

# PROFIBUS® PA/FOUNDATION™ FIELDBUS TRANSMITTER



- PROFIBUS® PA ver. 3.0
- FOUNDATION™ Fieldbus ver. ITK 4.6
- Automatic switch between protocols
- Basic or LAS capability with F.F.
- DIN form B sensor head mounting



### Application:

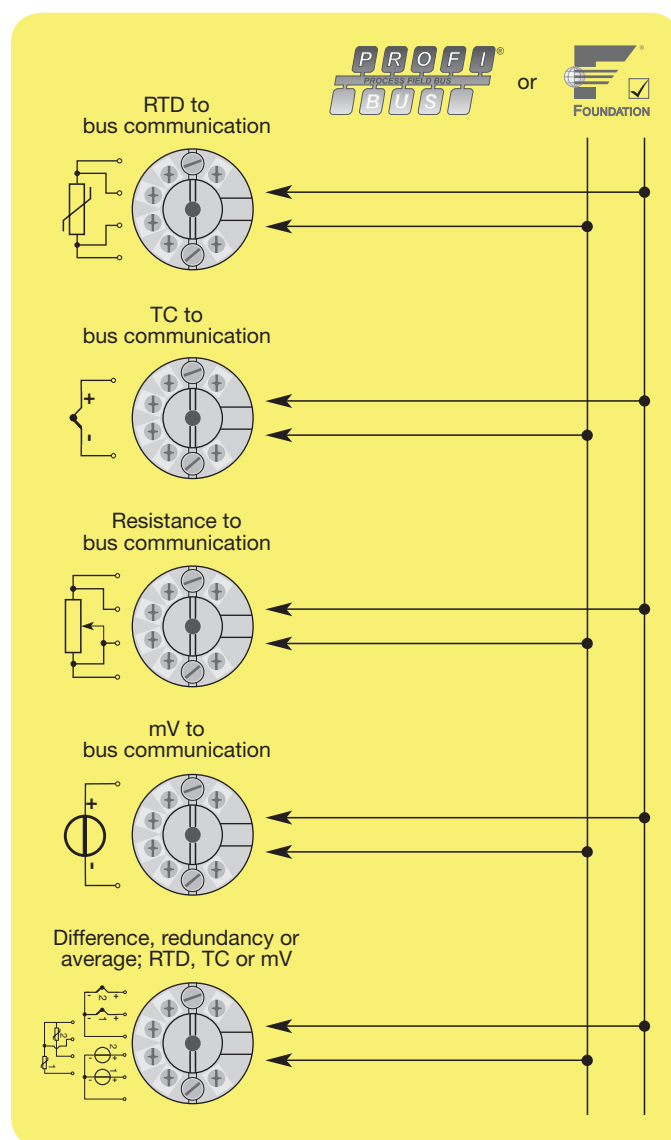
- Linearised temperature measurement with RTD or TC sensor.
- Difference, average or redundancy temperature measurement with RTD or TC sensor.
- Linear resistance, potentiometer and bipolar mV measurement.

### 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 analogue.
- FOUNDATION™ Fieldbus function blocks: 2 analogue and 1 PID.
- FOUNDATION™ Fieldbus capability: Basic or LAS.

### Mounting / installation:

- For DIN form B sensor head or DIN rail mounting with the PR fitting type 8421.



