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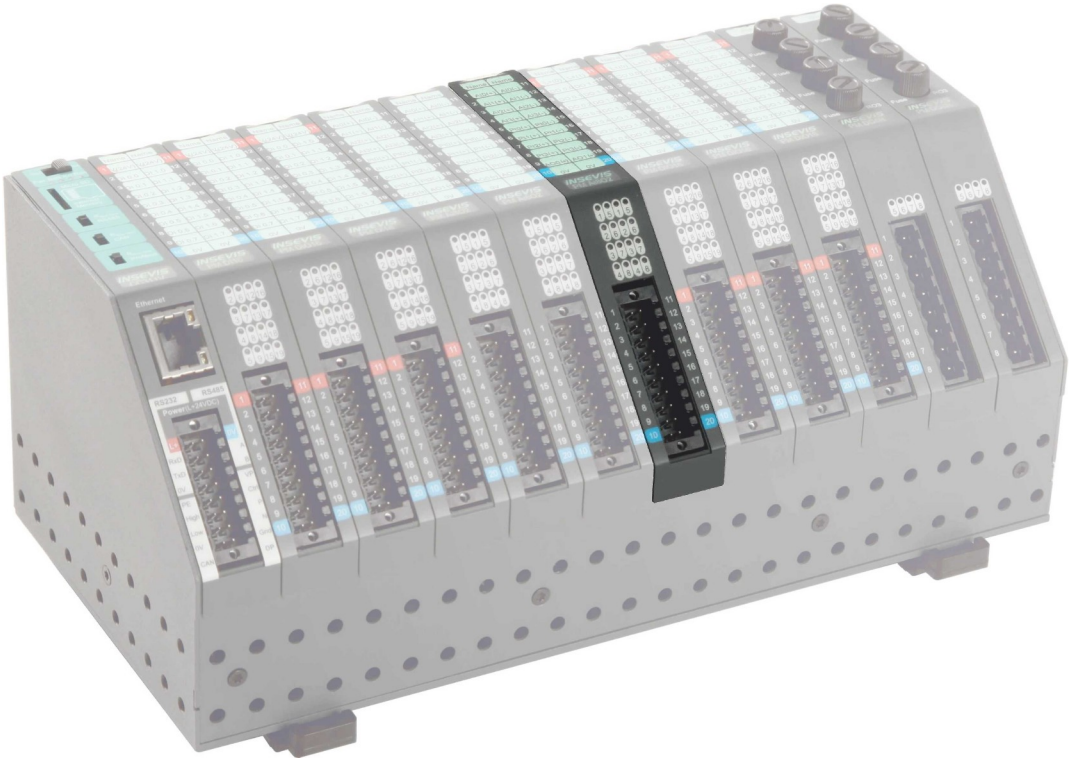
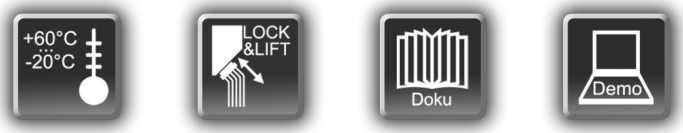
Product Information

Periphery module
PM RTD8O2





(valid from 06/2012)

