

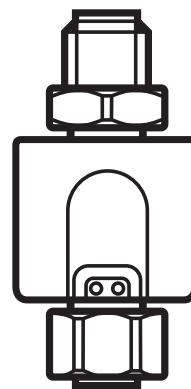


Operating instructions
Measured signal converter
for temperature sensors

TTD-20-N40160F-H
TTD-20-N40300F-H
TTD-20-30300F-H

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1 Preliminary note

1.1 Symbols used

▶ Instruction

> Reaction, result

→ Cross-reference

 Important note

Non-compliance can result in malfunction or interference.

2 Safety instructions

- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.
- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must only be carried out by qualified personnel authorised by the machine operator.

3 Functions and features

In connection with a temperature probe the unit monitors the system temperature in machines and plants.

Connectable temperature probe:

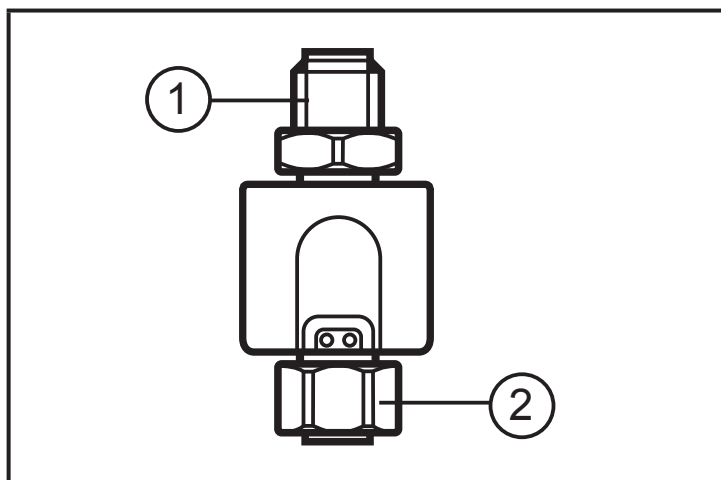
Resistance thermometer RTD PT100.

4 Function

- The unit converts the measured signal into a temperature-proportional analog signal: 4...20 mA.

5 Installation

- ▶ Connect the unit to a temperature probe.



- 1: Connection for voltage supply and output signals
- 2: Connection for temperature probe

