


● Characteristics

1 - RTD - THERMOMETER - MODULAR - ECONOMIC

| | | |
|---|--------------------------|---|
|  | - Input: | RTD Pt100 (maximum range -50...+200 °C) |
| | - Output: | 4...20 mA current loop HART (2-wire) |
| | - Voltage supply: | out of current loop (12...40 VDC) |
| | - Accuracy: | see technical details |
| | - Process connection: | several options |
| | - Electrical connection: | several plugs / cable |
| | - Temperature range: | -40...+85 °C (ambient) |
| | - Limit value contacts: | 2 electronically (NPN / PNP) |
| | - Adjustment: | keys / software |
| | - Material: | stainless steel 1.5471 (medium contact) |
| - Protection: | at least IP65 | |

● Technical data

Input

Sensor RTD Pt100: -50...200 °C (minimum range: 10°C)

Output

Current signal: 4...20 mA with superimposed communication signal (HART), 2-wire current loop

Current range: 3,8...20,8 mA

Signal on error: 3,8 mA (sensor break, sensor open circuit)

Performance

Sensor: RTD Pt100: Class A / Class B / B1/2 DIN / B1/3 DIN / B1/5 DIN / B1/10 DIN

Measuring amplifier: Accuracy: 0,2K or 0,08% of range

Resolution: 16 Bit / 0,3 µA

Long term stability: 0,05% / year

Filter setting: yes

Transmission behaviour: temperature linear

Turn-on delay time: <5 s

Response time: 1 s

Indicator / limit values: Resolution: -9999...9999 digit

Error of measurement: ±0,2% of range, ±1 digit

Temperature drift: 100 ppm/K

Features: according VDMA 24574-1 up to 24574-4

Operation: according VDMA 24574-1 up to 24574-4

Programmable features

Measuring amplifier: measuring range start / measuring range end /

Display: range of indication / time of indication / decimal point / units / stabilisation of zero point /

locking of programming / calibration points / TAG number

Limit value contacts: limit value 1 and 2 / hysteresis 1 and 2 / delay times 1 and 2

● Applications

For use in climating, ventilating and heating installations and the whole range of industrial application. With it's two configurable limit value contacts, the integrated display and the numerous electrical connections, the temperature sensor is also suitable for applications with higher requirements.



● Technical data (continued)

Indication

| | |
|------------------|--|
| Display: | 7 segment, 8,5 mm, red, 4 digits, representation mirror-inverted 180° possible |
| Head of display: | rotatable approx. 330° |
| Memory: | minimum / maximum values |
| Indication: | - measuring value - unit of measurement - control menu |
| Decimal point: | automatically or manually, dependent on measuring range / unit |
| | Representation: xxxx / xxx.x / xx.xx / x.xxx |

Limit contacts

| | |
|------------------------|---|
| Electronically: | 2x PNP or NPN (30 VDC, 200 mA) Option: 2x PNP or NPN (30 VDC, 1000 mA) |
| Indication: | 1 LED red for each limit value |
| Voltage across: | <1 V |
| Settings: | with 3 keys (TouchM-Technology) |
| Setting range: | switch point and hysteresis: any value within measuring range |
| Switching delay: | 0,0...999,9 s |
| Failsafe function: | adjustable |
| Galvanical insulation: | switching outputs are separated from measuring amplifier |

Supply

| | |
|-----------------------------|--|
| Voltage: | HART current loop: 12...40 VDC VDC |
| Load: | $R = (U_B - 12 \text{ V}) / 22 \text{ mA}$ |
| Reverse battery protection: | available (no function, no damage) |

