



## 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.

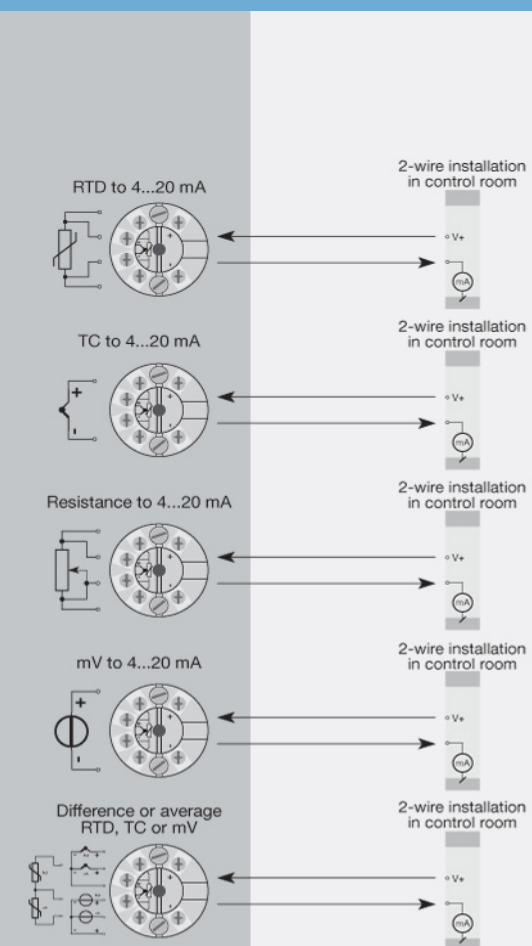
#### Technical characteristics

- 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.

#### Connections



Order:

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

## Environmental Conditions

|   |                      |
|---|----------------------|
| Specifications range.....               | -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 <sup>2</sup> stranded wire |
| Screw terminal torque.....  | 0.4 Nm                                |
| Vibration.....              | IEC 60068-2-6 : 2007                  |
| Vibration: 2...25 Hz.....   | ±1.6 mm                               |
| Vibration: 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                             |
| Communications interface.....                               | Loop Link & HART®                   |
| Signal / noise ratio.....                                   | > 60 dB                             |
| Accuracy.....   | Better than 0.05% of selected range |
| EMC immunity influence.....                                 | < ±0.1% of span                     |
| Extended EMC immunity: NAMUR NE 21, A criterion, burst..... | < ±1% of span                       |

## Input specifications

### Common input specifications

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

### RTD input

|                                       |   |
|---------------------------------------|---|
| RTD type.....                         | Pt50, Pt100, Pt200, Pt500, Pt1000, Ni50, Ni100, Ni120, Ni1000           |
| Cable resistance per wire (max.)..... | 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 resistance.....               | ≤ (V <sub>supply</sub> - 8) / 0.023 [Ω] |
| Sensor error indication.....       | Programmable 3.5...23 mA                |
| NAMUR NE 43 Upscale/Downscale..... | 23 mA / 3.5 mA                          |

### Common output specifications

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

## Approvals

|                            |   |
|----------------------------|---|
| EMC.....                   | 2004/108/EC                                   |
| ATEX 94/9/EC.....          | KEMA 03ATEX1537                               |
| IECEx.....                 | KEM 10.0083X                                  |
| FM.....                    | 2D5A7   |
| CSA.....                   | 1125003                                       |
| INMETRO.....               | NCC 12.0844 X                                 |
| EAC.....                   | TR-CU 020/2011                                |
| EAC Ex TR-CU 012/2011..... | RU C-DK.GB08.V.00410                          |
| DNV Marine.....            | Stand. f. Certific. No. 2.4                   |
| SIL.....                   | Hardware assessed for use in SIL applications |