoder unit) of the mechanical position feedback when the absolute encoder is used.

H0b.60 Mechanical absolute position (high 32 bits)

Hex:	200b-3Dh	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:
-2147483648 p to +2147483647 p

Description
-

H0b.63 NotRdy state

Hex:	200b-40h	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	5	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:
1: Control power error
2: Main circuit power input error
3: Undervoltage
4: Soft start failed
5: Encoder initialization not completed
6: Short circuit to ground failed
7: Others

Description
-

H0b.64 Real-time input position reference counter

Hex:	200b-41h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	Reference unit
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:
-2147483648 to 2147483647

Description
-

H0b.66 Encoder temperature

Hex:	200b-43h	Effective	-
		mode:	

Min.:	-32768	Unit:	°C
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

-32768°C–32767°C

Description

Indicates the encoder temperature value.

H0b.67 Load rate of regenerative resistor

Hex:	200b-44h	Effective mode:	-
Min.:	0.0	Unit:	%
Max.:	200.0	Data Type:	UInt16
Default:	0.0	Change:	Unchangeable

Value Range:

0.0% to 200.0%

Description

Indicates the brake load rate. When the load rate exceeds 100%, the servo drive stops braking.

H0b.70 Number of absolute encoder revolutions

Hex:	200b-47h	Effective mode:	-
Min.:	0	Unit:	Rev
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0 Rev to 65535 Rev

Description

Indicates the number of revolutions of the absolute encoder.

H0b.71 Single-turn position fed back by the absolute encoder

Hex:	200b-48h	Effective mode:	-
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	UInt32
Default:	0	Change:	Unchangeable

Value Range:

–2147483648 p to +2147483647 p

Description

It displays the single-turn position feedback of the absolute encoder.

H0b.74 System fault information given by FPGA

Hex:	200b-4Bh	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:
0–65535

Description
-

H0b.77 Encoder position (low 32 bits)

Hex:	200b-4Eh	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:
-2147483648 p to +2147483647 p

Description
-

H0b.79 Encoder position (high 32 bits)

Hex:	200b-50h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:
-2147483648 p to +2147483647 p

Description
-

H0b.81 Single-turn position of the rotary load (low 32 bits)

Hex:	200b-52h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:
-2147483648 p to +2147483647 p

Description

Indicates the low 32-bit value (encoder unit) of the position feedback of the load when the absolute encoder system works in the rotation mode.

H0b.83 Single-turn position of the rotary load (high 32 bits)

Hex:	200b-54h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648 p to +2147483647 p

Description

-

H0b.85 Single-turn position of the rotary load (reference unit)

Hex:	200b-56h	Effective	-
		mode:	
Min.:	-2147483648	Unit:	p
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648 p to +2147483647 p

Description

-

H0b.87 IGBT junction temperature

Hex:	200b-58h	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	200	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0-200

Description

-

H0b.90 Group No. of the abnormal parameter

Hex:	200b-5Bh	Effective	-
		mode:	
Min.:	0	Unit:	-

Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.91 Offset within the group of the abnormal parameter

Hex:	200b-5Ch	Effective	-
		mode:	
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H0b.94 Individual power-on time

Hex:	200b-5Fh	Effective	-
		mode:	
Min.:	0.0	Unit:	-
Max.:	429496729.5	Data Type:	UInt32
Default:	0.0	Change:	Unchangeable

Value Range:

0.0s–429496729.5s

Description

-

H0b.96 Individual power-on time upon occurrence of the selected fault

Hex:	200b-61h	Effective	-
		mode:	
Min.:	0.0	Unit:	-
Max.:	429496729.5	Data Type:	UInt32
Default:	0.0	Change:	Unchangeable

Value Range:

0.0s–429496729.5s

Description

-

3.13 H0D Auxiliary Parameters

H0d.00

Software Reset

Hex:200d-01h

Effective mode:Real time

Unit:-

Data Type:UInt16

Change:At stop

Min.:0

Max.:1

Default:0

Value Range:

0: No operation

1: Enable

Description

Defines whether to enable software reset.

Software reset is available in the following cases:

The servo is in the S-OFF state.

No. 1 non-resettable faults do not occur.

No EEPROM operation is performed. The software reset function is ineffective.

H0d.01

Fault reset

Hex:200d-02h

Effective mode:Real time

Unit:-

Data Type:UInt16

Change:At stop

Min.:0

Max.:1

Default:0

Value Range:

0: No operation

1: Enable

Description

Defines whether to enable fault reset.

For fault classification, see Chapter "Troubleshooting".

The fault reset function, once enabled, stops the keypad from displaying the fault only. It does not activate modifications made on parameters.

This function is not applicable to non-resettable faults. Use this function with caution in cases where the fault causes are not rectified.

H0d.02

Inertia auto-tuning enable

Hex:200d-03h

Effective mode:Real time

Unit:-

Data Type:UInt16

Change:Real-time

Min.:0

Max.:65

Default:0

Value Range:

0–65

Description

-

H0d.03 Encoder initial angle auto-tuning

Hex: 200d-04h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 2

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0: No operation

1: Enabled

Description

-

H0d.04 Read/write in encoder ROM

Hex: 200d-05h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 3

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0: No operation

1: Write ROM

2: Read ROM

3: ROM failure

Description

-

H0d.05 Emergency stop

Hex: 200d-06h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: No operation

1: Emergency stop

Description

Defines whether to enable emergency stop.

When this function is enabled, the servo drive immediately stops according to the Stop mode at S-ON OFF regardless of its state.

H0d.12 Phase U/V current balance correction

Hex:	200d-0Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Disabled

1: Enabled

Description

-

H0d.17 Forced DI/DO enable switch

Hex:	200d-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

bit0: Forced DI enable switch

0: Disabled

1: Enabled

bit1: Forced DO enable switch

0: Disabled

1: Enabled

Description

-

H0d.18 Forced DI value

Hex:	200d-13h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	255	Data Type:	UInt16
Default:	255	Change:	Real-time

Value Range:

0–255

Description

Defines the level logic of the DI functions set by the parameter when forced DI is activated.

The value of H0d.18 is displayed as a hexadecimal on the keypad. When it is converted to a binary value, "bit(n) = 1" indicates the level logic of DI function is high level; "bit(n) = 0" indicates the level logic of the DI function is low level.

H0d.19 Forced DO value

Hex:	200d-14h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	31	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–31

Description

Defines whether the DO functions assigned by the parameter are active when forced DO is active.

The value of H0d.19 is displayed as a hexadecimal on the keypad. When it is converted to a binary value, "bit(n) = 1" indicates the DO function is active; "bit(n) = 0" indicates the DO function is inactive.

H0d.20 Absolute encoder reset

Hex:	200d-15h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: No operation

1: Reset

2: Reset the fault and multi-turn data

Description

You can reset the encoder error or the multi-turn data fed back by the encoder by setting H0d.20.

H0d.23 Torque fluctuation auto-tuning

Hex:	200d-18h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0–1

Description

-

H0d.26 Brake and dynamic brake started forcibly

Hex:	200d-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: No forcible operations

1: Dynamic brake deactivated forcibly

2: Brake released forcibly

3: Dynamic brake deactivated and brake released forcibly

Description

-

3.14 H0E Communication Function Parameters

H0E.00 Node address

Hex:	200E-01h	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	127	Data Type:	UInt16
Default:	1	Change:	At stop

Value Range:

1–127

Description

Defines the servo drive axis address during RS232 communication.

0: Broadcast address. The host controller performs the write operation on all the servo drives through the broadcast address. The servo drives acts accordingly after receiving the broadcast address frames without responding.

1 to 127: Each of the servo drive networked must have a unique address. Otherwise, communication error or failure will occur.

H0E.01 Save objects written through communication to EEPROM

Hex:	200E-02h	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0: Not save

1: Save parameters written through communication to EEPROM

2: Save object dictionaries written through communication to EEPROM

3: Save parameters and object dictionaries written through communication to EEPROM

4: Save object dictionaries written before communication (OP) to EEPROM

Description

Sets whether parameters written by 232 communication and PN communication are saved in e2prom.

H0E.07 Object dictionary unit selection

Hex:	200E-08h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:0: Reference unit system (p/s, p/s²)

1: User unit system (0.01 RPM, ms)

Description

-

H0E.80 Modbus baud rate

Hex:	200E-51h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	10	Data Type:	UInt16
Default:	9	Change:	Real-time

Value Range:

4: 4800 bps

5: 9600 bps

6: 19200 bps

7: 38400 bps

8: 57600 bps

9: 115200 bps

Description

-

H0E.81	Modbus data format				
	Hex:	200E-52h	Effective	Real time	
			mode:		
	Min.:	0	Unit:	-	
	Max.:	3	Data Type:	UInt16	
	Default:	3	Change:	Real-time	
	Value Range:				
	3: No parity, 1 stop bit (N-1)				
	Description				
	-				
H0E.82	Modbus response delay				
	Hex:	200E-53h	Effective	Real time	
			mode:		
	Min.:	0	Unit:	ms	
	Max.:	20	Data Type:	UInt16	
	Default:	0	Change:	Real-time	
	Value Range:				
	0 ms to 20 ms				
	Description				
	-				
H0E.83	Modbus communication timeout time				
	Hex:	200E-54h	Effective	Real time	
			mode:		
	Min.:	0	Unit:	ms	
	Max.:	600	Data Type:	UInt16	
	Default:	0	Change:	Real-time	
	Value Range:				
	0 ms to 600 ms				
	Description				
	-				
H0E.84	Modbus communication data sequence				
	Hex:	200E-55h	Effective	Real time	
			mode:		
	Min.:	0	Unit:	-	
	Max.:	1	Data Type:	UInt16	
	Default:	1	Change:	Real-time	
	Value Range:				
	0: High bits before low bits				
	1: Low bits before high bits				

Description

-

H0E.90**Modbus version**

Hex: 200E-5Bh

Effective -

mode:

Min.: 0.00

Unit: -

Max.: 655.35

Data Type: UInt16

Default: 0.00

Change: Unchangeable

Value Range:

0.00–655.35

Description

-

3.15 H12 Multi-Speed**H12.00****Multi-speed operation mode**

Hex: 2012-01h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 2

Data Type: UInt16

Default: 1

Change: At stop

Value Range:

0: Individual operation (number of speeds selected in H12.01)

1: Cyclic operation (number of speeds selected in H12.01)

2: DI-based operation

Description

-

H12.01**Number of speed references in multi-speed mode**

Hex: 2012-02h

Effective Real time

mode:

Min.: 1

Unit: -

Max.: 16

Data Type: UInt16

Default: 16

Change: At stop

Value Range:

1–16

Description

-

H12.02

Operating time unit

Hex: 2012-03h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: At stop

Value Range:

0: s

1: min

Description

-

H12.03

Acceleration time 1

Hex: 2012-04h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 10

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.04

Deceleration time 1

Hex: 2012-05h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 10

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.05

Acceleration time 2

Hex: 2012-06h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 50

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.06**Deceleration time 2**

Hex: 2012-07h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 50

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.07**Acceleration time 3**

Hex: 2012-08h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 100

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.08**Deceleration time 3**

Hex: 2012-09h

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 100

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.09**Acceleration time 4**

Hex: 2012-0Ah

Effective Real time

mode:

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 150

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.10**Deceleration time 4**

Hex: 2012-0Bh

Effective mode: Real time

Min.: 0

Unit: ms

Max.: 65535

Data Type: UInt16

Default: 150

Change: Real-time

Value Range:

0 ms to 65535 ms

Description

-

H12.20**1st speed reference**

Hex: 2012-15h

Effective mode: Real time

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: 0

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.21**Operating time of speed 1**

Hex: 2012-16h

Effective mode: Real time

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.22**Acc./dec. time of speed 1**

Hex: 2012-17h

Effective mode: Real time

Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.23**Reference 2**

Hex:	2012-18h	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	100	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.24**Operating time of speed 2**

Hex:	2012-19h	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.25**Acc./dec. time of speed 2**

Hex:	2012-1Ah	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time
1: Acceleration/Deceleration time 1
2: Acceleration/Deceleration time 2
3: Acceleration/Deceleration time 3
4: Acceleration/Deceleration time 4

Description

-

H12.26**Reference 3**

Hex:	2012-1Bh	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	300	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.27**Operating time of speed 3**

Hex:	2012-1Ch	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.28**Acc./dec. time of speed 3**

Hex:	2012-1Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time
1: Acceleration/Deceleration time 1
2: Acceleration/Deceleration time 2
3: Acceleration/Deceleration time 3
4: Acceleration/Deceleration time 4

Description

-

H12.29**Reference 4**

Hex: 2012-1Eh

Effective Real time

mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: 500

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.30**Operating time of speed 4**

Hex: 2012-1Fh

Effective Real time

mode:

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.31**Acc./dec. time of speed 4**

Hex: 2012-20h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.32

Reference 5

Hex: 2012-21h

Effective Real time

mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: 700

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.33

Operating time of speed 5

Hex: 2012-22h

Effective Real time

mode:

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.34

Acc./dec. time of speed 5

Hex: 2012-23h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.35

Reference 6

Hex: 2012-24h

Effective Real time

mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: 900

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.36 Operating time of speed 6

Hex: 2012-25h

Effective mode: Real time

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.37 Acc./dec. time of speed 6

Hex: 2012-26h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.38 Reference 7

Hex: 2012-27h

Effective mode: Real time

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: 600

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.39 Operating time of speed 7

Hex:	2012-28h	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.40 Acc./dec. time of speed 7

Hex:	2012-29h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.41 Reference 8

Hex:	2012-2Ah	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	300	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.42 Operating time of speed 8

Hex:	2012-2Bh	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.43 Acc./dec. time of speed 8

Hex:	2012-2Ch	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.44 Reference 9

Hex:	2012-2Dh	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	100	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.45 Operating time of speed 9

Hex:	2012-2Eh	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)

Max.: 6553.5

Default: 5.0

Data Type: UInt16

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.46 Acc./dec. time of speed 9

Hex: 2012-2Fh

Effective mode: Real time

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.47 Reference 10

Hex: 2012-30h

Effective mode: Real time

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: -100

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.48 Operating time of speed 10

Hex: 2012-31h

Effective mode: Real time

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.49 Acc./dec. time of speed 10

Hex:	2012-32h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.50 Reference 11

Hex:	2012-33h	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	-300	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.51 Operating time of speed 11

Hex:	2012-34h	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.52 Acc./dec. time of speed 11

Hex:	2012-35h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.53 Reference 12

Hex:	2012-36h	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	-500	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.54 Operating time of speed 12

Hex:	2012-37h	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.55 Acc./dec. time of speed 12

Hex:	2012-38h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16

Default: 0 Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.56

Reference 13

Hex:	2012-39h	Effective mode:	Real time
Min.:	-10000	Unit:	RPM
Max.:	10000	Data Type:	Int16
Default:	-700	Change:	Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.57

Operating time of speed 13

Hex:	2012-3Ah	Effective mode:	Real time
Min.:	0.0	Unit:	s (m)
Max.:	6553.5	Data Type:	UInt16
Default:	5.0	Change:	Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.58

Acc./dec. time of speed 13

Hex:	2012-3Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.59**Reference 14**

Hex: 2012-3Ch

Effective Real time
mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: -900

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.60**Operating time of speed 14**

Hex: 2012-3Dh

Effective Real time
mode:

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.61**Acc./dec. time of speed 14**

Hex: 2012-3Eh

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.62**Reference 15**

Hex: 2012-3Fh

Effective Real time

mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: -600

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.63**Operating time of speed 15**

Hex: 2012-40h

Effective Real time

mode:

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.64**Acc./dec. time of speed 15**

Hex: 2012-41h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

H12.65

Reference 16

Hex: 2012-42h

Effective Real time

mode:

Min.: -10000

Unit: RPM

Max.: 10000

Data Type: Int16

Default: -300

Change: Real-time

Value Range:

-10000 RPM to +10000 RPM

Description

-

H12.66

Operating time of speed 16

Hex: 2012-43h

Effective Real time

mode:

Min.: 0.0

Unit: s (m)

Max.: 6553.5

Data Type: UInt16

Default: 5.0

Change: Real-time

Value Range:

0.0s(m) to 6553.5s(m)

Description

-

H12.67

Acc./dec. time of speed 16

Hex: 2012-44h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 4

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Zero acceleration/deceleration time

1: Acceleration/Deceleration time 1

2: Acceleration/Deceleration time 2

3: Acceleration/Deceleration time 3

4: Acceleration/Deceleration time 4

Description

-

3.16 H17 Virtual DI/DO

H17.00	VDI1 function		
	Hex: 2017-01h	Effective mode:	At stop
	Min.: 0	Unit:	-
	Max.: 56	Data Type:	UInt16
	Default: 0	Change:	Real-time
	Value Range:		
	0: No assignment		
	1: Servo ON		
	3: Gain switchover		
	14: Positive limit switch		
	15: Negative limit switch		
	16: Positive external torque limit		
	17: Negative external torque limit		
	18: Forward jog		
	19: Reverse jog		
	31: Home switch		
	34: Emergency stop		
	36: Internal speed limit source		
	41: Current position as home		
	56: External switchover switch of EPOS program segment		
	Description		
	-		
H17.01	VDI1 logic level selection		
	Hex: 2017-02h	Effective mode:	At stop
	Min.: 0	Unit:	-
	Max.: 1	Data Type:	UInt16
	Default: 0	Change:	Real-time
	Value Range:		
	0: Active when the written value is 1		
	1: Active when the written value changes from 0 to 1		
	Description		
	-		
H17.02	VDI2 function		
	Hex: 2017-03h	Effective mode:	At stop
	Min.: 0	Unit:	-

Max.: 56

Default: 0

Value Range:

Same as H17.00

Description

-

Data Type: UInt16

Change: Real-time

H17.03 VDI2 logic level selection

Hex: 2017-04h

Min.: 0

Max.: 1

Default: 0

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H17.04 VDI3 function

Hex: 2017-05h

Min.: 0

Max.: 56

Default: 0

Value Range:

Same as H17.00

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H17.05 VDI3 logic level selection

Hex: 2017-06h

Min.: 0

Max.: 1

Default: 0

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H17.06	VDI4 function		
Hex:	2017-07h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
Same as H17.00			
Description			
-			

H17.07	VDI4 logic level selection		
Hex:	2017-08h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0: Active when the written value is 1			
1: Active when the written value changes from 0 to 1			
Description			
-			

H17.08	VDI5 function		
Hex:	2017-09h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
Same as H17.00			
Description			
-			

H17.09	VDI5 logic level selection		
Hex:	2017-0Ah	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.10

VDI6 function

Hex: 2017-0Bh

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 56

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.00

Description

-

H17.11

VDI6 logic level selection

Hex: 2017-0Ch

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.12

VDI7 function

Hex: 2017-0Dh

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 56

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.00

Description

-

H17.13

VDI7 logic level selection

Hex: 2017-0Eh

Effective At stop
mode:

Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.14 VDI8 function

Hex:	2017-0Fh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.15 VDI8 logic level selection

Hex:	2017-10h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.16 VDI9 function

Hex:	2017-11h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.17 VDI9 logic level selection

Hex:	2017-12h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.18 VDI10 function

Hex:	2017-13h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.19 VDI10 logic level selection

Hex:	2017-14h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.20 VDI11 function

Hex:	2017-15h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.21 VDI11 logic level selection

Hex: 2017-16h

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.22 VDI12 function

Hex: 2017-17h

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 56

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.00

Description

-

H17.23 VDI12 logic level selection

Hex: 2017-18h

Effective At stop
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.24 VDI13 function

Hex: 2017-19h

Effective At stop
mode:

Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.25 VDI13 logic level selection

Hex:	2017-1Ah	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.26 VDI14 function

Hex:	2017-1Bh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	56	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.00

Description

-

H17.27 VDI14 logic level selection

Hex:	2017-1Ch	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.28	VDI15 function		
	Hex:	2017-1Dh	Effective At stop
			mode:
	Min.:	0	Unit: -
	Max.:	56	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	Same as H17.00		
	Description		
	-		
H17.29	VDI15 logic level selection		
	Hex:	2017-1Eh	Effective At stop
			mode:
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0: Active when the written value is 1		
	1: Active when the written value changes from 0 to 1		
	Description		
	-		
H17.30	VDI16 function		
	Hex:	2017-1Fh	Effective At stop
			mode:
	Min.:	0	Unit: -
	Max.:	56	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	Same as H17.00		
	Description		
	-		
H17.31	VDI16 logic level selection		
	Hex:	2017-20h	Effective At stop
			mode:
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		

0: Active when the written value is 1

1: Active when the written value changes from 0 to 1

Description

-

H17.32**VDO virtual level**

Hex: 2017-21h

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H17.33**VDO1 function**

Hex: 2017-22h

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 33

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: No assignment

1: Servo ready

2: Motor rotating

3: Zero speed

4: Speed matching

5: Positioning completed

6: Proximity

7: Torque limited

8: Speed limited

9: Brake

10: Warning

11: Fault

16: Homing completed

18: Torque reach

19: Speed reach

25: Comparison output

30: Warning or fault output

32: EDM output

Description

-

H17.34 VDO1 logic level selection

Hex: 2017-23h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.35 VDO2 function

Hex: 2017-24h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 33

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.36 VDO2 logic level selection

Hex: 2017-25h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.37 VDO3 function

Hex: 2017-26h

Effective mode: Real time

Min.: 0
Max.: 33
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.38 VDO3 logic level selection

Hex: 2017-27h

Effective mode: Real time

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.39 VDO4 function

Hex: 2017-28h

Effective mode: Real time

Min.: 0
Max.: 33
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.40 VDO4 logic level selection

Hex: 2017-29h

Effective mode: Real time

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.41	VDO5 function		
	Hex:	2017-2Ah	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	33	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	Same as H17.33		
	Description		
	-		
H17.42	VDO5 logic level selection		
	Hex:	2017-2Bh	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0: Output 1 upon active logic		
	1: Output 0 upon active logic		
	Description		
	-		
H17.43	VDO6 function		
	Hex:	2017-2Ch	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	33	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	Same as H17.33		
	Description		
	-		
H17.44	VDO6 logic level selection		
	Hex:	2017-2Dh	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.45**VDO7 function**

Hex: 2017-2Eh

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 33

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.46**VDO7 logic level selection**

Hex: 2017-2Fh

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.47**VDO8 function**

Hex: 2017-30h

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 33

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.48**VDO8 logic level selection**

Hex: 2017-31h

Effective Real time
mode:

Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.49**VDO9 function**

Hex:	2017-32h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	33	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.33

Description

-

H17.50**VDO9 logic level selection**

Hex:	2017-33h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.51**VDO10 function**

Hex:	2017-34h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	33	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

Same as H17.33

Description

-

H17.52	VDO10 logic level selection		
Hex:	2017-35h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0: Output 1 upon active logic			
1: Output 0 upon active logic			
Description			
-			
H17.53	VDO11 function		
Hex:	2017-36h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	33	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
Same as H17.33			
Description			
-			
H17.54	VDO11 logic level selection		
Hex:	2017-37h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0: Output 1 upon active logic			
1: Output 0 upon active logic			
Description			
-			
H17.55	VDO12 function		
Hex:	2017-38h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	33	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			

Same as H17.33

Description

-

H17.56 VDO12 logic level selection

Hex: 2017-39h

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.57 VDO13 function

Hex: 2017-3Ah

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 33

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.58 VDO13 logic level selection

Hex: 2017-3Bh

Effective Real time
mode:

Min.: 0

Unit: -

Max.: 1

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.59 VDO14 function

Hex: 2017-3Ch

Effective Real time
mode:

Min.: 0
Max.: 33
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.60 VDO14 logic level selection

Hex: 2017-3Dh

Effective mode: Real time

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.61 VDO15 function

Hex: 2017-3Eh

Effective mode: Real time

Min.: 0
Max.: 33
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

Same as H17.33

Description

-

H17.62 VDO15 logic level selection

Hex: 2017-3Fh

Effective mode: Real time

Min.: 0
Max.: 1
Default: 0

Unit: -
Data Type: UInt16
Change: Real-time

Value Range:

0: Output 1 upon active logic

1: Output 0 upon active logic

Description

-

H17.63	VDO16 function		
	Hex:	2017-40h	Effective mode: Real time
	Min.:	0	Unit: -
	Max.:	33	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	Same as H17.33		
	Description		
	-		
H17.64	VDO16 logic level selection		
	Hex:	2017-41h	Effective mode: Real time
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		
	0: Output 1 upon active logic		
	1: Output 0 upon active logic		
	Description		
	-		
H17.90	Communication VDI enable		
	Hex:	2017-5Bh	Effective mode: Real time
	Min.:	0	Unit: -
	Max.:	1	Data Type: UInt16
	Default:	0	Change: At stop
	Value Range:		
	0: Disabled		
	1: Enabled		
	Description		
	-		
H17.91	VDI default value after power-on		
	Hex:	2017-5Ch	Effective mode: Upon the next power-on
	Min.:	0	Unit: -
	Max.:	65535	Data Type: UInt16
	Default:	0	Change: Real-time
	Value Range:		

