



Features

- ✔ Measuring ranges 0 ... 10 V, 1 ... 5 V, ± 10 V, ± 5 V, ± 2.5 V, individually configurable for each channel
- ✔ Measurement resolution: 11 bit + sign
- ✔ Diagnostic messages
- ✔ Wire break detection (for 1 ... 5 V)
- ✔ Limit value alarms for each channel
- ✔ A bi-color LED (blue/red) indicates the module operating status and any malfunctions
- ✔ 2 analog inputs for measuring voltage, electrically isolated from the backplane bus
- ✔ 2 process input words

Analog-input-module, U, 12 Bit 2x

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 2 analog inputs.

Parameters for the module:

Diagnostic alarm: On | Off
 Overflow / underflow diagnosis: On | Off
 Representation values: SIMATIC* S7 | SIMATIC* S5 | INT16

Parameters for each channel:

Wire break detection (only for 1 ... 5 V): On | Off

Interference frequency suppression: None | 10 Hz | 50 Hz | 60 Hz | 400 Hz
 Measuring ranges: Deactivated | 0 ... 10 V | 1 ... 5 V | ± 10 V | ± 5 V | ± 2.5 V
 Limit value alarms enabled: On | Off
 Upper/lower limit: 16 bit analog value (± 27648)

* SIMATIC is a registered trademark of Siemens AG.

General information

Order number	600-252-4AB01
Article name	AI 2x U, ± 10 V, 0-10 V, 1-5 V, 12 bits
Scope of delivery	AI 2x U, ± 10 V, 0-10 V, 1-5 V, 12 bits
Dimensions (DxWxH)	110 x 14 x 73 mm
Weight	Approx. 70 g
Number of inputs	2
Internal	Max. 95 mA
Power dissipation	Max. 0.7 W
Parameter configuration length	12 bytes
General error indicator	Red LED
Hot-swap capable	Yes

Electrical isolation

from the backplane bus	Yes
Between the channels	No

Measuring

Measuring ranges / load resistance	0 ... 10 V/30 kohm,
	1 ... 5 V/30 kohm,
	± 10 V/30 kohm,
	± 5 V/30 kohm,
	$\pm 2,5$ V/30 kohm

Measuring method	Integration
Measurement resolution	11 bit + 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 (for 1 ... 5 V only), parameter assignment error
Process alarms	Upper and lower limit per channel

Error limits

Operational error limit in the entire temperature range	$\pm 0.5\%$ relative to the nominal range
Basic error limit at 25 °C	$\pm 0.3\%$ relative to the nominal range
Temperature error	$\pm 0.005\%/K$ relative to the nominal range

Linearity error	$\pm 0.05\%/K$ relative to the nominal rangesv
Repeating accuracy in steady state at 25 °C	$\pm 0.05\%/K$ relative to the nominal range
Repeating accuracy in steady state at 25 °C	$\pm 0.05\%/K$ relative to the nominal range

Ambient conditions

Ambient temperature	0 °C ... +60 °C
Transport and storage temperature	-20 °C ... +80 °C
Relative air humidity	-20 °C ... +80 °C 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"