6 Electrical connection

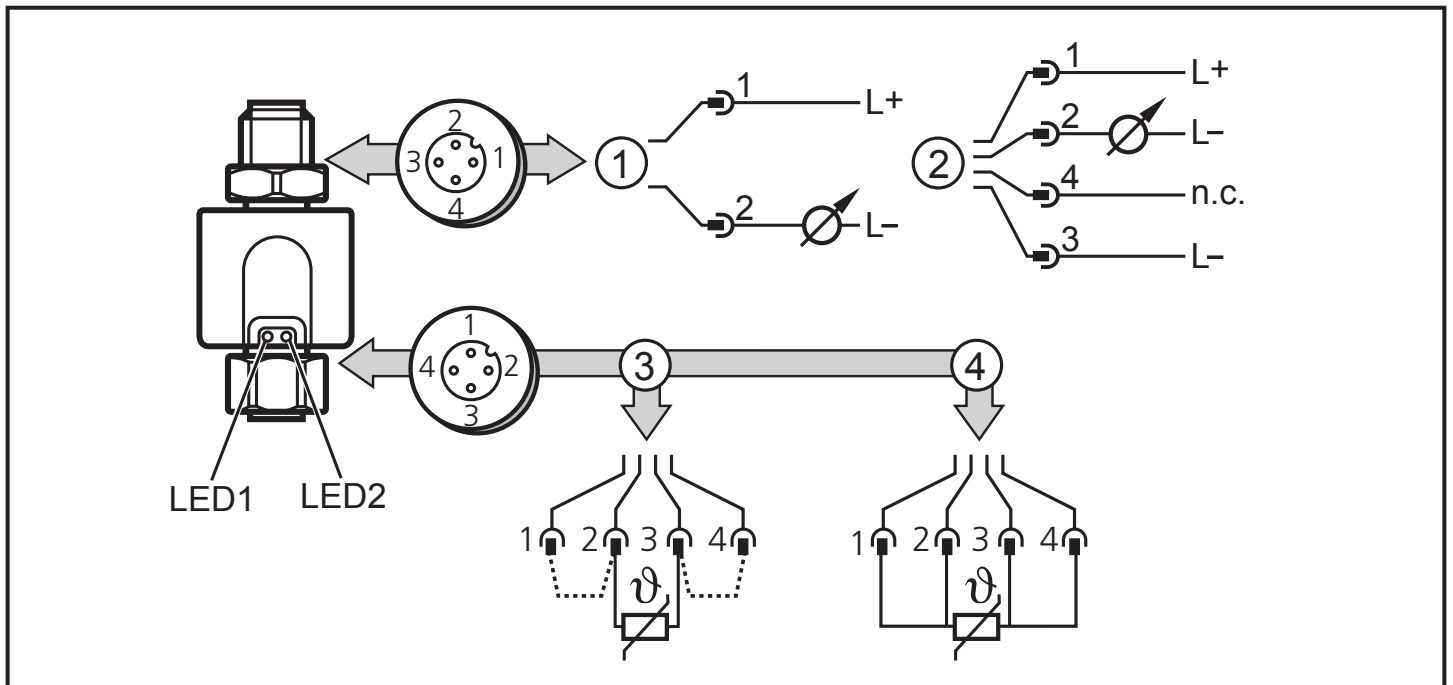


The unit must be connected by a qualified electrician.

The national and international regulations for the installation of electrical equipment must be adhered to.

cULus - Class 2 source required.

- ▶ Disconnect power.
- ▶ Connect the unit as follows:



n.c. = not connected

1: Connection Ub and output signals (operation as 2-wire unit)

2: Connection Ub and output signals (operation as 3-wire unit)

3: Connection of a 2-wire measuring probe;
links between 1 / 2 and 3 / 4.

4: Connection of a 4-wire measuring probe.

LED 1: lit in case of operation as 3-wire unit.

LED 2: lit in case of a load on the analog output.

