

2-wire panelmeter 211 for temperature sensors and process inputs

- RTD sensors Pt100, Pt1000
- Thermocouples B, C, D, E, G, J, K, L, N, R, S or T
- Process inputs 0/4..20 mA tai 0..10 V
- 2-wire output 4..20 mA
- Freely scaleable 4-digit bright LED display
- Configuration via front panel
- 2 alarm relays
- 6 points xy linearisation for process inputs
- Password for configuration
- Front panel protection IP65



The wide variety of sensor types makes the panelmeter 211 ideal for all kind of temperature applications. Further, the 211 also accepts thermopile infrared sensors and process inputs 4-20 mA and 0-10 V. Sensor selections, display and output scalings are easy to do with front keys. You can also prevent access to the menu by setting a password.

The two-wire indicator 211 saves installation and cable costs especially where the distances are long, as no separate power supply is needed. Though the output 4-20 mA is available as standard you can connect power supply 12-28 V directly to output terminals, if you do not need the output. The 211 takes only 8 mA from 24 VDC power supply, when output is not used. The bright red LED display shows measuring values in all conditions replacing badly readable LCD displays.

The 211 is a very accurate and stable indicator and transmitter. Therefore it can be used in all kind of applications demanding high accuracy. Input signal is measured with a 16-bit AD-converter giving resolution 1/64000. Scaleable output uses a 12-bit converter giving resolution 1/4000.

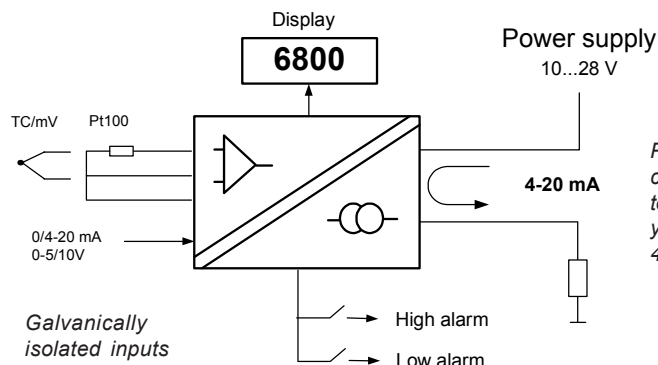
If you need one or two alarms, **model 212** is available. Only one alarm relay can be energized at a time. Alarms are indicated by red LEDs in the front panel.

Input is galvanically isolated from output giving good rejection on interference. Input and output scaling can be set separately e.g. display range is 0..5000 and output 0..1000 for 4-20 mA. Front panel protection is IP65.

2-wire indicator with 4-20 mA output

Inputs:

- RTD-sensors
- Thermocouples
- mA- and V-inputs
- Potentiometers
- IR-sensors



Power supply 10-28V can be connected directly to output terminals when you do not need output 4-20 mA.

Specifications

Thermocouple inputs:

| | Range and linearity | Linearity for limited range |
|--------|------------------------|-----------------------------|
| E | -100.....900°C ±0.3°C | |
| J | -150.....900°C ±1°C | -50.....900°C ±0.3°C |
| K | -150.....1300°C ±0.5°C | |
| L | -100.....900°C ±0.5°C | |
| T | -150.....400°C ±0.2°C | |
| N | 0.....1300°C ±0.2°C | |
| R | 0.....1700°C ±1°C | 400.....1700°C ±0.4°C |
| S | 0.....1700°C ±1°C | 300.....1700°C ±0.3°C |
| C (W5) | 0.....2200°C ±0.4°C | 400.....2200°C ±0.2°C |
| D (W3) | 0.....2200°C ±1°C | 500.....2200°C ±0.3°C |
| B | 400.....1700°C ±0.3°C | |
| G (W) | 1000.....2200°C ±3°C | 1000...1700°C ±0.5°C |

| | |
|------------------------|------------------------|
| Calibration accuracy | <0.1 % of span or <1°C |
| Cold junction effect | <0.05 °C/°C |
| Wire resistance effect | <1kohm, no effects |

Pt100-sensors

| | |
|----------------------|---|
| Sensors | Pt100, Pt500, Pt1000, Ni100 |
| Ranges | -200....+700 °C (Pt100, Pt500) -200....+300 °C (Pt1000) -60.... +175 °C (Ni100) |
| Connection | 3 or 4 wires |
| Sensor current | 0.3 mA |
| Calibration accuracy | 0.15 °C (at 0°C) |
| Temperature effect | <0.005°C/°C |
| Linearity | 0.1 °C (-100..200 °C) 0.5 °C (300-700°C) |
| Max. wire resistance | 30 ohm/wire |
| RTD/potentiometer | 0-1000 ohm, potentiom. 50-500 ohm 3-connection |

mV-input

| | |
|------------------|----------------|
| mV-range | -100...+100 mV |
| Accuracy | 0.05% of span |
| Linearity | 0.03% of span |
| Input resistance | 10 Mohm |

