



## Expansion units

Ardo external IO units

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with Regin's Exigo, Corrigio and the products in the EXO range. They are also compatible with controllers of other brands using standard protocols like BACnet or Modbus.

- ✓ Powerful IO unit
- ✓ Several communication protocols
- ✓ Easy to install

### Communication

The expansion units are capable of communicating via:

- BACnet MS/TP
- Modbus RTU
- EXOline via RS485
- BACnet/IP
- Modbus

### TCP/IP

The built-in TCP/IP port makes it easy to communicate with systems spanning a very wide area. By using network infrastructure already in place for ordinary computers, installation costs can be greatly reduced.

### Serial communication (RS485)

BACnet, Modbus and EXOline communication are also available via RS485.



### Configuration

The expansion units are prepared for quick connection (4P4C modular connector) to a E3-DSP display that is used as a configuration tool.

The expansion units feature a factory-loaded application that enables both address and communication settings to be easily entered so they are ready for operation in short time.



E3-DSP

For more information on E3-DSP, see the product sheet.

### Indications

The following status LED:s are located in the upper left corner of the expansion unit:

Designation	Colour	Description
P1 RxTx	Yellow/Green	Port 1: Receiving/transmitting
TCP/IP	Green/Yellow	Fixed green: Link Flashing green: Traffic Flashing Yellow: Identification
P/B	Green/Red	Power supply/Low battery level

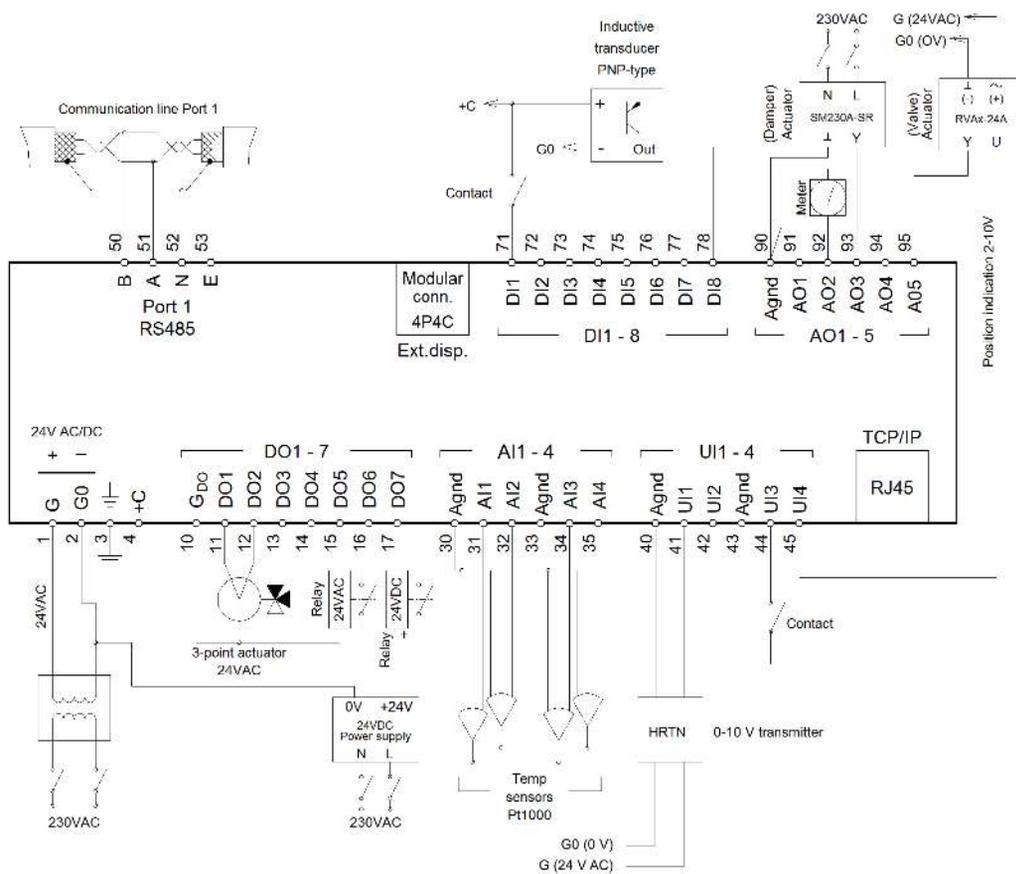
## Mounting / Wiring

The expansion units can normally be mounted on a DIN-rail or, if using a mounting kit, in a front panel. The housing uses a EURO norm form factor, meaning it will fit into a standard EURO norm cabinet.

The power supply terminal is green in order to avoid wiring errors.