0: 0x0: No default
 1: 0x01: VDI1 default value
 2: 0x02: VDI2 default value
 4: 0x04: VDI3 default value
 8: 0x08: VDI4 default value
 16: 0x10: VDI5 default value
 32: 0x20: VDI6 default value
 64: 0x40: VDI7 default value
 128: 0x80: VDI8 default value
 256: 0x100: VDI9 default value
 512: 0x200: VDI10 default value
 1024: 0x400: VDI11 default value
 2048: 0x800: VDI12 default value
 4096: 0x1000: VDI13 default value
 8092: 0x2000: VDI14 default value
 16384: 0x4000: VDI15 default value
 32768: 0x8000: VDI16 default value

Description

-

H17.92

Communication VDO enable

Hex:	2017-5Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Disabled
 1: Enabled

Description

-

H17.93

VDO default value after power-on

Hex:	2017-5Eh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: 0x00: No default
1: 0x01: VDO1 default value
2: 0x02: VDO2 default value
4: 0x04: VDO3 default value
8: 0x08: VDO4 default value
16: 0x10: VDO5 default value
32: 0x20: VDO6 default value
64: 0x40: VDO7 default value
128: 0x80: VDO8 default value
256: 0x100: VDO9 default value
512: 0x200: VDO10 default value
1024: 0x400: VDO11 default value
2048: 0x800: VDO12 default value
4096: 0x1000: VDO13 default value
8192: 0x2000: VDO14 default value
16384: 0x4000: VDO15 default value
32768: 0x8000: VDO16 default value

Description

-

3.17 H24 PN Bus Communication Parameters

H24.00 Message number selection [PN922]

Hex:	2024-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	3	Change:	Unchangeable

Value Range:

0–65535

Description

-

H24.01 Heartbeat warning threshold [PN925]

Hex:	2024-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	5	Change:	At stop

Value Range:

0–65535

	Description		
	-		
H24.02	Fault message counter [PN944]		
	Hex: 2024-03h	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data Type:	UInt16
	Default: 0	Change:	Unchangeable
	Value Range:		
	0–65535		
	Description		
	-		
H24.03	Fault code [PN947]		
	Hex: 2024-04h	Effective mode:	-
	Min.: 0	Unit:	-
	Max.: 65535	Data Type:	UInt16
	Default: 0	Change:	Unchangeable
	Value Range:		
	0–65535		
	Description		
	-		
H24.04	Fault No.		
	Hex: 2024-05h	Effective mode:	Real time
	Min.: 0	Unit:	-
	Max.: 63	Data Type:	UInt16
	Default: 0	Change:	At stop
	Value Range:		
	0–63		
	Description		
	-		
H24.05	Fault condition counter [PN952]		
	Hex: 2024-06h	Effective mode:	Real time
	Min.: 0	Unit:	-
	Max.: 65535	Data Type:	UInt16
	Default: 0	Change:	At stop

	Value Range: 0–65535 Description -		
H24.06	Sensor header [PN979[0]] Hex: 2024-07h Min.: 0 Max.: 4294967295 Default: 20754 Value Range: 0–4294967295 Description -	Effective mode: Unit: - Data Type: UInt32 Change: At stop	Real time
H24.08	Sensor type [PN979[1]] Hex: 2024-09h Min.: 0 Max.: 4294967295 Default: 2147483650 Value Range: 0–4294967295 Description -	Effective mode: Unit: - Data Type: UInt32 Change: At stop	Real time
H24.10	Sensor resolution [PN979[2]] Hex: 2024-0Bh Min.: 0 Max.: 4294967295 Default: 256 Value Range: 0–4294967295 Description -	Effective mode: Unit: - Data Type: UInt32 Change: At stop	Real time
H24.12	Sensor G1_X1ST1 displacement factor [PN979[3]] Hex: 2024-0Dh	Effective mode:	Upon the next power-on

Min.:0

Max.:24

Default:15

Value Range:
0–24

Description
-

Unit:-

Data Type:UInt32

Change:At stop

H24.14

Sensor G1_X1ST2 displacement factor [PN979[4]]

Hex:2024-0Fh

Min.:0

Max.:24

Default:15

Value Range:
0–24

Description
-

Effective mode:Upon the next power-on

Unit:-

Data Type:UInt32

Change:At stop

H24.16

Sensor multi-turn number [PN979[5]]

Hex:2024-11h

Min.:0

Max.:4294967295

Default:512

Value Range:
0–4294967295

Description
-

Effective mode:Upon the next power-on

Unit:-

Data Type:UInt32

Change:At stop

H24.19

Synchronization cycle

Hex:2024-14h

Min.:0

Max.:65535

Default:999

Value Range:
0–65535

Description
-

Effective mode:Real time

Unit:-

Data Type:UInt16

Change:Unchangeable

H24.20	Network parameter write flag		
Hex:	2024-15h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	At stop
Value Range:			
0–3			
Description			
-			
H24.22	IP address		
Hex:	2024-17h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	0	Data Type:	UInt32
Default:	0	Change:	Real-time
Value Range:			
0–0			
Description			
-			
H24.24	Subnet mask		
Hex:	2024-19h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	0	Data Type:	UInt32
Default:	0	Change:	Real-time
Value Range:			
0–0			
Description			
-			
H24.26	Default gateway		
Hex:	2024-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	0	Data Type:	UInt32
Default:	0	Change:	Real-time
Value Range:			
0–0			

Description

-

H24.28 AC1 speed feedback selection

Hex:	2024-1Dh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Normal

1: High precision

Description

-

H24.32 DSC position loop gain selection

Hex:	2024-21h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Local position loop gain

1: PLC position loop gain

3: DSC manual tuning

Description

-

H24.33 Number of Sync with advanced DSC position feedback

Hex:	2024-22h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	16	Data Type:	UInt16
Default:	1	Change:	Real-time

Value Range:

0–16

Description

-

H24.34 Loop gain selection switch

Hex:	2024-23h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop

Value Range:

0: Stiffness level adapted based on DSC gain

1: Stiffness level adapted based on H09.01

Description

-

H24.35 Customized telegram 850 transmission

Hex:	2024-24h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: No assignment

1: VDO

2: External DI state

Description

-

H24.36 User-defined 850 reception

Hex:	2024-25h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0: No assignment

1: VDI

2: External DO state

Description

-

H24.37 Extra telegram

Hex:	2024-26h	Effective mode:	Real time
Min.:	0	Unit:	-

Max.:	65535	Data Type:	UInt16
Default:	0	Change:	At stop
Value Range:			
0–65535			
Description			
-			

H24.38 Customized receive word

Hex:	2024-27h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	2	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0: No function			
1: Additive torque			
2: Forced DO			
Description			
-			

H24.39 Customized transmit word

Hex:	2024-28h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	3	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0: No function			
1: Actual torque			
2: Actual current			
3: DI state			
Description			
-			

H24.41 Device name loss warning selection

Hex:	2024-2Ah	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	Real-time
Value Range:			
0–1			

Description

-

H24.42 Number of consecutive loss detections

Hex:	2024-2Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	8	Change:	Real-time

Value Range:

0–65535

Description

-

H24.43 Communication timeout time

Hex:	2024-2Ch	Effective mode:	Real time
Min.:	1	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	1000	Change:	Real-time

Value Range:

1–65535

Description

-

H24.44 FPGA synchronous detection deviation threshold

Hex:	2024-2Dh	Effective mode:	Real time
Min.:	0	Unit:	ns
Max.:	65535	Data Type:	UInt16
Default:	3000	Change:	At stop

Value Range:

0 ns to 65535 ns

Description

-

H24.45 MAC address

Hex:	2024-2Eh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H24.46

MAC address

Hex: 2024-2Fh

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0–65535

Description

-

H24.47

MAC address

Hex: 2024-30h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0–65535

Description

-

H24.48

DSC position loop gain coefficient

Hex: 2024-31h

Effective mode: Real time

Min.: 1

Unit: -

Max.: 31

Data Type: UInt16

Default: 10

Change: At stop

Value Range:

1–31

Description

-

3.18 H25 AC3 Control Parameters

H25.00	EPOS max. speed		
	Hex:	2025-01h	Effective mode: Real time
	Min.:	0	Unit: 1000 LU/min
	Max.:	40000000	Data Type: UInt32
	Default:	30000	Change: Real-time
	Value Range: 0 LU/min.–40000000 LU/min.		
	Description -		
H25.02	EPOS max. acceleration		
	Hex:	2025-03h	Effective mode: Real time
	Min.:	1	Unit: 1000 LU/s/s
	Max.:	2000000	Data Type: UInt32
	Default:	100	Change: Real-time
	Value Range: 1 LU/s/s–2000000 LU/s/s		
	Description -		
H25.04	EPOS max. deceleration		
	Hex:	2025-05h	Effective mode: Real time
	Min.:	1	Unit: 1000 LU/s/s
	Max.:	2000000	Data Type: UInt32
	Default:	100	Change: Real-time
	Value Range: 1 LU/s/s–2000000 LU/s/s		
	Description -		
H25.06	EPOS ramp deceleration		
	Hex:	2025-07h	Effective mode: Real time
	Min.:	1	Unit: 1000 LU/s/s
	Max.:	2000000	Data Type: UInt32
	Default:	100	Change: Real-time

Value Range:

1 LU/s/s–2000000 LU/s/s

Description

-

H25.10 EPOS positioning reach threshold

Hex:	2025-0Bh	Effective mode:	Real time
Min.:	0	Unit:	LU
Max.:	2147483647	Data Type:	UInt32
Default:	7	Change:	Real-time

Value Range:

0LU–2147483647LU

Description

-

H25.12 EPOS positioning reached window time

Hex:	2025-0Dh	Effective mode:	Real time
Min.:	0	Unit:	ms
Max.:	2147483647	Data Type:	UInt32
Default:	0	Change:	Real-time

Value Range:

0 ms to 2147483647 ms

Description

-

H25.14 EPOS-Jog1 speed

Hex:	2025-0Fh	Effective mode:	Real time
Min.:	-40000000	Unit:	1000 LU/min
Max.:	40000000	Data Type:	Int32
Default:	-300	Change:	Real-time

Value Range:

-40000000 Lu/min to 40000000 LU/min

Description

-

H25.16 EPOS-Jog2 speed

Hex:	2025-11h	Effective mode:	Real time
------	----------	-----------------	-----------

Min.:	-40000000	Unit:	1000 LU/min
Max.:	40000000	Data Type:	Int32
Default:	300	Change:	Real-time

Value Range:

-40000000 Lu/min to 40000000 LU/min

Description

-

H25.18 EPOS-JOG1 position increment

Hex:	2025-13h	Effective mode:	Real time
Min.:	0	Unit:	LU
Max.:	2147483647	Data Type:	UInt32
Default:	1000	Change:	Real-time

Value Range:

0LU–2147483647LU

Description

-

H25.20 EPOS-JOG2 position increment

Hex:	2025-15h	Effective mode:	Real time
Min.:	0	Unit:	LU
Max.:	2147483647	Data Type:	UInt32
Default:	1000	Change:	Real-time

Value Range:

0LU–2147483647LU

Description

-

H25.22 Homing type

Hex:	2025-17h	Effective mode:	Real time
Min.:	-2	Unit:	-
Max.:	35	Data Type:	Int16
Default:	0	Change:	Real-time

Value Range:

-2–35

Description

-

H25.23	Homing high speed		
	Hex:	2025-18h	Effective Real time
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	40000000	Data Type: UInt32
	Default:	5000	Change: Real-time
Value Range:			
0 LU/min.–40000000 LU/min.			
Description			
-			

H25.25	Homing low speed		
	Hex:	2025-1Ah	Effective Real time
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	40000000	Data Type: UInt32
	Default:	300	Change: Real-time
Value Range:			
0 LU/min.–40000000 LU/min.			
Description			
-			

H25.27	Homing acceleration/deceleration override		
	Hex:	2025-1Ch	Effective Real time
			mode:
	Min.:	0.01	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
Value Range:			
0.01% to 100.00%			
Description			
-			

3.19 H27 Program Block Parameters

H27.00	Current block		
	Hex:	2027-01h	Effective Real time
			mode:
	Min.:	0	Unit: -
	Max.:	15	Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–15

Description

-

H27.01**Block 0 task**

Hex: 2027-02h

Effective At stop

mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

1: Positioning

2: Fixed stopper

3: Forward cycle

4: Reverse cycle

5: Waiting

6: Switching

7: Setting I/O

8: Resetting I/O

Description

-

H27.02**Block 1 task**

Hex: 2027-03h

Effective At stop

mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

1: Positioning

2: Fixed stopper

3: Forward cycle

4: Reverse cycle

5: Waiting

6: Switching

7: Setting I/O

8: Resetting I/O

Description

-

H27.03

Block 2 task

Hex: 2027-04h

Effective At stop

mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.04

Block 3 task

Hex: 2027-05h

Effective At stop

mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.05

Block 4 task

Hex: 2027-06h

Effective At stop

mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.06**Block 5 task**

Hex: 2027-07h

Effective At stop
mode:

Unit: -

Data Type: UInt16

Change: Real-time

Min.: 1

Max.: 8

Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.07**Block 6 task**

Hex: 2027-08h

Effective At stop
mode:

Unit: -

Data Type: UInt16

Change: Real-time

Min.: 1

Max.: 8

Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.08

Block 7 task

Hex: 2027-09h

Min.: 1
Max.: 8
Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

Effective mode: At stop
Unit: -
Data Type: UInt16
Change: Real-time

H27.09

Block 8 task

Hex: 2027-0Ah

Min.: 1
Max.: 8
Default: 1

Value Range:

Effective mode: At stop
Unit: -
Data Type: UInt16
Change: Real-time

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.10**Block 9 task**

Hex: 2027-0Bh

Effective At stop
mode:

Unit: -

Data Type: UInt16

Change: Real-time

Min.: 1

Max.: 8

Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.11**Block 10 task**

Hex: 2027-0Ch

Effective At stop
mode:

Unit: -

Data Type: UInt16

Change: Real-time

Min.: 1

Max.: 8

Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.12

Block 11 task

Hex: 2027-0Dh

Effective At stop
mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.13

Block 12 task

Hex: 2027-0Eh

Effective At stop
mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.14**Block 13 task**

Hex: 2027-0Fh

Effective At stop
mode:

Unit: -

Min.: 1

Data Type: UInt16

Max.: 8

Change: Real-time

Default: 1

Value Range:

- 1: Positioning
- 2: Fixed stopper
- 3: Forward cycle
- 4: Reverse cycle
- 5: Waiting
- 6: Switching
- 7: Setting I/O
- 8: Resetting I/O

Description

-

H27.15**Block 14 task**

Hex: 2027-10h

Effective At stop
mode:

Unit: -

Min.: 1

Data Type: UInt16

Max.: 8

Change: Real-time

Default: 1

Value Range:

1: Positioning
2: Fixed stopper
3: Forward cycle
4: Reverse cycle
5: Waiting
6: Switching
7: Setting I/O
8: Resetting I/O

Description

-

H27.16**Block 15 task**

Hex: 2027-11h

Effective At stop
mode:

Min.: 1

Unit: -

Max.: 8

Data Type: UInt16

Default: 1

Change: Real-time

Value Range:

1: Positioning
2: Fixed stopper
3: Forward cycle
4: Reverse cycle
5: Waiting
6: Switching
7: Setting I/O
8: Resetting I/O

Description

-

H27.17**Position of block 0**

Hex: 2027-12h

Effective At stop
mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.19	Position of block 1		
	Hex:	2027-14h	Effective mode: At stop
	Min.:	-2147483648	Unit: LU
	Max.:	2147483647	Data Type: Int32
	Default:	0	Change: Real-time
	Value Range:		
	-2147483648LU to 2147483647LU		
	Description		
	-		
H27.21	Position of block 2		
	Hex:	2027-16h	Effective mode: At stop
	Min.:	-2147483648	Unit: LU
	Max.:	2147483647	Data Type: Int32
	Default:	0	Change: Real-time
	Value Range:		
	-2147483648LU to 2147483647LU		
	Description		
	-		
H27.23	Position of block 3		
	Hex:	2027-18h	Effective mode: At stop
	Min.:	-2147483648	Unit: LU
	Max.:	2147483647	Data Type: Int32
	Default:	0	Change: Real-time
	Value Range:		
	-2147483648LU to 2147483647LU		
	Description		
	-		
H27.25	Position of block 4		
	Hex:	2027-1Ah	Effective mode: At stop
	Min.:	-2147483648	Unit: LU
	Max.:	2147483647	Data Type: Int32
	Default:	0	Change: Real-time
	Value Range:		
	-2147483648LU to 2147483647LU		

Description

-

H27.27**Position of block 5**

Hex: 2027-1Ch

Effective At stop

mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.29**Position of block 6**

Hex: 2027-1Eh

Effective At stop

mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.31**Position of block 7**

Hex: 2027-20h

Effective At stop

mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.33**Position of block 8**

Hex: 2027-22h

Effective At stop

mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.35**Position of block 9**

Hex: 2027-24h

Effective At stop
mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.37**Position of block 10**

Hex: 2027-26h

Effective At stop
mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.39**Position of block 11**

Hex: 2027-28h

Effective At stop
mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.41**Position of block 12**

Hex: 2027-2Ah

Effective At stop
mode:

Min.: -2147483648

Unit: LU

Max.: 2147483647 Data Type: Int32
Default: 0 Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.43 Position of block 13

Hex: 2027-2Ch Effective mode: At stop
Min.: -2147483648 Unit: LU
Max.: 2147483647 Data Type: Int32
Default: 0 Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.45 Position of block 14

Hex: 2027-2Eh Effective mode: At stop
Min.: -2147483648 Unit: LU
Max.: 2147483647 Data Type: Int32
Default: 0 Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.47 Position of block 15

Hex: 2027-30h Effective mode: At stop
Min.: -2147483648 Unit: LU
Max.: 2147483647 Data Type: Int32
Default: 0 Change: Real-time

Value Range:

-2147483648LU to 2147483647LU

Description

-

H27.49	Block 0 speed		
	Hex:	2027-32h	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
	Value Range:		
	0 Lu/min–4294967295 LU/min		
	Description		
	-		
H27.51	Block 1 speed		
	Hex:	2027-34h	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
	Value Range:		
	0 Lu/min–4294967295 LU/min		
	Description		
	-		
H27.53	Block 2 speed		
	Hex:	2027-36h	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
	Value Range:		
	0 Lu/min–4294967295 LU/min		
	Description		
	-		
H27.55	Block 3 speed		
	Hex:	2027-38h	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
	Value Range:		
	0 Lu/min–4294967295 LU/min		

Description

-

H27.57

Block 4 speed

Hex: 2027-3Ah

Effective At stop

mode:

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.59

Block 5 speed

Hex: 2027-3Ch

Effective At stop

mode:

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.61

Block 6 speed

Hex: 2027-3Eh

Effective At stop

mode:

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.63

Block 7 speed

Hex: 2027-40h

Effective At stop

mode:

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.65**Block 8 speed**

Hex: 2027-42h

Effective mode: At stop

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.67**Block 9 speed**

Hex: 2027-44h

Effective mode: At stop

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.69**Block 10 speed**

Hex: 2027-46h

Effective mode: At stop

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.71	Block 11 speed		
	Hex:	2027-48h	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
Value Range:			
0 Lu/min–4294967295 LU/min			
Description			
-			
H27.73	Block 12 speed		
	Hex:	2027-4Ah	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
Value Range:			
0 Lu/min–4294967295 LU/min			
Description			
-			
H27.75	Block 13 speed		
	Hex:	2027-4Ch	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
Value Range:			
0 Lu/min–4294967295 LU/min			
Description			
-			
H27.77	Block 14 speed		
	Hex:	2027-4Eh	Effective At stop
			mode:
	Min.:	0	Unit: 1000 LU/min
	Max.:	4294967295	Data Type: UInt32
	Default:	600	Change: Real-time
Value Range:			
0 Lu/min–4294967295 LU/min			

Description

-

H27.79**Block 15 speed**

Hex: 2027-50h

Effective At stop

mode:

Min.: 0

Unit: 1000 LU/min

Max.: 4294967295

Data Type: UInt32

Default: 600

Change: Real-time

Value Range:

0 Lu/min–4294967295 LU/min

Description

-

H27.81**Block 0 acc. override**

Hex: 2027-52h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.82**Block 1 acc. override**

Hex: 2027-53h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.83**Block 2 acc. override**

Hex: 2027-54h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.84

Block 3 acc. override

Hex: 2027-55h

Min.: 1.00

Max.: 100.00

Default: 100.00

Value Range:

1.00% to 100.00%

Description

-

Effective mode:
Unit: %
Data Type: UInt16
Change: Real-time

At stop

H27.85

Block 4 acc. override

Hex: 2027-56h

Min.: 1.00

Max.: 100.00

Default: 100.00

Value Range:

1.00% to 100.00%

Description

-

Effective mode:
Unit: %
Data Type: UInt16
Change: Real-time

At stop

H27.86

Block 5 acc. override

Hex: 2027-57h

Min.: 1.00

Max.: 100.00

Default: 100.00

Value Range:

1.00% to 100.00%

Description

-

Effective mode:
Unit: %
Data Type: UInt16
Change: Real-time

At stop

H27.87

Block 6 acc. override

Hex: 2027-58h

Min.: 1.00

Effective mode:
Unit: %

At stop

Max.: 100.00
Default: 100.00

Data Type: UInt16
Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.88 Block 7 acc. override

Hex: 2027-59h

Effective At stop
mode:

Min.: 1.00
Max.: 100.00
Default: 100.00

Unit: %
Data Type: UInt16
Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.89 Block 8 acc. override

Hex: 2027-5Ah

Effective At stop
mode:

Min.: 1.00
Max.: 100.00
Default: 100.00

Unit: %
Data Type: UInt16
Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.90 Block 9 acc. override

Hex: 2027-5Bh

Effective At stop
mode:

Min.: 1.00
Max.: 100.00
Default: 100.00

Unit: %
Data Type: UInt16
Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.91	Block 10 acc. override		
	Hex:	2027-5Ch	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H27.92	Block 11 acc. override		
	Hex:	2027-5Dh	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H27.93	Block 12 acc. override		
	Hex:	2027-5Eh	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H27.94	Block 13 acc. override		
	Hex:	2027-5Fh	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		

Description

-

H27.95**Block 14 acc. override**

Hex: 2027-60h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H27.96**Block 15 acc. override**

Hex: 2027-61h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

3.20 H28 Program Block Parameters**H28.00****Block 0 dec. override**

Hex: 2028-01h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.01**Block 1 dec. override**

Hex: 2028-02h

Effective At stop

mode:

Min.:	1.00	Unit:	%
Max.:	100.00	Data Type:	UInt16
Default:	100.00	Change:	Real-time
Value Range:			
1.00% to 100.00%			
Description			
-			

H28.02	Block 2 dec. override			
	Hex:	2028-03h	Effective mode:	At stop
	Min.:	1.00	Unit:	%
	Max.:	100.00	Data Type:	UInt16
	Default:	100.00	Change:	Real-time
	Value Range:			
	1.00% to 100.00%			
	Description			
	-			

H28.03	Block 3 dec. override			
	Hex:	2028-04h	Effective mode:	At stop
	Min.:	1.00	Unit:	%
	Max.:	100.00	Data Type:	UInt16
	Default:	100.00	Change:	Real-time
	Value Range:			
	1.00% to 100.00%			
	Description			
	-			

H28.04	Block 4 dec. override			
	Hex:	2028-05h	Effective mode:	At stop
	Min.:	1.00	Unit:	%
	Max.:	100.00	Data Type:	UInt16
	Default:	100.00	Change:	Real-time
	Value Range:			
	1.00% to 100.00%			
	Description			
	-			

H28.05	Block 5 dec. override		
	Hex:	2028-06h	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H28.06	Block 6 dec. override		
	Hex:	2028-07h	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H28.07	Block 7 dec. override		
	Hex:	2028-08h	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		
	Description		
	-		
H28.08	Block 8 dec. override		
	Hex:	2028-09h	Effective At stop
			mode:
	Min.:	1.00	Unit: %
	Max.:	100.00	Data Type: UInt16
	Default:	100.00	Change: Real-time
	Value Range:		
	1.00% to 100.00%		

