



AI, R, RTD, 16 bit

AI 2/4x R, RTD, 16 Bit, 2/3/4 wire

- Measuring ranges: 150 ohms, 300 ohms, 600 ohms, 3,000 ohms, 6,000 ohms, Pt100, Pt1000, Ni100, Ni1000, LG-Ni1000, individually configurable for each channel
- Can accommodate 2/3/4-wire sensors
- Measurement resolution: 15 bits + sign
- Diagnostic messages
- Wire break detection
- A bi-color LED (blue/red) indicates the module operating status and any malfunctions
- Can accommodate 2/3/4-wire sensors
- Limit value alarms for each channel
- 2/4 inputs for measuring resistance, electrically isolated from the backplane bus
- 4 process input words

Parameters for the module

Diagnostic alarm: On | Off

Overflow/underflow diagnosis: On | Off

Representation values: SIMATIC* S7 | SIMATIC* S5

Temperature unit: Celsius x 10 | Fahrenheit x 10 | Kelvin x 10

Parameters for each channel

Wire break detection: On | Off

Interference frequency suppression: None | 10 Hz | 50 Hz | 60 Hz | 400 Hz

Measuring ranges: 150 ohms / 300 ohms / 600 ohms / 3000 ohms / 6000 ohms / PT100 / PT1000 / Ni100 / Ni1000 / LGNi1000

Sensor type: Disabled | 2-wire | 3-wire (channel 0 only) | 4-wire (channel 0 only)

Limit value alarms enabled: On | Off

Upper/lower limit: 16 bit analog value (±27648)

Technical specifications

| | |
|-----------------------------|--|
| General information | |
| Order number | 600-253-4AD01 |
| Article name | AI 2/4x R, RTD, 16 bit, 2/3/4 wire |
| Scope of delivery | AI 2/4x R, RTD, 16 bit, 2/3/4 wire |
| Dimensions (DxWxH) | 110 x 14 x 73 mm |
| Weight | Approx. 70 g |
| Number of inputs | 2/4 |
| Electrical isolation | |
| from the backplane bus | Yes |
| Between the channels | No |
| Internal | Max. 140 mA |
| Power dissipation | Max. 1 W |
| Measuring ranges | 150 ohms, 300 ohms, 600 ohms, 3000 ohms, 6000 ohms, PT100, PT1000, Ni100, Ni1000, LGNi1000 |
| Measuring method | Integration |

| | |
|---|--|
| Measurement resolution | 15 bits + sign |
| Interference frequency suppression | None 10 Hz 50 Hz 60 Hz 400 Hz |
| Refresh rate / conversion rate | Number of active channels x conversion time +16 ms for wire break detection for each channel when activated. The conversion time will depend on the interference frequency suppression: None: 8 ms 400 Hz: 45 ms 60 Hz: 109 ms 50 Hz: 128 ms 10 Hz: 342 ms |
| Diagnoses | Upper measuring range limit exceeded (overflow), lower measuring range limit fallen below (underflow), wire break, parameter assignment error |
| Process alarms | Upper and lower limit per channel |
| Error limits | |
| Operational error limit in the entire temperature range | ±0.5 % relative to the nominal range |
| Basic error limit at 25 °C | ±0.3 % relative to the nominal range |
| Temperature error | ±0.005 %/K relative to the nominal range |
| Linearity error | ±0.05 %/K relative to the nominal range |
| Repeating accuracy in steady state at 25 °C | ±0.05 %/K relative to the nominal range |
| Parameter configuration length | 26 bytes |
| General error indicator | Red LED |
| Hot-swap capable | Yes |
| Ambient conditions | |
| Ambient temperature | 0 °C ... +60 °C |
| Transport and storage temperature | -20 °C ... +80 °C |
| Relative air humidity | 95 % r H without condensation |
| Protection rating | IP 20 |
| Certifications | CE, UL |
| UL | |
| Surrounding Air Temperature | 0 °C ... +60 °C |
| Pollution degree | 2 |
| CE | |
| Noise immunity | DIN EN 61000-6-2 "EMC Immunity" |
| Interference emission | DIN EN 61000-6-4 "EMC Emission" |
| Vibration and shock resistance | DIN EN 60068-2-6:2008 „Vibration“, DIN EN 60068-2-27:2010 „Shock" |
| RoHS | Yes |
| REACH | Yes |