



AI, R, RTD, 16 bit

AI 1/2x 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
- 1/2 inputs for measuring resistance, electrically isolated from the backplane bus
- 2 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	600-253-4AB01
Article name	AI 1/2x R, RTD, 16 bit, 2/3/4 wire
Scope of delivery	AI 1/2x R, RTD, 16 bit, 2/3/4 wire
Dimensions (DxWxH)	110 x 14 x 73 mm
Weight	Approx. 70 g
Number of inputs	1/2
Electrical isolation	
from the backplane bus	Yes
Between the channels	No
Internal	
Power dissipation	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	14 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