Description

-

H28.09

Block 9 dec. override

Hex: 2028-0Ah

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.10

Block 10 dec. override

Hex: 2028-0Bh

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.11

Block 11 dec. override

Hex: 2028-0Ch

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.12

Block 12 dec. override

Hex: 2028-0Dh

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.13**Block 13 dec. override**

Hex: 2028-0Eh

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.14**Block 14 dec. override**

Hex: 2028-0Fh

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.15**Block 15 dec. override**

Hex: 2028-10h

Effective At stop

mode:

Min.: 1.00

Unit: %

Max.: 100.00

Data Type: UInt16

Default: 100.00

Change: Real-time

Value Range:

1.00% to 100.00%

Description

-

H28.16**Task mode of block 0**

Hex: 2028-11h

Effective At stop

mode:

Min.: 0

Unit: -

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Data Type: UInt16

Change: Real-time

H28.17 Task mode of block 1

Hex: 2028-12h

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective mode: At stop

Unit: -

Data Type: UInt16

Change: Real-time

H28.18 Task mode of block 2

Hex: 2028-13h

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective mode: At stop

Unit: -

Data Type: UInt16

Change: Real-time

H28.19 Task mode of block 3

Hex: 2028-14h

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective mode: At stop

Unit: -

Data Type: UInt16

Change: Real-time

H28.20	Task mode of block 4			
	Hex:	2028-15h	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			
	0-65535			
	Description			
	-			
H28.21	Task mode of block 5			
	Hex:	2028-16h	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			
	0-65535			
	Description			
	-			
H28.22	Task mode of block 6			
	Hex:	2028-17h	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			
	0-65535			
	Description			
	-			
H28.23	Task mode of block 7			
	Hex:	2028-18h	Effective mode:	At stop
	Min.:	0	Unit:	-
	Max.:	65535	Data Type:	UInt16
	Default:	0	Change:	Real-time
	Value Range:			
	0-65535			

Description

-

H28.24

Task mode of block 8

Hex: 2028-19h

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H28.25

Task mode of block 9

Hex: 2028-1Ah

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H28.26

Task mode of block 10

Hex: 2028-1Bh

Min.: 0

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

H28.27

Task mode of block 11

Hex: 2028-1Ch

Min.: 0

Max.: 65535

Default: 0

Effective At stop

mode:

Unit: -

Data Type: UInt16

Change: Real-time

Value Range:

0–65535

Description

-

H28.28**Task mode of block 12**

Hex: 2028-1Dh

Effective mode: At stop

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0–65535

Description

-

H28.29**Task mode of block 13**

Hex: 2028-1Eh

Effective mode: At stop

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0–65535

Description

-

H28.30**Task mode of block 14**

Hex: 2028-1Fh

Effective mode: At stop

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Real-time

Value Range:

0–65535

Description

-

H28.31**Task mode of block 15**

Hex: 2028-20h

Effective mode: At stop

Min.: 0

Unit: -

Max.: 65535

Default: 0

Value Range:

0–65535

Description

-

Data Type: UInt16

Change: Real-time

H28.32 Block 0 task parameter

Hex: 2028-21h

Min.: 0

Max.: 2147483647

Default: 0

Value Range:

0–2147483647

Description

-

Effective At stop

mode:

Unit: -

Data Type: Int32

Change: Real-time

H28.34 Block 1 task parameter

Hex: 2028-23h

Min.: 0

Max.: 2147483647

Default: 0

Value Range:

0–2147483647

Description

-

Effective At stop

mode:

Unit: -

Data Type: Int32

Change: Real-time

H28.36 Block 2 task parameter

Hex: 2028-25h

Min.: 0

Max.: 2147483647

Default: 0

Value Range:

0–2147483647

Description

-

Effective At stop

mode:

Unit: -

Data Type: Int32

Change: Real-time

H28.38 Block 3 task parameter

Hex:	2028-27h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time
Value Range:			
0–2147483647			
Description			
-			

H28.40 Block 4 task parameter

Hex:	2028-29h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time
Value Range:			
0–2147483647			
Description			
-			

H28.42 Block 5 task parameter

Hex:	2028-2Bh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time
Value Range:			
0–2147483647			
Description			
-			

H28.44 Block 6 task parameter

Hex:	2028-2Dh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time
Value Range:			
0–2147483647			

Description

-

H28.46 Block 7 task parameter

Hex:	2028-2Fh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

0–2147483647

Description

-

H28.48 Block 8 task parameter

Hex:	2028-31h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

0–2147483647

Description

-

H28.50 Block 9 task parameter

Hex:	2028-33h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

0–2147483647

Description

-

H28.52 Block 10 task parameter

Hex:	2028-35h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32

Default: 0

Change: Real-time

Value Range:

0–2147483647

Description

-

H28.54 Block 11 task parameter

Hex: 2028-37h

Effective mode: At stop

Min.: 0

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

0–2147483647

Description

-

H28.56 Block 12 task parameter

Hex: 2028-39h

Effective mode: At stop

Min.: 0

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

0–2147483647

Description

-

H28.58 Block 13 task parameter

Hex: 2028-3Bh

Effective mode: At stop

Min.: 0

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Real-time

Value Range:

0–2147483647

Description

-

H28.60 Block 14 task parameter

Hex: 2028-3Dh

Effective mode: At stop

Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

0–2147483647

Description

-

H28.62 Block 15 task parameter

Hex:	2028-3Fh	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Real-time

Value Range:

0–2147483647

Description

-

H28.64 Fixed stopper monitoring window

Hex:	2028-41h	Effective mode:	At stop
Min.:	0	Unit:	LU
Max.:	4294967295	Data Type:	UInt32
Default:	0	Change:	Real-time

Value Range:

0LU to 4294967295LU

Description

-

H28.66 Max. following error of fixed stopper

Hex:	2028-43h	Effective mode:	At stop
Min.:	0	Unit:	LU
Max.:	4294967295	Data Type:	UInt32
Default:	0	Change:	Real-time

Value Range:

0LU to 4294967295LU

Description

-

H28.68	External trigger source		
Hex:	2028-45h	Effective mode:	At stop
Min.:	0	Unit:	-
Max.:	1	Data Type:	UInt16
Default:	0	Change:	At stop
Value Range:			
0: Triggered by STW1.bit13			
1: Triggered by DI			
Description			
-			

3.21 H29 PN Message Value

H29.00	Control word 1 (STW1)		
Hex:	2029-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
Value Range:			

Bit0: 1 = Pulse enable allowed; 0 = OFF1, ramp to stop, pulse cleared, ready to switch on
bit1: 1 = No OFF2 (pulse enable allowed); 0 = OFF2, coast to stop, pulse cleared immediately, switch-on inhibited
bit2: 1 = No OFF3 (pulse enable allowed); 0 = OFF3 quick stop, P1135 brake, pulse cleared, switch-on inhibited
bit3: 1 = Enable allowed; 0 = Operation inhibited (pulse cleared)
bit4: 1 = Ramp function generator available; 0 = Ramp function generator inhibited
bit5:1 = Ramp function generator continued; 0 = Ramp function generator output frozen
bit6:1 = Setpoint enabled; 0 = Setpoint inhibited (ramp function generator input being zero)
bit7: Rising edge-triggered, response fault
bit8: JOG1
bit9: JOG2
bit10: 1 = PLC controlled
bit11: Reserved
bit12: Reserved
bit13: Reserved
bit14: Reserved
bit15: Reserved
Description
-

H29.01 Control word 2 (STW2)

Hex:	2029-02h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:
0–65535
Description
-

H29.02 Speed setpoint A (VEL_NSOLL_A)

Hex:	2029-03h	Effective mode:	Real time
Min.:	-32768	Unit:	-
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

-32768–32767

Description

-

H29.04 Speed setpoint B (VEL_NSOLL_B)

Hex: 2029-05h

Effective Real time

mode:

Min.: -2147483648

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.06 Encoder control word (G1_STW)

Hex: 2029-07h

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

bit0: bit7 = 0, searching for reference point 1; bit7 = 1, measure the pointer 1
bit1: bit7 = 0, searching for reference point 2; bit7 = 1, measure the pointer 2
bit2: bit7 = 0, searching for reference point 3; bit7 = 1, measure the pointer 3
bit3: bit7 = 0, searching for reference point 4; bit7 = 1, measuring pointer 4
bit4: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel
bit5: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel
bit6: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel
bit7: Mode selection; 1 = Real-time measurement; 0 = Searching for the reference point
bit8: Reserved
bit9: Reserved
bit10: Reserved
bit11: Zero setting mode; 0 = Absolute position; 1 = Relative position
bit12: Rising edge-triggered; request for setting the zero bit
bit13: Rising edge-triggered; request for cyclic transmission of absolute position in G1_XIST2
bit14: Parking encoder
bit15: Rising-edge triggered Response encoder fault

Description

-

H29.07 Position deviation (XERR)

Hex:	2029-08h	Effective mode:	-
Min.:	-2147483648	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.09 Position loop gain (KPC)

Hex:	2029-0Ah	Effective mode:	-
Min.:	-2147483648	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.11 Position control word 1 (POS_STW1)

Hex:	2029-0Ch	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

bit0: bit0–bit5 block selection supports up to 16 blocks

bit1: bit0–bit5 block selection supports up to 16 blocks

bit2: bit0–bit5 block selection supports up to 16 blocks

bit3: bit0–bit5 block selection supports up to 16 blocks

bit4: bit0–bit5 block selection supports up to 16 blocks

bit5: bit0–bit5 block selection supports up to 16 blocks

bit6: Reserved

bit7: Reserved

bit8: 1 = Absolute positioning 0 = Relative positioning

bit9: 1 = Forward

bit10: 1 = Reverse

bit11: Reserved

bit12: 1 = Continuous transmission 0 = MDI block modification activated by running the rising edge of the program segment (STW1.6)

bit13: Reserved

bit14: 1 = Setting signal selected 0 = Positioning signal selected

bit15: 1 = MDI sub-mode 0 = Program segment sub-mode

Description

-

H29.12 MDI position setting (EPOS)

Hex:	2029-0Dh	Effective mode:	Real time
Min.:	-2147483648	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.14 MDI speed setting (EPOS)

Hex:	2029-0Fh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	4294967295	Data Type:	UInt32
Default:	0	Change:	Unchangeable
Value Range:			
0–4294967295			
Description			
-			

H29.16 MDI acceleration override (EPOS)

Hex:	2029-11h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
Value Range:			
0–65535			
Description			
-			

H29.17 MDI deceleration override (EPOS)

Hex:	2029-12h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
Value Range:			
0–65535			
Description			
-			

H29.18 MDI mode (EPOS)

Hex:	2029-13h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable
Value Range:			

bit0: 1 = Absolute positioning 0 = Relative positioning
bit1: 1 = Forward
bit2: 1 = Reverse
bit3: Reserved
bit4: Reserved
bit5: Reserved
bit6: Reserved
bit7: Reserved
bit8: Reserved
bit9: Reserved
bit10: Reserved
bit11: Reserved
bit12: Reserved
bit13: Reserved
bit14: Reserved
bit15: Reserved

Description

-

H29.19 Position control word 2 (POS_STW2)

Hex:	2029-14h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

bit0: 1 = Tracking mode activated
bit1: 1 = Set reference point
bit2: 1 = Reference point stopper activated
bit3: Reserved
bit4: Reserved
bit5: 1 = JOG increment activated 0 = Speed activated
bit6: Reserved
bit7: Reserved
bit8: Reserved
bit9: 1 = Searching for the reference point in the reverse direction 0 = Start
searching for the reference point in the forward direction
bit10: Reserved
bit11: Reserved
bit12: Reserved
bit13: Reserved
bit14: 1 = Software limit switch activated
bit15: 1 = Stopper activated

Description

-

H29.20 Position speed override (EPOS)

Hex:	2029-15h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.21 Customized receive word for telegram 111

Hex:	2029-16h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.22 Torque reduction (MOMRED)

Hex:	2029-17h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	16363	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:
0–16363

Description
-

H29.23 Torque reference (AdditiveTorque)

Hex:	2029-18h	Effective mode:	Real time
Min.:	-32768	Unit:	-
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:
-32768–32767

Description
-

H29.24 Torque upper limit

Hex:	2029-19h	Effective mode:	Real time
Min.:	-32768	Unit:	-
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:
-32768–32767

Description
-

H29.25 Torque lower limit

Hex:	2029-1Ah	Effective mode:	Real time
Min.:	-32768	Unit:	-
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:
-32768–32767

Description

-

H29.26 Customized receive word for 850 additive telegram

Hex:	2029-1Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.27 Message word (EPOS_MELDW)

Hex:	2029-1Ch	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.50 Status word 1 (ZSW1)

Hex:	2029-33h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

bit0: 1 = Ready to switch on, control circuit switched on, initialization done
 bit1: 1 = Ready to run, main circuit switched on
 bit2: 1 = Run enable
 bit3: 1 = Fault
 bit4: 1 = Coast to stop deactivated (OFF2 deactivated) 0 = Coast to stop activated (OFF2 activated)
 bit5: 1 = Quick stop deactivated (OFF2 deactivated) 0 = Quick stop activated (OFF2 activated)
 bit6: 1 = Switch-on inhibited
 bit7: 1 = Warning existed
 bit8: Reserved
 bit9: 1 = PLC control request
 bit10: Reserved
 bit11: Reserved
 bit12: Reserved
 bit13: Reserved
 bit14: Reserved
 bit15: Reserved

Description

-

H29.51

Status word 2 (ZSW2)

Hex: 2029-34h

Min.: 0

Max.: 65535

Default: 0

Value Range:

Effective Real time
mode:

Unit: -

Data Type: UInt16

Change: Unchangeable

bit0: Reserved
bit1: Reserved
bit2: Reserved
bit3: Reserved
bit4: Reserved
bit5: Reserved
bit6: Reserved
bit7: Reserved
bit8: Reserved
bit9: Reserved
bit10: Reserved
bit11: Reserved
bit12: bit12–bit15 drive heartbeat count value, uploaded to PLC
bit13: bit12–bit15 drive heartbeat count value, uploaded to PLC
bit14: bit12–bit15 drive heartbeat count value, uploaded to PLC
bit15: bit12–bit15 drive heartbeat count value, uploaded to PLC

Description

-

H29.52 Speed actual value A (VEL_NIST_A)

Hex:	2029-35h	Effective mode:	Real time
Min.:	-32768	Unit:	-
Max.:	32767	Data Type:	Int16
Default:	0	Change:	Unchangeable

Value Range:

-32768–32767

Description

-

H29.53 Speed actual B (VEL_NSOLL_B)

Hex:	2029-36h	Effective mode:	Real time
Min.:	-2147483648	Unit:	-
Max.:	2147483647	Data Type:	Int32
Default:	0	Change:	Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.55 Encoder status word (G1_ZSW)

Hex:	2029-38h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

bit0: 1 = Function 1 activated
 bit1: 1 = Function 2 activated
 bit2: 1 = Function 3 activated
 bit3: 1 = Function 4 activated
 bit4: 1 = Actual value 1 readable
 bit5: 1 = Actual value 2 readable
 bit6: 1 = Actual value 3 readable
 bit7: 1 = Actual value 4 readable
 bit8: Touch probe 1
 bit9: Touch probe 2
 bit10: Reserved
 bit11: Response encoder fault
 bit12: Set zero response
 bit13: Cyclic transmission of the absolute position in G1_XIST2
 bit14: Parking encoder activated
 bit15: The encoder is faulty.

Description

-

H29.56 Encoder 1 position actual value 1 (G1_XIST1)

Hex:	2029-39h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	0	Data Type:	UInt32
Default:	0	Change:	Unchangeable

Value Range:

0-0

Description

-

H29.58 Encoder 1 position actual value 2 (G1_XIST2)

Hex:	2029-3Bh	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	0	Data Type:	UInt32

Change: Unchangeable

0-0

—

H29.60 Position status word 1 (POS_ZSW1)

Effective	Real time
mode:	

Unit: -

Data Type: UInt16

Change: Unchangeable

bit0: bit0–bit5 effective traversing block supports up to 16 blocks
bit1: bit0–bit5 effective traversing block supports up to 16 blocks
bit2: bit0–bit5 effective traversing block supports up to 16 blocks
bit3: bit0–bit5 effective traversing block supports up to 16 blocks
bit4: bit0–bit5 effective traversing block supports up to 16 blocks
bit5: bit0–bit5 effective traversing block supports up to 16 blocks
bit6: Reserved
bit7: Reserved
bit8: 1 = Reverse stopper activated
bit9: 1 = Forward stopper activated
bit10: 1 = JOG activated
bit11: 1 = Proactive reference point approach activated
bit12: Reserved
bit13: 1 = Running block activated
bit14: 1 = Setting activated
bit15: 1 = MDI activated
0 = MDI deactivated

—

H29.61 Position status word 2 (POS_ZSW2)

Effective Real time
mode:

Unit: -

Data Type: UInt16

Change: Unchangeable

bit0:1 = Tracking mode activated
 bit1:1 = Speed limit activated
 bit2:1 = Setpoint available
 bit3: Reserved
 bit4:1 = Axis moving forwardly
 bit5:1 = Axis moving reversely
 bit6:1 = Negative software limit switch reached
 bit7:1 = Positive software limit switch reached
 bit8: 1 = Position actual value <= Limit switch position 1
 bit9:1 = Position actual value <= Limit switch position 2
 bit10:1 = Direct output 1 through running block setting
 bit11:1 = Direct output 2 through running block setting
 bit12:1 = Fixed stop point reached
 bit13: 1 = Fixed stop point fastening torque reached
 bit14: 1 = Running to the fixed stop point activated
 bit15: 1 = RUN command activated

Description

-

H29.63 Customized send word for telegram 111

Hex:	2029-40h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.65 Fault code

Hex:	2029-42h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Unchangeable

Value Range:

0–65535

Description

-

H29.66

Warning code

Hex: 2029-43h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H29.67

Actual torque

Hex: 2029-44h

Effective mode: Real time

Min.: -32768

Unit: -

Max.: 32767

Data Type: Int16

Default: 0

Change: Unchangeable

Value Range:

-32768–32767

Description

-

H29.68

User-defined send word for 850 additive telegram

Hex: 2029-45h

Effective mode: Real time

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H29.69

X1ST_A position feedback

Hex: 2029-46h

Effective mode: Real time

Min.: -2147483648

Unit: -

Max.: 2147483647

Data Type: Int32

Default: 0

Change: Unchangeable

Value Range:

-2147483648–2147483647

Description

-

H29.90**Modulo axis modulus**

Hex: 2029-5Bh

Effective Real time

mode:

Min.: 0

Unit: -

Max.: 2147483647

Data Type: UInt32

Default: 0

Change: Unchangeable

Value Range:

0–2147483647

Description

-

3.22 H30 Related Variables Read through Communication**H30.01****DO function state 1 read through communication**

Hex: 2030-02h

Effective -

mode:

Min.: 0

Unit: -

Max.: 65535

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535

Description

-

H30.02**DO function state 2 read through communication**

Hex: 2030-03h

Effective -

mode:

Min.: 0

Unit: -

Max.: 65535+H941

Data Type: UInt16

Default: 0

Change: Unchangeable

Value Range:

0–65535+H941

Description

-

3.23 H31 Communication Setting

H31.00 VDI virtual level set through communication

Hex:	2031-01h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H31.04 DO state set through communication

Hex:	2031-05h	Effective mode:	Real time
Min.:	0	Unit:	-
Max.:	65535	Data Type:	UInt16
Default:	0	Change:	Real-time

Value Range:

0–65535

Description

-

H31.09 Speed reference set via communication

Hex:	2031-0Ah	Effective mode:	Real time
Min.:	-6000.000	Unit:	RPM
Max.:	6000.000	Data Type:	Int32
Default:	0.000	Change:	Real-time

Value Range:

-6000.000rpm to 6000.000rpm

Description

-

H31.11 Torque reference set via communication

Hex:	2031-0Ch	Effective mode:	Real time
Min.:	-100.000	Unit:	%
Max.:	100.000	Data Type:	Int32
Default:	0.000	Change:	Real-time

Value Range:
-100.000% to 100.000%
Description
-

4 Parameter List

The mapping relation between the parameter displayed in the software (in decimal) and the object dictionary operated by the host controller (in hexadecimal, "Index" and "Sub-index") is as follows.

Object dictionary index = $0x2000 + \text{Parameter group number}$

Object dictionary sub-index = Hexadecimal offset within the parameter group + 1
For example:

Panel Display	Object dictionary operated by the host controller
H02.15	2002.10h

Note

The following section only describes the display and parameter settings in the software (in decimal), which are different from those displayed in the software of the host controller (in hexadecimal). Make necessary value conversions during use.

4.1 Parameter Group H00

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H00.00	2000-01h	Motor SN	0–65535	14101	-	At stop	"H00_en.00" on page 77
H00.02	2000-03h	Customized No.	0.00–4294967295.00	0.00	-	Unchangeable	"H00_en.02" on page 77
H00.04	2000-05h	Encoder version	0.0–6553.5	0.0	-	Unchangeable	"H00_en.04" on page 77
H00.05	2000-06h	Serial-type motor code	0–65535	0	-	Unchangeable	"H00_en.05" on page 78
H00.06	2000-07h	FPGA customized SN	0.00–655.35	0.00	-	Unchangeable	"H00_en.06" on page 78
H00.07	2000-08h	STO version	0.0–6553.5	0.0	-	Unchangeable	"H00_en.07" on page 78
H00.08	2000-09h	Bus encoder type	0–65535	0	-	At stop	"H00_en.08" on page 78
H00.09	2000-0Ah	Rated voltage	0: [0–220V] 1: [0–380V]	0	V	At stop	"H00_en.09" on page 79

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H00.10	2000-0Bh	Rated power	0.01 kW–655.35kW	0.75	kW	At stop	"H00_en.10" on page 79
H00.11	2000-0Ch	Rated current	0.01 A–655.35 A	4.70	A	At stop	"H00_en.11" on page 79
H00.12	2000-0Dh	Rated torque	0.10N·m–655.35N·m	2.39	N·m	At stop	"H00_en.12" on page 79
H00.13	2000-0Eh	Max. torque	0.10N·m–655.35N·m	7.16	N·m	At stop	"H00_en.13" on page 80
H00.14	2000-0Fh	Rated speed	100rpm to 10000rpm	3000	RPM	At stop	"H00_en.14" on page 80
H00.15	2000-10h	Maximum speed	100rpm to 10000rpm	6000	RPM	At stop	"H00_en.15" on page 80
H00.16	2000-11h	Moment of inertia	0.01 kgcm ² –655.35 kgcm ²	1.30	kgcm ²	At stop	"H00_en.16" on page 81
H00.17	2000-12h	Number of PMSM pole pairs	2–65535	5	-	At stop	"H00_en.17" on page 81
H00.18	2000-13h	Stator resistance	0.001Ω to 65.535Ω	0.500	Ω	At stop	"H00_en.18" on page 81
H00.19	2000-14h	Stator inductance Lq	0.01mH–655.35mH	3.27	mH	At stop	"H00_en.19" on page 81
H00.20	2000-15h	Stator inductance Ld	0.01mH–655.35mH	3.87	mH	At stop	"H00_en.20" on page 82
H00.21	2000-16h	Linear back EMF coefficient	0.01 mV/RPM to 655.35 mV/RPM	33.30	mV/rpm	At stop	"H00_en.21" on page 82
H00.22	2000-17h	Torque coefficient Kt	0.01 N·m/Arms to 655.35 N·m/Arms	0.51	N·m/Arms	At stop	"H00_en.22" on page 82
H00.23	2000-18h	Electrical constant Te	0.01 ms to 655.35 ms	6.54	ms	At stop	"H00_en.23" on page 82
H00.24	2000-19h	Mechanical constant Tm	0.01 ms to 655.35 ms	0.24	ms	At stop	"H00_en.24" on page 83
H00.25	2000-1Ah	Interpolator temperature detection enable and threshold	0–65535	0	-	At stop	"H00_en.25" on page 83
H00.26	2000-1Bh	Configuration for connecting the interpolator to encoder	0–65535	0	-	At stop	"H00_en.26" on page 83
H00.27	2000-1Ch	Input PPR of the interpolator	0–65535	0	-	At stop	"H00_en.27" on page 83
H00.28	2000-1Dh	Absolute encoder position offset	0–4294967295	8192	-	At stop	"H00_en.28" on page 84

