EXOcompact

Third generation freely programmable controllers

Small, compact controller with different types of communication, with or without built-in display. EXOcompact can be used either as a stand-alone unit or as part of a larger system.

- **Suitable for many applications, including heating, ventilation etc.**
- **Small and compact controller**
- **Large number of communication possibilities**

The EXOcompact series of controllers are available with 1, 2 or 3 communication ports.

The EXOcompact series is fully compatible with all other products in the EXO range. The controllers are freely programmable using the high-level EXO language EXOL®. Programming takes place in EXOdesigner, the same environment used for all other EXO controllers.

Areas of application

EXOcompact is primarily intended for use in installations with a limited number of I/O:s, placing a high importance on a freely programmable, compact controller providing both communication capabilities and high performance. EXOcompact can be used either as a stand-alone unit or together with other EXO products as part of a larger automation system.

In large automation systems, EXOcompact makes an excellent compliment to EXOflex, being ideally suited for localised tasks such as zone control or control of heating and ventilation applications.

Memory use

The third generation of EXOcompact features a factory-loaded application that enables both address and communication settings to be entered into an otherwise empty controller via the display.

It is also possible to load a new or updated control application while the present control application is running. This is possible because a control application will be activated only when it has been correctly downloaded. The controller's flash memory is divided into partitions and the tool *Setup Controller* is used to alternate between partitions. It is therefore easy to use the factory-loaded application to return to the original control application if any problems should occur within the new one.

- **Several protocols available**
- **Applications can be downloaded during operation**
- **Local and remote display simultaneously**

Communication

EXOcompact is capable of communicating via RS485 (EXOline, Modbus), TCP/IP (EXOline, BACnet/IP) and M-Bus (when used together with X1176).

TCP/IP

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

Third generation EXOcompact offers TCP/IP communication 5-20 times faster compared to controllers of the second generation. EXOcompact with TCP/IP communication is available featuring 1 or 2 serial communication ports.

Serial communication

EXOline and Modbus communication takes place via RS485. M-Bus functionality has been improved, and it is now possible to use EXOcompact with most types of meters. In order to enable communication via M-Bus, an external X1176 converter must first be connected.
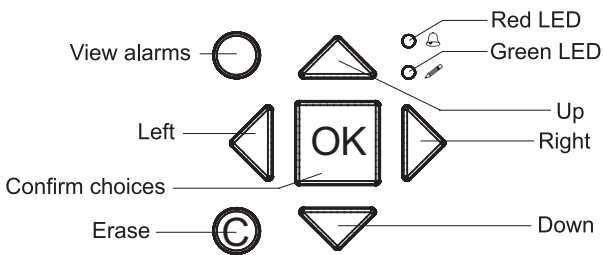
Displays

Built-in display

In models with a built-in display, the display has blue backlight and 4 rows of 20 characters each. The display light is normally dimmed but is activated when a button is depressed. The display light will be dimmed again after a period of inactivity.

There are two LEDs on the front:

- The alarm indication is marked with a 🔔 symbol
- The write indication is marked with a ✏️ symbol

The display menu system is handled using seven buttons:

For more information on how to use the internal display, see the document EXO Displays, User guide.

External displays

For installations requiring an external display, EXOcompact comes prepared for quick connection (4P4C modular connector) of ED9200, E3-DSP and ED-RU.

Third generation EXOcompact enables the use of both an internal and external display at the same time. The maximum permitted cable length for an external display is 100 m.

For more information on ED9200, ED-RU and E3-DSP, see the respective product sheet of each product.

Indications

The upper left corner of the controller contains a status indication. Alarm indications are shown in the display.

Designation	Colour	Description
P1 RxTx	Yellow/Green	Port 1: Receiving/transmitting
P2 RxTx	Yellow/Green	Port 2: 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

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

In third generation EXOcompact, certain terminals and ports have also changed places in order to facilitate installation for the user. Additionally, the power supply terminal is now colored green in order to avoid wiring errors.

Second and third generation EXOcompact

Numerous improvements have been made to EXOcompact in its third generation. As Regin places great importance on backwards compatibility, it is at the same time very similar to a second generation EXOcompact. However; an important difference between the two generations is that dial-up modems are no longer supported in a third generation EXOcompact.