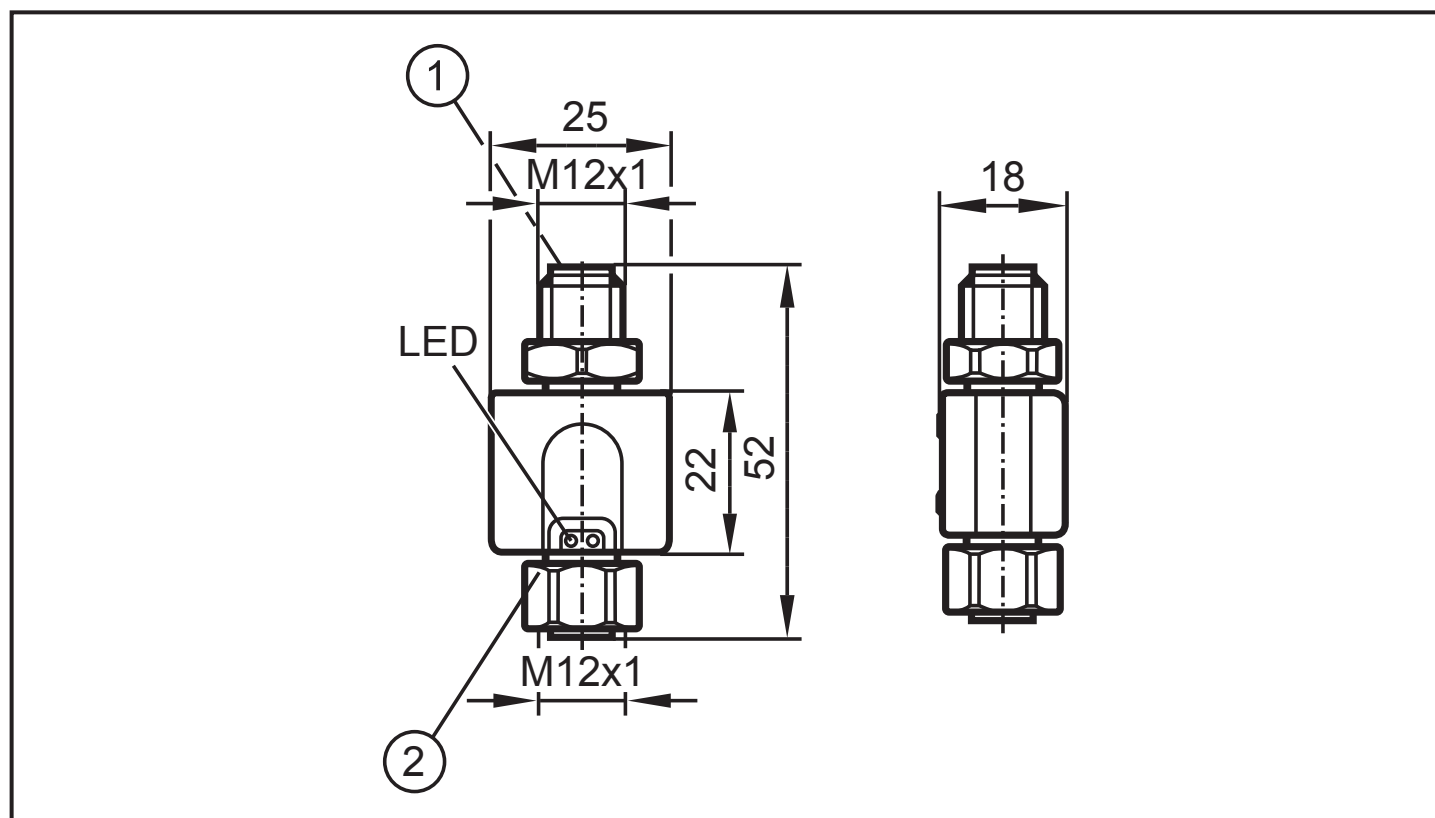
7 Operation

After power on, the unit is in the Run mode (= normal operating mode).

Response of the analog output in case of a fault:

Value below the set measuring range	The output signal falls to min. 3.8 mA.
Value above the set measuring range	The output signal rises to max. 20.5 mA.
Value below or above the detection zone of the sensor	The output signal falls to min. 3.5 mA

8 Scale drawing



Dimensions in mm

1: Connection for voltage supply and output signals

2: Connection for temperature sensor

9 Technical data

Measuring range [°F]	
- TTD-20-N40160F-H	-40...160
- TTD-20-N40300F-H	-40...300
- TTD-20-30300F-H	30...300
Operating voltage [V]	20...32 DC
Short-circuit protection (pulsed); reverse polarity protection, overload protection	
Integrated watchdog	
Analog output	4 ... 20 mA
Max. load [Ω]	300
Rise time analog output [ms]	400
Accuracy	
Analog output [K]	± 0.3 + (± 0.1 % of the measuring span)
Resolution [K]	≤ 0.1
Temperature coefficient (in % of the span per 10 K)	0.1
Housing materials..... PA PACM 12 (TROGAMID); PET; sealing: FPM (Viton); coupling nut: stainless steel 316L / 1.4404; connector: TPU	
Ambient temperature [°C]	-25...70
Storage temperature [°C]	-40...85
Protection rating	IP 67
Protection class	III
Shock resistance [g]	50 (DIN / IEC 68-2-27, 11 ms)
Vibration resistance [g]	20 (DIN / IEC 68-2-6, 10 - 2000 Hz)
EMC	EN 61326-1