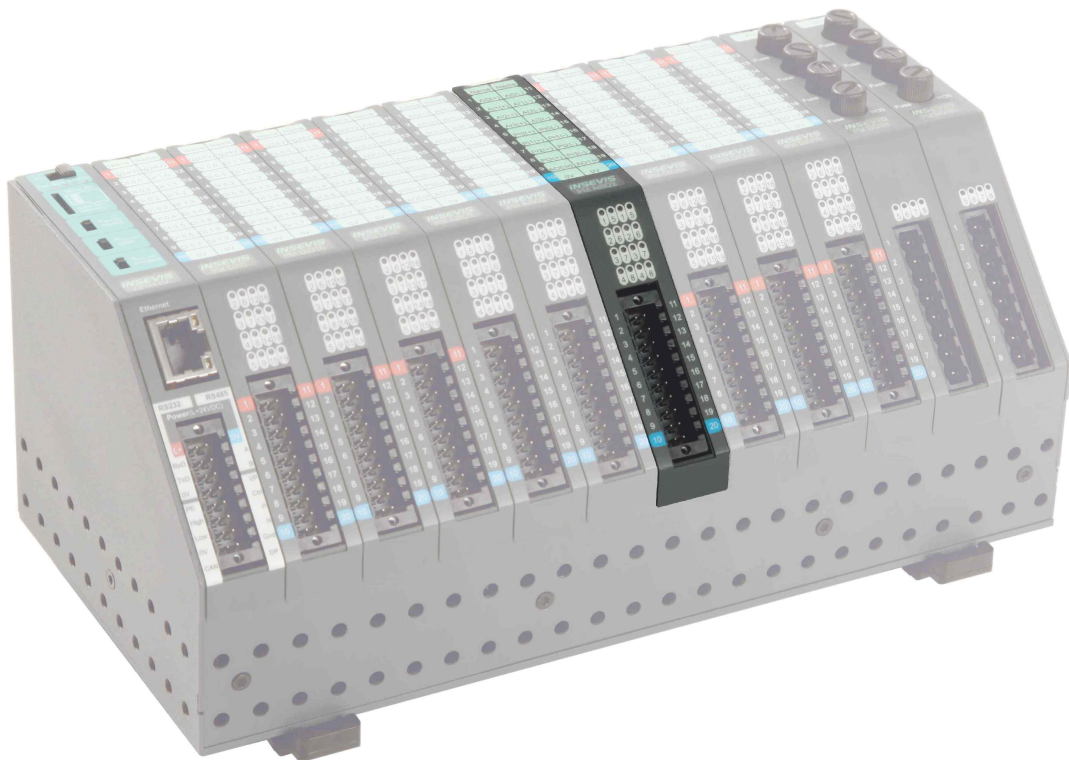


Product Information

Periphery module

PM RTD802



(valid from 06/2012, for all PLCs PC/CCxxxxV/P-03 with OS 2.0.28 and with ConfigStage 1.0.13)

Changes to older versions of this document

Changed in Rev. 06: broken wire information added: only at 2 wire use!

Changed in Rev. 07: temperature areas, connectors, new design line

Description

compact peripheral module for

- 8 analog inputs to be configured by software

Temperature:
PT100,
PT1000,
NI100,
NI1000,
KTY81-1xx
Resistivity survey
200Ω ,
2kΩ
Voltage:
0 .. 400mV,
0 .. 1V

2 analog outputs (0,5 ... 10V)

- Resolution 12 Bit
- green diagnostic LED for each input
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- red diagnostic LED for each input for error (sensor-/ broken wire detection)
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- insertion stripe with description field for every signal
- cage-clamp connector with 2 lift arms or bolt flanges on side