Connections

1	G	Supply voltage 24 V AC or 24 V DC, ±15 %. 50/60 Hz
2	G0	
3	⏚	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 analogue inputs AI
31		
32		
33		
34		
35		
40	Agnd	Reference pole for universal inputs UI
41	UI1: AI5/DI9	
42	UI2: AI6/DI10	
43	Agnd	Reference pole for universal inputs UI
44	UI3:AI7/DI11	
45	UI4: AI8/DI12	
RJ45		TCP/IP port

50	B	Port 1, EXOline connection, Modbus
51	A	
52	N	
53	E	
60	B	Port 2, EXOline connection, Modbus
61	A	
62	N	
63	E	
4P4C		Connection for external display
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	

Wiring example, EXOcompact (C282DT-3)

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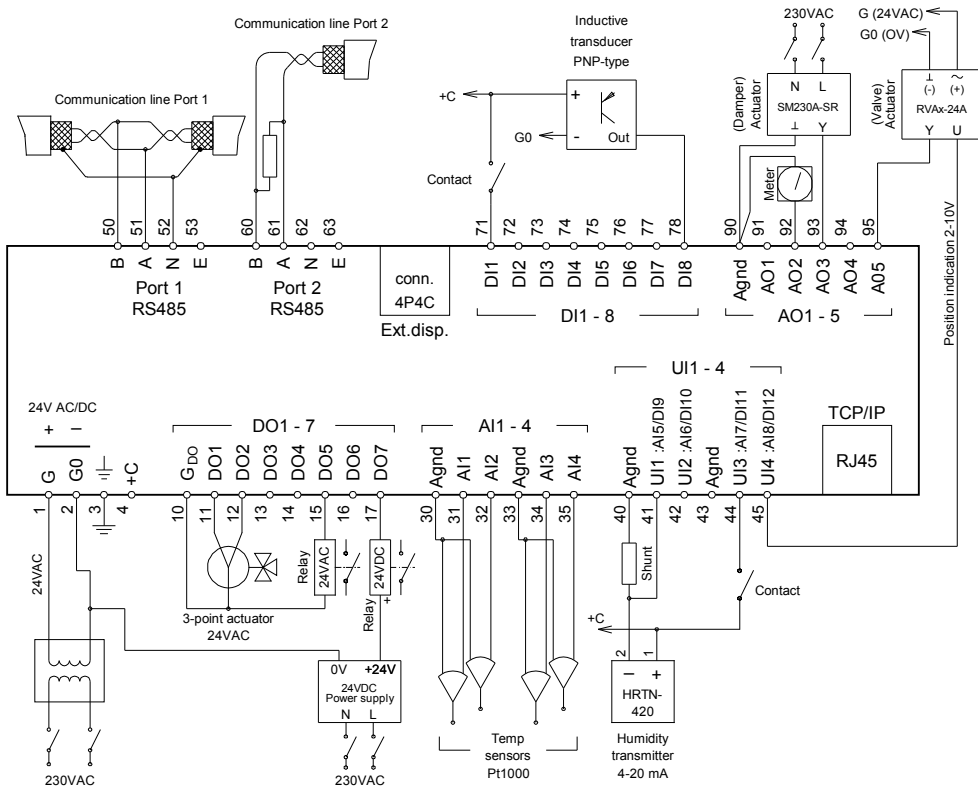
Models

Modell	TCP/IP	RS485	Display	AI*	DI*	UI*	AO*	DO*	Total I/O:s
C81-3	-	1	-	2	3	-	1	2	8
C81D-3	-	1	◉	2	3	-	1	2	8
C151-3	-	1	-	4	4	-	3	4	15
C151D-3	-	1	◉	4	4	-	3	4	15
C281-3	-	1	-	4	8	4	5	7	28
C281D-3	-	1	◉	4	8	4	5	7	28
C282-3	-	2	-	4	8	4	5	7	28
C282D-3	-	2	◉	4	8	4	5	7	28
C152T-3	◉	1	-	4	4	-	3	4	15
C152DT-3	◉	1	◉	4	4	-	3	4	15
C282T-3	◉	1	-	4	8	4	5	7	28
C282DT-3	◉	1	◉	4	8	4	5	7	28
C283T-3	◉	2	-	4	8	4	5	7	28
C283DT-3	◉	2	◉	4	8	4	5	7	28