Ambient conditions

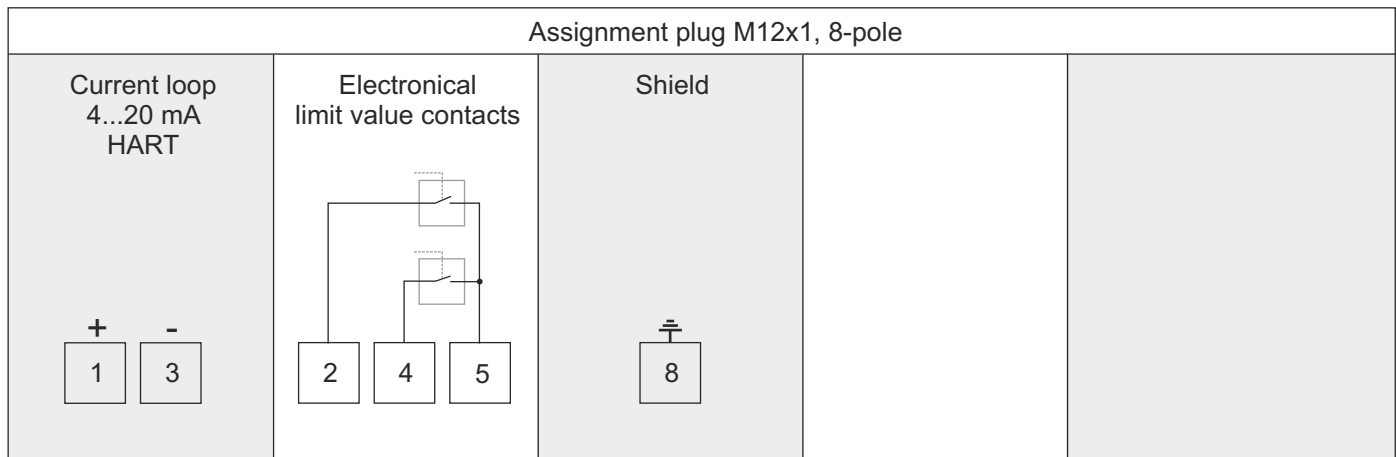
| | | |
|---------------|------------------|---------------|
| Temperature: | Operating range: | -40...+85 °C |
| | Medium: | -50...+200 °C |
| | Storing: | -40...+100 °C |
| Condensation: | uncritical | |

Mechanics









| | | | |
|------------------------|---|--|--|
| Dimensions: | see page 3 | | |
| Process connection: | 1/4" / 3/8" / 1/2" / 3/4" / 1" / 1/4NPT / 3/8NPT / 1/2NPT | | |
| Extension: | 100 mm (option) | | |
| Electrical connection: | see page 3 | | |
| Material: | Protecting tube: | stainless steel 1.4571 (standard 6x0,5 mm) | |
| | Extension: | stainless steel 1.4571 | |
| | Process connection: | stainless steel 1.4571 | |
| | Body: | PBT GF30 | |
| | Head of display: | polycarbonate (makrolon) | |
| Weight: | approx. 150 g (70 mm, 1/2", M12) | | |
| Fitting position: | any | | |
| System pressure: | PN 25 | | |
| Protection of device: | Ingress protection: | at least IP 65 (electronics) | |
| | PCB: | potted | |

● Connection M12-plug (example)

Assignment plug M12x1, 8-pole



● **Electrical connection**

| M12x1 | Super Seal | Deutsch | Deutsch | Bayonet | Valve | MIL | Cable |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| 4-, 5-, 8-pole | 3-pole | 3-pole | 4-pole | 4-pole | 4-pole | 6-pole | 4-, 6-pole |

| Connection | M12 4-pole | M12 5-pole | M12 8-pole | Bayonet 4-pole | Deutsch 4-pole | Deutsch 3-pole | Super Seal 3-pole | Valve 4-pole | MIL 6-pole | Cable ¹⁾ 4-pole 6-pole |
|-------------------|------------|------------|------------|----------------|----------------|----------------|-------------------|--------------|------------|-----------------------------------|
| Limit value (LV) | | | | | | | | | | |
| 1 electronical LV | X | X | X | X | X | | | X | X | X |
| 2 electronical LV | | X | X | | | | | | X | X |

1) 4-pole (+shield) without and 1 limit value contact, 6-pole (+shield) with 2 limit value contacts

● **HART Communication**

The HART-Tool is a graphical user interface for the ME series with menu-driven program for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device.

Operating systems: Windows 2000, Windows XP

Connection via HART interface (modem) with USB interface of a PC or hand-held HART communicator

- Settings:
- Adjustment of output current
 - Limits of measuring range
 - HART TAG number
 - 6-point calibration (linearization)
 - Simulation of output current
 - Linear output signal
 - 2-point calibration
 - Filter function
 - HART address

Please note: When using communication via a HART modem, a communication resistance of 250 Ω has to be taken into account.

● **Dimensions (in mm)**

