

CT-3134 4 channels Voltage Input

0~5/0~10/±5/±10VDC,15 bits /16 bits

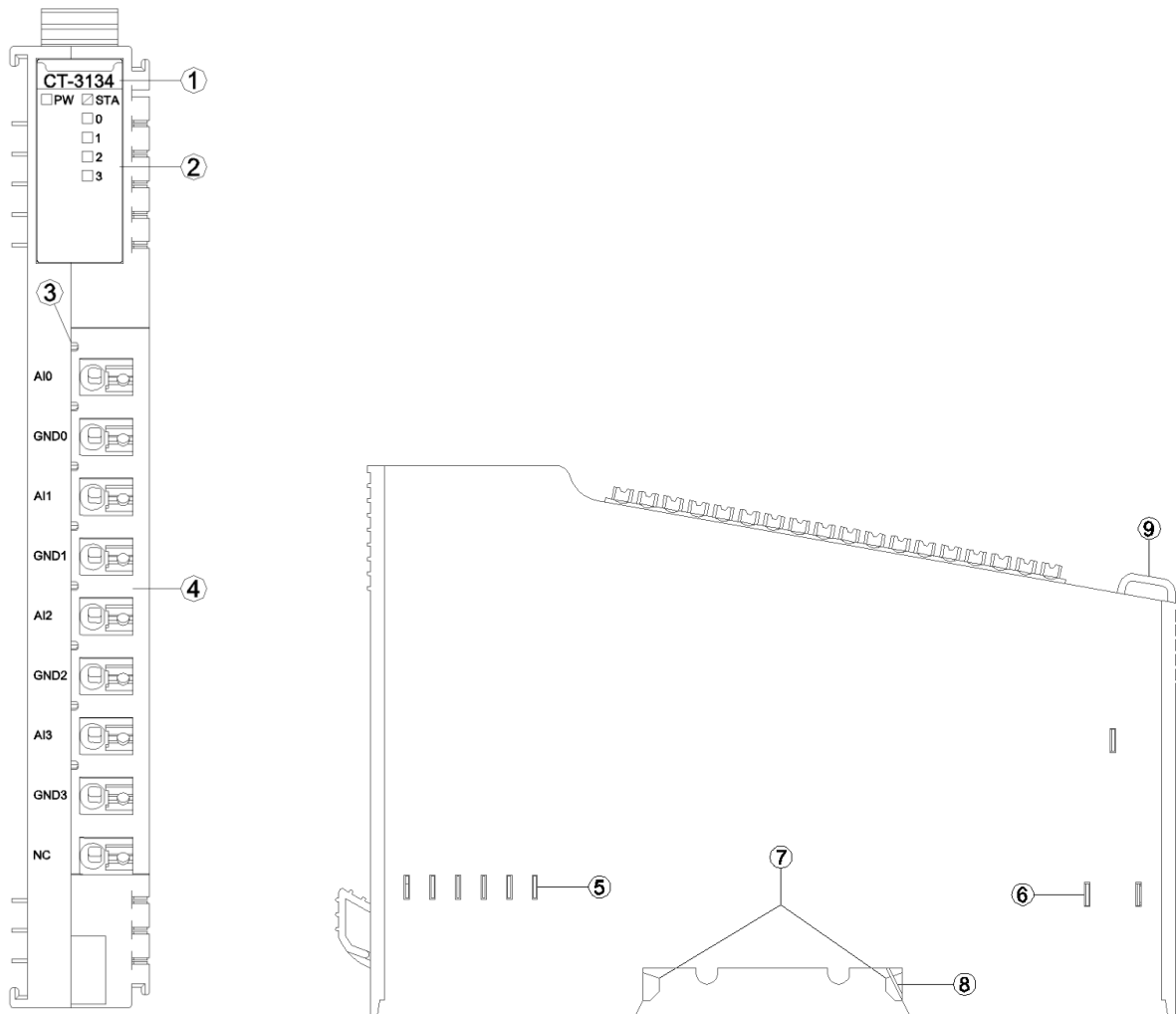
1 Module features

- ◆ The module supports 4 channels of voltage signal input
- ◆ The module can collect 0~5VDC, 0~10VDC, ±5VDC, ±10VDC, with 15 bits and 16 bits resolution
- ◆ The module carries with 4 analog input channel LED indicator
- ◆ Filtering time can be set
- ◆ Channels can be disabled independently
- ◆ With isolation between channels