* AI=analogue inputs, DI=digital inputs, AU=analogue outputs, DU=digital outputs, UI=universal inputs (can be configured to function as either analogue input or digital input)

Technical data

Common data

Supply voltage	24 V AC ±15%, 50…60 Hz or 20…36 V DC
Power consumption	4 VA (without load, without display)
BTL approval	EXOreal 3.1-1-02 or later
+C output	+ 24 V DC, 0.15 A, short-circuit proof
Operating system	EXOreal C
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0...50°C
Storage temperature	-20... +70°C
Relative humidity (non-condensing)	Max. 95 %
Dimensions (WxHxD)	149 x 121 x 60 mm
DIN controller width	8 1/2

CE

EMC emissions and immunity standard: 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.

Communication

Serial	RS485 (EXOline or Modbus with automatic detection/change-over)
TCP	EXOline-TCP, BACnet/IP (requires EXOreal 3.1-1-01 or later)
Modbus	8 bits, 1 or 2 stop bits. Odd, even (Fs) or no parity
M-Bus	Via external X1176 unit
Speed (Port 1 and Port 2)	
standard	9600
settable	1200-38400 bps

Casing

Protection class	IP20
Mounting	DIN-rail mounting or mounting in cabinet
Plastic	Polycarbonate, PC

Inputs

Analogue inputs, AI	0(4)...20 mA, 0...10 V, 0...200 mV, PT-1000, DIN Ni1000, LGNi1000, 12 bits A/D
Digital inputs, DI	Potential-free contact, 24 V DC, configurable for pulse input
Universal inputs, UI	AI or DI (see above)

Cont. Technical data

Outputs

Analogue outputs, AO	0...10 V DC, 5 mA, 12 bit D/A, short circuit-protected
Digital outputs, DO	Mosfet 24 V AC/DC, 2 A. Max 8 A in total.
24 V DC output	0.15 A, short circuit-protected

**Built-in display**

Display	LCD, backlit, 4 rows of 20 characters each, international character set
Power consumption	+ 1 VA in addition to basic consumption

External display

Models	E3-DSP, ED9200 or ED-RU
Connection	4P4C modular connector
Max. cable length	100 m

Data for models with TCP/IP port

Connection	RJ45, 10Base-T/100Base-TX auto-negotiation
Cable length	Max. 100 m (min Cat 5)
Power consumption	+ 1 VA in addition to basic consumption

Dimensions
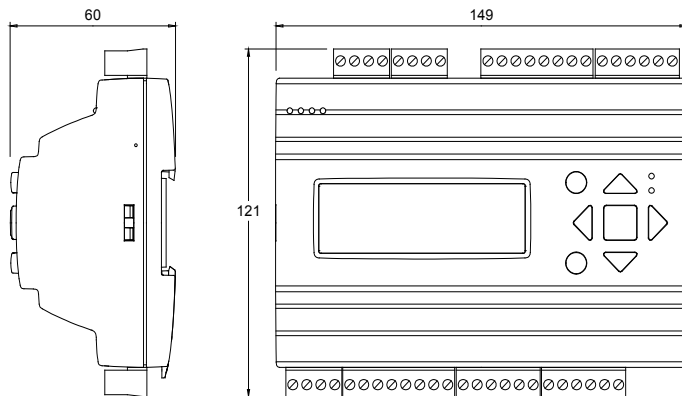
Measurements in mm

Product documentation

Document	Type
EXOcompact third generation manual	EXOcompact technical manual
E3-DSP_prsh	Product sheet for external display unit
ED92000_prsh	Product sheet for external display unit
ED-RU..._prsh	Product sheet for external room units
EXO displays, User guide	Manual on display handling
EXOcompact_BACnet_PICS	Document on BACnet approval for EXOcompact

The product sheets can be downloaded from www.regincontrols.com.

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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