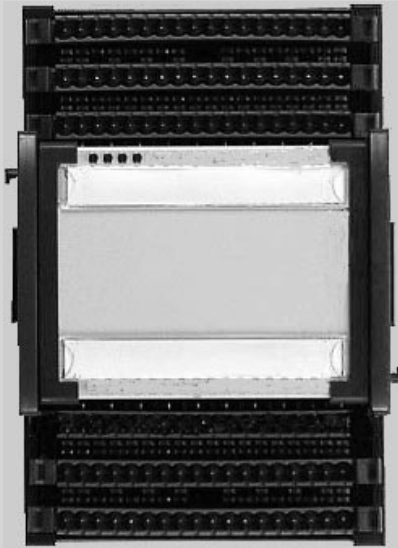




IO 300 / IO 301 / IO 302

I/O extension modules for analog voltages



16 voltage inputs

4 voltage outputs

1 reference voltage output

PROFILE

The IO 300 is part of the P-open series and provides compact analog I/O extension for the PU 100 range of PLCs. Depending on version, the unit has 16 analog voltage inputs and/or 4 analog voltage outputs.

With its compact dimensions of 124 x 170 mm, and a depth of 85.5 mm, the IO 30x is ideally suited for mounting close to the process in de-centralized systems.

The housing is designed for clip-on mounting to standard DIN rails. System extensions are easily implemented by connecting the IO 30x to its master PLC (PU 10x) via a cable which plugs into the module's extension bus (E-bus). See the specifications of the relevant PLC module for the max. possible number of extension I/O.

Input / output options

The IO 300 has 16 analog voltage inputs, 4 analog voltage outputs, and 1 reference voltage output.

The IO 301 provides only 16 analog voltage inputs, and the IO 302 has only 4 analog voltage outputs.

The input channels are multiplexed and have a signal range of ± 10 V. Similarly, the output channels operate in the range of ± 10 V, with a max. load of 5 mA.

The reference voltage output provides a short-circuit proof signal of +10 VDC.

Four front-panel LEDs show the module's operational status.

Convenient field connections

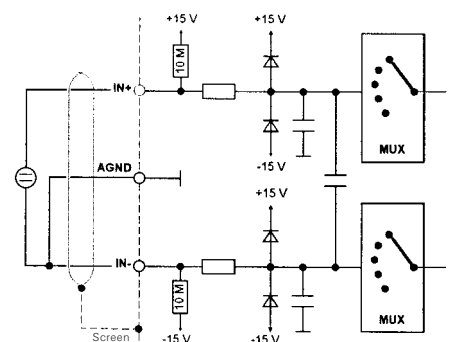
Electrical wiring from the machine or process is taken directly to the terminal strips at top and bottom of the modules. The terminal strips are of the plug-in type, allowing system pre-wiring as well as fast module exchange.

Furthermore, the following alternatives are available for the terminal strips:

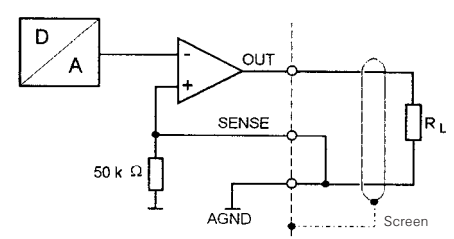
- Screw terminals
- Screwless spring-clamp terminals
- Crimp terminals.

Inscription labels on the terminal strips allow clear identification of each I/O.

Analog input



Analog output



TECHNICAL DATA

Configuration

Pre-configured

Analog I/O

16 differential inputs for ± 10 V.
Resolution: 11 bits plus sign.
Common mode suppression: ± 2 V

4 floating outputs for ± 10 V.
Resolution: 11 bits plus sign.
Permissible load: $\geq 2\text{k}\Omega$, ≤ 5 mA,
 ≤ 10 mF

Connection: 3-wire technique
All inputs and outputs have reverse-polarity protection.

Reference voltage output

Signal: +10 VDC
Resolution: ± 10 mV
Permissible load: ≤ 5 mA

Status LEDs / diagnostics

4 red LEDs show the module's operational status.

Interface

E-bus

For connection to the master PLC.

POWER SUPPLY

Module supply

24 VDC, max. 0,3 A (to EN 61 131-2)

Output energization

From the module supply via internal DC/DC converter.

Galvanic isolation

Between module electronics and E-bus.
The analog outputs are not isolated from the module supply.

ENVIRONMENTAL CONDITIONS

Permissible temperature

For operation: 5...50°C

Climatic category

KUF to DIN 40 040
Relative humidity: $\leq 85\%$ yearly average, no condensation

Shock and vibration

Vibration test Fc

to DIN 60068-2-6 (5...50 Hz)
Unit in operation: 1g or 0,075 mm
Unit not in operation: 1,5g or 0,15 mm

Shock test Ea

to DIN IEC 60068-2-27 (15g, 11 ms)

ELECTROMAGNETIC COMPATIBILITY

Electromagnetic immunity

Complies with EN 50 082-2

Electromagnetic radiation

Complies with EN 50 081-2

GENERAL

Housing

Front dimensions: 124 x 170 mm
Depth: 85,5 mm
Module spacing: B = 113/118,5 mm
Protection mode: IP 20

CE-marking

Fulfils the European Directives for electromagnetic compatibility and low voltage.

Electrical connections

Choice of screw terminals (Phoenix type FRONT-MSTB 2,5/18-ST-5,08), screwless spring-clamp connection, or crimp terminals.

All terminal types simply plug onto the connector strips of the IO 300.

Electrical safety

Tested to IEC 348 (VDE 0411)
Protection class III (protective low voltage)

Mounting method

Clip-on rail mounting (NS 35/7,5 „top-hat“ rails to DIN EN 50 022)

Weight: approx. 0,55 kg

Accessories

Operating instructions

ORDERING DATA

Description	Order no.
Analog extension module	
IO 300 with 16 voltage inputs, 4 voltage outputs	9407 701 30001
IO 301 with 16 voltage inputs	9407 701 31001
IO 302 with 4 voltage outputs	9407 701 32001

ACCESSORIES

Description	Order no.
18-pole screw terminal strip Phoenix type FRONT-MSTB 2,5/18-ST-5,08	9407 799 00001

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