Changes to older versions of this document

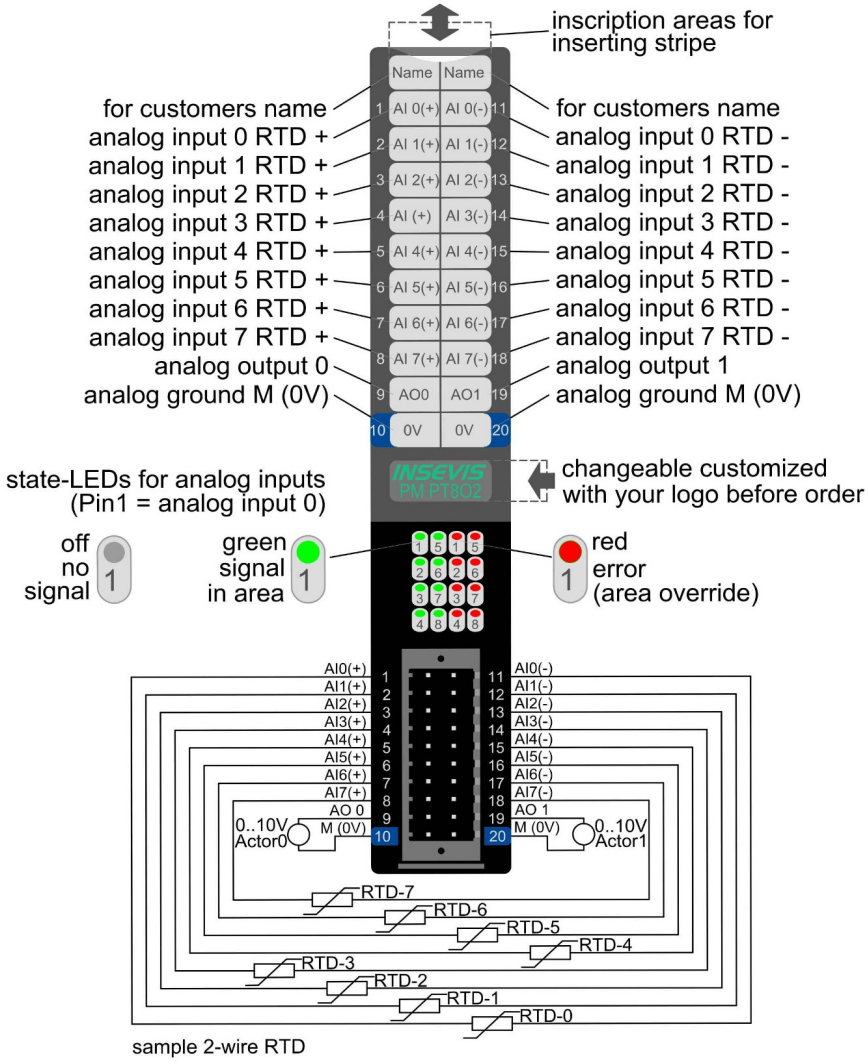
Changed in Rev. 06: broken wire information added: only at 2 wire use!
Changed in Rev. 07: temperature areas, connectors, new design line
Changed in Rev. 08: **I**nformation for disposal of old equipment

Description for 2-wire RTDs

compact periphery module for

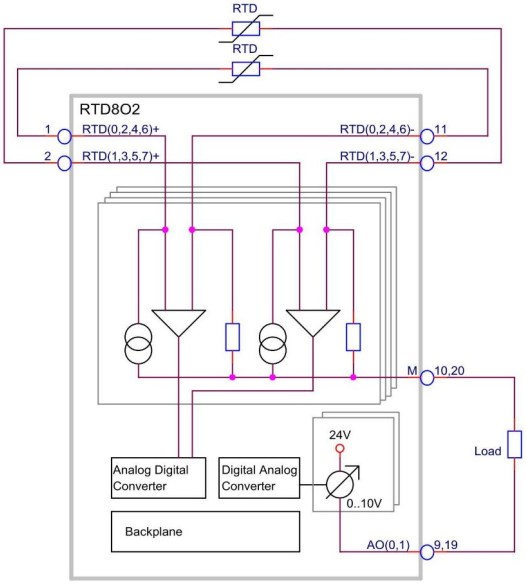
- 8 analog inputs to be configured by software
Temperature:
PT100,
PT1000,
NI100,
NI1000,
KTY81-1xx
Resistivity survey
200Ω ,
2kΩ
Voltage:
0 .. 400mV,
0 .. 1V
2 analog outputs
(0,5 ...10V)

- 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 bolt flanges on side

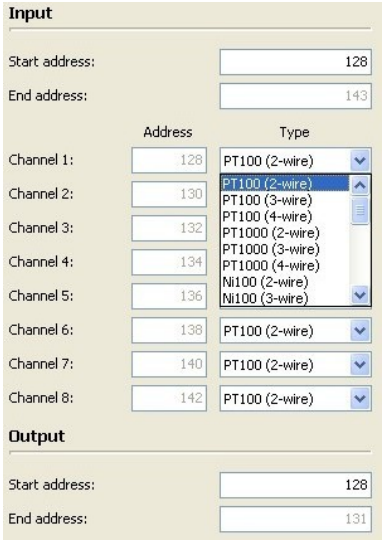


sample 2-wire RTD

Figure above: Description and wiring of all connections of periphery module RT8O2 with 2-wire RTDs



above: block diagram of RTD8O2 for 2-wire RTDs



above: configuration block of start-/ end addresses of RTD8O2-i/o´s (in words) in the ConfigStage