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H00.30	2000-1Fh	Encoder selection (HEX)	19: 0x013-Inovance encoder	19	-	At stop	"H00_en.30" on page 84
H00.31	2000-20h	Encoder PPR	1 P/Rev–1073741824 P/Rev	67108864	PPR	At stop	"H00_en.31" on page 84
H00.33	2000-22h	Electrical angle of Z signal	0.0° to 360.0°	180.0	°	At stop	"H00_en.33" on page 85
H00.34	2000-23h	Electrical angle of phase U rising edge	0.0° to 360.0°	180.0	°	At stop	"H00_en.34" on page 85
H00.35	2000-24h	Serial-type motor model	0–65535	0	-	At stop	"H00_en.35" on page 85
H00.37	2000-26h	Absolute encoder function setting bit	0–65535	0	-	At stop	"H00_en.37" on page 85
H00.60	2000-3Dh	Motor attribute	0–65535	0	-	At stop	"H00_en.60" on page 86
H00.61	2000-3Eh	Brake close time	0 ms to 65535 ms	0	ms	At stop	"H00_en.61" on page 86
H00.62	2000-3Fh	Brake release time	0 ms to 65535 ms	0	ms	At stop	"H00_en.62" on page 86
H00.63	2000-40h	Maximum motor current	0.00 A–65535.00 A	0.00	A	At stop	"H00_en.63" on page 86
H00.65	2000-42h	Motor rated current	0.00 A–65535.00 A	0.00	A	At stop	"H00_en.65" on page 87
H00.67	2000-44h	Moment of inertia	0.01 kgcm ² –655.35 kgcm ²	0.01	kgcm ²	At stop	"H00_en.67" on page 87
H00.69	2000-46h	Linear back EMF	0.00 mV/RPM to 655.35 mV/RPM	0.00	mV/rpm	At stop	"H00_en.69" on page 87
H00.71	2000-48h	Motor carrier frequency	0 Hz–65535 Hz	8000	Hz	At stop	"H00_en.71" on page 87
H00.72	2000-49h	Max. motor allowable demagnetizing current	0% to 65535%	0	%	At stop	"H00_en.72" on page 88
H00.73	2000-4Ah	Bit01 of motor SN code	0–65535	0	-	At stop	"H00_en.73" on page 88
H00.74	2000-4Bh	Bit23 of motor SN code	0–65535	0	-	At stop	"H00_en.74" on page 88
H00.75	2000-4Ch	Bit45 of motor SN code	0–65535	0	-	At stop	"H00_en.75" on page 89
H00.76	2000-4Dh	Bit67 of motor SN code	0–65535	0	-	At stop	"H00_en.76" on page 89

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H00.77	2000-4Eh	Bit89 of motor SN code	0–65535	0	-	At stop	"H00_en.77" on page 89
H00.78	2000-4Fh	Bit11 of motor SN code	0–65535	0	-	At stop	"H00_en.78" on page 89
H00.79	2000-50h	Bit13 of motor SN code	0–65535	0	-	At stop	"H00_en.79" on page 90
H00.80	2000-51h	Bit15 of motor SN code	0–65535	0	-	At stop	"H00_en.80" on page 90
H00.98	2000-63h	Motor attribute check	0–65535	0	-	At stop	"H00_en.98" on page 90

4.2 Parameter Group H01

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H01.00	2001-01h	MCU software version	0.0–6553.5	0.0	-	Unchangeable	"H01_en.00" on page 90
H01.01	2001-02h	FPGA software version	0.0–6553.5	0.0	-	Unchangeable	"H01_en.01" on page 91
H01.02	2001-03h	Servo drive series No.	0–65535	0	-	Unchangeable	"H01_en.02" on page 91
H01.07	2001-08h	Software test version	0.00–655.35	0.00	-	Unchangeable	"H01_en.07" on page 91
H01.08	2001-09h	Model parameter version 1	0.0–6553.5	0.0	-	Unchangeable	"H01_en.08" on page 92
H01.09	2001-0Ah	Model parameter version 2	0–65535	0	-	Unchangeable	"H01_en.09" on page 92

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H01.10	2001-0Bh	Drive series No.	2: S1R6 3: S2R8 5: S5R5 60005: S6R6 6: S7R6 7: S012 8: S018 9: S022 10: S027 10001: T3R5 10002: T5R4 10003: T8R4 10004: T012 10005: T017 10006: T021 10007: T026	3	-	At stop	"H01_en.10" on page 92
H01.11	2001-0Ch	DC-AC voltage class	0 V–65535 V	220	V	Unchangeable	"H01_en.11" on page 93
H01.12	2001-0Dh	Drive rated power	0.00 kW–10737418.24kW	0.40	kW	Unchangeable	"H01_en.12" on page 93
H01.14	2001-0Fh	Max. output power of the drive	0.00 kW–10737418.24kW	0.40	kW	Unchangeable	"H01_en.14" on page 94
H01.16	2001-11h	Rated output current of the drive	0.00 A–10737418.24 A	2.80	A	Unchangeable	"H01_en.16" on page 94
H01.18	2001-13h	Max. output current of the drive	0.00 A–10737418.24 A	10.10	A	Unchangeable	"H01_en.18" on page 94
H01.20	2001-15h	Carrier frequency	4000 Hz–20000 Hz	8000	Hz	At stop	"H01_en.20" on page 94
H01.21	2001-16h	Dead zone time	0.01 us to 20.00 us	2.00	us	At stop	"H01_en.21" on page 95
H01.22	2001-17h	D-axis coupling voltage compensation coefficient	0.0% to 6000.0%	50.0	%	Real-time	"H01_en.22" on page 95
H01.23	2001-18h	Q-axis back EMF compensation coefficient	0.0% to 6000.0%	50.0	%	Real-time	"H01_en.23" on page 95
H01.24	2001-19h	D-axis current loop gain	0 Hz–20000 Hz	500	Hz	Real-time	"H01_en.24" on page 95

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H01.25	2001-1Ah	D-axis current loop integral compensation factor	0.01–100.00	1.00	-	Real-time	"H01_en.25" on page 96
H01.26	2001-1Bh	Sinc3 filter data extraction rate in current sampling	0: Extraction rate 32 1: Extraction rate 64 2: Extraction rate 128 3: Extraction rate 256	0	-	At stop	"H01_en.26" on page 96
H01.27	2001-1Ch	Q-axis current loop gain	0 Hz–20000 Hz	500	Hz	Real-time	"H01_en.27" on page 96
H01.28	2001-1Dh	Q-axis current loop integral compensation factor	0.01–100.00	1.00	-	Real-time	"H01_en.28" on page 97
H01.29	2001-1Eh	Q-axis coupling voltage compensation coefficient	0.0% to 6553.5%	50.0	%	Real-time	"H01_en.29" on page 97
H01.30	2001-1Fh	Bus voltage gain tuning	50.0% to 150.0%	100.0	%	At stop	"H01_en.30" on page 97
H01.31	2001-20h	Minimum ON time of bootstrap circuit lower bridge	0.0 us to 20.0 us	0.0	us	At stop	"H01_en.31" on page 97
H01.32	2001-21h	Relative gain of UV sampling	1–65535	32768	-	At stop	"H01_en.32" on page 98
H01.34	2001-23h	Drive over-temperature threshold	0°C–150°C	95	°C	Real-time	"H01_en.34" on page 98
H01.36	2001-25h	Current sensor range	0.00 A–9999.99 A	21.33	A	At stop	"H01_en.36" on page 98
H01.38	2001-27h	FPGA phase current protection threshold	0.0% to 100.0%	90.0	%	At stop	"H01_en.38" on page 98
H01.39	2001-28h	Current loop version	0–65535	0	-	At stop	"H01_en.39" on page 99
H01.40	2001-29h	DC bus overvoltage protection threshold	0 V–2000 V	420	V	Real-time	"H01_en.40" on page 99
H01.41	2001-2Ah	DC bus voltage discharge threshold	0 V–2000 V	380	V	Real-time	"H01_en.41" on page 99

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H01.42	2001-2Bh	DC bus undervoltage threshold	0 V–2000 V	200	V	Real-time	"H01_en.42" on page 100
H01.52	2001-35h	D-axis proportional gain in performance priority mode	0 Hz–20000 Hz	2000	Hz	Real-time	"H01_en.52" on page 100
H01.53	2001-36h	D-axis integral gain in performance priority mode	0.01–100.00	1.00	-	Real-time	"H01_en.53" on page 100
H01.54	2001-37h	Q-axis proportional gain in performance priority mode	0 Hz–20000 Hz	2000	Hz	Real-time	"H01_en.54" on page 100
H01.55	2001-38h	Q-axis integral gain in performance priority mode	0.01–100.00	1.00	-	Real-time	"H01_en.55" on page 101
H01.56	2001-39h	Current loop low-pass cutoff frequency	0 Hz–65535 Hz	11000	Hz	At stop	"H01_en.56" on page 101
H01.59	2001-3Ch	Serial encoder data transmission compensation time	0.000 us to 10.000 us	0.000	us	At stop	"H01_en.59" on page 101
H01.60	2001-3Dh	FPGA scheduling frequency selection	1: 16 kHz 2: 8 kHz	1	-	At stop	"H01_en.60" on page 101
H01.61	2001-3Eh	Command scheduling frequency	0: 0-4Khz 1: 1-2Khz 2: 2-1Khz 3: 3-8KHz	0	-	At stop	"H01_en.61" on page 102
H01.62	2001-3Fh	Auto-tuning of drive model	0–65535	0	-	Unchangeable	"H01_en.62" on page 102
H01.66	2001-43h	Current loop configuration	0 kHz–31 kHz	12	kHz	Real-time	"H01_en.66" on page 102
H01.67	2001-44h	Dead zone compensation coefficient	0.00–2.00	1.00	-	Real-time	"H01_en.67" on page 103

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H01.68	2001-45h	Current observer cutoff frequency	200–5000	2000	-	Real-time	"H01_en.68" on page 103
H01.69	2001-46h	Current observer correction coefficient	0.00–9.00	1.00	-	Real-time	"H01_en.69" on page 103
H01.72	2001-49h	Hide IGBT model identification	0–65535	0	-	Real-time	"H01_en.72" on page 103
H01.73	2001-4Ah	Sigma-delta signal phase compensation time	0 us to 65535 us	1	us	At stop	"H01_en.73" on page 104
H01.75	2001-4Ch	Current loop amplification factor	0.00–655.35	1.00	-	Real-time	"H01_en.75" on page 104
H01.78	2001-4Fh	Control voltage undervoltage threshold	0 V–2000 V	200	V	Real-time	"H01_en.78" on page 104
H01.79	2001-50h	Control voltage gain adjustment	50.0% to 150.0%	100.0	%	At stop	"H01_en.79" on page 104
H01.82	2001-53h	Filter time of PL and CPL	0–32767	4000	-	At stop	"H01_en.82" on page 105
H01.88	2001-59h	Junction temperature parameter version 1	0.0–6553.5	0.0	-	Unchangeable	"H01_en.88" on page 105
H01.89	2001-5Ah	Junction temperature parameter version 2	0–65535	0	-	Unchangeable	"H01_en.89" on page 105

4.3 Parameter Group H02

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H02.00	2002-01h	Control mode	0: Speed control mode 1: Position control mode 2: Torque control mode 3: Torque<->Speed control mode 4: Speed<->Position control mode 5: Torque<->Position control mode 6: Torque<->Speed<->Position compound mode 11: PN communication mode	11	-	At stop	"H02_en.00" on page 106
H02.01	2002-02h	Absolute system selection	0: Incremental mode 1: Absolute position linear mode 2: Absolute position rotation mode 3: Absolute position linear mode (without encoder overflow warning) 4: Absolute position single-turn mode 5: Absolute position rotational mode, modal axis single modal revolution absolute command	0	-	At stop	"H02_en.01" on page 106
H02.02	2002-03h	Rotation direction selection	0: Counterclockwise (CCW) as forward direction 1: Clockwise (CW) as forward direction	0	-	At stop	"H02_en.02" on page 106

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H02.05	2002-06h	Stop mode at S-ON OFF	-5: Stop in PN communication state (ramp-to-stop/quick stop/coast-to-stop), keeping dynamic braking state -4: Stop based on ramp 2, keeping dynamic braking state -3: Stop at zero speed, keeping dynamic braking state -2: Stop based on ramp 1, keeping dynamic braking state -1: Dynamic braking stop, keeping dynamic braking state 0: Coast to stop, keeping de-energized state 1: Stop based on ramp 1, keeping de-energized state 2: Dynamic braking stop, keeping de-energized state 3: Stop in PN communication state (ramp-to-stop/quick stop/coast-to-stop), keeping de-energized state	3	-	Real-time	"H02_en.05" on page 107
H02.06	2002-07h	Stop mode at No.2 fault	-5: Stop at zero speed, keeping dynamic braking state -4: Stop at emergency stop torque, keeping dynamic braking state -3: Stop based on ramp 2, keeping dynamic braking state -2: Stop based on ramp 1, keeping dynamic braking state -1: Dynamic braking stop, keeping dynamic braking state 0: Coast to stop, keeping de-energized state 1: Stop based on ramp 1, keeping de-energized state 2: Stop based on ramp 2, keeping de-energized state 3: Stop at emergency stop torque, keeping de-energized state 4: Dynamic braking stop, keeping de-energized state	2	-	Real-time	"H02_en.06" on page 108

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H02.07	2002-08h	Stop mode at overtravel	0: Coast to stop, keeping de-energized state 1: Stop at zero speed, keeping position lock state 2: Stop at zero speed, keeping de-energized state 3: Stop based on ramp 2, keeping de-energized state 4: Stop based on ramp 2, keeping position lock state 5: Dynamic braking stop, keeping de-energized state 6: Dynamic braking stop, keeping dynamic braking state 7: Not responding to overtravel	8	-	Real-time	"H02_en.07" on page 108
H02.08	2002-09h	Stop mode at No.1 fault	0: Coast to stop, keeping de-energized state 1: Dynamic braking stop, keeping de-energized state 2: Dynamic braking stop, keeping dynamic braking state	2	-	Real-time	"H02_en.08" on page 109
H02.09	2002-0Ah	Delay from brake output ON to command received	0 ms to 500 ms	250	ms	Real-time	"H02_en.09" on page 109
H02.10	2002-0Bh	Delay from brake output OFF to motor de-energized	50 ms to 1000 ms	150	ms	Real-time	"H02_en.10" on page 110
H02.11	2002-0Ch	Motor speed threshold at brake output OFF in rotation state	20 rpm to 3000 rpm	30	RPM	Real-time	"H02_en.11" on page 110
H02.12	2002-0Dh	Delay from S-ON OFF to brake output OFF in rotation state	1 ms to 65535 ms	500	ms	Real-time	"H02_en.12" on page 110
H02.15	2002-10h	LED warning display	0: Output warning information immediately 1: Not output warning information	0	-	Real-time	"H02_en.15" on page 110

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H02.17	2002-12h	Stop mode upon main circuit power failure	0: Keep current action 1: Stop upon fault as defined by H0206 2: Stop at S-ON OFF as defined by H0205 3: Stop quickly as defined by H0218	2	-	Real-time	"H02_en.17" on page 111
H02.18	2002-13h	DI emergency stop mode selection	0: Coast to stop, keeping de-energized state 1: Ramp 1 stop, keeping de-energized state 2: Ramp 2 stop, keeping de-energized stat 3: Stop at emergency stop torque, keeping de-energized state	2	-	Real-time	"H02_en.18" on page 111
H02.20	2002-15h	Dynamic brake relay coil ON delay	10 ms to 30000 ms	30	ms	Real-time	"H02_en.20" on page 111
H02.21	2002-16h	Permissible minimum resistance of regenerative resistor	1Ω to 1000Ω	40	Ω	Unchangeable	"H02_en.21" on page 112
H02.22	2002-17h	Power of built-in regenerative resistor	0W–65535W	50	W	Unchangeable	"H02_en.22" on page 112
H02.23	2002-18h	Resistance of built-in regenerative resistor	0Ω to 65535Ω	50	Ω	Unchangeable	"H02_en.23" on page 112
H02.24	2002-19h	Resistor heat dissipation coefficient	10% to 100%	30	%	Real-time	"H02_en.24" on page 113
H02.25	2002-1Ah	Regenerative resistor type	0: Built-in 1: External, natural cooling 2: External, forced air cooling 3: No resistor needed	3	-	Real-time	"H02_en.25" on page 114
H02.26	2002-1Bh	Power of external regenerative resistor	1W–65535W	40	W	Real-time	"H02_en.26" on page 114
H02.27	2002-1Ch	Resistance of external regenerative resistor	15Ω to 1000Ω	50	Ω	Real-time	"H02_en.27" on page 114

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H02.30	2002-1Fh	User password	0–65535	0	-	Un changeable	"H02_en.30" on page 115
H02.31	2002-20h	System parameter initialization	0: No operation 1: Restore default settings 2: Clear fault records	0	-	At stop	"H02_en.31" on page 115
H02.32	2002-21h	Selection of parameters in group H0b	0–99	50	-	Real-time	"H02_en.32" on page 115
H02.33	2002-22h	200P software version	0.0–65535.0	0.0	-	Un changeable	"H02_en.33" on page 116
H02.35	2002-24h	Keypad data update frequency	0 Hz–20 Hz	0	Hz	Real-time	"H02_en.35" on page 116
H02.41	2002-2Ah	Manufacturer password	0–65535	0	-	Real-time	"H02_en.41" on page 116

4.4 Parameter Group H03

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H03.00	2003-01h	DI function allocation 1 (activated upon power-on)	0: 0x00: Corresponding to null 1: 0x01: Corresponding to FunIN.1 2: 0x02: Corresponding to FunIN.2 4: 0x04: Corresponding to FunIN.3 8: 0x08: Corresponding to FunIN.4 16: 0x10: Corresponding to FunIN.5 32: 0x20: Corresponding to FunIN.6 64: 0x40: Corresponding to FunIN.7 128: 0x80: Corresponding to FunIN.8 256: 0x100: Corresponding to FunIN.9 512: 0x200: Corresponding to FunIN.10 1024: 0x400: Corresponding to FunIN.11 2048: 0x800: Corresponding to FunIN.12 4096: 0x1000: Corresponding to FunIN.13 8192: 0x2000: Corresponding to FunIN.14 16384: 0x4000: Corresponding to FunIN.15 32768: 0x8000: Corresponding to FunIN.16	0	-	Real-time	"H03_en.00" on page 116

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H03.01	2003-02h	DI function allocation 2 (activated upon power-on)	0: 0x00: Corresponding to null 1: 0x01: Corresponding to FunIN.17 2: 0x02: Corresponding to FunIN.18 4: 0x04: Corresponding FunIN.19 8: 0x08: Corresponding FunIN.20 16: 0x10: Corresponding FunIN.21 32: 0x20: Corresponding FunIN.22 64: 0x40: Corresponding FunIN.23 128: 0x80: Corresponding FunIN.24 256: 0x100: Corresponding FunIN.25 512: 0x200: Corresponding FunIN.26 1024: 0x400: Corresponding FunIN.27 2048: 0x800: Corresponding FunIN.28 4096: 0x1000: Corresponding FunIN.29 16384: 0x4000: Corresponding FunIN.31 32768: 0x8000: Corresponding FunIN.32	0	-	Real-time	"H03_en.01" on page 117

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H03.02	2003-03h	DI1 function	0: Undefined 1: S-ON 3: Gain switchover 14: Forward overtravel switch 15: Reverse overtravel switch 16: Positive external torque limit 17: Negative external torque limit 18: Forward jog 19: Reverse jog 31: Home switch 32: Homing enabled 34: Emergency stop 36: Internal speed limit source 38: Probe 1 39: Probe 2 41: Current position as home 56: EPOS program block external toggle switch	14	-	Real-time	"H03_en.02" on page 118
H03.03	2003-04h	DI1 logic selection	0: Active low 1: Active high	0	-	Real-time	"H03_en.03" on page 119
H03.04	2003-05h	DI2 function	Same as H03.02	15	-	Real-time	"H03_en.04" on page 119
H03.05	2003-06h	DI2 logic selection	0: Active low 1: Active high	0	-	Real-time	"H03_en.05" on page 120
H03.06	2003-07h	DI3 function	Same as H03.02	31	-	Real-time	"H03_en.06" on page 120
H03.07	2003-08h	DI3 logic selection	0: Active low 1: Active high	0	-	Real-time	"H03_en.07" on page 120
H03.08	2003-09h	DI4 function	Same as H03.02	34	-	Real-time	"H03_en.08" on page 121
H03.09	2003-0Ah	DI4 logic selection	0: Active low 1: Active high	0	-	Real-time	"H03_en.09" on page 121
H03.10	2003-0Bh	DI5 function	Same as H03.02	38	-	Real-time	"H03_en.10" on page 121
H03.11	2003-0Ch	DI5 logic selection	0: Active low 1: Active high	0	-	Real-time	"H03_en.11" on page 121

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H03.34	2003-23h	DI function allocation 3 (activated upon power-on)	0: 0x00: Corresponding to null 1: 0x01: Corresponding to FunIN.33 2: 0x02: Corresponding to FunIN.34 4: 0x04: Corresponding to FunIN.35 8: 0x08: Corresponding to FunIN.36 16: 0x10: Corresponding to FunIN.37 32: 0x20: Corresponding to FunIN.38 64: 0x40: Corresponding to FunIN.39 128: 0x80: Corresponding to FunIN.40 256: 0x100: Corresponding to FunIN.41 512: 0x200: Corresponding to FunIN.42 1024: 0x400: Corresponding to FunIN.43 2048: 0x800: Corresponding to FunIN.44 4096: 0x1000: Corresponding to FunIN.45 8192: 0x2000: Corresponding to FunIN.46 16384: 0x4000: Corresponding to FunIN.47 32768: 0x8000: Corresponding to FunIN.48	0	-	Real-time	"H03_en.34" on page 122

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H03.35	2003-24h	DI function allocation 4 (activated upon power-on)	0: 0x00: Corresponding to null 1: 0x01: Corresponding to FunIN.49 2: 0x02: Corresponding to FunIN.50 4: 0x04: Corresponding to FunIN.51 8: 0x08: Corresponding to FunIN.52 16: 0x10: Corresponding to FunIN.53 32: 0x20: Corresponding to FunIN.54 64: 0x40: Corresponding to FunIN.55 128: 0x80: Corresponding to FunIN.56 256: 0x100: Corresponding to FunIN.57 512: 0x200: Corresponding to FunIN.58 1024: 0x400: Corresponding to FunIN.59 2048: 0x800: Corresponding to FunIN.60 4096: 0x1000: Corresponding to FunIN.61 8192: 0x2000: Corresponding to FunIN.62 16384: 0x4000: Corresponding to FunIN.63	0	-	Real-time	" H03_en.35" on page 122
H03.60	2003-3Dh	DI1 fitter time	0.00 ms to 500.00 ms	3.00	ms	Real-time	" H03_en.60" on page 123
H03.61	2003-3Eh	DI2 fitter time	0.00 ms to 500.00 ms	3.00	ms	Real-time	" H03_en.61" on page 123
H03.62	2003-3Fh	DI3 fitter time	0.00 ms to 500.00 ms	3.00	ms	Real-time	" H03_en.62" on page 124
H03.63	2003-40h	DI4 fitter time	0.00 ms to 500.00 ms	3.00	ms	Real-time	" H03_en.63" on page 124
H03.64	2003-41h	DI5 fitter time	0.00 ms to 500.00 ms	3.00	ms	Real-time	" H03_en.64" on page 124

4.5 Parameter Group H04

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H04.00	2004-01h	DO1 function	0: No function 1: Servo ready 2: Motor rotation signal 3: Zero speed signal 4: Speed matching signal 5: Positioning completed 6: Positioning near 7: Torque limited signal 8: Speed limited signal 9: Braking 10: Warning 11: Fault 16: Homing completed 18: Torque reached signal 19: Speed reached signal 21: Enable completed 30: Warning or fault output 32: EDM output	1	-	Real-time	"H04_en.00" on page 124
H04.01	2004-02h	DO1 logic selection	0: Normally open 1: Closed	0	-	Real-time	"H04_en.01" on page 125
H04.02	2004-03h	DO2 function	0: No function 1: Servo ready 2: Motor rotation signal 3: Zero speed signal 4: Speed matching signal 5: Positioning completed 6: Positioning near 7: Torque limited signal 8: Speed limited signal 9: Braking 10: Warning 11: Fault 16: Homing completed 18: Torque reached signal 19: Speed reached signal 21: Enable completed 30: Warning or fault output 32: EDM output	11	-	Real-time	"H04_en.02" on page 126
H04.03	2004-04h	DO2 logic selection	0: Normally open 1: Closed	0	-	Real-time	"H04_en.03" on page 126

