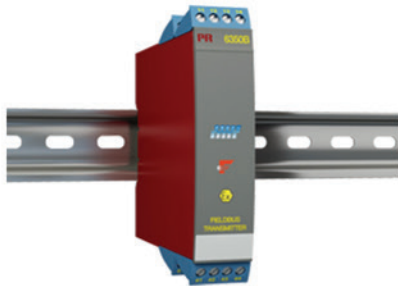## Profibus PA / Foundation Fieldbus transmitter

6350B

– PROFIBUS PA ver. 3.0
– FOUNDATION Fieldbus ver. ITK 4.6
– Automatic switch between protocols
– FISCO-certified
– Basic or LAS capability with F.F.

Application

• Linearized temperature measurement with RTD or TC sensor.
• Converts analog mA signals into digital values on the bus communication.
• Difference, average or redundancy temperature measurement with RTD or TC sensor.
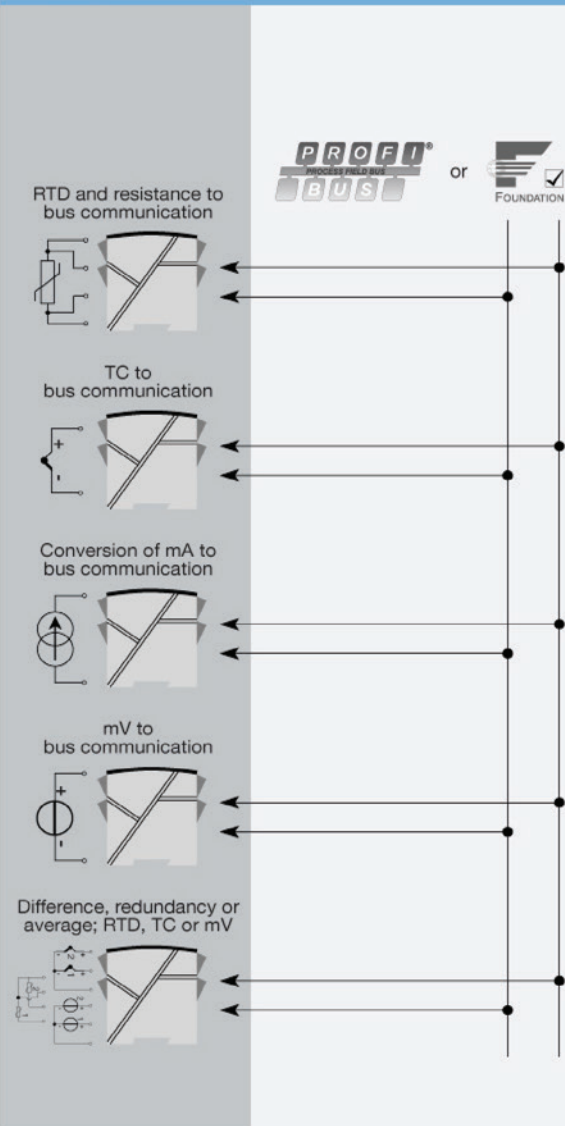• Linear resistance, potentiometer and bipolar mV measurement.

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.
• Built-in simulation mode function.
• 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

• Mounted vertically or horizontally on a DIN rail. Using the 2-channel version up to 84 channels per meter can be mounted.

Applications

RTD and resistance to bus communication

TC to bus communication

Conversion of mA to bus communication

mV to bus communication

Difference, redundancy or average; RTD, TC or mV

Order:

Type	Galvanic isolation		Channels	
6350B	1500 VAC	: 2	Single	: A
			Double	: B

Environmental Conditions

Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +85°C
Calibration temperature	20...28°C
Relative humidity	< 95% RH (non-cond.)
Protection degree	IP20

Mechanical specifications

Dimensions (HxWxD)	109 x 23.5 x 104 mm
Weight (1 / 2 channels)	145 / 185 g
DIN rail type	DIN EN 60715/35 mm
Wire size	0.13...2.08 mm^2 AWG 26...14 stranded wire
Screw terminal torque	0.5 Nm

Common specifications

Supply

Supply voltage	9.0...30 VDC
Power dissipation, per channel	< 11 mA

Isolation voltage

Test voltage	1.5 kVAC for 60 s
Working voltage	50 VRMS / 75 VDC

Response time

Response time (programmable)	1...60 s

Warm-up time	30 s
Signal / noise ratio	Min. 60 dB
Accuracy	Better than 0.05% of selected range
Updating time	< 400 ms
Execution time, PID controller	< 200 ms
Execution time, analog input	< 50 ms
Signal dynamics, input	24 bit
EMC immunity influence	< ±0.1% of reading
Extended EMC immunity: NAMUR NE21, A criterion, burst	< ±1% of reading

Input specifications

RTD input

RTD type	Pt25…1000, Ni25…1000, Cu10…1000, lin. R, potentiometer
Cable resistance per wire	50 Ω (max.)
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

Linear resistance input

Linear resistance min....max	0 Ω...10000 Ω

Potentiometer input

Potentiometer min....max	10 Ω...100 kΩ

TC input

Thermocouple 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 / else	Nom. 2 µA / 0 µA
Short circuit detection	< 3 mV

Bipolar current input

Measurement range	-100…+100 mA
Input resistance	10 Ω + PTC < 20 Ω
Cable breakage detection (4...20 mA)	< 0.3 mA

Bipolar mV input

Measurement range	-800…+800 mV
Min. measurement range (span)	2.5 mV
Input resistance	10 MΩ
Short circuit detection	< 3 mV

Output specifications

PROFIBUS PA connection

PROFIBUS PA protocol	Profile A&B, ver. 3.0
PROFIBUS PA protocol standard	EN 50170 vol. 2
PROFIBUS PA address (at delivery)	126
PROFIBUS PA function blocks	2 analog

FOUNDATION Fieldbus connection

FOUNDATION Fieldbus protocol	FF protocol
FOUNDATION Fieldbus protocol standard	FF design specifications
FOUNDATION Fieldbus version	ITK 4.6
FOUNDATION Fieldbus capability	Basic or LAS
FOUNDATION Fieldbus function blocks	2 analog and 1 PID

Approvals

ATEX	KEMA 03ATEX1012 X
IECEx	DEK 14.0071X
FM	3015609
CSA	1418937
EAC Ex	RU C-DK.HA65.B.00355/19