Description for 3-wire RTDs

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 bolt flanges on side

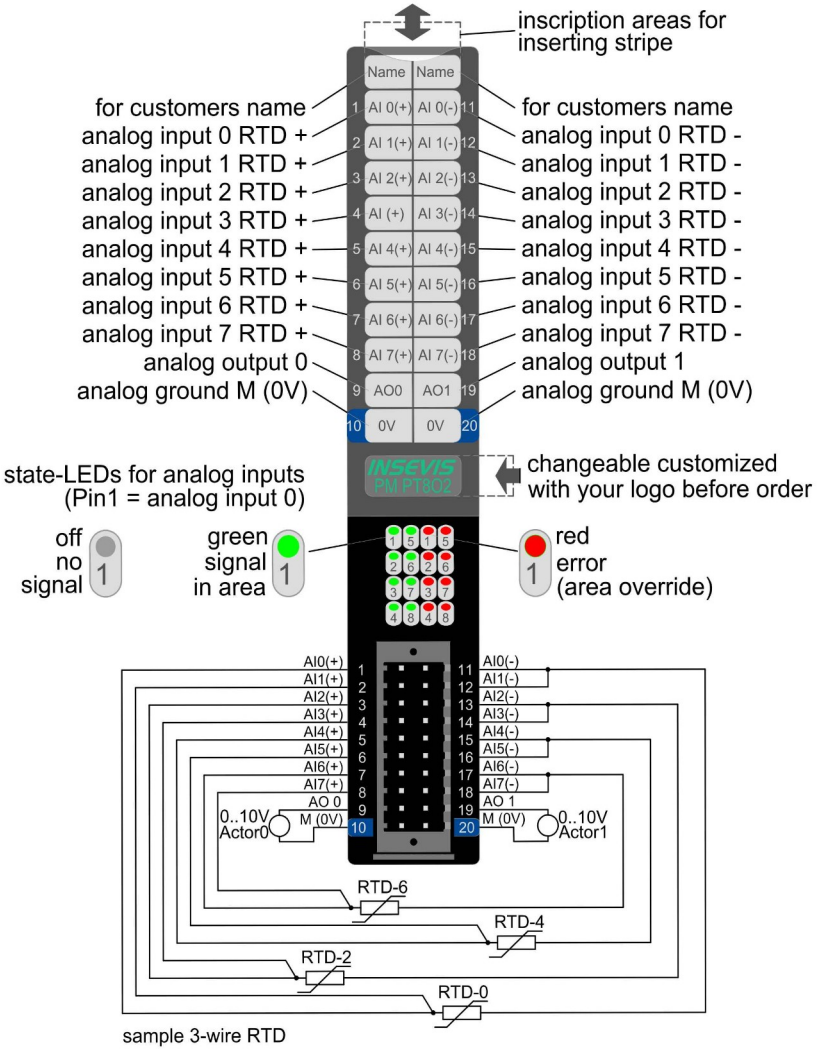
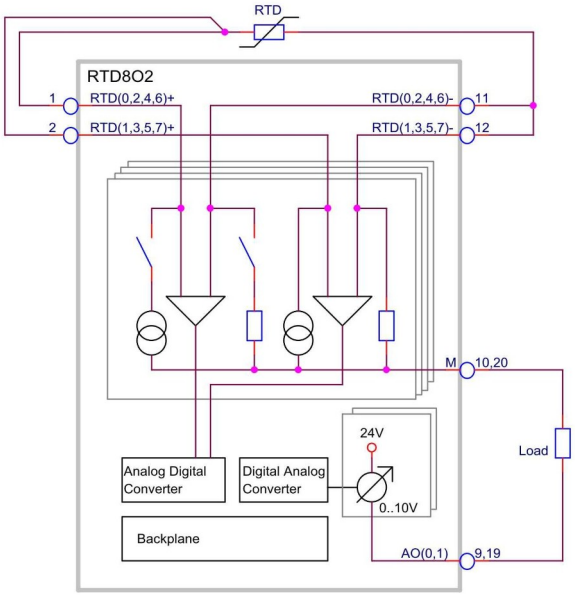
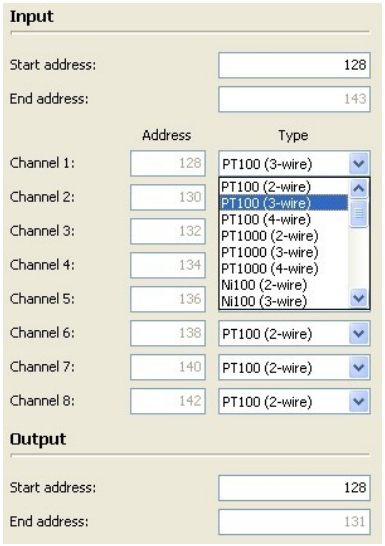


