Profibus PA / Foundation Fieldbus transmitter

5350B

- 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.
- 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 analog.
- FOUNDATION Fieldbus function blocks: 2 analog and 1 PID.
- FOUNDATION Fieldbus capability: Basic or LAS.

Mounting / installation

- For DIN form B sensor head mounting.

Applications
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: 55 g
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: 9.0...30 VDC
Supply voltage in FISCO installations: 9.0...17.5 VDC
Max. required power: < 350 mW
Isolation voltage
Test voltage: 1.5 kVAC for 60 s
Working voltage: 50 VRMS / 75 VDC
Response time
Response time (programmable): 1...60 s
Quiescent current: < 11 mA
Max. current increase in the event of an error: < 7 mA
Warm-up time: 30 s
Signal / noise ratio: Min. 60 dB
Updating time: < 400 ms
Execution time, analog input: < 50 ms
Accuracy: Better than 0.05% of selected range
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

TC input
Cold junction compensation (CJC): < ±0.5°C
Sensor error detection: Yes
Sensor error current: When detecting / else: Nom. 4 μA / 0 μA
Short circuit detection: < 3 mV

Voltage input
Measurement range: -800...+800 mV
Input resistance: 10 MΩ

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): 128
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

Observed authority requirements
EMC: 2014/30/EU
RoHS: 2011/65/EU
ATEX: 2014/34/EU
EAC: TR-CU 020/2011
EAC Ex: TR-CU 012/2011

Approvals
ATEX: KEMA 02ATEX1318 X
IECEx: BVS 12.0035X
FM: 3015609
CSA: 1418937
INMETRO: DEKRA 18.0006 X
NEPSI: GYJ3.1265X
EAC Ex: RU C-DK.HA65.B.00355/19

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ITK 4.6
2 analog
126
2 analog and 1 PID