for 2-wire RTDs

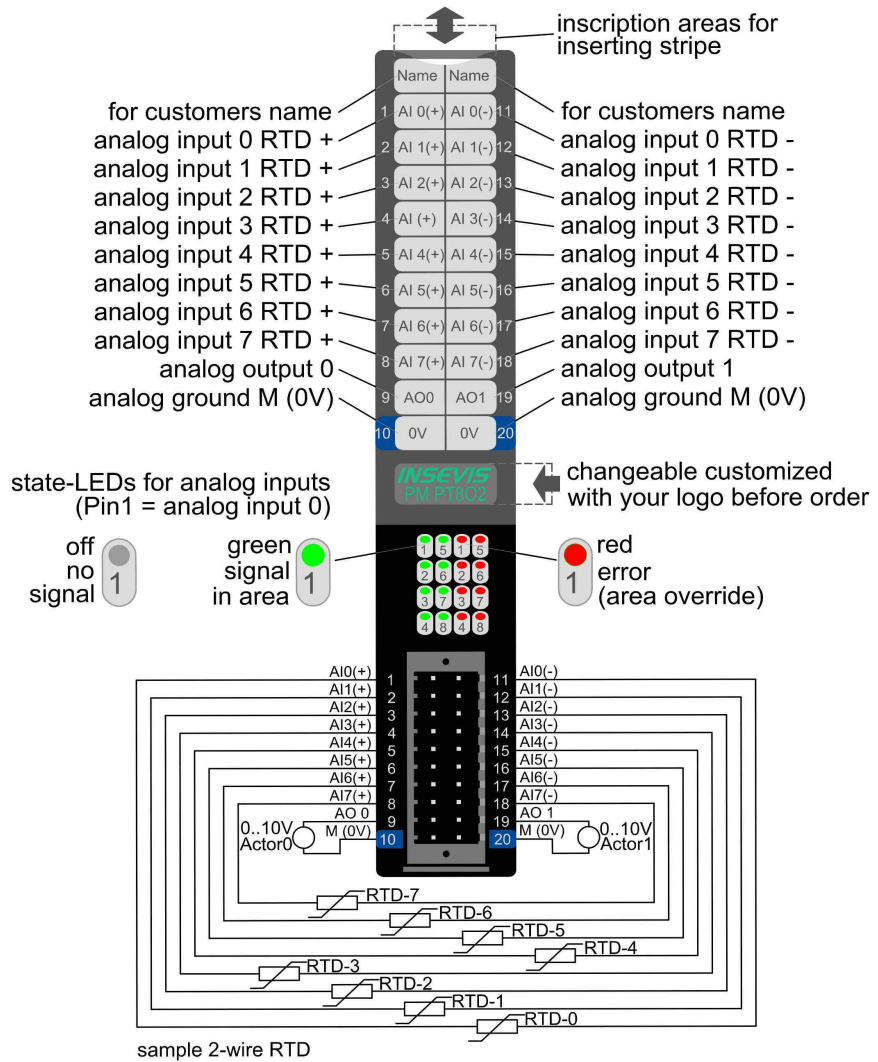
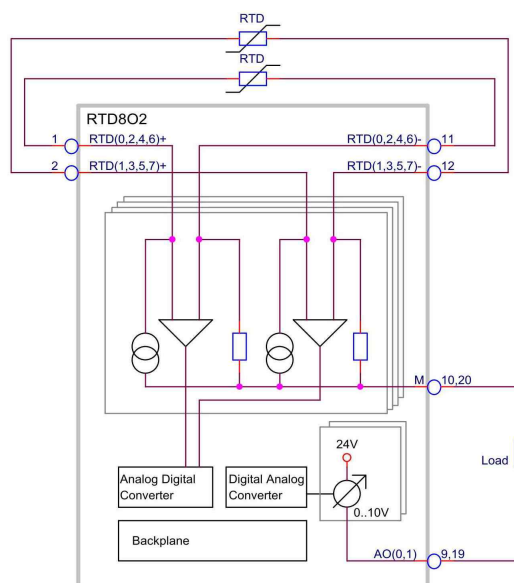


Figure above: Description and wiring of all connections of peripheral module RT802 with 2-wire RTDs



above: block diagram of RTD802 for 2-wire RTDs

Input		
Start address:	128	
End address:	143	
Channel	Address	Type
Channel 1:	128	PT100 (2-wire)
Channel 2:	130	PT100 (3-wire)
Channel 3:	132	PT100 (4-wire)
Channel 4:	134	PT1000 (2-wire)
Channel 5:	136	PT1000 (3-wire)
Channel 6:	138	PT100 (2-wire)
Channel 7:	140	PT100 (2-wire)
Channel 8:	142	PT100 (2-wire)
Output		
Start address:	128	
End address:	131	

above: configuration block of start-/ end addresses of RTD802-i/o's (in words) in the ConfigStage