1	G	Supply voltage 24 V AC or 24 V DC $\pm 15\%$ ,
2	G0	50/60 Hz
3	EMI ground	
4	+C	+24 V DC, reference for digital inputs DI
10	GDO	Reference for digital outputs DO
11	DO1	
12	DO2	
13	DO3	
14	DO4	
15	DO5	
16	DO6	
17	DO7	
30	Agnd	Reference pole for universal inputs UI
31	AI1	
32	AI2	
33	Agnd	Reference pole for universal inputs UI
34	AI3	
35	AI4	
40	Agnd	Reference pole for universal inputs UI
41	UI1	
42	UI2	
43	Agnd	Reference pole for universal inputs UI
44	UI3	
45	UI4	
RJ45	TCP/IP port	

50	B	Port 1
51	A	
52	N	
53	E	
71	DI1	
72	DI2	
73	DI3	
74	DI4	
75	DI5	
76	DI6	
77	DI7	
78	DI8	
90	Agnd	Reference pole for analogue outputs AO
91	AO1	
92	AO2	
93	AO3	
94	AO4	
95	AO5	



## Technical data

<b>Supply voltage</b>	24 V AC $\pm$ 15 %, 50...60 Hz or 21...36 V DC
<b>Power consumption</b>	5 VA
<b>Ambient temperature</b>	0...50 °C
<b>Storage temperature</b>	-20...+70 °C
<b>Ambient humidity</b>	Max. 95 % RH
<b>Protection class</b>	IP20
<b>Connection</b>	Disconnectable terminal strips, 4 mm <sup>2</sup>
<b>Memory backup</b>	Built-in long life battery gives long backup time of all settings including real time
<b>Mounting</b>	DIN-rail or cabinet
<b>Housing</b>	Standard Euronorm (8.5 modules wide)
<b>Dimensions (WxHxD)</b>	149 x 121 x 60 mm
<b>Battery type</b>	CR2032 replaceable Lithium cell
<b>Battery life</b>	Min. 5 years
<b>Operating system</b>	EXOrealC

## Communication ports

<b>TCP/IP</b>	EXOline, Modbus, BACnet/IP
<b>RS485</b>	EXOline, Modbus, BACnet MS/TP

## Inputs

<b>Analogue inputs (AI)</b>	0(4)...20 mA (requires 10 $\Omega$ or 500 $\Omega$ shunt), 0...10 V, 0...200 mV, PT1000, Ni1000 DIN, Ni1000 L&G, 12 bit resolution in the A/D conversion.
<b>Digital inputs (DI)</b>	For potential-free contacts
<b>Universal inputs (UI)</b>	Can be configured to function as either analogue input or digital input

## Outputs

<b>Analogue outputs (AO)</b>	0...10 V DC, 1 mA, short-circuit protected
<b>Digital outputs (DO)</b>	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.

## Models

Article	TCP/IP	RS485	Display	AI	DI	UI	AO	DO	Total I/O:s
IO-A15MIXW-3-BEM	1	1	External	4	4	-	3	4	15
IO-A28MIXW-3-BEM	1	1	External	4	8	4	5	7	28

## Accessories

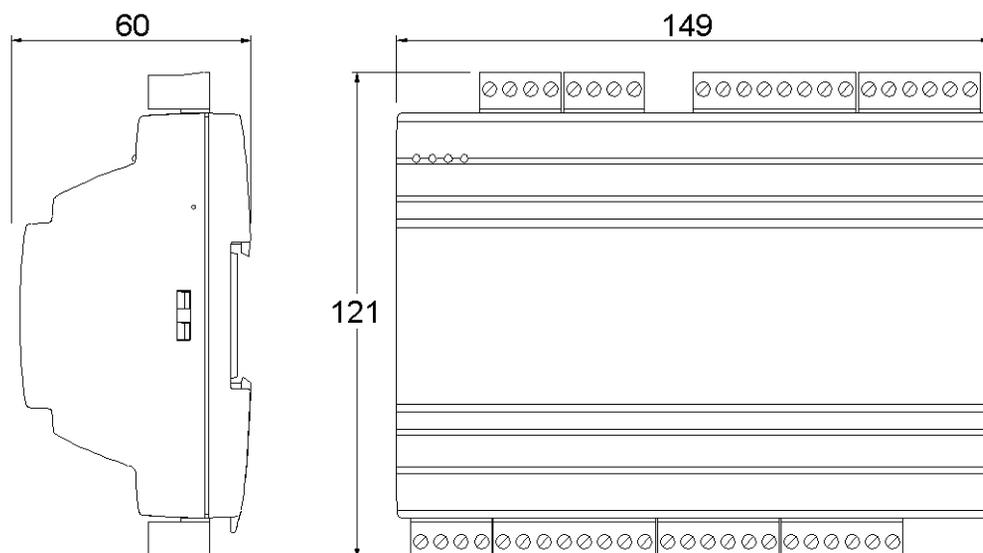
Article	Description
E3-DSP	External display
ESDP-K3	3 m cable for connecting an E3-DSP
ESDP-K10	10 m cable for connecting an E3-DSP

## CE

**EMC emissions and immunity standard:** This product conforms to the requirements of the EMC Directive 2014/30/EU through product standards EN 61000-6-2 and EN 61000-6-3.

**RoHS:** This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

## Dimensions



All measurements in mm.

## Product documentation

Document	Type
Instruction Ardo expansion units	Instruction for installation of the Ardo expansion units
Manual Expansion units	Manual for Ardo and Vido expansion units

The documentation can be downloaded from [www.regincontrols.com](http://www.regincontrols.com).