



2-wire transmitter with HART protocol

5337A

- 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 Safe area or Zone 2/22



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.

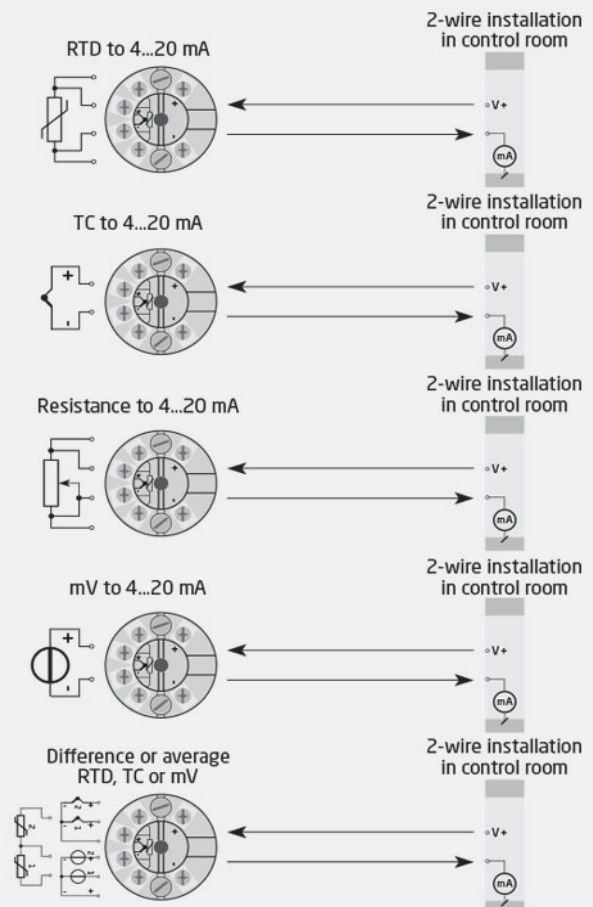
Technical characteristics

- 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.
- The 5337A provides the required failure data (SFF and PFD AVG) for SIL 2 applications as per IEC 61508 / IEC 61511.
- Continuous check of vital stored data.
- Meeting the NAMUR NE21 recommendations, the 5337 HART transmitter ensures top measurement performance in harsh EMC environments. Additionally, the 5337 meets NAMUR NE43 and NE89 recommendations.

Mounting / installation

- For DIN form B sensor head or DIN rail mounting via the PR fitting type 8421.
- Configuration via standard HART communication interfaces or by PR 5909 Loop Link.

Applications



Order

Type	Version
5337	Zone 2 / Div. 2 : A

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...35 VDC
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Isolation voltage

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

Response time (programmable).....	1...60 s
Voltage drop.....	8.0 VDC
Signal / noise ratio.....	> 60 dB
Programming.....	HART & PR 5909 Loop Link communications interface
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
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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)
Sensor current.....	Nom. 0.2 mA
Effect of sensor cable resistance (3-/4-wire).....	< 0.002 Ω / Ω

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 3 G Ex nA [ic] IIC T6...T4 Gc, II 3 G Ex ec [ic] IIC T6...T4 Gc, II 3 G Ex ic IIC T6...T4 Gc, II 3 D Ex ic IIIC Dc
IECEx.....	Ex nA [ic] IIC T6...T4 Gc, Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc
CSA.....	Cl. I, Div. 2, Gp. A, B, C, D T6...T4, Ex nA[ic] IIC T6...T4 Gc
INMETRO.....	Ex ec [ic] IIC T6...T4 Gc, Ex ic IIC T6...T4 Gc, Ex ic IIIC Dc

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

ATEX.....	DEKRA 20ATEX0109X
IECEx.....	DEK 20.0063X
CSA.....	1125003
INMETRO.....	DEKRA 23.0011X
EAC Ex.....	EAEU KZ 7500361.01.01.08756
DNV Marine.....	TAA0000101
SIL.....	Hardware assessed for use in SIL applications