

## Profibus PA / Foundation Fieldbus transmitter

### 6350A

- PROFIBUS PA ver. 3.0
- FOUNDATION Fieldbus ver. ITK 4.6
- Automatic switch between protocols
- Basic or LAS capability with F.F.
- 1- or 2-channel version



#### Application

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

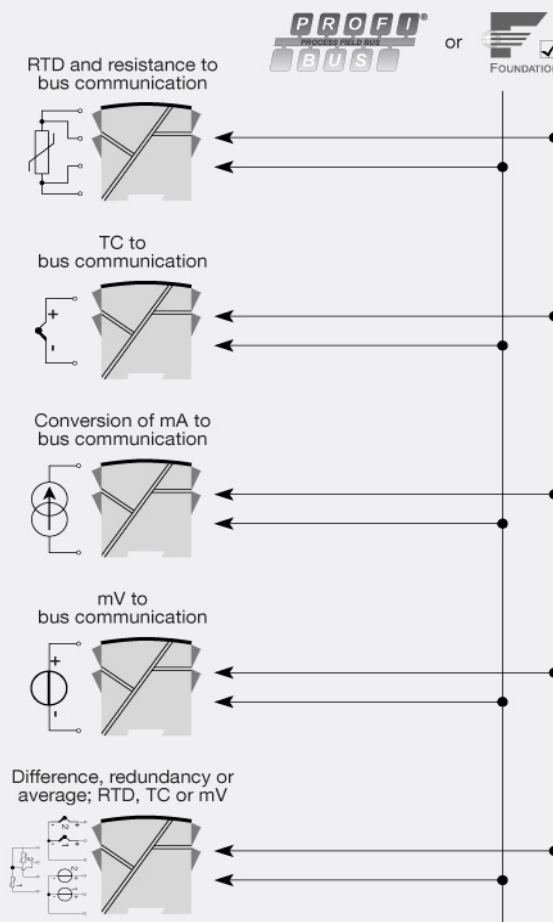
#### Technical characteristics

- 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



Order:

| Type  | Galvanic isolation | Channels                 |
|-------|--------------------|--------------------------|
| 6350A | 1500 VAC : 2       | Single : A<br>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 <sup>2</sup> AWG 26...14<br>stranded wire |
| Screw terminal torque.....   | 0.5 Nm                                                   |

## Common specifications

### Supply

|                                     |              |
|-------------------------------------|--------------|
| Supply voltage.....                 | 9.0...32 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<br>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<br>NE 21, A criterion, burst..... | < ±1% of reading                       |

## Input specifications

### RTD input

|                                                       |                                                                    |
|-------------------------------------------------------|--------------------------------------------------------------------|
| RTD type.....                                         | Pt25...1000, Ni25...1000,<br>Cu10...1000, lin. R,<br>potentiometer |
| Cable resistance per wire<br>(max.).....              | 50 Ω                                                               |
| Sensor current.....                                   | Nom. 0.2 mA                                                        |
| Effect of sensor cable resistance<br>(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,<br>W3, W5 |
| Cold junction compensation<br>(CJC).....            | < ±0.5°C                                |
| Sensor error detection.....                         | Yes                                     |
| Sensor error current: When<br>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<br>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<br>standard..... | FF design specifications |
| FOUNDATION Fieldbus version.....              | ITK 4.6                  |
| FOUNDATION Fieldbus capability.....           | Basic or LAS             |
| FOUNDATION Fieldbus function<br>blocks.....   | 2 analog and 1 PID       |

## Observed authority requirements

|          |            |
|----------|------------|
| EMC..... | 2014/30/EU |
|----------|------------|

## Approvals

|                      |                   |
|----------------------|-------------------|
| ATEX 2014/34/EU..... | KEMA 03ATEX1013 X |
| IECEx.....           | DEK 14.0071X      |
| FM.....              | 3015609           |
| CSA.....             | 1418937           |
| EAC.....             | TR-CU 020/2011    |