2 Technical Parameters

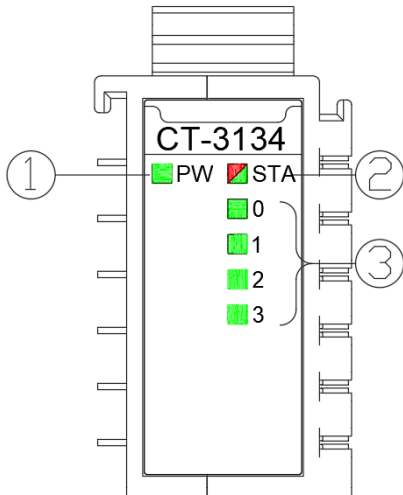
General parameters	
Power	Max.260mA@5.0Vdc
Isolation	I/O to internal bus isolation voltage AC 500V The isolation voltage between channels is AC 500V
Field Power	Not used
Wiring	Max.1.0mm ² (AWG 17)
Mounting Type	35mmDIN-Rail
Size	115*14*75mm
Weight	65g
Environment Specification	
Operational Temperature	-40~55°C
Operational Humidity	5%~95% RH (No Condensation)
Ingress Protection Rating	IP20
Input Parameter	
Channel Number	4 channel voltage input
LED Indicator	4 channel input indicators
Input Voltage Range	0~5VDC, 0~10VDC, ±5VDC and ±10VDC
Resolution	16 bits
Accuracy	±0.3%@25°C ±0.5% @-40~55°C
Sampling Rate	12ms/4 channel
Output Impedance	100KΩ (±5%)
Channel disable	supported
Diagnostic function	Channel disabled fault value: -32767 Overflow: 32767 (Overflow failure value supported only in standard mode) Underflow: -32768(Underflow fault value supported only in standard mode)

3 Hardware Interface



- ① Module Type
- ② State indicator
- ③ N/A
- ④ Wiring Terminal and identification
- ⑤ Internal Bus
- ⑥ Field Power
- ⑦ Buckle
- ⑧ Grounding Spring Sheet
- ⑨ Fixed Wiring Harness

3.1 LED indicator definition



- ① Power LED indicator (green)
- ② Module State LED indicator (red/green)
- ③ Input channel LED indicator (green)

PW POWER STATE (GREEN)	Definition
ON	Internal bus Power Normal
OFF	Internal bus Power Failure
STA MODULE STATE (RED/GREEN)	Definition
Green slow flash (2.5Hz)	Module internal bus is not started
Red slow flash (2.5Hz)	Module internal bus is offline
ON (GREEN)	Operation normal
Flash(2.5Hz) (RED/GREEN)	Upgrading mode
Flash(10Hz) (RED/GREEN)	Firmware Update
Double Flash (RED)	Module Exception, has been soft-restarted
0-3 channel LED indicator (GREEN)	Definition
ON	The input signal exceeds 0.15V or - 0.15V
OFF	Input signal invalid