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H04.04	2004-05h	DO3 function	0: No function 1: Servo ready 2: Motor rotation signal 3: Zero speed signal 4: Speed matching signal 5: Positioning completed 6: Positioning near 7: Torque limited signal 8: Speed limited signal 9: Braking 10: Warning 11: Fault 16: Homing completed 18: Torque reached signal 19: Speed reached signal 21: Enable completed 30: Warning or fault output 32: EDM output	9	-	Real-time	"H04_en.04" on page 127
H04.05	2004-06h	DO3 logic selection	0: Normally open 1: Closed	0	-	Real-time	"H04_en.05" on page 127
H04.22	2004-17h	DO source selection	bit0: DO1 0: DO1 function output 1: H04.bit0 bit1: DO2 0: DO2 function output 1: H04.bit1 bit2: DO3 0: DO3 function output 1: H04.bit2	0	-	Real-time	"H04_en.22" on page 128

4.6 Parameter Group H05

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.02	2005-03h	Pulses per revolution	0 PPR to 4294967295 PPR	0	PPR	At stop	"H05_en.02" on page 129
H05.04	2005-05h	First-order low-pass filter time constant	0.0 ms to 6553.5 ms	0.0	ms	At stop	"H05_en.04" on page 130
H05.06	2005-07h	Moving average filter time constant 1	0.0 ms to 128.0 ms	0.0	ms	At stop	"H05_en.06" on page 130
H05.07	2005-08h	Electronic gear ratio 1 (numerator)	1–1073741824	8388608	-	Real-time	"H05_en.07" on page 130

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.09	2005-0Ah	Electronic gear ratio 1 (denominator)	1–1073741824	10000	-	Real-time	"H05_en.09" on page 130
H05.11	2005-0Ch	Electronic gear ratio 2 (numerator)	1–1073741824	8388608	-	Real-time	"H05_en.11" on page 131
H05.13	2005-0Eh	Electronic gear ratio 2 (denominator)	1–1073741824	10000	-	Real-time	"H05_en.13" on page 131
H05.16	2005-11h	Clear action	0: Position deviation cleared upon S-OFF or non-operational state 1: Position deviation cleared upon S-OFF or fault 2: Position deviation cleared upon S-OFF or active DI function 35	0	-	At stop	"H05_en.16" on page 131
H05.19	2005-14h	Speed feedforward control	0: No speed feedforward 1: Internal speed feedforward 2: PLC speed feedforward	1	-	At stop	"H05_en.19" on page 131

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.20	2005-15h	Condition for positioning completed signal output	0: Absolute position deviation lower than the setpoint of H05.21 1: Absolute position deviation lower than the setpoint of H05.21 and the filtered position reference is 0 2: Absolute position deviation lower than the setpoint of H05.21 and the unfiltered position reference is 0 3: Absolute position deviation kept lower than the setpoint of H05.21 within the time defined by H05.60 and the unfiltered position reference is 0 4: Absolute value of position deviation lower than threshold, window time being active and filtered position reference being 0 5: Absolute value of position deviation lower than threshold, with zero speed signal being active and filtered position reference being 0 6: Absolute value of position deviation lower than threshold, with zero speed signal being active and filtered position reference being 0 7: COIN signal judged after the change (available→unavailable) of the position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than threshold 8: COIN signal judged after the change (available→unavailable) of the filtered position reference kept active for the defined window time, with filtered position reference being 0 and position deviation lower than the threshold 9: COIN signal judged after the change	0	-	Real-time	"H05_en.20" on page 132

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.21	2005-16h	Threshold of positioning completed	1 to 65535	7	Encoder unit	Real-time	"H05_en.21" on page 133
H05.22	2005-17h	Proximity threshold	1 to 65535	65535	Encoder unit	Real-time	"H05_en.22" on page 133
H05.32	2005-21h	Speed of high-speed search for home switch signal	0 RPM to 3000 RPM	100	RPM	Real-time	"H05_en.32" on page 134
H05.33	2005-22h	Speed of low-speed search for home switch signal	0 rpm to 1000 rpm	10	RPM	Real-time	"H05_en.33" on page 134
H05.34	2005-23h	Acceleration/Deceleration time during homing	0 ms to 1000 ms	1000	ms	Real-time	"H05_en.34" on page 134
H05.35	2005-24h	Home search time limit	0 ms to 65535 ms	10000	ms	Real-time	"H05_en.35" on page 135
H05.36	2005-25h	Mechanical home offset	-2147483648 to 2147483647	0	Reference unit	Real-time	"H05_en.36" on page 135
H05.39	2005-28h	Electronic gear ratio switchover condition	0: Switchover after position reference is kept 0 for 2.5 ms 1: Switched in real time	0	-	At stop	"H05_en.39" on page 135
H05.40	2005-29h	Mechanical home offset and action upon overtravel	0: H05.36 as the coordinate after homing, reverse homing applied after homing triggered again on overtravel 1: H05.36 as the relative offset after homing, reverse homing applied after homing triggered again on overtravel 2: H05.36 as the coordinate after homing, reverse homing auto-applied on overtravel 3: H05.36 as the relative offset after homing, reverse homing auto-applied on overtravel	0	-	Real-time	"H05_en.40" on page 135
H05.50	2005-33h	Mechanical gear ratio in absolute position rotation mode (numerator)	1-65535	1	-	At stop	"H05_en.50" on page 136

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.51	2005-34h	Mechanical gear ratio in absolute position rotation mode (denominator)	1-65535	1	-	At stop	"H05_en.51" on page 136
H05.52	2005-35h	Pulses per revolution of the load in absolute position rotation mode (low 32 bits)	0 to 2147483647	0	Encoder unit	At stop	"H05_en.52" on page 136
H05.54	2005-37h	Pulses per revolution of the load in absolute position rotation mode (high 32 bits)	0 to 2147483647	0	Encoder unit	At stop	"H05_en.54" on page 137
H05.56	2005-39h	Speed threshold in homing upon hit-and-stop	0 rpm to 1000 rpm	2	RPM	Real-time	"H05_en.56" on page 137
H05.58	2005-3Bh	Torque threshold in homing upon hit-and-stop	0.0% to 300.0%	100.0	%	Real-time	"H05_en.58" on page 137
H05.59	2005-3Ch	Positioning window time	0 ms to 30000 ms	0	ms	Real-time	"H05_en.59" on page 137
H05.60	2005-3Dh	Hold time of positioning completed	0 ms to 30000 ms	0	ms	Real-time	"H05_en.60" on page 138
H05.66	2005-43h	Homing time unit	0: 1 ms 1: 10 ms 2: 100 ms	2	-	At stop	"H05_en.66" on page 138
H05.67	2005-44h	Offset between zero point and single-turn absolute position	-2147483648 to 2147483647	0	Encoder unit	At stop	"H05_en.67" on page 138
H05.69	2005-46h	Auxiliary homing function	0: Inhibited 1: Record offset position 2: Clear offset position	0	-	At stop	"H05_en.69" on page 139
H05.70	2005-47h	Moving average filter time constant 2	0.0 ms to 1000.0 ms	0.0	ms	At stop	"H05_en.70" on page 139

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H05.71	2005-48h	Motor Z signal width	0 ms to 100 ms	4	ms	Real-time	"H05_en.71" on page 139
H05.80	2005-51h	Reference operation mode in rotation mode	0–4	0	-	At stop	"H05_en.80" on page 139

4.7 Parameter Group H06

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H06.00	2006-01h	Source of main speed reference A	0: Digital setting (H06.03)	0	-	At stop	"H06_en.00" on page 140
H06.01	2006-02h	Source of auxiliary speed reference B	0: Digital setting (H06.03) 5: Multi-speed reference	0	-	At stop	"H06_en.01" on page 140
H06.02	2006-03h	Speed reference source	0: Source of main speed reference A 1: Source of auxiliary speed reference B 2: A+B 3: Switched between A and B 4: Communication	0	-	At stop	"H06_en.02" on page 140
H06.03	2006-04h	Speed reference set through keypad	-10000rpm to 10000rpm	200	RPM	Real-time	"H06_en.03" on page 141
H06.04	2006-05h	DI speed reference	0 rpm to 10000 rpm	150	RPM	Real-time	"H06_en.04" on page 141
H06.05	2006-06h	Acc. ramp time of speed reference	0 ms to 65535 ms	0	ms	Real-time	"H06_en.05" on page 141
H06.06	2006-07h	Dec. ramp time of speed reference	0 ms to 65535 ms	0	ms	Real-time	"H06_en.06" on page 142
H06.07	2006-08h	Max. speed limit	0 rpm to 10000 rpm	7000	RPM	Real-time	"H06_en.07" on page 142
H06.08	2006-09h	Forward speed limit	0 rpm to 10000 rpm	7000	RPM	Real-time	"H06_en.08" on page 142
H06.09	2006-0Ah	Reverse speed limit	0 rpm to 10000 rpm	7000	RPM	Real-time	"H06_en.09" on page 142

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H06.10	2006-0Bh	Deceleration unit in emergency stop	0: Multiplied by 1 1: Multiplied by 10 2: Multiplied by 100	0	-	At stop	"H06_en.10" on page 143
H06.11	2006-0Ch	Torque feedforward control	0: No torque feedforward 1: Internal torque feedforward	1	-	Real-time	"H06_en.11" on page 143
H06.12	2006-0Dh	Acceleration ramp time of jog speed	0 ms to 65535 ms	10	ms	Real-time	"H06_en.12" on page 144
H06.13	2006-0Eh	Speed feedforward smoothing filter	0 us to 65535 us	0	us	Real-time	"H06_en.13" on page 144
H06.15	2006-10h	Zero clamp speed threshold	0 rpm to 10000 rpm	10	RPM	Real-time	"H06_en.15" on page 144
H06.16	2006-11h	Threshold of TGON (motor rotation) signal	0 rpm to 1000 rpm	20	RPM	Real-time	"H06_en.16" on page 144
H06.17	2006-12h	Threshold of V-Cmp (speed matching) signal	0 RPM –100 RPM	10	RPM	Real-time	"H06_en.17" on page 145
H06.18	2006-13h	Threshold of speed reach signal	20 rpm to 10000 rpm	1000	RPM	Real-time	"H06_en.18" on page 145
H06.19	2006-14h	Threshold of zero speed output signal	1 rpm to 10000 rpm	10	RPM	Real-time	"H06_en.19" on page 145
H06.26	2006-1Bh	Torque fluctuation auto-tuning enable	0–1	0	-	Real-time	"H06_en.26" on page 145
H06.28	2006-1Dh	Cogging torque ripple compensation	0–1	1	-	At stop	"H06_en.28" on page 146
H06.31	2006-20h	Sine reference frequency	0–16000	50	-	Real-time	"H06_en.31" on page 146
H06.32	2006-21h	Sine reference amplitude	0–30000	30	-	Real-time	"H06_en.32" on page 146
H06.33	2006-22h	Sine reference enable	0–3	0	-	Real-time	"H06_en.33" on page 147
H06.34	2006-23h	Sine reference initial phase	0.0–360.0	0.0	-	Real-time	"H06_en.34" on page 147
H06.35	2006-24h	Sine reference offset	-9900–9900	0	-	Real-time	"H06_en.35" on page 147

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H06.36	2006-25h	Moving average filter time constant of speed references	0.0 ms to 100.0 ms	0.0	ms	At stop	"H06_en.36" on page 147
H06.40	2006-29h	Deceleration time of ramp 1/ PN ramp stop	0 ms to 65535 ms	0	ms	At stop	"H06_en.40" on page 148
H06.41	2006-2Ah	Dec. time of ramp 2/PN quick stop	0 ms to 65535 ms	0	ms	At stop	"H06_en.41" on page 148
H06.50	2006-33h	Speed S-curve enable switch	0–1	0	-	At stop	"H06_en.50" on page 148
H06.51	2006-34h	Increasing acceleration of speed S-curve acceleration segment	0.0% to 100.0%	50.0	%	At stop	"H06_en.51" on page 148
H06.52	2006-35h	Decreasing acceleration of speed S-curve acceleration segment	0.0% to 100.0%	50.0	%	At stop	"H06_en.52" on page 149
H06.53	2006-36h	Increasing acceleration of speed S-curve deceleration segment	0.0% to 100.0%	50.0	%	At stop	"H06_en.53" on page 149
H06.54	2006-37h	Decreasing acceleration of speed S-curve deceleration segment	0.0% to 100.0%	50.0	%	At stop	"H06_en.54" on page 149

4.8 Parameter Group H07

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H07.00	2007-01h	Source of main torque reference A	0: Keypad (H7.03)	0	-	At stop	"H07_en.00" on page 150
H07.01	2007-02h	Source of auxiliary torque reference B	0: Keypad (H7.03)	0	-	At stop	"H07_en.01" on page 150

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H07.02	2007-03h	Torque reference source	0: Source of main torque reference A 1: Source of auxiliary torque reference B 2: Source of A+B 3: Switched between A and B 4: Communication	0	-	At stop	"H07_en.02" on page 150
H07.03	2007-04h	Torque reference set through keypad	-400.0% to 400.0%	0.0	%	Real-time	"H07_en.03" on page 150
H07.05	2007-06h	Torque reference filter time constant 1	0.00 ms to 30.00 ms	0.50	ms	Real-time	"H07_en.05" on page 151
H07.06	2007-07h	Torque reference filter time constant 2	0.00 ms to 30.00 ms	0.27	ms	Real-time	"H07_en.06" on page 151
H07.07	2007-08h	Torque Limit source	0: Positive/Negative internal torque limit 1: Positive/Negative external torque limit 5: PN torque limit	0	-	Real-time	"H07_en.07" on page 151
H07.09	2007-0Ah	Positive internal torque limit	0.0% to 400.0%	350.0	%	Real-time	"H07_en.09" on page 152
H07.10	2007-0Bh	Negative internal torque limit	0.0% to 400.0%	350.0	%	Real-time	"H07_en.10" on page 152
H07.11	2007-0Ch	Positive external torque limit	0.0% to 400.0%	350.0	%	Real-time	"H07_en.11" on page 152
H07.12	2007-0Dh	Negative external torque limit	0.0% to 400.0%	350.0	%	Real-time	"H07_en.12" on page 152
H07.15	2007-10h	Emergency-stop torque	0.0% to 400.0%	100.0	%	Real-time	"H07_en.15" on page 153
H07.17	2007-12h	Speed limit source	0: Internal speed limit 2: H07.19 or H07.20 as defined by DI	0	-	Real-time	"H07_en.17" on page 153
H07.19	2007-14h	Positive speed limit/Speed limit 1 in torque control	0 rpm to 10000 rpm	3000	RPM	Real-time	"H07_en.19" on page 153
H07.20	2007-15h	Negative speed limit/Speed limit 2 in torque control	0 rpm to 10000 rpm	3000	RPM	Real-time	"H07_en.20" on page 154

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H07.21	2007-16h	Torque reach base value	0.0% to 400.0%	0.0	%	Real-time	"H07_en.21" on page 154
H07.22	2007-17h	Torque reach valid value	0.0% to 400.0%	20.0	%	Real-time	"H07_en.22" on page 154
H07.23	2007-18h	Torque reach invalid value	0.0% to 400.0%	10.0	%	Real-time	"H07_en.23" on page 154
H07.24	2007-19h	Field weakening depth	60% to 115%	115	%	Real-time	"H07_en.24" on page 155
H07.25	2007-1Ah	Max. permissible demagnetizing current	0% to 200%	100	%	Real-time	"H07_en.25" on page 155
H07.26	2007-1Bh	Field weakening selection	0: Disabled 1: Enabled	0	-	At stop	"H07_en.26" on page 155
H07.27	2007-1Ch	Flux weakening gain	0.001 Hz–1.000 Hz	0.030	Hz	Real-time	"H07_en.27" on page 156
H07.28	2007-1Dh	Speed of flux weakening point	0–65535	0	-	Unchangeable	"H07_en.28" on page 156
H07.36	2007-25h	Time constant of low-pass filter 2	0.00 ms to 10.00 ms	0.00	ms	Real-time	"H07_en.36" on page 156
H07.37	2007-26h	Torque reference filter selection	0: First-order filter 1: Biquad filter	0	-	Real-time	"H07_en.37" on page 156
H07.38	2007-27h	Biquad filter attenuation ratio	0–50	16	-	At stop	"H07_en.38" on page 157
H07.40	2007-29h	Speed limit threshold in torque control mode	0 ms to 30 ms	1	ms	Real-time	"H07_en.40" on page 157

4.9 Parameter Group H08

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.00	2008-01h	Speed loop gain	0.1 Hz–2000.0 Hz	40.0	Hz	Real-time	"H08_en.00" on page 157
H08.01	2008-02h	Speed loop integral time constant	0.15 ms to 512.00 ms	19.89	ms	Real-time	"H08_en.01" on page 158

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.02	2008-03h	Position loop gain	0.1 Hz–2000.0 Hz	64.0	Hz	Real-time	"H08_en.02" on page 158
H08.03	2008-04h	2nd speed loop gain	0.1 Hz–2000.0 Hz	75.0	Hz	Real-time	"H08_en.03" on page 158
H08.04	2008-05h	2nd speed loop integral time constant	0.15 ms to 512.00 ms	10.61	ms	Real-time	"H08_en.04" on page 159
H08.05	2008-06h	2nd position loop gain	0.1 Hz–2000.0 Hz	120.0	Hz	Real-time	"H08_en.05" on page 159
H08.08	2008-09h	2nd gain mode setting	0: Fixed to the 1st group of gains, P/PI switched through external DI1: Switched between the 1st and 2nd group of gains as defined by H08.09	1	-	Real-time	"H08_en.08" on page 159
H08.09	2008-0Ah	Gain switchover condition	0: Fixed to the 1st gain set (PS) 1: Switched as defined by Func3 of DI 2: Torque reference too large (PS) 3: Speed reference too large (PS) 4: Speed reference change rate too large (PS) 5: Speed reference low/high speed threshold (PS) 6: Position deviation too large (P) 7: Position reference available (P) 8: Positioning unfinished (P) 9: Actual speed (P) 10: Position reference + Actual speed (P)	0	-	Real-time	"H08_en.09" on page 160
H08.10	2008-0Bh	Gain switchover delay	0.0 ms to 1000.0 ms	5.0	ms	Real-time	"H08_en.10" on page 161
H08.11	2008-0Ch	Gain switchover level	0–20000	50	-	Real-time	"H08_en.11" on page 162
H08.12	2008-0Dh	Gain switchover hysteresis	0–20000	30	-	Real-time	"H08_en.12" on page 162
H08.13	2008-0Eh	Position gain switchover time	0.0 ms to 1000.0 ms	3.0	ms	Real-time	"H08_en.13" on page 162
H08.15	2008-10h	Load moment of inertia ratio	0.00–120.00	1.00	-	Real-time	"H08_en.15" on page 163

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.16	2008-11h	iTune parameter save	0–65535	0	-	Real-time	"H08_en.16" on page 163
H08.17	2008-12h	Zero phase delay	0.0 ms to 4.0 ms	0.0	ms	Real-time	"H08_en.17" on page 163
H08.18	2008-13h	Time constant of speed feedforward filter	0.00 ms to 64.00 ms	0.50	ms	Real-time	"H08_en.18" on page 164
H08.19	2008-14h	Speed feedforward gain	0.0% to 100.0%	0.0	%	Real-time	"H08_en.19" on page 164
H08.20	2008-15h	Torque feedforward filter time constant	0.00 ms to 64.00 ms	0.50	ms	Real-time	"H08_en.20" on page 164
H08.21	2008-16h	Torque feedforward gain	0.0% to 300.0%	0.0	%	Real-time	"H08_en.21" on page 164
H08.22	2008-17h	Speed feedback filtering option	0: Inhibited 1: 2 times 2: 4 times 3: 8 times 4: 16 times	0	-	At stop	"H08_en.22" on page 165
H08.23	2008-18h	Cutoff frequency of speed feedback low-pass filter	100 Hz–8000 Hz	8000	Hz	Real-time	"H08_en.23" on page 165
H08.24	2008-19h	PDF control coefficient	0.0% to 200.0%	100.0	%	Real-time	"H08_en.24" on page 166
H08.27	2008-1Ch	Speed observer cutoff frequency	50 Hz–600 Hz	170	Hz	Real-time	"H08_en.27" on page 166
H08.28	2008-1Dh	Speed observer inertia correction coefficient	1% to 1600%	100	%	Real-time	"H08_en.28" on page 166
H08.29	2008-1Eh	Speed observer filter time	0.00 ms to 10.00 ms	0.80	ms	Real-time	"H08_en.29" on page 166
H08.30	2008-1Fh	Disturbance compensation time	0.00 ms to 100.00 ms	0.20	ms	Real-time	"H08_en.30" on page 167
H08.31	2008-20h	Disturbance cutoff frequency	1 Hz–4000 Hz	600	Hz	Real-time	"H08_en.31" on page 167

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.32	2008-21h	Disturbance compensation gain	0% to 100%	0	%	Real-time	"H08_en.32" on page 167
H08.33	2008-22h	Disturbance observer inertia correction coefficient	0% to 1600%	100	%	Real-time	"H08_en.33" on page 168
H08.37	2008-26h	Phase modulation for medium-frequency jitter suppression 2	-90° to 90°	0	°	Real-time	"H08_en.37" on page 168
H08.38	2008-27h	Medium-frequency suppression 2 frequency	0 Hz–1000 Hz	0	Hz	Real-time	"H08_en.38" on page 168
H08.39	2008-28h	Compensation gain of medium-frequency jitter suppression 2	0% to 300%	0	%	Real-time	"H08_en.39" on page 168
H08.40	2008-29h	Speed observer selection	0: Disabled 1: Enabled	0	-	Real-time	"H08_en.40" on page 169
H08.42	2008-2Bh	Model control selection	0: Disable 1: Enable 2: Dual-inertia model	0	-	Real-time	"H08_en.42" on page 169
H08.43	2008-2Ch	Model gain	0.1–2000.0	40.0	-	Real-time	"H08_en.43" on page 169
H08.45	2008-2Eh	Model feedforward position	0–1	0	-	Real-time	"H08_en.45" on page 169
H08.46	2008-2Fh	Feedforward value	0.0–102.4	95.0	-	Real-time	"H08_en.46" on page 170
H08.50	2008-33h	Model torque feedforward differential time	0.00 ms to 100.00 ms	0.00	ms	Real-time	"H08_en.50" on page 170
H08.51	2008-34h	Model speed feedforward differential time	0.00 ms to 100.00 ms	0.00	ms	Real-time	"H08_en.51" on page 170
H08.53	2008-36h	Medium- and low-frequency jitter suppression frequency 3	0.0 Hz–300.0 Hz	0.0	Hz	Real-time	"H08_en.53" on page 171

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.54	2008-37h	Medium- and low-frequency jitter suppression compensation 3	0% to 200%	0	%	Real-time	"H08_en.54" on page 171
H08.56	2008-39h	Medium- and low-frequency jitter suppression phase modulation 3	0% to 600%	100	%	Real-time	"H08_en.56" on page 171
H08.59	2008-3Ch	Medium- and low-frequency jitter suppression frequency 4	0.0 Hz–300.0 Hz	0.0	Hz	Real-time	"H08_en.59" on page 171
H08.60	2008-3Dh	Medium- and low-frequency jitter suppression compensation 4	0% to 200%	0	%	Real-time	"H08_en.60" on page 172
H08.61	2008-3Eh	Medium- and low-frequency jitter suppression phase modulation 4	0% to 600%	100	%	Real-time	"H08_en.61" on page 172
H08.62	2008-3Fh	Position loop integral time constant	0.15–512.00	512.00	-	Real-time	"H08_en.62" on page 172
H08.63	2008-40h	2nd position loop integral time constant	0.15–512.00	512.00	-	Real-time	"H08_en.63" on page 172
H08.64	2008-41h	Speed observer feedback source	0: Disabled 1: Enabled	0	-	Real-time	"H08_en.64" on page 173
H08.65	2008-42h	Zero deviation control selection	0: Disabled 1: Enabled	0	-	Real-time	"H08_en.65" on page 173
H08.66	2008-43h	Zero deviation control position average filter	0.0 ms to 320.0 ms	5.0	ms	Real-time	"H08_en.66" on page 173
H08.67	2008-44h	Zero deviation control position low-pass filter	0.0us to 5120.0us	190.0	us	Real-time	"H08_en.67" on page 174