Process input

| | |
|------------------|-----------------------------------|
| Current | 0..20 mA, 4..20 mA, -20..+20 mA |
| Voltage | 0..5 V, 0..10 V, -10..+10V |
| Display scaling | freely scalable by front keys |
| Input resistance | 5 ohm (current), 1 Mohm (voltage) |

| | |
|-----------|---------------|
| Accuracy | 0.03% of span |
| Linearity | 0.01% of span |

Infrared-sensors:

| | |
|-------------------------------------|--------------------------------|
| IR-sensor Exergen 140F-K and 440F-K | |
| Range 140F-K (60°C) | -40..+350°C (linearized range) |
| Range 440F-K (220°C) | -30..+600°C (linearized range) |
| Emissivity settings by front panel | |

Output

| | |
|-------------------------|--------------------|
| 2-wire output | 4-20 mA |
| Straight and reversed | 4-20 mA or 20-4 mA |
| Accuracy | 0.1 % of span |
| Output-DAC | 12 bit |
| Output limiter | 21 mA (typical) |
| Sensor break indication | 3.5 or 21 mA |

Alarms (model 212)

| | |
|--------------|--|
| Alarm relays | 2 solid state relays (SSR), max. 250 VAC, 150 mA |
| Alarm reset | Automatic or manual (hold) |
| Hysteresis | Selectable 0..100 % |
| Alarm types | Low or high alarm (NO or NC) Only one relay can be energized at a time |

General

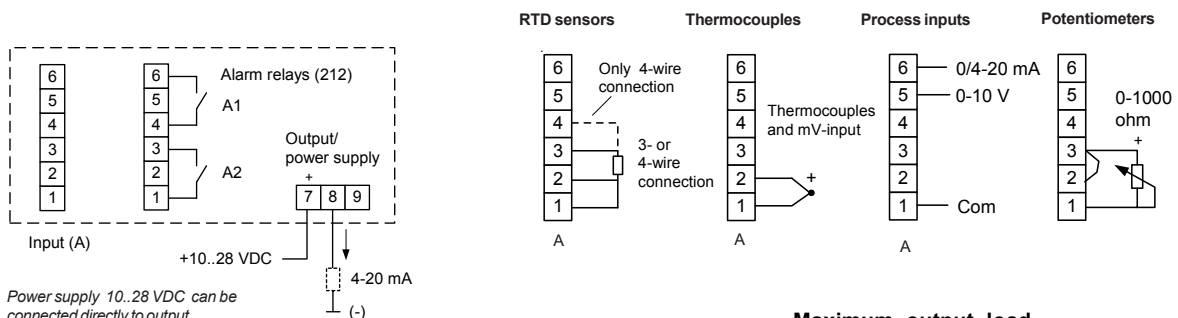
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|---------------------------|----------------------------------|
| Display | 4 digits red LED, size 14,5 mm |
| Power supply range | 10-28 VDC and 12,5-28VDC for 212 |
| Maximum load | See table below |
| Galvanic isolation | 2000 VDC/ 1 min. |
| Measuring rate | 3...4 samples/s. |
| AD-converter | 16 bit |
| Operating temperature | 0..60 °C |
| Storage temperature | -20...+70 °C |
| Humidity (non-condensing) | 0..95 %RH |
| Weight | 250 g |
| Terminals | Max. 2.5 mm ² |

How to order

| | |
|------------------------|-------------------|
| Models | 211-Pt100/3-0/100 |
| Type 211 | |
| or 212 with 2 alarms | |
| Sensor type/connection | |
| Output range | |

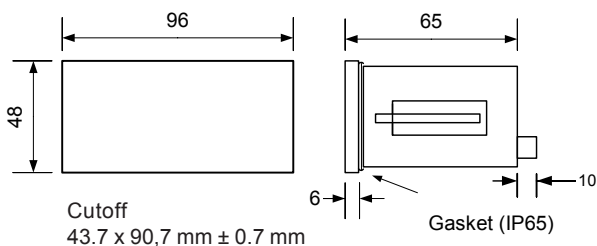
Standard delivery without settings of sensor type and output range.

Connections



Power supply 10..28 VDC can be connected directly to output terminals when output 4-20 mA is not in use

Dimensions



Maximum output load