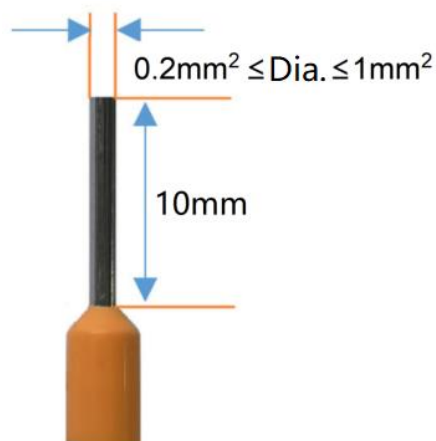
3.2 Terminal definition

Terminal Number	Definition	Definition
1	AI0	Signal Input CH0
2	GND0	Common port CH0
3	AI1	Signal Input CH1
4	GND1	Common port CH1
5	AI2	Signal Input CH2
6	GND2	Common port CH2
7	AI3	Signal Input CH3
8	GND3	Common port CH3
9	NC	Not Connected

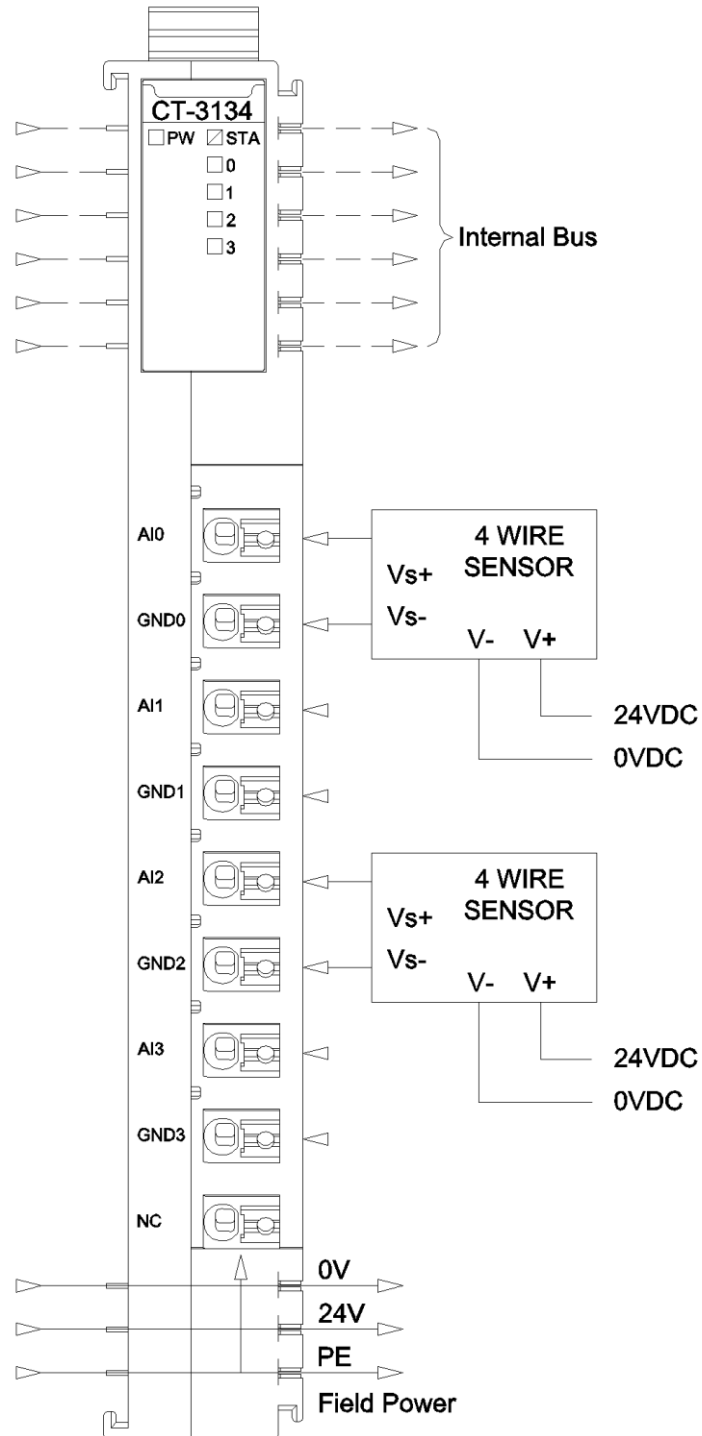
It is recommended to use cables with cores greater than 0.2mm² and smaller than 1mm².