Description

compact peripheral module for

- 8 analog inputs to be configured by software

Temperature:
PT100,
PT1000,
NI100,
NI1000,
KTY81-1xx
Resistivity survey
200Ω ,
2kΩ
Voltage:
0 .. 400mV,
0 .. 1V

2 analog outputs (0,5 ...10V)

- Resolution 12 Bit
- green diagnostic LED for each input
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- red diagnostic LED for each input for error (sensor-/ broken wire detection)
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- insertion stripe with description field for every signal
- cage-clamp connector with 2 lift arms or bolt flanges on side

for 3-wire RTDs

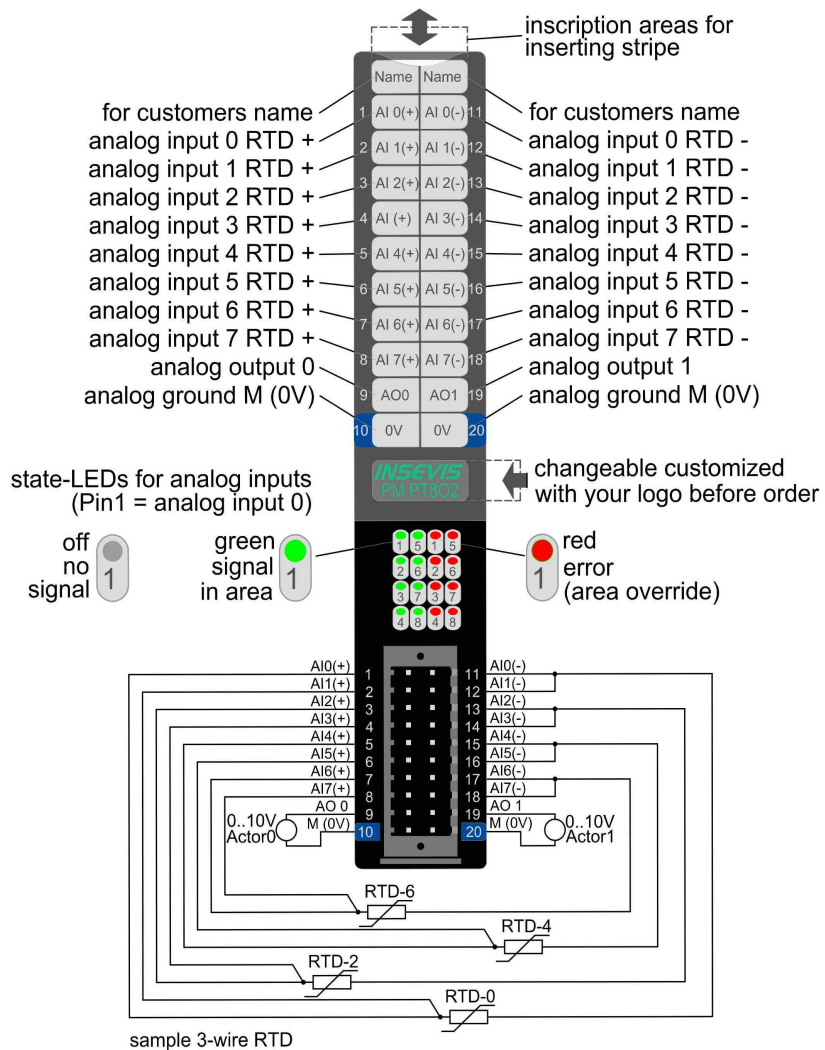
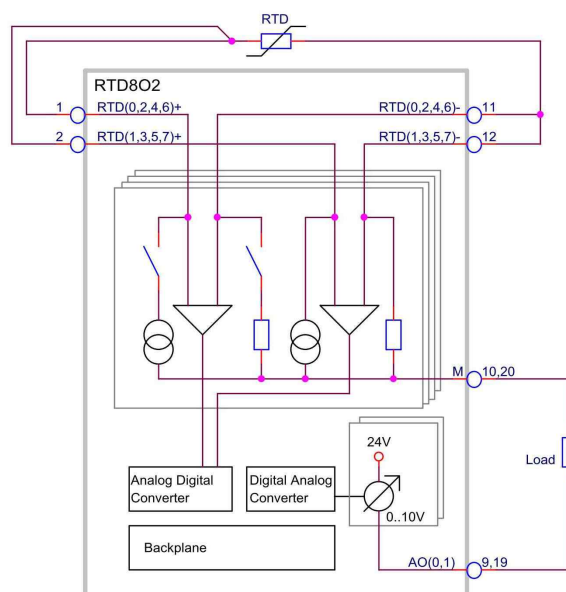