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H08.68	2008-45h	Speed feedforward of zero deviation control	0.0% to 100.0%	100.0	%	Real-time	"H08_en.68" on page 174
H08.69	2008-46h	Torque feedforward of zero deviation control	0.0% to 100.0%	100.0	%	Real-time	"H08_en.69" on page 174
H08.71	2008-48h	Zero deviation control encoder delay	0.00us to 512.00us	31.25	us	Real-time	"H08_en.71" on page 174
H08.81	2008-52h	Anti-resonance frequency of dual-inertia model	0.0 Hz–300.0 Hz	20.0	Hz	Real-time	"H08_en.81" on page 175
H08.82	2008-53h	Resonance frequency of dual-inertia model	0.0 Hz–300.0 Hz	0.0	Hz	Real-time	"H08_en.82" on page 175
H08.83	2008-54h	Dual-inertia model gain	0.1 Hz–2000.0 Hz	60.0	Hz	Real-time	"H08_en.83" on page 175
H08.84	2008-55h	Inertia ratio of dual-inertia model	0.00–120.00	1.00	-	Real-time	"H08_en.84" on page 175
H08.88	2008-59h	Speed feedforward value of dual-inertia model	0.0–100.0	100.0	-	Real-time	"H08_en.88" on page 176
H08.89	2008-5Ah	Torque feedforward value of dual-inertia model	0.0–100.0	100.0	-	Real-time	"H08_en.89" on page 176

4.10 Parameter Group H09

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H09.00	2009-01h	Auto-adjustment mode	0: Disabled, manual gain tuning required 1: Enabled, gain parameters generated automatically based on the stiffness level 2: Positioning mode, gain parameters generated automatically based on the stiffness level 4: Normal mode+Inertia auto-tuning 6: Quick positioning mode+Inertia auto-tuning	0	-	Real-time	"H09_en.00" on page 176
H09.01	2009-02h	Stiffness level selection	0–41	15	-	Real-time	"H09_en.01" on page 177
H09.02	2009-03h	Adaptive notch mode	0: Adaptive notch no longer updated; 1: One adaptive notch activated (3rd notch) 2: Two adaptive notches activated (3rd and 4th notches) 3: Resonance point tested only (displayed in H09.24) 4: Adaptive notch cleared, values of 3rd and 4th notches restored to default	0	-	Real-time	"H09_en.02" on page 177
H09.03	2009-04h	Online inertia auto-tuning mode	0: Disabled 1: Enabled, changing slowly 2: Enabled, changing normally 3: Enabled, changing quickly	0	-	Real-time	"H09_en.03" on page 178
H09.05	2009-06h	Offline inertia auto-tuning mode	0: Bi-directional 1: Unidirectional	0	-	At stop	"H09_en.05" on page 178
H09.06	2009-07h	Max. speed of inertia auto-tuning	100 RPM to 1000 RPM	500	RPM	At stop	"H09_en.06" on page 178
H09.07	2009-08h	Time constant for accelerating to max. speed during inertia auto-tuning	20 ms to 800 ms	125	ms	At stop	"H09_en.07" on page 179

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H09.08	2009-09h	Interval time after an individual inertia auto-tuning	50 ms to 10000 ms	800	ms	At stop	"H09_en.08" on page 179
H09.09	2009-0Ah	Number of motor revolutions per inertia auto-tuning	0.00–100.00	1.00	-	Real-time	"H09_en.09" on page 179
H09.11	2009-0Ch	Vibration threshold	0.0% to 100.0%	5.0	%	Real-time	"H09_en.11" on page 179
H09.12	2009-0Dh	Frequency of the 1st notch	50 Hz–8000 Hz	8000	Hz	Real-time	"H09_en.12" on page 180
H09.13	2009-0Eh	Width level of the 1st notch	0–20	2	-	Real-time	"H09_en.13" on page 180
H09.14	2009-0Fh	Depth level of the 1st notch	0–99	0	-	Real-time	"H09_en.14" on page 180
H09.15	2009-10h	Frequency of the 2nd notch	50 Hz–8000 Hz	8000	Hz	Real-time	"H09_en.15" on page 181
H09.16	2009-11h	Width level of the 2nd notch	0–20	2	-	Real-time	"H09_en.16" on page 181
H09.17	2009-12h	Depth level of the 2nd notch	0–99	0	-	Real-time	"H09_en.17" on page 181
H09.18	2009-13h	Frequency of the 3rd notch	50 Hz–8000 Hz	8000	Hz	Real-time	"H09_en.18" on page 182
H09.19	2009-14h	Width level of the 3rd notch	0–20	2	-	Real-time	"H09_en.19" on page 182
H09.20	2009-15h	Depth level of the 3rd notch	0–99	0	-	Real-time	"H09_en.20" on page 182
H09.21	2009-16h	Frequency of the 4th notch	50 Hz–8000 Hz	8000	Hz	Real-time	"H09_en.21" on page 182
H09.22	2009-17h	Width level of the 4th notch	0–20	2	-	Real-time	"H09_en.22" on page 183
H09.23	2009-18h	Depth level of the 4th notch	0–99	0	-	Real-time	"H09_en.23" on page 183
H09.24	2009-19h	Auto-tuned resonance frequency	0 Hz–5000 Hz	0	Hz	Unchangeable	"H09_en.24" on page 183
H09.26	2009-1Bh	ITune response	50.0% to 500.0%	100.0	%	Real-time	"H09_en.26" on page 184
H09.27	2009-1Ch	ITune mode	0: Disabled 1: ITune mode 1 2: ITune mode 2	0	-	Real-time	"H09_en.27" on page 184

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H09.28	2009-1Dh	Minimum inertia ratio of ITune	0.0% to 80.0%	0.0	%	Real-time	"H09_en.28" on page 184
H09.29	2009-1Eh	Maximum inertia ratio of ITune	1.0% to 120.0%	30.0	%	Real-time	"H09_en.29" on page 184
H09.32	2009-21h	Gravity compensation value	0.0% to 100.0%	0.0	%	Real-time	"H09_en.32" on page 185
H09.33	2009-22h	Positive friction compensation value	0.0% to 100.0%	0.0	%	Real-time	"H09_en.33" on page 185
H09.34	2009-23h	Negative friction compensation value	-100.0% to 0.0%	0.0	%	Real-time	"H09_en.34" on page 185
H09.35	2009-24h	Friction compensation speed	0.0–20.0	2.0	-	Real-time	"H09_en.35" on page 185
H09.36	2009-25h	Friction compensation speed	0: 0x00 Slow mode+Speed reference 0: 0x01 Slow mode+Model speed 0: 0x02 Slow mode+Speed feedback 0: 0x03 Slow mode+Observe speed 0: 0x10 Quick mode +Speed reference 0: 0x11 Quick mode +Model speed 0: 0x12 Quick mode +Speed feedback 0: 0x13 Quick mode+Observe speed	0	-	Real-time	"H09_en.36" on page 186
H09.37	2009-26h	Vibration monitoring time	0–65535	300	-	Real-time	"H09_en.37" on page 186
H09.38	2009-27h	Frequency of low-frequency resonance suppression 1 at the mechanical end	1.0 Hz–100.0 Hz	100.0	Hz	Real-time	"H09_en.38" on page 186

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H09.39	2009-28h	Low-frequency resonance suppression 1 at the mechanical end	0–3	2	-	At stop	"H09_en.39" on page 187
H09.41	2009-2Ah	Frequency of the 5th notch	50 Hz–8000 Hz	8000	Hz	Real-time	"H09_en.41" on page 187
H09.42	2009-2Bh	Width level of the 5th notch	0–20	2	-	At stop	"H09_en.42" on page 187
H09.43	2009-2Ch	Depth level of the 5th notch	0–99	0	-	At stop	"H09_en.43" on page 188
H09.44	2009-2Dh	Frequency of low-frequency resonance suppression 2 at mechanical load end	0.0–100.0	0.0	-	Real-time	"H09_en.44" on page 188
H09.45	2009-2Eh	Responsiveness of low-frequency resonance suppression 2 at mechanical load end	0.01–5.00	1.00	-	Real-time	"H09_en.45" on page 188
H09.47	2009-30h	Width of low-frequency resonance suppression 2 at mechanical load end	0.00–2.00	1.00	-	Real-time	"H09_en.47" on page 188
H09.49	2009-32h	Frequency of low-frequency resonance suppression 3 at mechanical load end	0.0–100.0	0.0	-	Real-time	"H09_en.49" on page 189
H09.50	2009-33h	Responsiveness of low-frequency resonance suppression 3 at mechanical load end	0.01–5.00	1.00	-	Real-time	"H09_en.50" on page 189

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H09.52	2009-35h	Width of low-frequency resonance suppression 3 at mechanical load end	0.00–2.00	1.00	-	Real-time	"H09_en.52" on page 189
H09.54	2009-37h	Vibration threshold	0.0% to 300.0%	50.0	%	Real-time	"H09_en.54" on page 189
H09.56	2009-39h	Max. overshoot allowed by ETune	0–65535	2936	-	Real-time	"H09_en.56" on page 190
H09.57	2009-3Ah	STune resonance suppression switchover frequency	0 Hz–4000 Hz	900	Hz	Real-time	"H09_en.57" on page 190
H09.58	2009-3Bh	STune resonance suppression reset selection	0: Disabled 1: Enabled	0	-	Real-time	"H09_en.58" on page 190

4.11 Parameter Group H0A

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0A.00	200A-01h	Power input phase loss protection	0: Enable 1: Disable	0	-	Real-time	"H0A_en.00" on page 191
H0A.01	200A-02h	Absolute position limit	0: Disabled 1: Enabled 2: Enabled after homing	0	-	Real-time	"H0A_en.01" on page 191
H0A.04	200A-05h	Motor overload protection gain	50–300	100	-	Real-time	"H0A_en.04" on page 191
H0A.08	200A-09h	Overspeed threshold	0 rpm to 20000 rpm	0	RPM	Real-time	"H0A_en.08" on page 192
H0A.10	200A-0Bh	Threshold of excessive local position deviation	0–4294967295	27486951	-	Real-time	"H0A_en.10" on page 192
H0A.12	200A-0Dh	Runaway protection enable	0: Disable 1: Enable	1	-	Real-time	"H0A_en.12" on page 193
H0A.17	200A-12h	Reference unit	0: Pulse unit 1: Reference unit	0	-	At stop	"H0A_en.17" on page 193

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0A.18	200A-13h	IGBT over-temperature threshold	120°C–175°C	140	°C	Real-time	"H0A_en.18" on page 193
H0A.19	200A-14h	Filter time constant of touch probe 1	0.00us–6.30us	2.00	us	Real-time	"H0A_en.19" on page 194
H0A.20	200A-15h	Filter time constant of touch probe 2	0.00us–6.30us	2.00	us	Real-time	"H0A_en.20" on page 194
H0A.22	200A-17h	Sigma_Delta filter time	0–65535	1	-	At stop	"H0A_en.22" on page 194
H0A.23	200A-18h	TZ signal filter time	0 ns to 31 ns	15	25ns	At stop	"H0A_en.23" on page 194
H0A.26	200A-1Bh	Motor overload detection	0: Show motor overload warning (E909.0) and fault (E620.0) 1: Hide motor overload warning (E909.0) and fault (E620.0)	0	-	Real-time	"H0A_en.26" on page 195
H0A.27	200A-1Ch	Motor rotation DO speed filter time	0 ms to 100 ms	50	ms	At stop	"H0A_en.27" on page 195
H0A.32	200A-21h	Time threshold for locked motor overheat protection	10 ms to 65535 ms	200	ms	Real-time	"H0A_en.32" on page 195
H0A.33	200A-22h	Locked motor overheat protection	0: Disabled 1: Enabled	1	-	Real-time	"H0A_en.33" on page 196
H0A.36	200A-25h	Encoder multi-turn overflow fault selection	0: Not hide 1: Hide	0	-	Real-time	"H0A_en.36" on page 196
H0A.39	200A-28h	Current sampling clock signal tolerance count	0–3	0	-	At stop	"H0A_en.39" on page 196

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0A.40	200A-29h	Compensation function selection	bit0: Overtravel compensation 0: Enabled 1: Disabled bit1: Touch probe rising edge compensation 0: Disabled 1: Enabled bit2: Touch probe falling edge compensation 0: Disabled 1: Enabled bit3: Touch probe edge solution 0: New solution 1: Old solution (same as SV660N)	6	-	At stop	"H0A_en.40" on page 197
H0A.41	200A-2Ah	Forward position of software position limit	-2147483648 to 2147483647	2147483647	Reference unit	At stop	"H0A_en.41" on page 197
H0A.43	200A-2Ch	Reverse position of software position limit	-2147483648 to 2147483647	-2147483648	Reference unit	At stop	"H0A_en.43" on page 198
H0A.49	200A-32h	Regenerative resistor overtemperature threshold	100°C–175°C	115	°C	Real-time	"H0A_en.49" on page 198
H0A.50	200A-33h	Encoder communication fault tolerance threshold	0–31	31	-	Real-time	"H0A_en.50" on page 198
H0A.51	200A-34h	Phase loss detection filter times	3 ms to 36 ms	20	55ms	Real-time	"H0A_en.51" on page 198
H0A.52	200A-35h	Encoder temperature protection threshold	0°C–175°C	105	°C	Real-time	"H0A_en.52" on page 199
H0A.53	200A-36h	Probe DI ON compensation time	-3000 ns to 3000 ns	200	25ns	Real-time	"H0A_en.53" on page 199
H0A.54	200A-37h	Probe DI OFF compensation time	-3000 ns to 3000 ns	1512	25ns	Real-time	"H0A_en.54" on page 199
H0A.55	200A-38h	Runaway current threshold	100.0% to 400.0%	200.0	%	Real-time	"H0A_en.55" on page 199

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0A.56	200A-39h	Fault reset delay	0 ms to 60000 ms	10000	ms	Real-time	"H0A_en.56" on page 200
H0A.57	200A-3Ah	Runaway speed threshold	1 rpm to 1000 rpm	50	RPM	Real-time	"H0A_en.57" on page 200
H0A.58	200A-3Bh	Runaway speed filter time	0.1 ms to 100.0 ms	2.0	ms	Real-time	"H0A_en.58" on page 200
H0A.59	200A-3Ch	Runaway protection detection time	10 ms to 1000 ms	30	ms	Real-time	"H0A_en.59" on page 201
H0A.60	200A-3Dh	Black box function mode	0: Disable 1: Any fault 2: Designated fault 3: Triggered based on designated condition	1	-	Real-time	"H0A_en.60" on page 201
H0A.61	200A-3Eh	Designated fault code	0.0–6553.5	0.0	-	Real-time	"H0A_en.61" on page 201
H0A.62	200A-3Fh	Trigger source	0–31	0	-	Real-time	"H0A_en.62" on page 201
H0A.63	200A-40h	Trigger level	-2147483648–2147483647	0	-	Real-time	"H0A_en.63" on page 202
H0A.65	200A-42h	Trigger level	0: Rising edge 1: Equal 2: Falling edge 3: Edge-triggered	0	-	Real-time	"H0A_en.65" on page 202
H0A.66	200A-43h	Trigger position	0% to 100%	75	%	Real-time	"H0A_en.66" on page 202
H0A.67	200A-44h	Sampling frequency	0: Current loop 1: Position loop 2: Main cycle	0	-	Real-time	"H0A_en.67" on page 203
H0A.70	200A-47h	Overspeed threshold 2	0 rpm to 20000 rpm	0	RPM	Real-time	"H0A_en.70" on page 203
H0A.71	200A-48h	MS1 motor overload curve switchover	0–65535	4098	-	Real-time	"H0A_en.71" on page 203
H0A.72	200A-49h	Maximum stop time in ramp-to-stop	0 ms to 65535 ms	10000	ms	At stop	"H0A_en.72" on page 203
H0A.73	200A-4Ah	STO 24 V disconnection filter time	1 ms to 5 ms	5	ms	Real-time	"H0A_en.73" on page 204
H0A.74	200A-4Bh	Filter time for two inconsistent STO channels	0 ms to 1000 ms	100	ms	Real-time	"H0A_en.74" on page 204

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0A.75	200A-4Ch	Servo OFF delay after STO triggered	0 ms to 25 ms	20	ms	Real-time	"H0A_en.75" on page 204
H0A.90	200A-5Bh	Average filter time constant for speed display	0 ms to 100 ms	0	ms	At stop	"H0A_en.90" on page 204
H0A.91	200A-5Ch	Average filter time constant for torque display	0 ms to 100 ms	0	ms	At stop	"H0A_en.91" on page 205
H0A.92	200A-5Dh	Average filter time constant for position display	0 ms to 100 ms	0	ms	At stop	"H0A_en.92" on page 205
H0A.93	200A-5Eh	Low-pass filter time constant for voltage display	0 ms to 250 ms	0	ms	Real-time	"H0A_en.93" on page 205
H0A.94	200A-5Fh	Low-pass filter time constant for thermal display	0 ms to 250 ms	0	ms	Real-time	"H0A_en.94" on page 206

4.12 Parameter Group H0b

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.00	200b-01h	Motor speed actual value	-32767rpm to 32767rpm	0	RPM	Unchangeable	"H0b_en.00" on page 206
H0b.01	200b-02h	Speed reference	-32767rpm to 32767rpm	0	RPM	Unchangeable	"H0b_en.01" on page 206
H0b.02	200b-03h	Internal torque reference	-500.0% to 500.0%	0.0	%	Unchangeable	"H0b_en.02" on page 206
H0b.03	200b-04h	Input (DI) signal monitoring	0–65535	0	-	Unchangeable	"H0b_en.03" on page 207
H0b.05	200b-06h	Output (DO) signal monitoring	0–65535	0	-	Unchangeable	"H0b_en.05" on page 207

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.07	200b-08h	Absolute position counter	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.07" on page 208
H0b.09	200b-0Ah	Mechanical angle	0.0° to 360.0°	0.0	°	Unchangeable	"H0b_en.09" on page 208
H0b.10	200b-0Bh	Electrical angle	0.0° to 360.0°	0.0	°	Unchangeable	"H0b_en.10" on page 208
H0b.12	200b-0Dh	Average load ratio	0.0% to 800.0%	0.0	%	Unchangeable	"H0b_en.12" on page 209
H0b.13	200b-0Eh	Input reference counter	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.13" on page 209
H0b.15	200b-10h	Position following error (encoder unit)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.15" on page 209
H0b.17	200b-12h	Feedback pulse counter	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.17" on page 210
H0b.19	200b-14h	Total power-on time	0.0s–429496729.5s	0.0	-	Unchangeable	"H0b_en.19" on page 210
H0b.24	200b-19h	Phase current RMS value	0.0 A–6553.5 A	0.0	A	Unchangeable	"H0b_en.24" on page 210
H0b.25	200b-1Ah	Angle obtained upon voltage injection auto-tuning	0.0° to 360.0°	0.0	°	Unchangeable	"H0b_en.25" on page 211
H0b.26	200b-1Bh	Bus voltage	0.0 V–6553.5 V	0.0	V	Unchangeable	"H0b_en.26" on page 211
H0b.27	200b-1Ch	Module temperature	-20°C–200°C	0	°C	Unchangeable	"H0b_en.27" on page 211
H0b.28	200b-1Dh	Absolute encoder fault information given by FPGA	0–65535	0	-	Unchangeable	"H0b_en.28" on page 211
H0b.29	200b-1Eh	Axis status information given by FPGA	0–65535	0	-	Unchangeable	"H0b_en.29" on page 212
H0b.30	200b-1Fh	Axis fault information given by FPGA	0–65535	0	-	Unchangeable	"H0b_en.30" on page 212

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.31	200b-20h	Encoder fault information	0–65535	0	-	Real-time	"H0b_en.31" on page 212
H0b.33	200b-22h	Fault log	0: Present fault 1: Last fault 2: 2nd to last fault 3: 3rd to last fault 4: 4th to last fault 5: 5th to last fault 6: 6th to last fault 7: 7th to last fault 8: 8th to last fault 9: 9th to last fault 10: 10th to last fault 11: 11th to last fault 12: 12th to last fault 13: 13th to last fault 14: 14th to last fault 15: 15th to last fault 16: 16th to last fault 17: 17th to last fault 18: 18th to last fault 19: 19th to last fault	0	-	Real-time	"H0b_en.33" on page 213
H0b.34	200b-23h	Fault code set by H0B-33	0–65535	0	-	Unchangeable	"H0b_en.34" on page 213
H0b.35	200b-24h	Timestamp of the selected fault	0.0s–429496729.5s	0.0	-	Unchangeable	"H0b_en.35" on page 214
H0b.37	200b-26h	Motor speed upon occurrence of the selected fault	-32767rpm to 32767rpm	0	RPM	Unchangeable	"H0b_en.37" on page 214
H0b.38	200b-27h	Motor phase U current upon occurrence of the selected fault	-3276.7 A–3276.7 A	0.0	A	Unchangeable	"H0b_en.38" on page 214
H0b.39	200b-28h	Motor phase V current upon occurrence of the selected fault	-3276.7 A–3276.7 A	0.0	A	Unchangeable	"H0b_en.39" on page 214
H0b.40	200b-29h	Bus voltage upon occurrence of the selected fault	0.0 V–6553.5 V	0.0	V	Unchangeable	"H0b_en.40" on page 215

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.41	200b-2Ah	Input terminal state on selected fault	0-65535	0	-	Unchangeable	"H0b_en.41" on page 215
H0b.43	200b-2Ch	Output terminal status upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.43" on page 215
H0b.45	200b-2Eh	Internal fault code	0-65535	0	-	Unchangeable	"H0b_en.45" on page 215
H0b.46	200b-2Fh	Absolute encoder fault information given by FPGA upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.46" on page 216
H0b.47	200b-30h	System status information given by FPGA upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.47" on page 216
H0b.48	200b-31h	System fault information given by FPGA upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.48" on page 216
H0b.49	200b-32h	Encoder fault information upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.49" on page 217
H0b.51	200b-34h	Internal fault code upon occurrence of the selected fault	0-65535	0	-	Unchangeable	"H0b_en.51" on page 217

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.52	200b-35h	FPGA timeout fault standard bit upon occurrence of the selected fault	0–65535	0	-	Unchangeable	"H0b_en.52" on page 217
H0b.53	200b-36h	Position following error (reference unit)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.53" on page 217
H0b.55	200b-38h	Motor speed actual value	-2147483648.0rpm to 2147483647.0rpm	0.0	RPM	Unchangeable	"H0b_en.55" on page 218
H0b.57	200b-3Ah	Control circuit bus voltage	0.0 V–6553.5 V	0.0	V	Unchangeable	"H0b_en.57" on page 218
H0b.58	200b-3Bh	Mechanical absolute position (low 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.58" on page 218
H0b.60	200b-3Dh	Mechanical absolute position (high 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.60" on page 219
H0b.63	200b-40h	NotRdy state	1: Control power error 2: Main circuit power input error 3: Undervoltage 4: Soft start failed 5: Encoder initialization not completed 6: Short circuit to ground failed 7: Others	0	-	Unchangeable	"H0b_en.63" on page 219
H0b.64	200b-41h	Real-time input position reference counter	-2147483648 to 2147483647	0	Reference unit	Unchangeable	"H0b_en.64" on page 219
H0b.66	200b-43h	Encoder temperature	-32768°C–32767°C	0	°C	Unchangeable	"H0b_en.66" on page 219
H0b.67	200b-44h	Load rate of regenerative resistor	0.0% to 200.0%	0.0	%	Unchangeable	"H0b_en.67" on page 220
H0b.70	200b-47h	Number of absolute encoder revolutions	0 Rev to 65535 Rev	0	Rev	Unchangeable	"H0b_en.70" on page 220

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0b.71	200b-48h	Single-turn position fed back by the absolute encoder	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.71" on page 220
H0b.74	200b-4Bh	System fault information given by FPGA	0-65535	0	-	Unchangeable	"H0b_en.74" on page 221
H0b.77	200b-4Eh	Encoder position (low 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.77" on page 221
H0b.79	200b-50h	Encoder position (high 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.79" on page 221
H0b.81	200b-52h	Single-turn position of the rotary load (low 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.81" on page 221
H0b.83	200b-54h	Single-turn position of the rotary load (high 32 bits)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.83" on page 222
H0b.85	200b-56h	Single-turn position of the rotary load (reference unit)	-2147483648p to 2147483647p	0	p	Unchangeable	"H0b_en.85" on page 222
H0b.87	200b-58h	IGBT junction temperature	0-200	0	-	Unchangeable	"H0b_en.87" on page 222
H0b.90	200b-5Bh	Group No. of the abnormal parameter	0-65535	0	-	Unchangeable	"H0b_en.90" on page 222
H0b.91	200b-5Ch	Offset within the group of the abnormal parameter	0-65535	0	-	Unchangeable	"H0b_en.91" on page 223
H0b.94	200b-5Fh	Individual power-on time	0.0s-429496729.5s	0.0	-	Unchangeable	"H0b_en.94" on page 223
H0b.96	200b-61h	Individual power-on time upon occurrence of the selected fault	0.0s-429496729.5s	0.0	-	Unchangeable	"H0b_en.96" on page 223

