

Profibus® PA/Foundation™ Fieldbus Transmitter

Model 5350A

- PROFIBUS® PA Ver. 3.0
- FOUNDATION™ Fieldbus Ver. ITK 4.6
- Automatic Switch Between Protocols
- Basic or LAS Capability with Foundation Fieldbus
- Complies with European ATEX and CSA/FM Requirements for Hazardous Location Installation



Application:

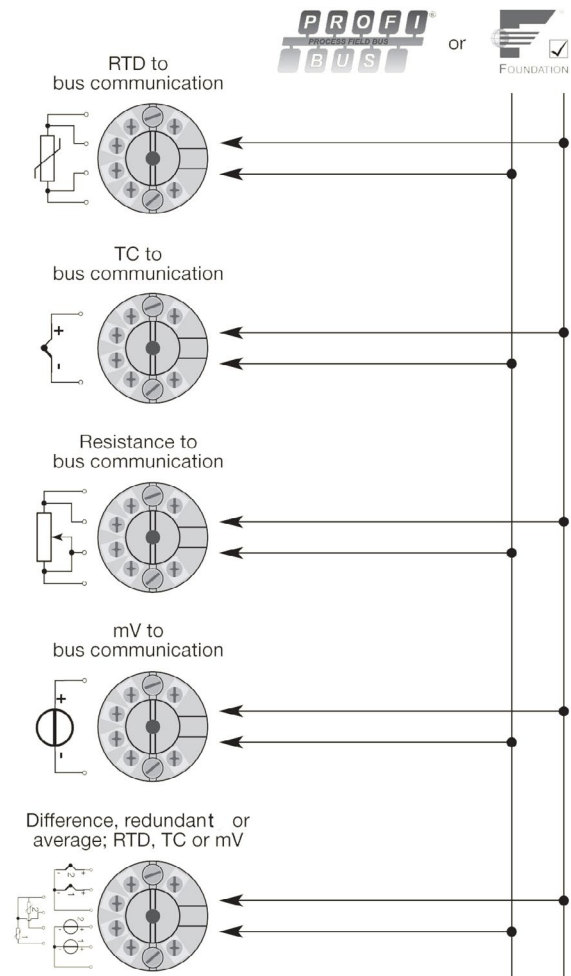
- Linearized temperature measurement with RTD or TC sensor.
- Difference, average or redundant temperature measurement with RTD or TC sensor.

Technical Characteristics:

- Bus transmitter with both PROFIBUS® PA and FOUNDATION™ Fieldbus communication. A unique switch function ensures automatic shift between the two protocols.
- Set-up for PROFIBUS® PA can be done via Siemens Simatic® PDM®, ABB Melody/Harmony and Metso DNA software and for FOUNDATION™ Fieldbus via Emerson DeltaV, Yokogawa CS 1000/CS 3000, ABB Melody/Harmony and Honeywell Experion software.
- The simulation mode function can be activated by way of a magnet.
- Polarity-independent bus connection.
- 24 bit A/D converter ensures high resolution.
- PROFIBUS® PA function blocks: 2 analog.
- FOUNDATION™ Fieldbus function blocks: 2 analog and 1 PID.
- FOUNDATION™ Fieldbus capability: Basic or LAS .

Mounting/Installation:

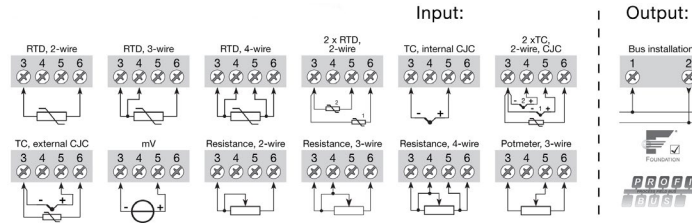
- DIN Form B sensor head compatible.
- Supplied with 2 x M4 screws on a 33 mm(1.3") BC (optional 6-32 screws available).



Ideas. Solutions. Success.