Type
5350A

**\*NB!** Please remember to order PR sim pin type 8422 if the simulation mode function is to be used.

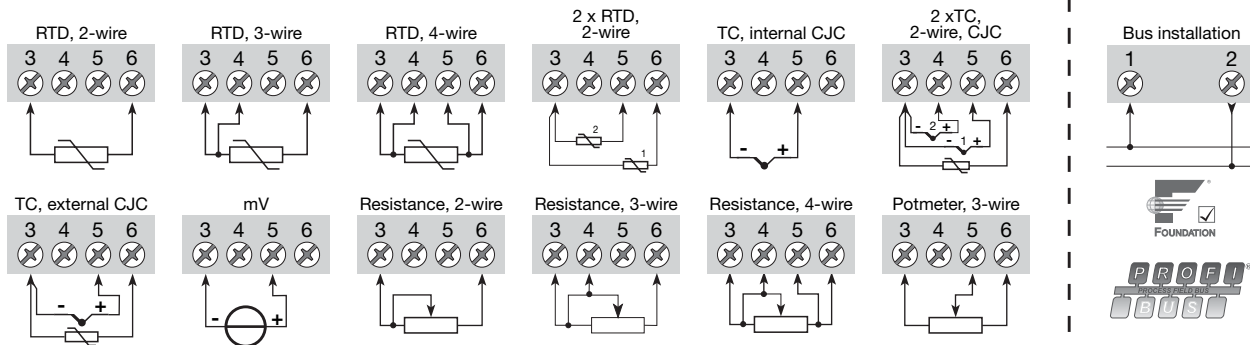
**Connections:**

All connection options are shown in the user manual.

Connections with two sensors can be configured for 2 measurements, difference, average or redundancy.

**Input:**

**Output:**



**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, PID controller..... < 200 ms
- Execution time, analogue 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 and Pt1000	≤ ±0.1°C	≤ ±0.002°C / °C
Ni100	≤ ±0.15°C	≤ ±0.002°C / °C
Cu10	≤ ±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 ..... IEC 60068-2-6 and IEC 60068-2-64
- Lloyd's specification no. 1 ..... 4 g / 2...100 Hz
- Humidity ..... < 95% RH (non-cond.)
- Dimensions..... Ø 44 x 20.2 mm
- Tightness (enclosure / 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	IEC60751/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..... 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

**TC / mV input:**

Type	Min. value	Max. value	Standard
B	+400°C	+1820°C	IEC 60584-1
E	-100°C	+1000°C	IEC 60584-1
J	-100°C	+1200°C	IEC 60584-1
K	-180°C	+1372°C	IEC 60584-1
L	-200°C	+900°C	DIN 43710
N	-180°C	+1300°C	IEC 60584-1
R	-50°C	+1760°C	IEC 60584-1
S	-50°C	+1760°C	IEC 60584-1
T	-200°C	+400°C	IEC 60584-1
U	-200°C	+600°C	DIN 43710
W3	0°C	+2300°C	ASTM E988-90
W5	0°C	+2300°C	ASTM E988-90
Ext. CJC	-40°C	+135°C	IEC60751
mV	-800	+800	-

Cold junction compensation (CJC) ... < ±0.5 °C

Sensor error detection..... Yes

Sensor error current:

When detecting ..... Nom. 4 μA

Else..... 0 μA

Short circuit detection ..... < 3 mV

**Output:**

**FOUNDATION™ Fieldbus connection:**

- FOUNDATION™ Fieldbus version ..... ITK 4.6
- FOUNDATION™ F. capability..... Basic or LAS
- FOUNDATION™ F. function blocks..... 2 analogue and 1 PID

**PROFIBUS® PA connection:**

- PROFIBUS® PA protocol standard .... EN 50170 vol. 2
- PROFIBUS® PA function blocks ..... 2 analogue
- PROFIBUS® PA address (at delivery) ... 126

**Ex / I.S. approval:**

- KEMA 03ATEX1011 X..... II 3 G
- EEx nA [L] II C T4...T6
- Max. amb. temperature for T1...T4 ... 85°C
- Max. amb. temperature for T5..... 75°C
- Max. amb. temperature for T6..... 60°C

- 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

**GOST R approval:**

- VNIIM, Cert. No. .... Ross DK.ME48.V01899

**Observed authority requirements: Standard:**

- EMC 2004/108/EC
- Emission and immunity ..... EN 61326
- ATEX 94/9/EC..... EN 60079-15
- 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