Figure above: Description and wiring of all connections of peripheral module RT802 with 3-wire RTDs



above: block diagram of RTD802 for 3-wire RTDs

Input		
Start address:	128	
End address:	143	
Channel	Address	Type
Channel 1:	128	PT100 (3-wire)
Channel 2:	130	PT100 (2-wire)
Channel 3:	132	PT100 (3-wire)
Channel 4:	134	PT100 (4-wire)
Channel 5:	136	PT1000 (2-wire)
Channel 6:	138	PT1000 (3-wire)
Channel 7:	140	PT1000 (4-wire)
Channel 8:	142	NI100 (2-wire)
		NI100 (3-wire)
Output		
Start address:	128	
End address:	131	

above: configuration block of start-/ end addresses of RTD802-i/o's (in words) in the ConfigStage

Description

compact peripheral module for

- 8 analog inputs to be configured by software

Temperature:
PT100,
PT1000,
NI100,
NI1000,
KTY81-1xx
Resistivity survey
200Ω ,
2kΩ
Voltage:
0 .. 400mV,
0 .. 1V

2 analog outputs (0,5 ... 10V)

- Resolution 12 Bit

- green diagnostic LED for each input
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7

- red diagnostic LED for each input for error (sensor-/ broken wire detection)
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7

- insertion stripe with description field for every signal

- cage-clamp connector with self-lock and 2 lift arms

for 4-wire RTDs

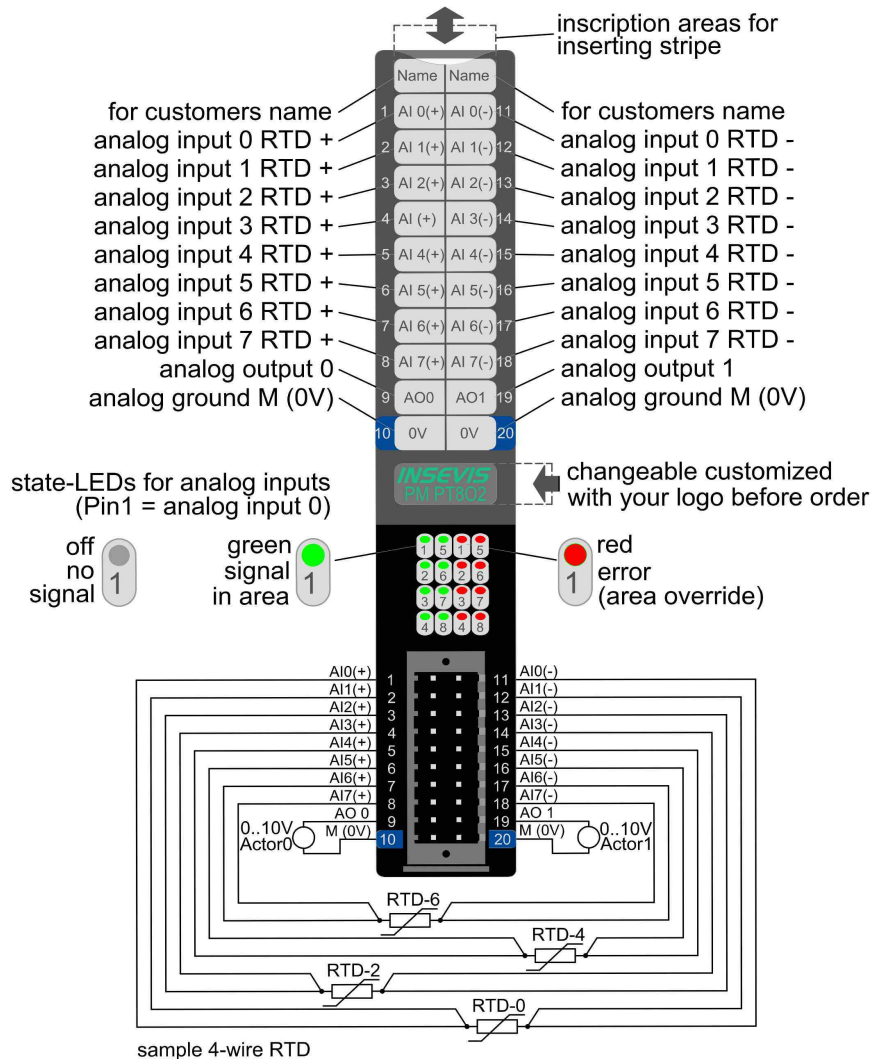
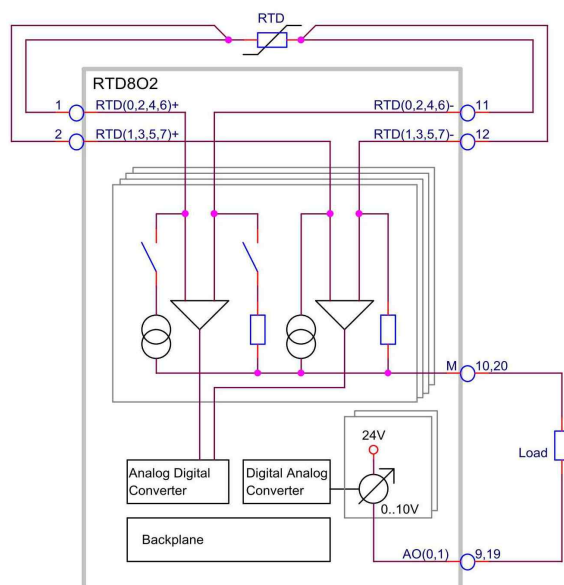


Figure above: Description and wiring of all connections of peripheral module RTD802 with 4-wire RTDs



above: block diagram of RTD802 for 4-wire RTDs

Input		
Start address:	128	
End address:	143	
Channel	Address	Type
Channel 1:	128	PT100 (4-wire)
Channel 2:	130	PT100 (2-wire)
Channel 3:	132	PT100 (3-wire)
Channel 4:	134	PT100 (4-wire)
Channel 5:	136	PT1000 (2-wire)
Channel 6:	138	PT1000 (3-wire)
Channel 7:	140	PT1000 (4-wire)
Channel 8:	142	Ni100 (2-wire)
		Ni100 (3-wire)
Output		
Start address:	128	
End address:	131	

above: configuration block of start-/ end addresses of RTD802-i/o's (in words) in the ConfigStage

Description

compact periphery module for

- 8 analog inputs to be configured by software

Temperature:
PT100,
PT1000,
NI100,
NI1000,
KTY81-1xx
Resistivity survey
200Ω ,
2kΩ
Voltage:
0 .. 400mV,
0 .. 1V

2 analog outputs (0,5 ... 10V)