Specifications

Order: 5350A



Electrical Specifications

Specifications Range:

-40°C to +85°C

Common Specifications:

Supply voltage 9...32 VDC
 Consumption < 11 mA
 Isolation voltage, test / operation 1.5 kVAC / 50 VAC
 Signal / noise ratio Min. 60 dB
 Response time (programmable) 1...60 s
 Updating time < 400 ms
 Execution time, analog input < 50 ms
 Signal dynamics, input 24 bit
 Calibration temperature 20...28°C
 Accuracy, the greater of general and basic values:

General Values		
Input Type	Absolute Accuracy	Temperature Coefficient
All	± 0.05% of reading	± 0.002% of reading / °C

Basic Values		
Input Type	Basic Accuracy	Temperature Coefficient
Pt100, Pt1000	± 0.1°C	± 0.002°C/°C
Ni 100	± 0.15°C	± 0.002°C/°C
Cu 10	± 1.3°C	± 0.02°C/°C
Lin. R	± 0.05 Ω	± 0.002 Ω/°C
Volt	± 10 μV	± 0.2 μV/°C
TC type: E, J, K, L, N, T, U	± 0.5°C	± 0.010°C/°C
TC type: B, R, S, W3, W5	± 1°C	± 0.025°C/°C

EMC immunity influence < ±0.1% of reading
 Extended EMC immunity:
 NAMUR NE 21, A criterion, burst < ±1% of reading

Vibration (DIN Class B) IEC 60068-2-6, IEC 60068-2-64
 4 g / 2...100 Hz
 Max wire size 1 x 1.5mm² (16 AWG) stranded wire
 Humidity < 95% RH (non-cond.)
 Dimensions Ø 44 x 20.2 mm
 Protection degree (encl. / terminal) IP68 / IP00
 Weight 55 g

Electrical Specifications, Input:

RTD and Linear Resistance Input:

RTD Type	Min. Value	Max. Value	Standard
Pt25...Pt1000	-200°C	+850°C	IEC 60751 / JIS C 1604
Ni25...Ni1000	-60°C	+250°C	DIN 43760
Cu10...Cu1000	-50°C	+200°C	α = 0.00427
Lin. Resistance	0 Ω	10 kΩ	-----
Potentiometer	0 Ω	100 kΩ	-----

Cable resistance per wire (max.) 50 Ω
 Sensor current Nom. 0.2 mA
 Effect of sensor cable resistance (3-/4- wire) < 0.002 Ω/Ω
 Sensor error detection Yes
 Short circuit detection < 15 Ω

T/C Input:

TC type B, E, J, K, L, N, R, S, T, U, W3, W5
 Cold junction compensation (CJC) < ±0.5°C
 Sensor error detection Yes
 Sensor error current:
 when detecting Nom. 4μA
 else 0 μA
 Short circuit detection < 3 mV

Voltage Input:

Measurement range -800...+800 mV
 Input resistance 10 MΩ

Output:

FOUNDATION™ Fieldbus connection:

Version ITK 4.6
 Capability Basic or LAS
 Function blocks 2 analog and 1 PID

PROFIBUS® PA connection:

Protocol standard EN 50170 vol. 2
 Function blocks 2 analog
 Address (at delivery) 126

Ex / I.S. Approval*:

KEMA 03ATEX1011 X

Ex Data*:

Terminal 1, 2 (Fieldbus circuit)
 ⚡ II 3 G EEx nA [nL] II C T4...T6
 U_i 32 VDC or
 ⚡ II 3 G EEx nL II C T4...T6
 U_i 32 VDC
 L_i 1 mH
 C_i 2 nF or
 FNICO field device:
 U_i 17.5 VDC
 R_i 15...150 Ω/km
 L_i 0.4...1 mH/km
 C_i 45...200 nF/km
 Terminal 3, 4, 5 and 6 (sensor circuit):
 U_o 5.7 VDC
 I_o 8.4 mA
 P_o 12 mW
 L_o 200 mH
 C_o 40 μF
 FM, UL and CSA* IS, Cl. I, Div. 2, Gr. A, B, C, D
 IS, Cl. I, Zone 2, Gr. IIC
 Installation Drawing No. 5350QE01
 NEPSI GY J04407U* Ex nA(L) IIC T4...T6

Observed Authority Requirements*:

Standard:
 EMC 2004/108/EC EN 61326-1
 ATEX 94/9/EC EN 60079-15, -27
 FM 3600, 3611
 UL UL 1604, UL 508
 CSA, CAN / CSA C22.2 No. 142, No. 213
 CAN / CSA E79-0, E79-15
 ANSI / UL UL 60079-0, -15
 NEPSI GB3836.1-2000, GB3836.8-2003

Of Span = Of the presently selected range

IS = Intrinsically Safe

*The transmitter is manufactured by PR electronics. All approvals listed are recognized under the PR name.

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