



2-wire transmitter with HART protocol

5337D

- RTD, TC, Ohm, and bipolar mV input
- 2 analog inputs and 5 device variables with status available
- HART protocol revision selectable from HART 5 or HART 7
- Hardware assessed for use in SIL applications
- Mounting in hazardous gas and dust area



Application

- Linearized temperature measurement with TC and RTD sensors e.g. Pt100 and Ni100.
- HART communication and 4...20 mA analog PV output for individual, difference or average temperature measurement of up to two RTD or TC input sensors.
- 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.
- Up to 63 transmitters (HART 7) can be connected in a multidrop communication setup.

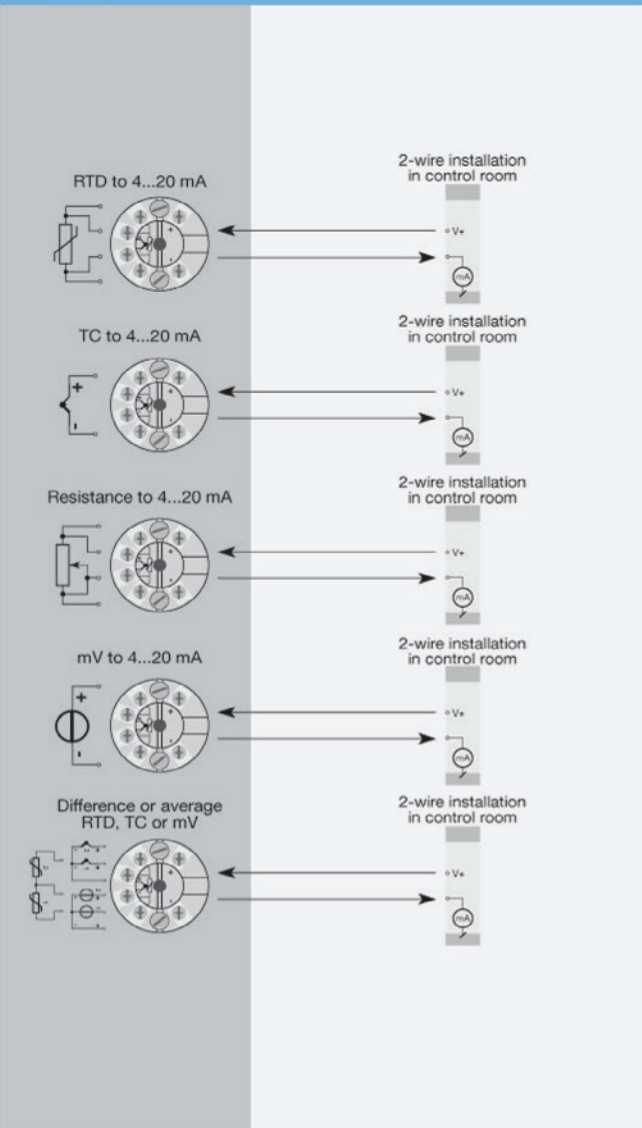
Technical characteristics

- HART protocol revision can be changed by user configuration to either HART 5 or HART 7 protocol.
- The HART 7 protocol offers:
 - Long Tag numbers of up to 32 characters.
 - Enhanced Burst Mode and Event notification with time stamping.
 - Device variable and status mapping to any dynamic variable PV, SV, TV or QV.
 - Process signal trend measurement with logs and summary data.
 - Automatic event notification with time stamps.
 - Command aggregation for higher communication efficiency.
- 5337D is designed according to strict safety requirements and is therefore suitable for applications in SIL installations.
- Continuous check of vital stored data.
- Meeting the NAMUR NE 21 recommendations, the 5337 HART transmitter ensures top measurement performance in harsh EMC environments. Additionally, the 5337D meets NAMUR NE43 and NE89 recommendations.

Mounting / installation

- For DIN form B sensor head mounting.
- Configuration via standard HART communication interfaces or by PR 5909 Loop Link.

Applications



Order:

| |
|-------|
| Type |
| 5337D |

Environmental Conditions

| | |
|---|----------------------|
| Operating temperature..... | -40°C to +85°C |
| Calibration temperature..... | 20...28°C |
| Relative humidity..... | < 95% RH (non-cond.) |
| Protection degree (encl./terminal)..... | IP68 / IP00 |

Mechanical specifications

| | |
|----------------------------|---------------------------------------|
| Dimensions..... | Ø 44 x 20.2 mm |
| Weight approx..... | 50 g |
| Wire size..... | 1 x 1.5 mm ² stranded wire |
| Screw terminal torque..... | 0.4 Nm |
| Vibration..... | IEC 60068-2-6 |
| 2...25 Hz..... | ±1.6 mm |
| 25...100 Hz..... | ±4 g |

Common specifications**Supply**

| | |
|---------------------|--------------|
| Supply voltage..... | 8.0...30 VDC |
|---------------------|--------------|

Isolation voltage

| | |
|--|-------------------|
| Isolation voltage, test / working..... | 1.5 kVAC / 50 VAC |
|--|-------------------|

Response time

| | |
|--|-------------------------------------|
| Response time (programmable)..... | 1...60 s |
| Voltage drop..... | 8.0 VDC |
| Programming..... | Loop Link & HART |
| Signal / noise ratio..... | > 60 dB |
| 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 |

Input specifications**Common input specifications**

| | |
|------------------|----------------------------|
| Max. offset..... | 50% of selected max. value |
|------------------|----------------------------|

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) |
| Sensor current..... | Nom. 0.2 mA |

TC input

| | |
|---------------------------------------|--|
| Thermocouple type..... | B, E, J, K, L, N, R, S, T, U, W3, W5, LR |
| Cold junction compensation (CJC)..... | Constant, internal or external via a Pt100 or Ni100 sensor |

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 - 8) / 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 |

I.S. / Ex marking

| | |
|--------------|---|
| ATEX..... | II 1 G Ex ia IIC T4...T6 Ga, II 1 D Ex ia IIIC Da, I M1 Ex ia Ma |
| IECEx..... | Ex ia IIC T4...T6 Ga, Ex ia IIIC Da, Ex ia I Ma |
| FM, US..... | Cl. I, Div. 1, Gp. A, B, C, D T4/T6; Cl. I Zone 0, AEx ia IIC T4/T6; Cl. 1, Div. 2, Gp. A, B, C, D, T4/T6 |
| CSA..... | Cl. I, Div. 1, Gp. A, B, C, D Ex ia IIC, Ga |
| INMETRO..... | Ex ia IIC T6...T4 Ga, Ex ia IIIC Da, Ex ia I Ma |

Observed authority requirements

| | |
|-------------|----------------|
| EMC..... | 2014/30/EU |
| ATEX..... | 2014/34/EU |
| RoHS..... | 2011/65/EU |
| EAC..... | TR-CU 020/2011 |
| EAC Ex..... | TR-CU 012/2011 |

Approvals

| | |
|--------------------|---|
| DNV-GL Marine..... | TAA0000101 |
| ATEX..... | KEMA 03ATEX1537 |
| IECEx..... | KEM 10.0083X |
| FM..... | FM17US0013X |
| CSA..... | 1125003 |
| INMETRO..... | DEKRA 18.0002X |
| EAC Ex..... | RU C-DK.HA65.B.00355/19 |
| SIL..... | Hardware assessed for use in SIL applications |