- Resolution 12 Bit
- green diagnostic LED for each input
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- red diagnostic LED for each input for error (sensor-/ broken wire detection)
 - LED 1 for AI0
 - LED 2 for AI1
 - LED 3 for AI2
 - ...
 - LED 8 for AI7
- insertion stripe with description field for every signal
- cage-clamp connector with 2 lift arms or bolt flanges on side

for voltage measurement

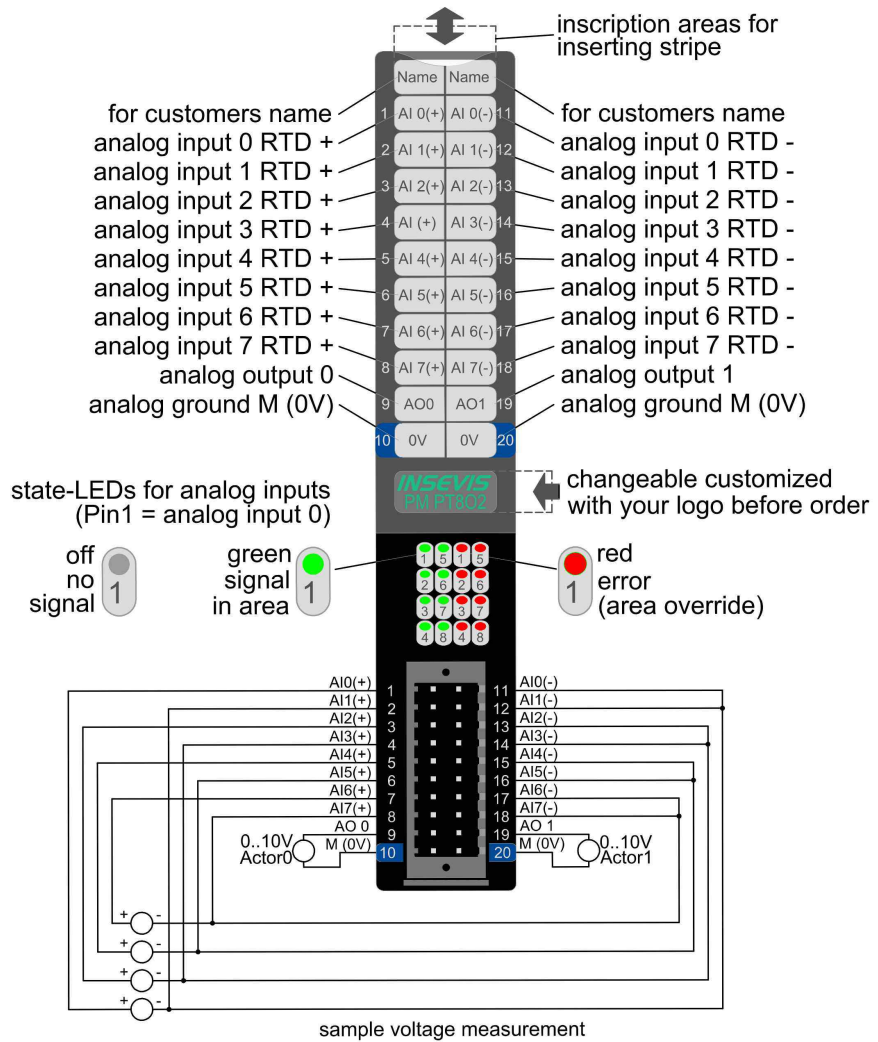
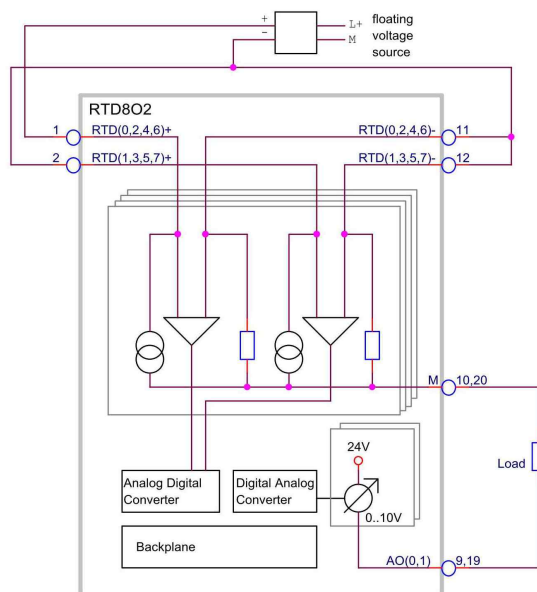


