CT-3716 6-channel RTD-PT100 Temperature Acquisition Module
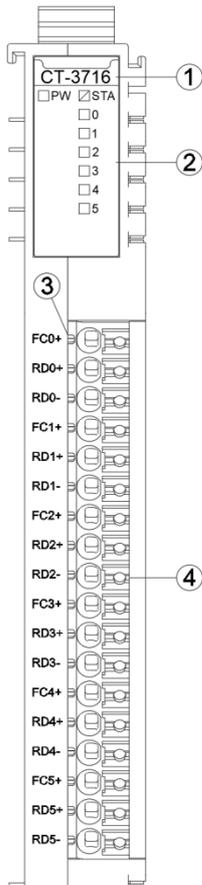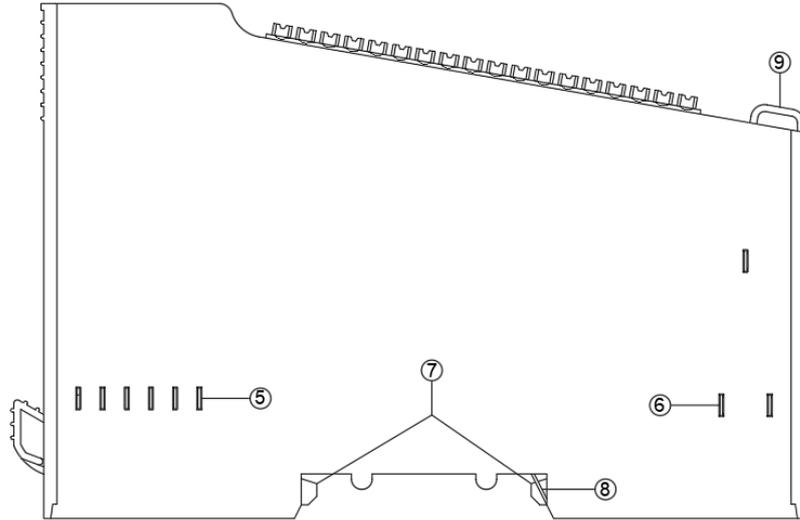
1 Module features

◆ The module supports 6-channel RTD thermal resistance (PT100) temperature acquisition

◆ The module can be connected to 2-wire or 3-wire PT100 temperature sensor

◆ The internal bus and field input of the module are magnetically isolated

◆ The module with 6 analog input channel LED indicators
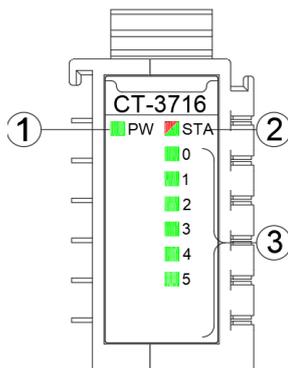
◆ 15-bit ADC resolution

2 Technical Parameters

General Parameters	
Power Consumption	Max.50mA@5.0VDC
Isolation	I/O to Internal Bus: Magnetically Isolated (2.5KVrms)
Field Power	Unused
Wiring	I/O wiring: Max.1.0mm2 (AWG 17)
Installation Mode	35mm DIN-Rail
Size	115*14*75mm
Weight	65g
Environment Specification	
Operating Temperature of Horizontal Installation	-35℃~70℃
Operating Temperature of Vertical Installation	-35℃~60℃
Relative Humidity	< 95%RH(No Condensation)
Storage Temperature	-40℃~85℃
Storage Humidity	< 95%RH(No Condensation)
Manufacturing Test Temperature	-40℃~75℃
Ingress Protection Rating	IP20
Input Parameters	
Channel Number	6 channels
LED Indicator	6 green LED
Resolution	15 bits
Sensor Type	PT100
Measuring Range	-240~880℃
Measurement Accuracy	0.5℃
Conversion Rate	400ms/6 channels
Diagnostic Function	32766: The sensor is not connected or the wire is disconnected -32766: Short-circuit condition 32765: Chip failure 32767: Temperature upflow -32768: Temperature underflow

3 Hardware interface

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CT-3716

☐PW ☑STA

☐0
☐1
☐2
☐3
☐4
☐5

①

②

③

FC0+
RD0+
RD0-
FC1+
RD1+
RD1-
FC2+
RD2+
RD2-
FC3+
RD3+
RD3-
FC4+
RD4+
RD4-
FC5+
RD5+
RD5-

④

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)
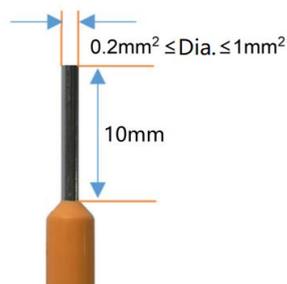
③ Output channel LED indicator (green)

PW power state (GREEN)	Definition
ON	The internal bus power supply is normal
OFF	The internal bus power supply is abnormal
STA module state (RED/GREEN)	Definition
Green Slow Flashing (2.5Hz)	The module's internal bus is not started
Red Slow Flashing (2.5Hz)	The internal bus of the module is offline
On (GREEN)	Operation normal
Flash(2.5Hz) (RED/GREEN)	Upgrading mode
Flash(10Hz) (RED/GREEN)	Firmware Update

Double Flash (RED)	Module exception and program has been soft-restarted
0-5 channel indicator (GREEN)	Definition
ON	The input signal exceeds 1% of the range
OFF	The input signal is invalid

3.2 Terminal definition

Terminal serial number	definition	illustrate
1	FC0+	The signal input is CH0
2	RD0+	
3	RD0-	
4	FC1+	The signal input is CH1
5	RD1+	
6	RD1-	
7	FC2+	The signal input is CH2
8	RD2+	
9	RD2-	
10	FC3+	The signal input is CH3
11	RD3+	
12	RD3-	
13	FC4+	The signal input is CH4
14	RD4+	
15	RD4-	
16	FC5+	The signal input is CH5
17	RD5+	
18	RD5-	

When the cold-pressed terminal is terminated, it should be terminated and viewed in strict accordance with the corresponding termination specifications or requirements, and terminated according to the corresponding node serial number.It is recommended to use cables with cores greater than 0.2mm² and less than 1mm². The cold-pressed terminal parameters are as follows:

4 Wiring

CT-3716

☐ PW ☑ STA
☐ 0
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5

Internal Bus

FC0+
RD0+
RD0-
FC1+
RD1+
RD1-
FC2+
RD2+
RD2-
FC3+
RD3+
RD3-
FC4+
RD4+
RD4-
FC5+
RD5+
RD5-

2-Wire
RTD Sensor

3-Wire
RTD Sensor

0V
24V
PE
Field Power