

CT-3713: 3-channel RTD-PT100 temperature acquisition module

1 Module features

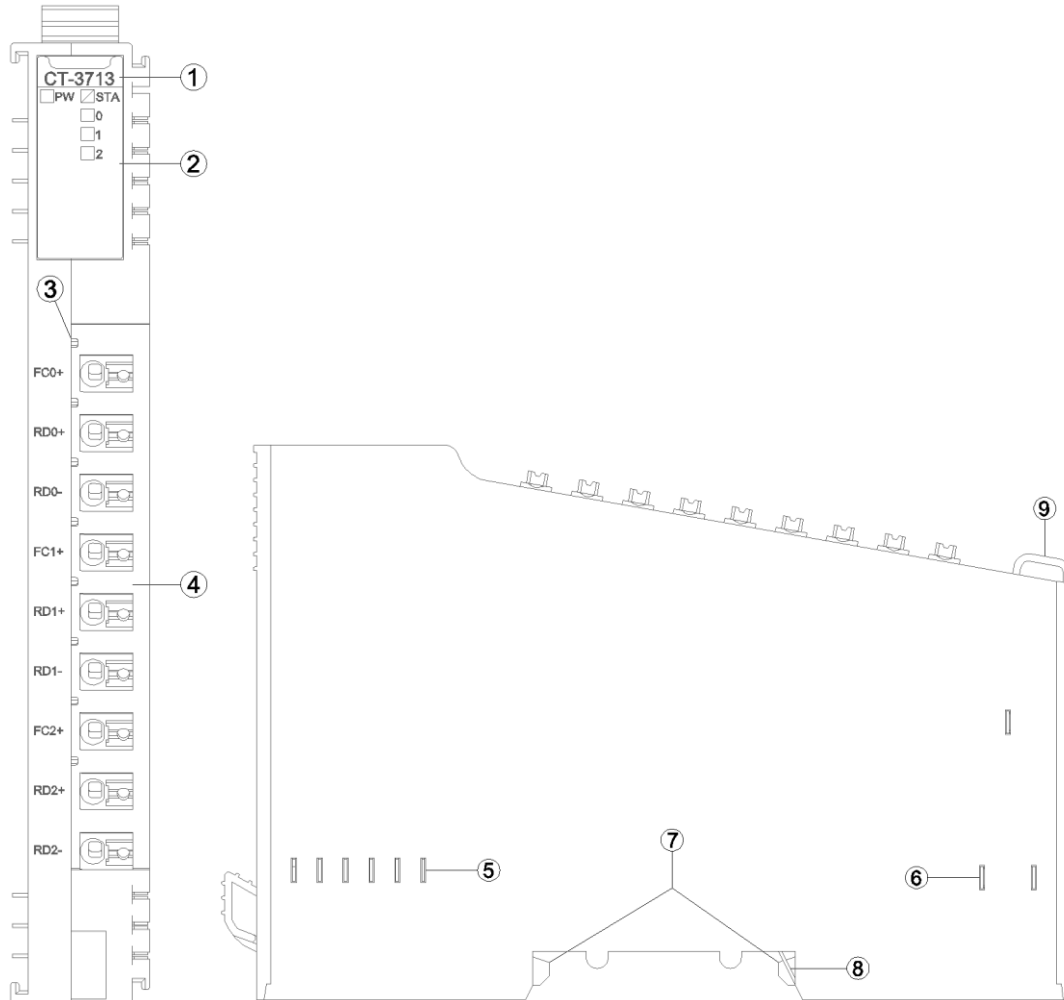
- ◆ The module supports 3-channel RTD thermal resistance (PT100) temperature acquisition
- ◆ The module could be connected to a 2-wire or 3-wire PT100 temperature sensor
- ◆ The internal bus of the module and field input adopts magnetic isolation
- ◆ The module carries with 3 analog input channel LED indicator
- ◆ 15-bit ADC resolution

2 Technical Parameters

General parameters	
Power	Max.35mA@5.0Vdc
Isolation	I/O to internal bus: magnetic isolation (2.5KVrms)
Field Power	Not used
Wiring	I/O Wiring: Max.1.5mm ² (AWG 16)
Mounting Type	35mmDIN-Rail
Size	115*14*75mm
Weight	65g
Environment Specification	
Operational Temperature	-40~85°C
Operational Humidity	5%~95% RH(No Condensation)
Protection Class	IP20
Input Parameter	
Channel Number	3 Channels
LED Indicator	3 Green LED
Resolution	15 bit
Sensor Type	PT100
Measurement Range	-240~880°C
Measurement Accuracy	0.5°C