Figure above: Description and wiring of all connections of PM RT802 for voltage measurement



above: block diagram of RTD802 for voltage measurement

Input		
Start address:	128	
End address:	143	
Channel	Address	Type
Channel 1:	128	PT100 (4-wire)
Channel 2:	130	0...300 Ohm (3-wire)
Channel 3:	132	0...300 Ohm (4-wire)
Channel 4:	134	0...2k Ohm (2-wire)
Channel 5:	136	0...2k Ohm (3-wire)
Channel 6:	138	0...2k Ohm (4-wire)
Channel 7:	140	0...400mV
Channel 8:	142	0...1V
Not available		
Output		
Start address:	128	
End address:	131	

above: configuration block of start-/ end addresses of RTD802-i/o's (in words) in the ConfigStage

Technical data			
Operating temperature range Storage temperature range Dimensions W x H x D (mm) Weight	-20°C ... +60°C (without condens.) -30°C ... +80°C 20 x 108 x 70 mm ca. 150 g	Load voltage L+ Current consumption Power dissipation	24V DC (10V ... 30V DC, connected by device supply) 50 mA (max.) 1,2 W (max.)
Connection technology	unlockable connector with 2 lift-arms or bolt langes on side (cage clamp technology) for cross section up to max. 1,5mm ²	Wire length unshielded (max.) shielded (max.)	30 m 100 m
Analog inputs	8	valid voltage between inputs and A-GND (max.)	0 V ... +24 V DC
Diagnostic LEDs	8 green: signal in valid area 8 rot: short circuit no displaying broken wires and open inputs	Error message during override metering area	adjustable diagnosis- and limit value alert on request
Input area (nominal values)	PT100: -50°C ... 600°C PT1000: -50°C ... 250°C Ni100: -50°C ... 250°C Ni1000: -50°C ... 150°C KTY81/1xx: -50°C ... 150°C 0 ... 300 Ω, 0... 2 kΩ	Override area (LEDs off)	PT100: >600°C ... 620°C PT1000: >250°C ... 300°C Ni100: >250°C ... 275°C Ni1000: >150°C ... 175°C KTY81/1xx: >125°C ... 150°C >300 Ω ... 325 Ω, >2 kΩ ... 2,1 kΩ
Value number format	0,1°C for temperature metering area, 0,1° Ω for resistor metering area, 0000 ... 6C00 (hexadecimal) for voltage metering area	Underride area (red LED on)	PT100: -200°C ... < -50°C PT1000: -200°C ... < -50°C Ni100: -200°C ... < -50°C Ni1000: -200°C ... < -50°C KTY81/1xx: -75°C ... < -50°C
Input resistance	500 Ω (typ.) metering area PT100	Access of sensor	2- or 4- wire, symmetric
Resolution	12 Bit		
Metering principle / conversion principle	successive approximation	Broken wire detection	by overrun, shortfall of metering area (only at 2 wire use!)
Sampling cycle time = Integration time	adjustable 1ms ... 35767 ms default: 100 ms (=Net frequency filter 50Hz + 60Hz)	Specifyity (based on input area)	< 1%
Analog outputs	2	Value number format	0000 ... 6C00 (hexadecimal)
Output area (nominal values)	0,5 ... 10V	Short cut protection	yes
Override area	0 ... 11V	Short cut current (typ.)	32 mA
Resolution	12 Bit	Setting time:	response time τ (typ) 1,5 ms
Load resistance against A-GND	1kΩ (max.)	Specifyity (based on output area)	< 1%

Ordering data module

Identification	Order-no.	Packaging unit
Periphery module RTD802	PM-RTD802-02	PU: 1 piece

Ordering data accessoires

Identification	Order-no.	Packaging unit
Connector 2x10pin with pin markings and lift arms on side	E-CON20A-00	PU: 1 piece
Connector 2x10pin with pin markings and bolt flanges on side	E-CONS20A-00	PU: 1 piece
Spare part: Inserting stripe for description fields, 2x11 fields *	E-LABES22-00	PU: 20 pieces
Inserting stripe V for logo and identification for rear side *	E-LABV-00	PU: 100 pieces

* (1x already part of first deliveries scope)

Qualified personnel

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Manuals, sample programs

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