Figure above: Description and wiring of all connections of periphery module RT8O2 with 3-wire RTDs



above: block diagram of RTD8O2 for 3-wire RTDs



above: configuration block of start-/ end addresses of RTD8O2-i/o´s (in words) in the ConfigStage

Description for 4-wire RTDs

compact periphery module for

- 8 analog inputs to be configurd 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 bolt flanges on side

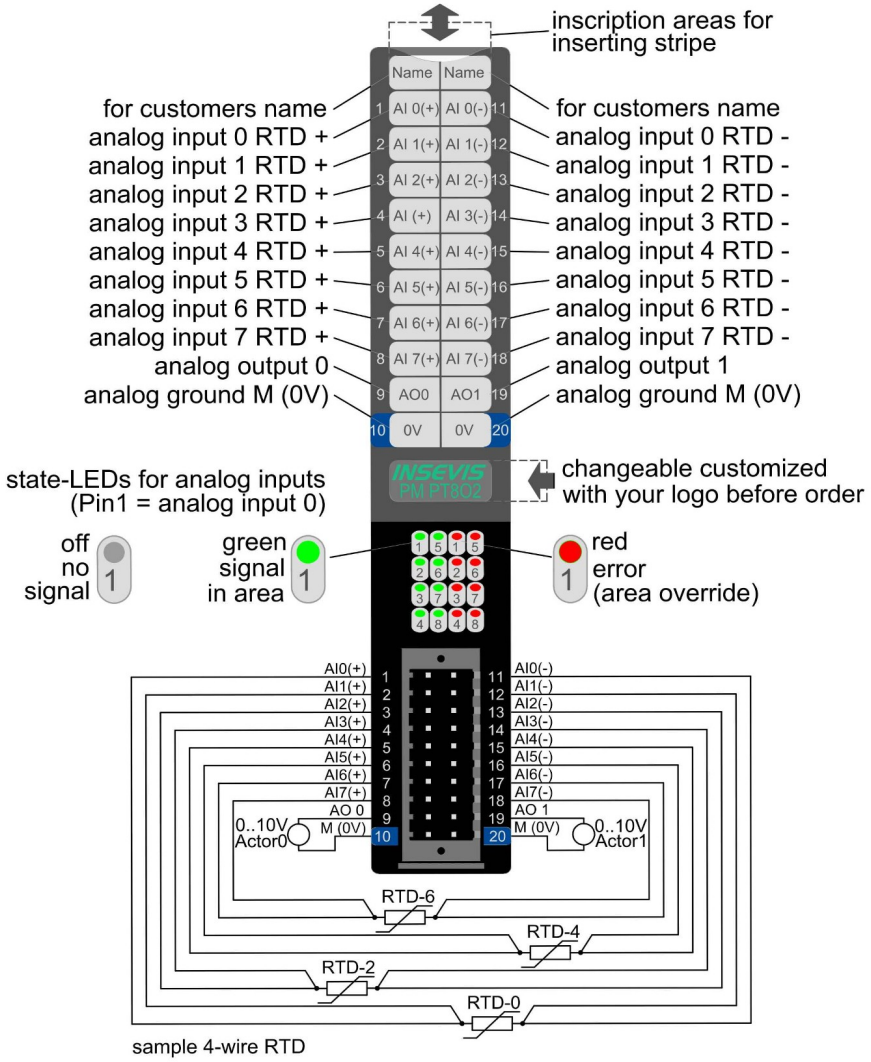
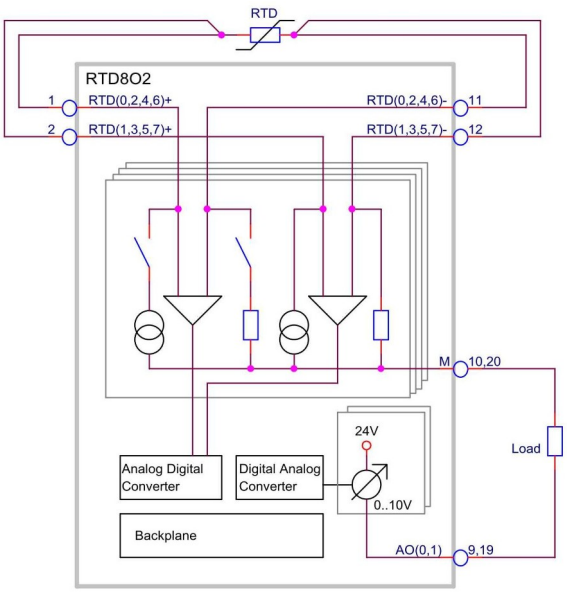
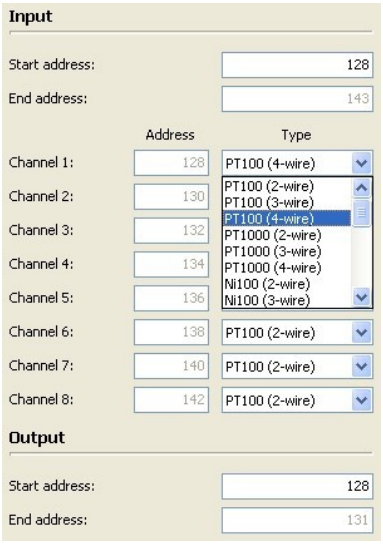


