IO-RU-10

Distributed I/O:s

Small distributed I/O module for expansion of Regin's programmable EXOflex and EXOcompact controllers. Can be adressed and communicate via EXOline.

- **Cost-efficient I/O expansion for EXO controllers**
- **I/O distribution via RS485**
- **Off-line functions in case of communication loss**

- **Can handle pulses on inputs and outputs**
- **Built-in temperature sensor**
- **Special condensation input available**

IO-RU-10 enables quick and easy expansion of a system by 4 additional inputs and 6 additional outputs per controller. Communication takes place via EXOline.

Inputs

The I/O module has one analogue and one universal input, which both support PT1000. One of the two digital inputs can be used as a condensation input by configuring a DIP switch. One additional analogue input is available and is used for the internal temperature sensor.

Outputs

All digital outputs can handle pulses, including the universal outputs when set as digital.

Configuration

IO-RU-10 must be configured by a competent systems integrator knowledgeable in the use of EXOdesigner. It is configured either by adapting the standard I/O function or by writing new program code using EXOL.

DIP switches

In IO-RU-10, only DIP switch 4 has any function. For all other DIP switches, the position of the switch has no effect on the functionality of the unit.

Position	SW1-3	SW4	SW5-7
ON	Not used	Digital input (DI2)	Not used
OFF	Not used	Condensation detector (CI)	Not used

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Connections

Terminal	Designation	Operation
10	G	Supply voltage 24 V AC
11	G0	Supply voltage 0 V
12	DO1	24 V AC output, max 0.5 A. A 24 V AC relay is connected between terminal 12 and terminal 20, GDO.
13	DO2	24 V AC output, max 0.5 A. A 24 V AC relay is connected between terminal 13 and terminal 20, GDO.
14	DO3	24 V AC output, max 0.5 A. A 24 V AC relay is connected between terminal 14 and terminal 20, GDO.
20	GDO	24 V AC out common for DO. Internally connected to terminal 10, G
21	G0	0 V common for UO. Internally connected to terminal 11, G0
22	DO4	24 V AC output, max 0.5 A. A 24 V AC actuator is connected between terminal 22 and terminal 20, GDO.
23	UO1	0...10 V DC, max 5 mA (FS). The 0...10 V signal terminal is connected to terminal 23 and its supply terminals to terminals 10 and 11. Make sure that the reference pole G0 is connected to the correct terminal on connected device. *alternatively* 24 V AC, max 2.0 A. The output is connected between terminals 23 and 20, GDO.
24	UO2	0...10 V DC, max 5 mA (FS). The 0...10 V signal terminal is connected to terminal 24 and its supply terminals to terminals 10 and 11. Make sure that the reference pole G0 is connected to the correct terminal on connected device. *alternatively* 24 V AC, max 2.0 A. The output is connected between terminals 24 and 20, GDO.
30	AI1	For an external PT1000 sensor. Measuring range 0...50°C. The sensor is connected between terminals 30 and 41, AGnd.
31	UI1	For an external PT1000 sensor. Measuring range: 0...100°C. The sensor is connected between terminals 31 and 41, AGnd. *alternatively* For a potential-free contact. A potential-free contact is connected between terminals 31 and 40, +C.
32	DI1	A potential-free contact is connected between terminals 32 and 40, +C.
33	DI2/CI	Regin's condensation detector, KG-A/1 (FS). The sensor is connected between terminals 33 and 41, AGnd. *alternatively* A potential-free contact is connected between terminals 33 and 40, +C.
40	+C	24 V DC out common for DI and UI (with digital function)
41	AGnd	Analogue ground, reference for AI and UI (with analogue function)
42	A	RS485 communication A
43	B	RS485 communication B

Technical data

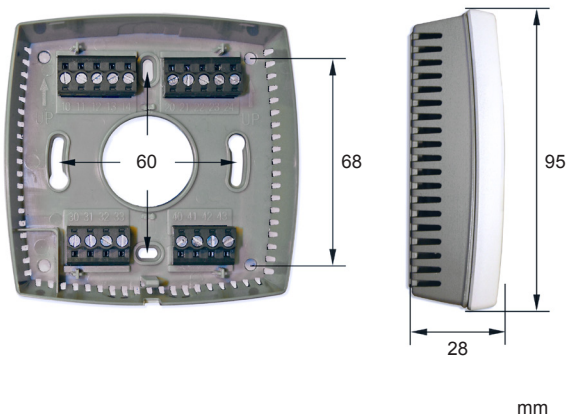|	
Supply voltage	18...30 V AC, 50...60 Hz
Internal consumption	2.5 VA
Ambient temperature	0...50°C
Storage temperature	-20...+70°C
Ambient humidity	Max. 90 % RH
Protection class	IP20
Communication	RS485
Communication speed	9600 bps
Built-in temp. sensor	NTC type, measuring range 0...50°C, accuracy ±0.5°C at 15...30°C
Material, casing	Polycarbonate (PC)
Weight	110 g

CE

EMC emissions & immunity standards: This product conforms to the requirements of the EMC Directive 2004/108/EC through product standards EN 61000-6-1 and EN 61000-6-3.
RoHS: This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

Inputs

External room sensor	PT1000 sensor, 0…50°C. Suitable sensors are Regin's TG-R5/PT1000, TG-UH/PT1000 and TG-A1/PT1000.
Condensation detector	Regin's condensation detector KG-A/1

Dimensions

mm

Product documentation

Document	Type
IO modules manual	Manual with detailed information about all Regin's I/O modules
I/O modules in EXO systems	Manual on how to use Regin's I/O modules in an EXO project, as well as a complete list of EXOline variables

The manuals can be downloaded from Regin's FTP server. It is intended for our system customers who need to share files with us, e.g. at technical support. Contact one of our sales engineers to get access to the FTP server.

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