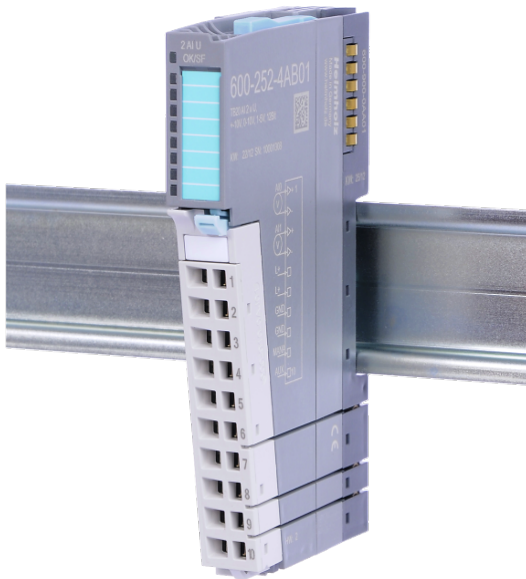




#### Features

- ✓ Measuring ranges 0 ... 10 V, 1 ... 5 V,  $\pm 10$  V,  $\pm 5$  V,  $\pm 2.5$  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 |  $\pm 10$  V |  $\pm 5$  V |  $\pm 2.5$  V

Limit value alarms enabled: On | Off

Upper/lower limit: 16 bit analog value ( $\pm 27648$ )

\* SIMATIC is a registered trademark of Siemens AG.

#### General information

Order number

600-252-4AB01

|                                |                                             |
|--------------------------------|---------------------------------------------|
| Article name                   | AI 2x U, $\pm 10$ V, 0-10 V, 1-5 V, 12 bits |
| Scope of delivery              | AI 2x U, $\pm 10$ 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,                                                                                                                                                 |
|                                    | $\pm 10$ V/30 kohm,                                                                                                                                                |
|                                    | $\pm 5$ 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

±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 rangesv

Repeating accuracy in steady state at 25 °C

±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

-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“

As of: 7 - 2026