Figure above: Description and wiring of all connections of periphery module RT8O2 with 4-wire RTDs



above: block diagram of RTD8O2 for 4-wire RTDs



above: configuration block of start-/ end addresses of RTD8O2-i/o´s (in words) in the ConfigStage

Description for voltage measurement

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 bolt flanges on side

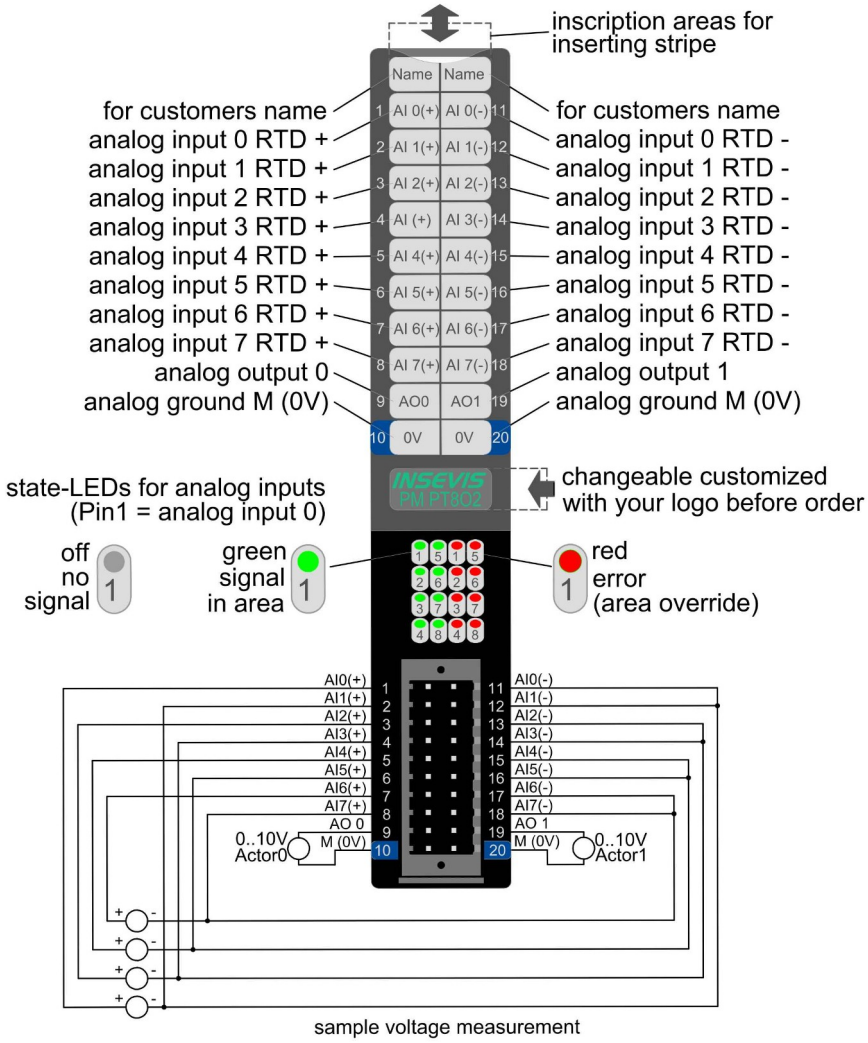
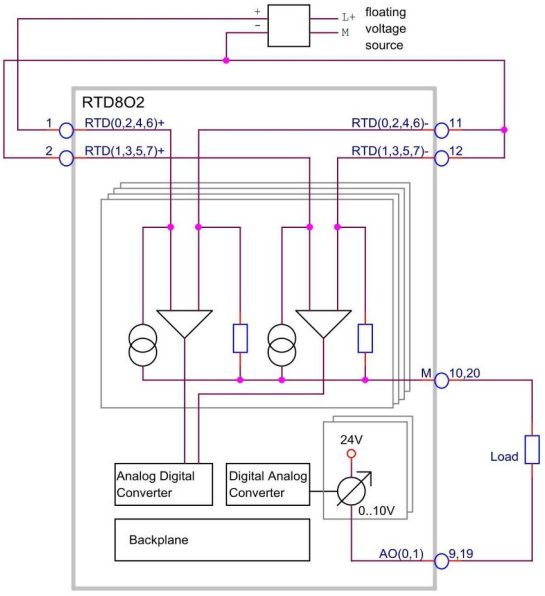
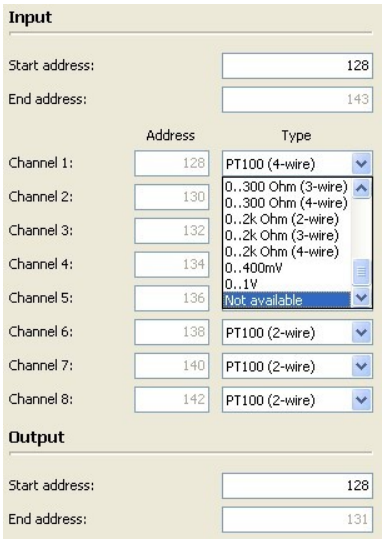


Figure above: Description and wiring of all connections of PM RT8O2 for voltage measurement



above: block diagram of RTD8O2 for voltage measurement



above: configuration block of start-/ end addresses of RTD8O2-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 dissapation	24V DC (10V ... 30V DC, connected by device supply) 50 mA (max.) 1,2 W (max.)
Connection technology	unlockable connector with bolt langes on side (cage clamp technology) for cross section up to max. 1,5mm²	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 pricniple / 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)	Specifity (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.)	Specifity (based on output area)	< 1%

Ordering data module

Identification	Order-no.	Packaging unit
Periphery module **RTD8O2**	PM-RTD8O2-02	PU: 1 piece
Connector 2x10pin with pin markings and bolt flanges on side	E-CONS20A-00	PU: 1 piece

Qualified personnel
All devices described in this manual may only be used, built up and operated together with this documentation. Installation, initiation and operation of these devices might only be done by instructed personnel with certified skills, who can prove their ability to install and initiate electrical and mechanical devices, systems and current circuits in a generally accepted and admitted standard.

Manuals, sample programs
Additional documentation by manuals is available as well sample applications at the download area of www.insevis.com in English language for free download.

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Disposal
Do not throw old appliances in the household waste! In the interest of environmental protection, old appliances must be collected separately from unsorted municipal waste. You can find out more about the proper disposal / return of your old appliance at www.insevis.com/disposal.
Attention: The deletion of personal data on the old devices to be disposed of is the responsibility of the end user.

With publication of this information all other versions are no longer valid.