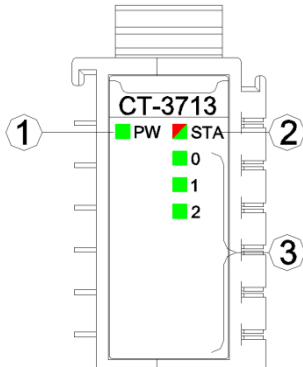
Conversion Rate	400ms/3 channels
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3 Hardware Interface



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

3.1 LED indicator definition



- ① Power LED indicator (green)
- ② Module State LED indicator (red/green)
- ③ Output 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 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
0-2 Channel Indicator	Definition
ON	The input signal exceeds 1% of the range
OFF	Invalid input signal

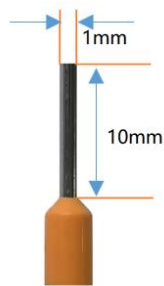
3.2 Terminal definition

Terminal	Definition	Description
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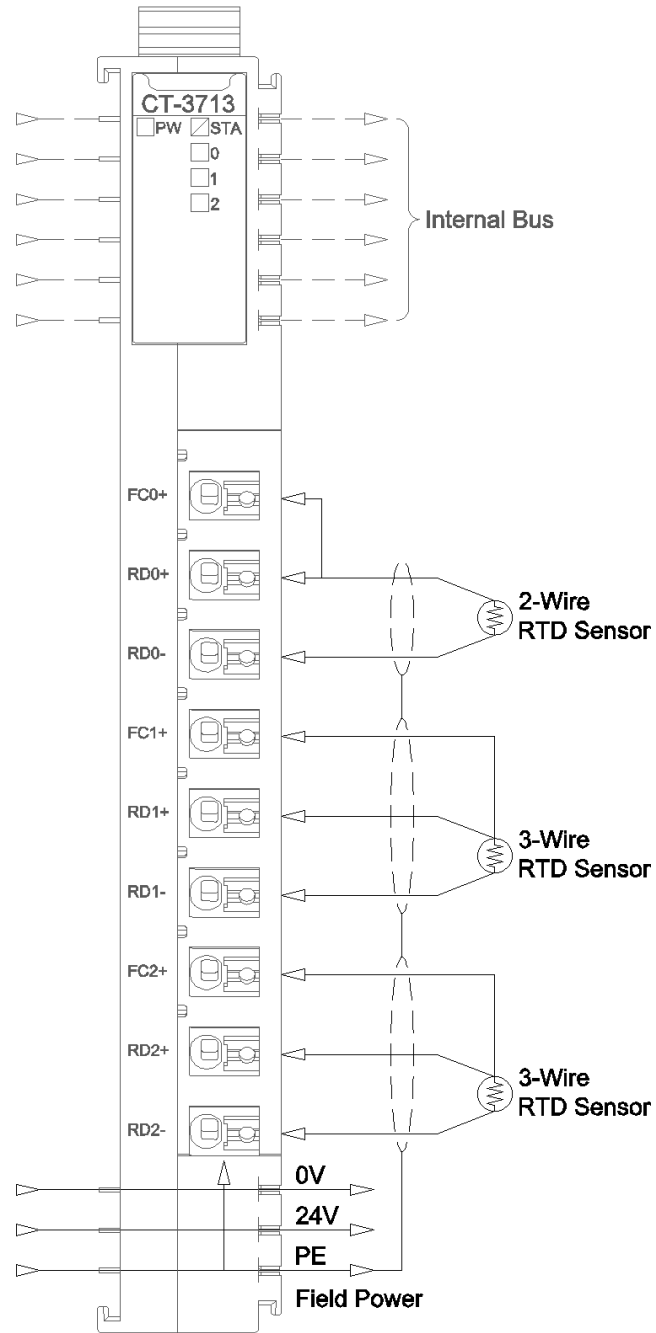
Number		
1	FC0+	Signal Input CH0
2	RD0+	
3	RD0-	
4	FC1+	Signal Input CH1
5	RD1+	
6	RD1-	
7	FC2+	Signal Input CH2
8	RD2+	
9	RD2-	

It is recommended to use cables with cores smaller than 1mm ?

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								

Data Declaration:

Analog Input Data (CH0-2): Analog channel input data values

Process Data Definition			
Temperature	Decimal	Hex	Location
>880.0	32767	7FFF	Overflow
880.0	8800	2260	Exceeds the upper limit
.	.	.	
.	.	.	
850.1	8501	2135	Rated range
850.0	8500	2134	
.	.	.	
.	.	.	
-200.0	-2000	F830	Exceeds the lower limit
-200.1	-2001	F82F	
.	.	.	
.	.	.	
-240.0	-2400	F6A0	Underflow
<-240.0	-32768	8000	

6 Configuration parameters definition

Configuration Parameter								
Bit No	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Reserved							16Bit Data Format

Data Declaration:

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

0: A_B

1: B_A

A Dimension drawing