When connecting cables (terminals)with cores, need to check and connect them according to the corresponding node serial number.

The cold-pressed terminal parameters are as follows:



4 Wiring



5 Process data definition

Input Data								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Analog Input Data (CH 0)							
Byte 1								
Byte 2	Analog Input Data (CH 1)							
Byte 3								
Byte 4	Analog Input Data (CH 2)							
Byte 5								
Byte 6	Analog Input Data (CH 3)							
Byte 7								
Byte 8	Analog Input Data (CH 4)							
Byte 9								
Byte 10	Analog Input Data (CH 5)							
Byte 11								
Byte 12	Analog Input Data (CH 6)							
Byte 13								
Byte 14	Analog Input Data (CH 7)							
Byte 15								

5.1 Process data definition (Standard mode)

Data description:

Analog Input Data (CH0-7): Voltage input data value

Process data definition(8AI)						
Voltage (0-5V)	Voltage (0-10V)	Voltage (±5V)	Voltage (±10V)	Decimal	HEX	
>5.06	>10.12	>5.06	>10.12	32767	0x7FFF	Overflow
5.06	10.12	5.06	10.12	27979	0x6D4B	Exceeds the upper limit
5V+0.1808mv	10V+0.3617mv	5V+0.1808mv	10V+0.3617mv	27649	0x6C01	
5	10	5	10	27648	0x6C00	Rated range
.	
.	
2.5	5	2.5	5	13824	0x3600	
.	
.	
0	0	0	0	0	0x0000	
/	/	
/	/	
/	/	-2.5	-5	-13824	0XCA00	
/	/	
/	/	
/	/	-5	-10	-27648	0x9400	
/	/	-5V-0.1808mv	-10V-0.3617mv	-27649	0x93FF	Exceeds the lower limit
/	/	-5.06	-10.12	-27979	0x92B5	
/	/	-5.06<	-10.12<	-32768	0x8000	Underflow

5.2 Process data definition (special mode)

Process data definition (8AI)					
Voltage (0-5V)	Voltage (0-10V)	Voltage ($\pm 5V$)	Voltage ($\pm 10V$)	Decimal	HEX
5	10	5	10	32767	0x7FFF
.
.
2.5	5	2.5	5	16383	0x3FFF
.
.
0	0	0	0	0	0x0000
/	/
/	/
/	/	-2.5	-5	-16384	0xC000
/	/
/	/
/	/	-5	-10	-32768	0x8000

6 Configuration parameters definition

Configuration Parameters								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Reserved						Range_ Mode	16Bit Data Format
Byte 1	Voltage Type (CH 1)				Voltage Type (CH 0)			
Byte 2	Voltage Type (CH 3)				Voltage Type (CH 2)			
Byte 3	Reserved							
Byte 4								
Byte 5	Filtering Time (CH0)							
Byte 6								
Byte 7	Filtering Time (CH1)							
Byte 8								
Byte 9	Filtering Time (CH2)							
Byte 10								
Byte 11	Filtering Time (CH3)							
Byte 12								
Byte 13	Reserved							
...								
Byte 29								

Data description:

16Bit Data Format: Sequence of 16-bit data byte transmission (Default:0)

0: A_B

1: B_A

Range_Mode: Process data mode (default: standard mode)

Standard mode: same with SIEMENS process data definition

Special mode: max range of the hardware.

Voltage Type(CH 0-3): Input voltage type (Default:3)

0: disabled

1: 0~5Vdc

2: -5~5Vdc

3: 0~10Vdc

4: -10~10Vdc

Filtering Time(CH0-CH3): The input filtering time of the channel, unit in “ms”.

(Default: 10)

A Dimension drawing