4.13 Parameter Group H0d

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0d.00	200d-01h	Software Reset	0: No operation 1: Enable	0	-	At stop	"H0d_en.00" on page 224
H0d.01	200d-02h	Fault reset	0: No operation 1: Enable	0	-	At stop	"H0d_en.01" on page 224
H0d.02	200d-03h	Inertia auto-tuning enable	0–65	0	-	Real-time	"H0d_en.02" on page 224
H0d.03	200d-04h	Encoder initial angle auto-tuning	0: No operation 1: Enabled	0	-	At stop	"H0d_en.03" on page 225
H0d.04	200d-05h	Read/write in encoder ROM	0: No operation 1: Write ROM 2: Read ROM 3: ROM failure	0	-	At stop	"H0d_en.04" on page 225
H0d.05	200d-06h	Emergency stop	0: No operation 1: Emergency stop	0	-	Real-time	"H0d_en.05" on page 225
H0d.12	200d-0Dh	Phase U/V current balance correction	0: Disabled 1: Enabled	0	-	At stop	"H0d_en.12" on page 226
H0d.17	200d-12h	Forced DI/DO enable switch	bit0: Forced DI enable switch 0: Disabled 1: Enabled bit1: Forced DO enable switch 0: Disabled 1: Enabled	0	-	Real-time	"H0d_en.17" on page 226
H0d.18	200d-13h	Forced DI value	0–255	255	-	Real-time	"H0d_en.18" on page 226
H0d.19	200d-14h	Forced DO value	0–31	0	-	Real-time	"H0d_en.19" on page 227
H0d.20	200d-15h	Absolute encoder reset	0: No operation 1: Reset 2: Reset the fault and multi-turn data	0	-	At stop	"H0d_en.20" on page 227
H0d.23	200d-18h	Torque fluctuation auto-tuning	0–1	0	-	At stop	"H0d_en.23" on page 227
H0d.26	200d-1Bh	Brake and dynamic brake started forcibly	0: No forcible operations 1: Dynamic brake deactivated forcibly 2: Brake released forcibly 3: Dynamic brake deactivated and brake released forcibly	0	-	At stop	"H0d_en.26" on page 228

4.14 Parameter Group H0E

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H0E.00	200E-01h	Node address	1–127	1	-	At stop	"H0E_en.00" on page 228
H0E.01	200E-02h	Save objects written through communication to EEPROM	0: Not save 1: Save parameters written through communication to EEPROM 2: Save object dictionaries written through communication to EEPROM 3: Save parameters and object dictionaries written through communication to EEPROM 4: Save object dictionaries written before communication (OP) to EEPROM	1	-	Real-time	"H0E_en.01" on page 228
H0E.07	200E-08h	Object dictionary unit selection	0: Reference unit system (p/s, p/s ²) 1: User unit system (0.01 RPM, ms)	0	-	At stop	"H0E_en.07" on page 229
H0E.80	200E-51h	Modbus baud rate	4: 4800 bps 5: 9600 bps 6: 19200 bps 7: 38400 bps 8: 57600 bps 9: 115200 bps	9	-	Real-time	"H0E_en.80" on page 229
H0E.81	200E-52h	Modbus data format	3: No parity, 1 stop bit (N-1)	3	-	Real-time	"H0E_en.81" on page 230
H0E.82	200E-53h	Modbus response delay	0 ms to 20 ms	0	ms	Real-time	"H0E_en.82" on page 230
H0E.83	200E-54h	Modbus communication timeout time	0 ms to 600 ms	0	ms	Real-time	"H0E_en.83" on page 230
H0E.84	200E-55h	Modbus communication data sequence	0: High bits before low bits 1: Low bits before high bits	1	-	Real-time	"H0E_en.84" on page 230
H0E.90	200E-5Bh	Modbus version	0.00–655.35	0.00	-	Un changeable	"H0E_en.90" on page 231

4.15 Parameter Group H12

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.00	2012-01h	Multi-speed operation mode	0: Individual operation (number of speeds selected in H12.01) 1: Cyclic operation (number of speeds selected in H12.01) 2: DI-based operation	1	-	At stop	"H12_en.00" on page 231
H12.01	2012-02h	Number of speed references in multi-speed mode	1–16	16	-	At stop	"H12_en.01" on page 231
H12.02	2012-03h	Operating time unit	0: s 1: min	0	-	At stop	"H12_en.02" on page 232
H12.03	2012-04h	Acceleration time 1	0 ms to 65535 ms	10	ms	Real-time	"H12_en.03" on page 232
H12.04	2012-05h	Deceleration time 1	0 ms to 65535 ms	10	ms	Real-time	"H12_en.04" on page 232
H12.05	2012-06h	Acceleration time 2	0 ms to 65535 ms	50	ms	Real-time	"H12_en.05" on page 232
H12.06	2012-07h	Deceleration time 2	0 ms to 65535 ms	50	ms	Real-time	"H12_en.06" on page 233
H12.07	2012-08h	Acceleration time 3	0 ms to 65535 ms	100	ms	Real-time	"H12_en.07" on page 233
H12.08	2012-09h	Deceleration time 3	0 ms to 65535 ms	100	ms	Real-time	"H12_en.08" on page 233
H12.09	2012-0Ah	Acceleration time 4	0 ms to 65535 ms	150	ms	Real-time	"H12_en.09" on page 233
H12.10	2012-0Bh	Deceleration time 4	0 ms to 65535 ms	150	ms	Real-time	"H12_en.10" on page 234
H12.20	2012-15h	1st speed reference	-10000rpm to 10000rpm	0	RPM	Real-time	"H12_en.20" on page 234
H12.21	2012-16h	Operating time of speed 1	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.21" on page 234
H12.22	2012-17h	Acc./dec. time of speed 1	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.22" on page 234

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.23	2012-18h	Reference 2	-10000rpm to 10000rpm	100	RPM	Real-time	"H12_en.23" on page 235
H12.24	2012-19h	Operating time of speed 2	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.24" on page 235
H12.25	2012-1Ah	Acc./dec. time of speed 2	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.25" on page 235
H12.26	2012-1Bh	Reference 3	-10000rpm to 10000rpm	300	RPM	Real-time	"H12_en.26" on page 236
H12.27	2012-1Ch	Operating time of speed 3	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.27" on page 236
H12.28	2012-1Dh	Acc./dec. time of speed 3	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.28" on page 236
H12.29	2012-1Eh	Reference 4	-10000rpm to 10000rpm	500	RPM	Real-time	"H12_en.29" on page 237
H12.30	2012-1Fh	Operating time of speed 4	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.30" on page 237
H12.31	2012-20h	Acc./dec. time of speed 4	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.31" on page 237
H12.32	2012-21h	Reference 5	-10000rpm to 10000rpm	700	RPM	Real-time	"H12_en.32" on page 238
H12.33	2012-22h	Operating time of speed 5	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.33" on page 238

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.34	2012-23h	Acc./dec. time of speed 5	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.34" on page 238
H12.35	2012-24h	Reference 6	-10000rpm to 10000rpm	900	RPM	Real-time	"H12_en.35" on page 238
H12.36	2012-25h	Operating time of speed 6	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.36" on page 239
H12.37	2012-26h	Acc./dec. time of speed 6	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.37" on page 239
H12.38	2012-27h	Reference 7	-10000rpm to 10000rpm	600	RPM	Real-time	"H12_en.38" on page 239
H12.39	2012-28h	Operating time of speed 7	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.39" on page 240
H12.40	2012-29h	Acc./dec. time of speed 7	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.40" on page 240
H12.41	2012-2Ah	Reference 8	-10000rpm to 10000rpm	300	RPM	Real-time	"H12_en.41" on page 240
H12.42	2012-2Bh	Operating time of speed 8	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.42" on page 241

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.43	2012-2Ch	Acc./dec. time of speed 8	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.43" on page 241
H12.44	2012-2Dh	Reference 9	-10000rpm to 10000rpm	100	RPM	Real-time	"H12_en.44" on page 241
H12.45	2012-2Eh	Operating time of speed 9	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.45" on page 241
H12.46	2012-2Fh	Acc./dec. time of speed 9	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.46" on page 242
H12.47	2012-30h	Reference 10	-10000rpm to 10000rpm	-100	RPM	Real-time	"H12_en.47" on page 242
H12.48	2012-31h	Operating time of speed 10	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.48" on page 242
H12.49	2012-32h	Acc./dec. time of speed 10	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.49" on page 243
H12.50	2012-33h	Reference 11	-10000rpm to 10000rpm	-300	RPM	Real-time	"H12_en.50" on page 243
H12.51	2012-34h	Operating time of speed 11	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.51" on page 243

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.52	2012-35h	Acc./dec. time of speed 11	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.52" on page 244
H12.53	2012-36h	Reference 12	-10000rpm to 10000rpm	-500	RPM	Real-time	"H12_en.53" on page 244
H12.54	2012-37h	Operating time of speed 12	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.54" on page 244
H12.55	2012-38h	Acc./dec. time of speed 12	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.55" on page 244
H12.56	2012-39h	Reference 13	-10000rpm to 10000rpm	-700	RPM	Real-time	"H12_en.56" on page 245
H12.57	2012-3Ah	Operating time of speed 13	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.57" on page 245
H12.58	2012-3Bh	Acc./dec. time of speed 13	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.58" on page 245
H12.59	2012-3Ch	Reference 14	-10000rpm to 10000rpm	-900	RPM	Real-time	"H12_en.59" on page 246
H12.60	2012-3Dh	Operating time of speed 14	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.60" on page 246

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H12.61	2012-3Eh	Acc./dec. time of speed 14	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.61" on page 246
H12.62	2012-3Fh	Reference 15	-10000rpm to 10000rpm	-600	RPM	Real-time	"H12_en.62" on page 247
H12.63	2012-40h	Operating time of speed 15	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.63" on page 247
H12.64	2012-41h	Acc./dec. time of speed 15	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.64" on page 247
H12.65	2012-42h	Reference 16	-10000rpm to 10000rpm	-300	RPM	Real-time	"H12_en.65" on page 248
H12.66	2012-43h	Operating time of speed 16	0.0s(m) to 6553.5s(m)	5.0	s (m)	Real-time	"H12_en.66" on page 248
H12.67	2012-44h	Acc./dec. time of speed 16	0: Zero acceleration/ deceleration time 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2 3: Acceleration/Deceleration time 3 4: Acceleration/Deceleration time 4	0	-	Real-time	"H12_en.67" on page 248

4.16 Parameter Group H17

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.00	2017-01h	VDI1 function	0: No assignment 1: Servo ON 3: Gain switchover 14: Positive limit switch 15: Negative limit switch 16: Positive external torque limit 17: Negative external torque limit 18: Forward jog 19: Reverse jog 31: Home switch 34: Emergency stop 41: Current position as home 56: External switchover switch of EPOS program segment	0	-	Real-time	"H17_en.00" on page 249
H17.01	2017-02h	VDI1 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.01" on page 249
H17.02	2017-03h	VDI2 function	Same as H17.00	0	-	Real-time	"H17_en.02" on page 249
H17.03	2017-04h	VDI2 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.03" on page 250
H17.04	2017-05h	VDI3 function	Same as H17.00	0	-	Real-time	"H17_en.04" on page 250
H17.05	2017-06h	VDI3 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.05" on page 250
H17.06	2017-07h	VDI4 function	Same as H17.00	0	-	Real-time	"H17_en.06" on page 251
H17.07	2017-08h	VDI4 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.07" on page 251
H17.08	2017-09h	VDI5 function	Same as H17.00	0	-	Real-time	"H17_en.08" on page 251
H17.09	2017-0Ah	VDI5 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.09" on page 251

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.10	2017-0Bh	VDI6 function	Same as H17.00	0	-	Real-time	"H17_en.10" on page 252
H17.11	2017-0Ch	VDI6 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.11" on page 252
H17.12	2017-0Dh	VDI7 function	Same as H17.00	0	-	Real-time	"H17_en.12" on page 252
H17.13	2017-0Eh	VDI7 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.13" on page 252
H17.14	2017-0Fh	VDI8 function	Same as H17.00	0	-	Real-time	"H17_en.14" on page 253
H17.15	2017-10h	VDI8 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.15" on page 253
H17.16	2017-11h	VDI9 function	Same as H17.00	0	-	Real-time	"H17_en.16" on page 253
H17.17	2017-12h	VDI9 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.17" on page 254
H17.18	2017-13h	VDI10 function	Same as H17.00	0	-	Real-time	"H17_en.18" on page 254
H17.19	2017-14h	VDI10 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.19" on page 254
H17.20	2017-15h	VDI11 function	Same as H17.00	0	-	Real-time	"H17_en.20" on page 254
H17.21	2017-16h	VDI11 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.21" on page 255
H17.22	2017-17h	VDI12 function	Same as H17.00	0	-	Real-time	"H17_en.22" on page 255
H17.23	2017-18h	VDI12 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.23" on page 255
H17.24	2017-19h	VDI13 function	Same as H17.00	0	-	Real-time	"H17_en.24" on page 255

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.25	2017-1Ah	VDI13 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.25" on page 256
H17.26	2017-1Bh	VDI14 function	Same as H17.00	0	-	Real-time	"H17_en.26" on page 256
H17.27	2017-1Ch	VDI14 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.27" on page 256
H17.28	2017-1Dh	VDI15 function	Same as H17.00	0	-	Real-time	"H17_en.28" on page 257
H17.29	2017-1Eh	VDI15 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.29" on page 257
H17.30	2017-1Fh	VDI16 function	Same as H17.00	0	-	Real-time	"H17_en.30" on page 257
H17.31	2017-20h	VDI16 logic level selection	0: Active when the written value is 1 1: Active when the written value changes from 0 to 1	0	-	Real-time	"H17_en.31" on page 257
H17.32	2017-21h	VDO virtual level	0–65535	0	-	Unchangeable	"H17_en.32" on page 258
H17.33	2017-22h	VDO1 function	0: No assignment 1: Servo ready 2: Motor rotating 3: Zero speed 4: Speed matching 5: Positioning completed 6: Proximity 7: Torque limited 8: Speed limited 9: Brake 10: Warning 11: Fault 16: Homing completed 18: Torque reach 19: Speed reach 25: Comparison output 30: Warning or fault output 32: EDM output	0	-	Real-time	"H17_en.33" on page 258
H17.34	2017-23h	VDO1 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.34" on page 259

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.35	2017-24h	VDO2 function	Same as H17.33	0	-	Real-time	"H17_en.35" on page 259
H17.36	2017-25h	VDO2 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.36" on page 259
H17.37	2017-26h	VDO3 function	Same as H17.33	0	-	Real-time	"H17_en.37" on page 259
H17.38	2017-27h	VDO3 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.38" on page 260
H17.39	2017-28h	VDO4 function	Same as H17.33	0	-	Real-time	"H17_en.39" on page 260
H17.40	2017-29h	VDO4 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.40" on page 260
H17.41	2017-2Ah	VDO5 function	Same as H17.33	0	-	Real-time	"H17_en.41" on page 261
H17.42	2017-2Bh	VDO5 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.42" on page 261
H17.43	2017-2Ch	VDO6 function	Same as H17.33	0	-	Real-time	"H17_en.43" on page 261
H17.44	2017-2Dh	VDO6 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.44" on page 261
H17.45	2017-2Eh	VDO7 function	Same as H17.33	0	-	Real-time	"H17_en.45" on page 262
H17.46	2017-2Fh	VDO7 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.46" on page 262
H17.47	2017-30h	VDO8 function	Same as H17.33	0	-	Real-time	"H17_en.47" on page 262
H17.48	2017-31h	VDO8 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.48" on page 262
H17.49	2017-32h	VDO9 function	Same as H17.33	0	-	Real-time	"H17_en.49" on page 263
H17.50	2017-33h	VDO9 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.50" on page 263
H17.51	2017-34h	VDO10 function	Same as H17.33	0	-	Real-time	"H17_en.51" on page 263
H17.52	2017-35h	VDO10 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.52" on page 264
H17.53	2017-36h	VDO11 function	Same as H17.33	0	-	Real-time	"H17_en.53" on page 264
H17.54	2017-37h	VDO11 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.54" on page 264
H17.55	2017-38h	VDO12 function	Same as H17.33	0	-	Real-time	"H17_en.55" on page 264
H17.56	2017-39h	VDO12 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.56" on page 265

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.57	2017-3Ah	VDO13 function	Same as H17.33	0	-	Real-time	"H17_en.57" on page 265
H17.58	2017-3Bh	VDO13 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.58" on page 265
H17.59	2017-3Ch	VDO14 function	Same as H17.33	0	-	Real-time	"H17_en.59" on page 265
H17.60	2017-3Dh	VDO14 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.60" on page 266
H17.61	2017-3Eh	VDO15 function	Same as H17.33	0	-	Real-time	"H17_en.61" on page 266
H17.62	2017-3Fh	VDO15 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.62" on page 266
H17.63	2017-40h	VDO16 function	Same as H17.33	0	-	Real-time	"H17_en.63" on page 267
H17.64	2017-41h	VDO16 logic level selection	0: Output 1 upon active logic 1: Output 0 upon active logic	0	-	Real-time	"H17_en.64" on page 267
H17.90	2017-5Bh	Communication VDI enable	0: Disabled 1: Enabled	0	-	At stop	"H17_en.90" on page 267
H17.91	2017-5Ch	VDI default value after power-on	0: 0x0: No default 1: 0x01: VDI1 default value 2: 0x02: VDI2 default value 4: 0x04: VDI3 default value 8: 0x08: VDI4 default value 16: 0x10: VDI5 default value 32: 0x20: VDI6 default value 64: 0x40: VDI7 default value 128: 0x80: VDI8 default value 256: 0x100: VDI9 default value 512: 0x200: VDI10 default value 1024: 0x400: VDI11 default value 2048: 0x800: VDI12 default value 4096: 0x1000: VDI13 default value 8092: 0x2000: VDI14 default value 16384: 0x4000: VDI15 default value 32768: 0x8000: VDI16 default value	0	-	Real-time	"H17_en.91" on page 267

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H17.92	2017-5Dh	Communication VDO enable	0: Disabled 1: Enabled	0	-	At stop	"H17_en.92" on page 268
H17.93	2017-5Eh	VDO default value after power-on	0: 0x00: No default 1: 0x01: VDO1 default value 2: 0x02: VDO2 default value 4: 0x04: VDO3 default value 8: 0x08: VDO4 default value 16: 0x10: VDO5 default value 32: 0x20: VDO6 default value 64: 0x40: VDO7 default value 128: 0x80: VDO8 default value 256: 0x100: VDO9 default value 512: 0x200: VDO10 default value 1024: 0x400: VDO11 default value 2048: 0x800: VDO12 default value 4096: 0x1000: VDO13 default value 8192: 0x2000: VDO14 default value 16384: 0x4000: VDO15 default value 32768: 0x8000: VDO16 default value	0	-	At stop	"H17_en.93" on page 268

4.17 Parameter Group H24

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H24.00	2024-01h	Message number selection [PN922]	0-65535	3	-	Unchangeable	"H24_en.00" on page 269
H24.01	2024-02h	Heartbeat warning threshold [PN925]	0-65535	5	-	At stop	"H24_en.01" on page 269
H24.02	2024-03h	Fault message counter [PN944]	0-65535	0	-	Unchangeable	"H24_en.02" on page 270
H24.03	2024-04h	Fault code [PN947]	0-65535	0	-	Unchangeable	"H24_en.03" on page 270

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H24.04	2024-05h	Fault No.	0–63	0	-	At stop	"H24_en.04" on page 270
H24.05	2024-06h	Fault condition counter [PN952]	0–65535	0	-	At stop	"H24_en.05" on page 270
H24.06	2024-07h	Sensor header [PN979[0]]	0–4294967295	20754	-	At stop	"H24_en.06" on page 271
H24.08	2024-09h	Sensor type [PN979[1]]	0–4294967295	2147483650	-	At stop	"H24_en.08" on page 271
H24.10	2024-0Bh	Sensor resolution [PN979[2]]	0–4294967295	256	-	At stop	"H24_en.10" on page 271
H24.12	2024-0Dh	Sensor G1_X1ST1 displacement factor [PN979[3]]	0–24	15	-	At stop	"H24_en.12" on page 271
H24.14	2024-0Fh	Sensor G1_X1ST2 displacement factor [PN979[4]]	0–24	15	-	At stop	"H24_en.14" on page 272
H24.16	2024-11h	Sensor multi-turn number [PN979[5]]	0–4294967295	512	-	At stop	"H24_en.16" on page 272
H24.19	2024-14h	Synchronization cycle	0–65535	999	-	Unchangeable	"H24_en.19" on page 272
H24.20	2024-15h	Network parameter write flag	0–3	0	-	At stop	"H24_en.20" on page 273
H24.22	2024-17h	IP address	0–0	0	-	Real-time	"H24_en.22" on page 273
H24.24	2024-19h	Subnet mask	0–0	0	-	Real-time	"H24_en.24" on page 273
H24.26	2024-1Bh	Default gateway	0–0	0	-	Real-time	"H24_en.26" on page 273
H24.28	2024-1Dh	AC1 speed feedback selection	0: Normal 1: High precision	0	-	At stop	"H24_en.28" on page 274
H24.32	2024-21h	DSC position loop gain selection	0: Local position loop gain 1: PLC position loop gain 3: DSC manual tuning	0	-	At stop	"H24_en.32" on page 274

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H24.33	2024-22h	Number of Sync with advanced DSC position feedback	0–16	1	-	Real-time	"H24_en.33" on page 274
H24.34	2024-23h	Loop gain selection switch	0: Stiffness level adapted based on DSC gain 1: Stiffness level adapted based on H09.01	0	-	At stop	"H24_en.34" on page 275
H24.35	2024-24h	Customized telegram 850 transmission	0: No assignment 1: VDO 2: External DI state	0	-	Real-time	"H24_en.35" on page 275
H24.36	2024-25h	User-defined 850 reception	0: No assignment 1: VDI 2: External DO state	0	-	Real-time	"H24_en.36" on page 275
H24.37	2024-26h	Extra telegram	0–65535	0	-	At stop	"H24_en.37" on page 275
H24.38	2024-27h	Customized receive word	0: No function 1: Additive torque 2: Forced DO	0	-	Real-time	"H24_en.38" on page 276
H24.39	2024-28h	Customized transmit word	0: No function 1: Actual torque 2: Actual current 3: DI state	0	-	Real-time	"H24_en.39" on page 276
H24.41	2024-2Ah	Device name loss warning selection	0–1	0	-	Real-time	"H24_en.41" on page 276
H24.42	2024-2Bh	Number of consecutive loss detections	0–65535	8	-	Real-time	"H24_en.42" on page 277
H24.43	2024-2Ch	Communication timeout time	1–65535	1000	-	Real-time	"H24_en.43" on page 277
H24.44	2024-2Dh	FPGA synchronous detection deviation threshold	0 ns to 65535 ns	3000	ns	At stop	"H24_en.44" on page 277
H24.45	2024-2Eh	MAC address	0–65535	0	-	Real-time	"H24_en.45" on page 277
H24.46	2024-2Fh	MAC address	0–65535	0	-	Real-time	"H24_en.46" on page 278
H24.47	2024-30h	MAC address	0–65535	0	-	Real-time	"H24_en.47" on page 278
H24.48	2024-31h	DSC position loop gain coefficient	1–31	10	-	At stop	"H24_en.48" on page 278

