



### Features

- ✓ Output range  $\pm 10\text{ V}$ ,  $0\text{--}10\text{ V}$ ,  $1\text{--}5\text{ V}$
- ✓ Resolution 11 bit + sign
- ✓ Substitute value functionality
- ✓ Diagnostic messages
- ✓ A bi-color LED (blue/red) indicates the module operating status and any malfunctions
- ✓ 4 analog outputs, electrically isolated from the backplane bus
- ✓ 4 process output words (4 bytes)

## Analoge-output-module, U, 12 Bit 4x

Analog output 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 4 analogue outputs.

### General information

Order number	600-261-4AD01
Article name	AO 4 x U, $\pm 10\text{ V}$ , $0\text{--}10\text{ V}$ , $1\text{--}5\text{ V}$ , 12 bit
Scope of delivery	AO 4 x U, $\pm 10\text{ V}$ , $0\text{--}10\text{ V}$ , $1\text{--}5\text{ V}$ , 12 bit
Dimensions (DxWxH)	110 x 14 x 73 mm
Weight	Approx. 70 g
Parameter configuration	
length	13 bytes
General error indicator	Red LED
Hot-swap capable	Yes
Hot-swap capable	Yes

### Output

Number of outputs	4
Output ranges	$\pm 10\text{ V}$ ,
	$0\text{--}10\text{ V}$ ,
	$1\text{--}5\text{ V}$

Power dissipation	Max. 2.4 W
Connection for actuators	2-wire connection
Load resistance	Min. 1 kohm
Capacitive load	Max. 1 $\mu\text{F}$
Measurement resolution	11 bit + sign
Refresh time	0.2 ms
Settling time	0.2 ms for resistive loads, 2.2 ms for capacitive loads, 0.5 ms for inductive loads ( $\leq 1\text{ mH}$ ), 3.3 ms for inductive loads ( $\leq 3.3\text{ mH}$ )
Diagnoses	External reference voltage missing (L+), short circuit to GND, parameter assignment error
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### Electrical isolation

from the backplane bus	Yes
Between the channels	No

### Current draw

External	Max. 75 mA
Internal	Max. 24 mA

### 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 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	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"