



## Field mounted HART temperature transmitter

- RTD, TC, Ohm, and bipolar mV input and analog output
- High definition local operator interface (LOI) with 3 optical buttons
- Ex d explosion proof / flame proof in aluminum or 316 stainless steel version
- HART compatibility



### Local operator interface (LOI)

- 3 optical buttons; up, down and enter.
- Dynamically adaptive to wear or accumulation of dirt.
- Immune to interference from ambient light sources.
- Useable with or without gloves.

### Configuration

- From the Local Operator Interface
- HART modem.

### Mounting / installation

- For installation in zone 0, 1, 2 and zone 20, 21, 22 and in Class 1, Division 1 and 2 applications.
- Hardware assessed for use in SIL 2 applications.
- Mounting on wall / bulkhead and In Thermowell

### High definition display

- 0-350 degree position adjustments.
- Monitoring, programming and diagnostics view.
- Extensive diagnostics with white backlight
- Supports Many languages.

### Application

- Linearized temperature measurement with TC and RTD sensors Pt100 and Ni100.
- HART communication and 4...20 mA analog PV output
- Conversion of linear resistance to a standard analog current signal, e.g from valves or Ohmic level sensors. Amplification of bipolar mV signals to standard 4...20 mA current signals.
- transmitters can be connected in a multidrop communication setup.

### Technical characteristics

- NAMUR
- HART protocol revision can be changed by user configuration to either HART protocol.



## Environmental Conditions

Operating temperature.....	-40°C to +85°C (with silicone O-ring)
Operating temperature.....	-20°C to +85°C (with Special O-ring)
Storage temperature.....	-40°C to +85°C
Calibration temperature.....	20...28°C
Relative humidity.....	0...100% RH (condensing)
Protection degree.....	IP54 / IP66 / IP68 / type 4X

## Mechanical specifications

Dimensions.....	Ø 130 mm
Dimensions (HxWxD), aluminum.....	109.3 x 145 x 126 mm
Dimensions (HxWxD), stainless steel.....	107.4 x 145 x 124 mm
Weight approx., aluminum / stainless steel.....	1.3 / 2.8 kg
Wire size.....	0.13 x 1.5 mm <sup>2</sup> / AWG 26...16 stranded wire
Screw terminal torque.....	0.4 Nm
Vibration.....	IEC 60068-2-6
2...25 Hz.....	±1.6 mm
25...100 Hz.....	±4 g
Display resolution.....	96 x 64 pixels
Number of digits.....	5
Backlight.....	Selectable ON/OFF
Backlight color.....	Selectable white or red

## Common specifications

### Supply

Supply voltage, DC: Ex ia, intrinsically safe.....	10 (12 - with backlight)...30 VDC
Supply voltage, DC: Other.....	10 (12 - with backlight)...35 VDC

### Isolation voltage

Isolation voltage, test / working.....	1.5 kVAC / 50 VAC
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### Response time

Response time (programmable).....	1...60 s
Signal / noise ratio.....	> 60 dB
Programming.....	HART
Start-up time, transmitter to display.....	Max. 5 s
Long-term stability, better than.....	±0.1% of span / year
Accuracy.....	Better than 0.05% of selected range
Signal dynamics, input.....	22 bit
Signal dynamics, output.....	16 bit
EMC immunity influence.....	< ±0.1% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst.....	< ±1% of span

Sensor current.....	Nom. 0.2 mA
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### Linear resistance input

Linear resistance min...max.....	0 Ω...7000 Ω
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### TC input

Thermocouple type.....	B, E, J, K, L, N, R, S, T, U, W3, W5, LR
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### Cold junction compensation (CJC).....

.....	Constant, internal or external via a Pt100 or Ni100 sensor
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### Voltage input

Measurement range.....	-800...+800 mV
Min. measurement range (span).....	2.5 mV
Input resistance.....	10 MΩ

## Output specifications

### Current output

Signal range.....	4...20 mA
Min. signal range.....	16 mA
Load (@ current output).....	≤ (Vsupply - 10) / 0.023 [Ω]
Load resistance, with backlight.....	≤ (Vsupply - 12) / 0.023 [Ω]
Sensor error indication.....	Programmable 3.5...23 mA
NAMUR NE43 Upscale/Downscale.....	23 mA / 3.5 mA

### Common output specifications

Updating time.....	440 ms
HART protocol revisions.....	HART 7 and HART 5

## Observed authority requirements

EMC.....	2014/30/EU
EAC.....	TR-CU 020/2011

## Approvals

Approval.....	MRA0000009
ATEX 2014/34/EU.....	DEKRA 15 ATEX 0058 X
FM.....	FM16US0009X / FM16CA0010X
CSA.....	70024231
INMETRO.....	DEKRA 15.0014 X
NEPSI.....	GYJ15.1336X, GYJ15.1337X and GYJ15.1338X
SIL.....	Hardware assessed for use in SIL applications

## Input specifications

### Common input specifications

Max. offset.....	50% of selected max. value
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### RTD input

RTD type.....	Pt50/100/200/500/1000; Ni50/100/120/1000
Cable resistance per wire.....	5 Ω (up to 50 Ω per wire is possible with reduced measurement accuracy)