4.18 Parameter Group H25

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H25.00	2025-01h	EPOS max. speed	0 LU/min.–40000000 LU/min.	30000	1000 LU/min	Real-time	"H25_en.00" on page 279
H25.02	2025-03h	EPOS max. acceleration	1 LU/s/s–2000000 LU/s/s	100	1000 LU/s/s	Real-time	"H25_en.02" on page 279
H25.04	2025-05h	EPOS max. deceleration	1 LU/s/s–2000000 LU/s/s	100	1000 LU/s/s	Real-time	"H25_en.04" on page 279
H25.06	2025-07h	EPOS ramp deceleration	1 LU/s/s–2000000 LU/s/s	100	1000 LU/s/s	Real-time	"H25_en.06" on page 279
H25.10	2025-0Bh	EPOS positioning reach threshold	0LU–2147483647LU	7	LU	Real-time	"H25_en.10" on page 280
H25.12	2025-0Dh	EPOS positioning reached window time	0 ms to 2147483647 ms	0	ms	Real-time	"H25_en.12" on page 280
H25.14	2025-0Fh	EPOS-Jog1 speed	–40000000 Lu/min to 40000000 LU/min	-300	1000 LU/min	Real-time	"H25_en.14" on page 280
H25.16	2025-11h	EPOS-Jog2 speed	–40000000 Lu/min to 40000000 LU/min	300	1000 LU/min	Real-time	"H25_en.16" on page 280
H25.18	2025-13h	EPOS-JOG1 position increment	0LU–2147483647LU	1000	LU	Real-time	"H25_en.18" on page 281
H25.20	2025-15h	EPOS-JOG2 position increment	0LU–2147483647LU	1000	LU	Real-time	"H25_en.20" on page 281
H25.22	2025-17h	Homing type	-2–35	0	-	Real-time	"H25_en.22" on page 281
H25.23	2025-18h	Homing high speed	0 LU/min.–40000000 LU/min.	5000	1000 LU/min	Real-time	"H25_en.23" on page 282
H25.25	2025-1Ah	Homing low speed	0 LU/min.–40000000 LU/min.	300	1000 LU/min	Real-time	"H25_en.25" on page 282
H25.27	2025-1Ch	Homing acceleration/ deceleration override	0.01% to 100.00%	100.00	%	Real-time	"H25_en.27" on page 282

4.19 Parameter Group H27

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.00	2027-01h	Current block	0–15	0	-	Unchangeable	"H27_en.00" on page 282
H27.01	2027-02h	Block 0 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.01" on page 283
H27.02	2027-03h	Block 1 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.02" on page 283
H27.03	2027-04h	Block 2 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.03" on page 284
H27.04	2027-05h	Block 3 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.04" on page 284
H27.05	2027-06h	Block 4 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.05" on page 284

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.06	2027-07h	Block 5 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.06" on page 285
H27.07	2027-08h	Block 6 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.07" on page 285
H27.08	2027-09h	Block 7 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.08" on page 286
H27.09	2027-0Ah	Block 8 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.09" on page 286
H27.10	2027-0Bh	Block 9 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.10" on page 287

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.11	2027-0Ch	Block 10 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.11" on page 287
H27.12	2027-0Dh	Block 11 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.12" on page 288
H27.13	2027-0Eh	Block 12 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.13" on page 288
H27.14	2027-0Fh	Block 13 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.14" on page 289
H27.15	2027-10h	Block 14 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	"H27_en.15" on page 289

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.16	2027-11h	Block 15 task	1: Positioning 2: Fixed stopper 3: Forward cycle 4: Reverse cycle 5: Waiting 6: Switching 7: Setting I/O 8: Resetting I/O	1	-	Real-time	" H27_en.16" on page 290
H27.17	2027-12h	Position of block 0	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.17" on page 290
H27.19	2027-14h	Position of block 1	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.19" on page 291
H27.21	2027-16h	Position of block 2	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.21" on page 291
H27.23	2027-18h	Position of block 3	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.23" on page 291
H27.25	2027-1Ah	Position of block 4	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.25" on page 291
H27.27	2027-1Ch	Position of block 5	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.27" on page 292
H27.29	2027-1Eh	Position of block 6	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.29" on page 292
H27.31	2027-20h	Position of block 7	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.31" on page 292
H27.33	2027-22h	Position of block 8	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.33" on page 292
H27.35	2027-24h	Position of block 9	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.35" on page 293
H27.37	2027-26h	Position of block 10	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.37" on page 293
H27.39	2027-28h	Position of block 11	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.39" on page 293
H27.41	2027-2Ah	Position of block 12	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.41" on page 293
H27.43	2027-2Ch	Position of block 13	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.43" on page 294
H27.45	2027-2Eh	Position of block 14	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.45" on page 294
H27.47	2027-30h	Position of block 15	-2147483648LU to 2147483647LU	0	LU	Real-time	" H27_en.47" on page 294
H27.49	2027-32h	Block 0 speed	0 Lu/min—4294967295 LU/min	600	1000 LU/min	Real-time	" H27_en.49" on page 295
H27.51	2027-34h	Block 1 speed	0 Lu/min—4294967295 LU/min	600	1000 LU/min	Real-time	" H27_en.51" on page 295

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.53	2027-36h	Block 2 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.53" on page 295
H27.55	2027-38h	Block 3 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.55" on page 295
H27.57	2027-3Ah	Block 4 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.57" on page 296
H27.59	2027-3Ch	Block 5 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.59" on page 296
H27.61	2027-3Eh	Block 6 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.61" on page 296
H27.63	2027-40h	Block 7 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.63" on page 296
H27.65	2027-42h	Block 8 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.65" on page 297
H27.67	2027-44h	Block 9 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.67" on page 297
H27.69	2027-46h	Block 10 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.69" on page 297
H27.71	2027-48h	Block 11 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.71" on page 298
H27.73	2027-4Ah	Block 12 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.73" on page 298
H27.75	2027-4Ch	Block 13 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.75" on page 298
H27.77	2027-4Eh	Block 14 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.77" on page 298
H27.79	2027-50h	Block 15 speed	0 Lu/min–4294967295 LU/min	600	1000 LU/min	Real-time	"H27_en.79" on page 299
H27.81	2027-52h	Block 0 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.81" on page 299
H27.82	2027-53h	Block 1 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.82" on page 299
H27.83	2027-54h	Block 2 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.83" on page 299
H27.84	2027-55h	Block 3 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.84" on page 300
H27.85	2027-56h	Block 4 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.85" on page 300
H27.86	2027-57h	Block 5 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.86" on page 300
H27.87	2027-58h	Block 6 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.87" on page 300
H27.88	2027-59h	Block 7 acc. override	1.00% to 100.00%	100.00	%	Real-time	"H27_en.88" on page 301

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H27.89	2027-5Ah	Block 8 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.89" on page 301
H27.90	2027-5Bh	Block 9 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.90" on page 301
H27.91	2027-5Ch	Block 10 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.91" on page 302
H27.92	2027-5Dh	Block 11 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.92" on page 302
H27.93	2027-5Eh	Block 12 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.93" on page 302
H27.94	2027-5Fh	Block 13 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.94" on page 302
H27.95	2027-60h	Block 14 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.95" on page 303
H27.96	2027-61h	Block 15 acc. override	1.00% to 100.00%	100.00	%	Real-time	" H27_en.96" on page 303

4.20 Parameter Group H28

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H28.00	2028-01h	Block 0 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.00" on page 303
H28.01	2028-02h	Block 1 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.01" on page 303
H28.02	2028-03h	Block 2 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.02" on page 304
H28.03	2028-04h	Block 3 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.03" on page 304
H28.04	2028-05h	Block 4 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.04" on page 304
H28.05	2028-06h	Block 5 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.05" on page 305
H28.06	2028-07h	Block 6 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.06" on page 305
H28.07	2028-08h	Block 7 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.07" on page 305
H28.08	2028-09h	Block 8 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.08" on page 305
H28.09	2028-0Ah	Block 9 dec. override	1.00% to 100.00%	100.00	%	Real-time	" H28_en.09" on page 306

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H28.10	2028-0Bh	Block 10 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.10" on page 306
H28.11	2028-0Ch	Block 11 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.11" on page 306
H28.12	2028-0Dh	Block 12 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.12" on page 306
H28.13	2028-0Eh	Block 13 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.13" on page 307
H28.14	2028-0Fh	Block 14 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.14" on page 307
H28.15	2028-10h	Block 15 dec. override	1.00% to 100.00%	100.00	%	Real-time	"H28_en.15" on page 307
H28.16	2028-11h	Task mode of block 0	0-65535	0	-	Real-time	"H28_en.16" on page 307
H28.17	2028-12h	Task mode of block 1	0-65535	0	-	Real-time	"H28_en.17" on page 308
H28.18	2028-13h	Task mode of block 2	0-65535	0	-	Real-time	"H28_en.18" on page 308
H28.19	2028-14h	Task mode of block 3	0-65535	0	-	Real-time	"H28_en.19" on page 308
H28.20	2028-15h	Task mode of block 4	0-65535	0	-	Real-time	"H28_en.20" on page 309
H28.21	2028-16h	Task mode of block 5	0-65535	0	-	Real-time	"H28_en.21" on page 309
H28.22	2028-17h	Task mode of block 6	0-65535	0	-	Real-time	"H28_en.22" on page 309
H28.23	2028-18h	Task mode of block 7	0-65535	0	-	Real-time	"H28_en.23" on page 309
H28.24	2028-19h	Task mode of block 8	0-65535	0	-	Real-time	"H28_en.24" on page 310
H28.25	2028-1Ah	Task mode of block 9	0-65535	0	-	Real-time	"H28_en.25" on page 310
H28.26	2028-1Bh	Task mode of block 10	0-65535	0	-	Real-time	"H28_en.26" on page 310
H28.27	2028-1Ch	Task mode of block 11	0-65535	0	-	Real-time	"H28_en.27" on page 310
H28.28	2028-1Dh	Task mode of block 12	0-65535	0	-	Real-time	"H28_en.28" on page 311
H28.29	2028-1Eh	Task mode of block 13	0-65535	0	-	Real-time	"H28_en.29" on page 311
H28.30	2028-1Fh	Task mode of block 14	0-65535	0	-	Real-time	"H28_en.30" on page 311
H28.31	2028-20h	Task mode of block 15	0-65535	0	-	Real-time	"H28_en.31" on page 311

Parameter List

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H28.32	2028-21h	Block 0 task parameter	0–2147483647	0	-	Real-time	"H28_en.32" on page 312
H28.34	2028-23h	Block 1 task parameter	0–2147483647	0	-	Real-time	"H28_en.34" on page 312
H28.36	2028-25h	Block 2 task parameter	0–2147483647	0	-	Real-time	"H28_en.36" on page 312
H28.38	2028-27h	Block 3 task parameter	0–2147483647	0	-	Real-time	"H28_en.38" on page 313
H28.40	2028-29h	Block 4 task parameter	0–2147483647	0	-	Real-time	"H28_en.40" on page 313
H28.42	2028-2Bh	Block 5 task parameter	0–2147483647	0	-	Real-time	"H28_en.42" on page 313
H28.44	2028-2Dh	Block 6 task parameter	0–2147483647	0	-	Real-time	"H28_en.44" on page 313
H28.46	2028-2Fh	Block 7 task parameter	0–2147483647	0	-	Real-time	"H28_en.46" on page 314
H28.48	2028-31h	Block 8 task parameter	0–2147483647	0	-	Real-time	"H28_en.48" on page 314
H28.50	2028-33h	Block 9 task parameter	0–2147483647	0	-	Real-time	"H28_en.50" on page 314
H28.52	2028-35h	Block 10 task parameter	0–2147483647	0	-	Real-time	"H28_en.52" on page 314
H28.54	2028-37h	Block 11 task parameter	0–2147483647	0	-	Real-time	"H28_en.54" on page 315
H28.56	2028-39h	Block 12 task parameter	0–2147483647	0	-	Real-time	"H28_en.56" on page 315
H28.58	2028-3Bh	Block 13 task parameter	0–2147483647	0	-	Real-time	"H28_en.58" on page 315
H28.60	2028-3Dh	Block 14 task parameter	0–2147483647	0	-	Real-time	"H28_en.60" on page 315
H28.62	2028-3Fh	Block 15 task parameter	0–2147483647	0	-	Real-time	"H28_en.62" on page 316
H28.64	2028-41h	Fixed stopper monitoring window	0LU to 4294967295LU	0	LU	Real-time	"H28_en.64" on page 316
H28.66	2028-43h	Max. following error of fixed stopper	0LU to 4294967295LU	0	LU	Real-time	"H28_en.66" on page 316
H28.68	2028-45h	External trigger source	0: Triggered by STW1.bit13 1: Triggered by DI	0	-	At stop	"H28_en.68" on page 317

4.21 Parameter Group H29

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.00	2029-01h	Control word 1 (STW1)	Bit0: 1 = Pulse enable allowed; 0 = OFF1, ramp to stop, pulse cleared, ready to switch on bit1: 1 = No OFF2 (pulse enable allowed); 0 = OFF2, coast to stop, pulse cleared immediately, switch-on inhibited bit2: 1 = No OFF3 (pulse enable allowed); 0 = OFF3 quick stop, P1135 brake, pulse cleared, switch-on inhibited bit3: 1 = Enable allowed; 0 = Operation inhibited (pulse cleared) bit4: 1 = Ramp function generator available; 0 = Ramp function generator inhibited bit5: 1 = Ramp function generator continued; 0 = Ramp function generator output frozen bit6: 1 = Setpoint enabled; 0 = Setpoint inhibited (ramp function generator input being zero) bit7: Rising edge-triggered, response fault bit8: JOG1 bit9: JOG2 bit10: 1 = PLC controlled bit11: Reserved bit12: Reserved bit13: Reserved bit14: Reserved bit15: Reserved	0	-	Unchangeable	"H29_en.00" on page 317
H29.01	2029-02h	Control word 2 (STW2)	0-65535	0	-	Unchangeable	"H29_en.01" on page 318
H29.02	2029-03h	Speed setpoint A (VEL_NSOLL_A)	-32768-32767	0	-	Unchangeable	"H29_en.02" on page 318
H29.04	2029-05h	Speed setpoint B (VEL_NSOLL_B)	-2147483648-2147483647	0	-	Unchangeable	"H29_en.04" on page 319

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.06	2029-07h	Encoder control word (G1_STW)	bit0: bit7 = 0, searching for reference point 1; bit7 = 1, measure the pointer 1 bit1: bit7 = 0, searching for reference point 2; bit7 = 1, measure the pointer 2 bit2: bit7 = 0, searching for reference point 3; bit7 = 1, measure the pointer 3 bit3: bit7 = 0, searching for reference point 4; bit7 = 1, measuring pointer 4 bit4: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel bit5: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel bit6: bit4–bit6 000b = Not activated; 001b = Selected functions activated; 010b = Read value; 011b = Cancel bit7: Mode selection; 1 = Real-time measurement; 0 = Searching for the reference point bit8: Reserved bit9: Reserved bit10: Reserved bit11: Zero setting mode; 0 = Absolute position; 1 = Relative position bit12: Rising edge-triggered; request for setting the zero bit bit13: Rising edge-triggered; request for cyclic transmission of absolute position in G1_XIST2 bit14: Parking encoder bit15: Rising-edge triggered Response encoder fault	0	-	Unchangeable	"H29_en.06" on page 319
H29.07	2029-08h	Position deviation (XERR)	-2147483648–2147483647	0	-	Unchangeable	"H29_en.07" on page 320

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.09	2029-0Ah	Position loop gain (KPC)	-2147483648–2147483647	0	-	Unchangeable	"H29_en.09" on page 320
H29.11	2029-0Ch	Position control word 1 (POS_STW1)	bit0: bit0–bit5 block selection supports up to 16 blocks bit1: bit0–bit5 block selection supports up to 16 blocks bit2: bit0–bit5 block selection supports up to 16 blocks bit3: bit0–bit5 block selection supports up to 16 blocks bit4: bit0–bit5 block selection supports up to 16 blocks bit5: bit0–bit5 block selection supports up to 16 blocks bit6: Reserved bit7: Reserved bit8: 1 = Absolute positioning 0 = Relative positioning bit9: 1 = Forward bit10: 1 = Reverse bit11: Reserved bit12: 1 = Continuous transmission 0 = MDI block modification activated by running the rising edge of the program segment (STW1.6) bit13: Reserved bit14: 1 = Setting signal selected 0 = Positioning signal selected bit15: 1 = MDI sub-mode 0 = Program segment sub-mode	0	-	Unchangeable	"H29_en.11" on page 321
H29.12	2029-0Dh	MDI position setting (EPOS)	-2147483648–2147483647	0	-	Unchangeable	"H29_en.12" on page 321
H29.14	2029-0Fh	MDI speed setting (EPOS)	0–4294967295	0	-	Unchangeable	"H29_en.14" on page 322
H29.16	2029-11h	MDI acceleration override (EPOS)	0–65535	0	-	Unchangeable	"H29_en.16" on page 322
H29.17	2029-12h	MDI deceleration override (EPOS)	0–65535	0	-	Unchangeable	"H29_en.17" on page 322

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.18	2029-13h	MDI mode (EPOS)	bit0: 1 = Absolute positioning 0 = Relative positioning bit1: 1 = Forward bit2: 1 = Reverse bit3: Reserved bit4: Reserved bit5: Reserved bit6: Reserved bit7: Reserved bit8: Reserved bit9: Reserved bit10: Reserved bit11: Reserved bit12: Reserved bit13: Reserved bit14: Reserved bit15: Reserved	0	-	Unchangeable	"H29_en.18" on page 322
H29.19	2029-14h	Position control word 2 (POS_STW2)	bit0: 1 = Tracking mode activated bit1: 1 = Set reference point bit2: 1 = Reference point stopper activated bit3: Reserved bit4: Reserved bit5: 1 = JOG increment activated 0 = Speed activated bit6: Reserved bit7: Reserved bit8: Reserved bit9: 1 = Searching for the reference point in the reverse direction 0 = Start searching for the reference point in the forward direction bit10: Reserved bit11: Reserved bit12: Reserved bit13: Reserved bit14: 1 = Software limit switch activated bit15: 1 = Stopper activated	0	-	Unchangeable	"H29_en.19" on page 323
H29.20	2029-15h	Position speed override (EPOS)	0-65535	0	-	Unchangeable	"H29_en.20" on page 324
H29.21	2029-16h	Customized receive word for telegram 111	0-65535	0	-	Unchangeable	"H29_en.21" on page 324

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.22	2029-17h	Torque reduction (MOMRED)	0–16363	0	-	Unchangeable	"H29_en.22" on page 325
H29.23	2029-18h	Torque reference (AdditiveTorque)	-32768–32767	0	-	Unchangeable	"H29_en.23" on page 325
H29.24	2029-19h	Torque upper limit	-32768–32767	0	-	Unchangeable	"H29_en.24" on page 325
H29.25	2029-1Ah	Torque lower limit	-32768–32767	0	-	Unchangeable	"H29_en.25" on page 325
H29.26	2029-1Bh	Customized receive word for 850 additive telegram	0–65535	0	-	Unchangeable	"H29_en.26" on page 326
H29.27	2029-1Ch	Message word (EPOS_MELDW)	0–65535	0	-	Unchangeable	"H29_en.27" on page 326
H29.50	2029-33h	Status word 1 (ZSW1)	bit0: 1 = Ready to switch on, control circuit switched on, initialization done bit1: 1 = Ready to run, main circuit switched on bit2: 1 = Run enable bit3: 1 = Fault bit4: 1 = Coast to stop deactivated (OFF2 deactivated) 0 = Coast to stop activated (OFF2 activated) bit5: 1 = Quick stop deactivated (OFF2 deactivated) 0 = Quick stop activated (OFF2 activated) bit6: 1 = Switch-on inhibited bit7: 1 = Warning existed bit8: Reserved bit9: 1 = PLC control request bit10: Reserved bit11: Reserved bit12: Reserved bit13: Reserved bit14: Reserved bit15: Reserved	0	-	Unchangeable	"H29_en.50" on page 326

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.51	2029-34h	Status word 2 (ZSW2)	bit0: Reserved bit1: Reserved bit2: Reserved bit3: Reserved bit4: Reserved bit5: Reserved bit6: Reserved bit7: Reserved bit8: Reserved bit9: Reserved bit10: Reserved bit11: Reserved bit12: bit12–bit15 drive heartbeat count value, uploaded to PLC bit13: bit12–bit15 drive heartbeat count value, uploaded to PLC bit14: bit12–bit15 drive heartbeat count value, uploaded to PLC bit15: bit12–bit15 drive heartbeat count value, uploaded to PLC	0	-	Unchangeable	"H29_en.51" on page 327
H29.52	2029-35h	Speed actual value A (VEL_NIST_A)	-32768–32767	0	-	Unchangeable	"H29_en.52" on page 328
H29.53	2029-36h	Speed actual B (VEL_NSOLL_B)	-2147483648–2147483647	0	-	Unchangeable	"H29_en.53" on page 328

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.55	2029-38h	Encoder status word (G1_ZSW)	bit0: 1 = Function 1 activated bit1: 1 = Function 2 activated bit2: 1 = Function 3 activated bit3: 1 = Function 4 activated bit4: 1 = Actual value 1 readable bit5: 1 = Actual value 2 readable bit6: 1 = Actual value 3 readable bit7: 1 = Actual value 4 readable bit8: Touch probe 1 bit9: Touch probe 2 bit10: Reserved bit11: Response encoder fault bit12: Set zero response bit13: Cyclic transmission of the absolute position in G1_XIST2 bit14: Parking encoder activated bit15: The encoder is faulty.	0	-	Unchangeable	"H29_en.55" on page 329
H29.56	2029-39h	Encoder 1 position actual value 1 (G1_XIST1)	0-0	0	-	Unchangeable	"H29_en.56" on page 329
H29.58	2029-3Bh	Encoder 1 position actual value 2 (G1_XIST2)	0-0	0	-	Unchangeable	"H29_en.58" on page 329

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.60	2029-3Dh	Position status word 1 (POS_ZSW1)	bit0: bit0–bit5 effective traversing block supports up to 16 blocks bit1: bit0–bit5 effective traversing block supports up to 16 blocks bit2: bit0–bit5 effective traversing block supports up to 16 blocks bit3: bit0–bit5 effective traversing block supports up to 16 blocks bit4: bit0–bit5 effective traversing block supports up to 16 blocks bit5: bit0–bit5 effective traversing block supports up to 16 blocks bit6: Reserved bit7: Reserved bit8: 1 = Reverse stopper activated bit9: 1 = Forward stopper activated bit10: 1 = JOG activated bit11: 1 = Proactive reference point approach activated bit12: Reserved bit13: 1 = Running block activated bit14: 1 = Setting activated bit15: 1 = MDI activated 0 = MDI deactivated	0	-	Un changea ble	" H29_en.60" on page 330

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.61	2029-3Eh	Position status word 2 (POS_ZSW2)	bit0:1 = Tracking mode activated bit1:1 = Speed limit activated bit2:1 = Setpoint available bit3: Reserved bit4:1 = Axis moving forwardly bit5:1 = Axis moving reversely bit6:1 = Negative software limit switch reached bit7:1 = Positive software limit switch reached bit8: 1 = Position actual value <= Limit switch position 1 bit9:1 = Position actual value <= Limit switch position 2 bit10:1 = Direct output 1 through running block setting bit11:1 = Direct output 2 through running block setting bit12:1 = Fixed stop point reached bit13: 1 = Fixed stop point fastening torque reached bit14: 1 = Running to the fixed stop point activated bit15: 1 = RUN command activated	0	-	Unchangeable	"H29_en.61" on page 330
H29.63	2029-40h	Customized send word for telegram 111	0-65535	0	-	Unchangeable	"H29_en.63" on page 331
H29.65	2029-42h	Fault code	0-65535	0	-	Unchangeable	"H29_en.65" on page 331
H29.66	2029-43h	Warning code	0-65535	0	-	Unchangeable	"H29_en.66" on page 332
H29.67	2029-44h	Actual torque	-32768-32767	0	-	Unchangeable	"H29_en.67" on page 332
H29.68	2029-45h	User-defined send word for 850 additive telegram	0-65535	0	-	Unchangeable	"H29_en.68" on page 332

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H29.69	2029-46h	XIST_A position feedback	-2147483648–2147483647	0	-	Un changeable	"H29_en.69" on page 332
H29.90	2029-5Bh	Modulo axis modulus	0–2147483647	0	-	Un changeable	"H29_en.90" on page 333

4.22 Parameter Group H30

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H30.01	2030-02h	DO function state 1 read through communication	0–65535	0	-	Un changeable	"H30_en.01" on page 333
H30.02	2030-03h	DO function state 2 read through communication	0–65535+H941	0	-	Un changeable	"H30_en.02" on page 333

4.23 Parameter Group H31

Param.	Hex	Name	Value	Default	Unit	Change Mode	Page
H31.00	2031-01h	VDI virtual level set through communication	0–65535	0	-	Real-time	"H31_en.00" on page 334
H31.04	2031-05h	DO state set through communication	0–65535	0	-	Real-time	"H31_en.04" on page 334
H31.09	2031-0Ah	Speed reference set via communication	-6000.000rpm to 6000.000rpm	0.000	RPM	Real-time	"H31_en.09" on page 334
H31.11	2031-0Ch	Torque reference set via communication	-100.000% to 100.000%	0.000	%	Real-time	"H31_en.11" on page 334



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