Helmholz®
COMPATIBLE WITH YOU

Features

- 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
- 2 wire connection
- 8 inputs for resistance measurement, isolated to the backplane bus
- 8 process input words

Analog-input-module, RTD, 16 Bit
8x 2 wire

Analog input modules for the modular fieldbus IO system TB20.

Note: Individual modules cannot be combined with IO systems from other manufacturers.

The scope of delivery already includes the appropriate front connector for the cabling and a base module. The module has 8 analog inputs for RTD resistance measurements with 2 wire.

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 Ohm | 300 Ohm | 600 Ohm | 3000 Ohm | 6000 Ohm | PT 100 | PT 1000 | Ni 100 | Ni 1000| LGNi 1000

* SIMATIC is a registered trademark of Siemens AG.

General information

Order number	600-253-4BH21
Article name	AI 8 x R, RTD, 16 bit, 2 wire
Scope of delivery	AI 8 x R, RTD, 16 bit, 2 wire
Number of inputs	8
Internal	Max. 140 mA
Power dissipation	Max. 1 W
Parameter configuration length	10 Bytes
General error indicator	Red LED
Hot-swap capable	Yes
Hot-swap capable	Yes

Electrical isolation

from the backplane bus	Yes
Between the channels	No
Between the channels	No

Measuring

Measuring ranges	150 Ohm
	300 Ohm
	600 Ohm
	3000 Ohm
	6000 Ohm

	PT 100
	PT 1000
	Ni 100
	Ni 1000
	LGNi 1000
	PT 100 Klima
	PT 1000 Klima
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

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