# INSTRUCTION REGIO<sup>ardo</sup>



# ≈REGIN

IN20007 REV. F, 2019-12-13

EN

**Note!** More information about the product can be found in the manual, which is available for download from www.regincontrols.com

Caution! Read and understand the instruction before using the product.

**Caution!** Ensure that the installation complies with local safety regulations.

Caution! Before installation or maintenance, the power supply should first be disconnected. Installation or maintenance of this unit should only be carried out by qualified personnel. The manufacturer is not responsible for any eventual damage or injury caused by inadequate skills during installation, or through removal of or deactivation of any security devices.

## Function

RegioArdo RC-A203W-4 (-TP) is a 24 V AC two-room controller with a pre-programmed software application for dampers, chillbeams, and radiators.

### Box contents

The Regio  $^{Ardo}$  box contains one baseplate (A), one controller unit (B), and two terminal protection covers (C).



C x 2

Mounting

The controller is installed in a ceiling void by using a baseplate with terminal protection covers, or on a DIN rail. Place the room unit(s) in a location that has a temperature representative for the room. A suitable location is approx. 1.6 m above floor level in a place with unobstructed air circulation.

### DIN rail mounting

To mount the controller:

1. Pull out the fastener.

2. Attach the controller to the rail.

3. Push in the fastener to secure the controller.



#### Wall mounting

- To mount the controller:
- 1. Attach the baseplate to the wall using screws.



2. Pull out the fastener and attach the controller to the baseplate, and then push in the fastener to secure the controller.





# Wiring

**Caution!** Ensure that the cabling is securely attached to the baseplate.

The following wiring diagram exemplifies controller connections usage, and the following table describes the controller connections and their applicability.



Terminal № and designator	Туре	Description	
10 GDO 14 GDO	Supply voltage output	24 V AC supply voltage output for use together with digital outputs.	
11 DO1b 12 DO2b 13 DO3b 15 DO4b 16 DO5b 17 DO6b	Digital output	Mosfet output used for valve, 3-speed fan, blinds, or lighting control, or for alarms or forced ventilation.	
20 Agnd 23 Agnd 30 Agnd 45 Agnd	Analog ground	Signal ground for analog inputs and outputs.	
21 Al1a 22 Al2a 24 Al3a 25 Al4a	Analog input	Input used for change-over detection or for temperature, CO <sub>2</sub> , condensation, or relative humidity sensor.	
31 CI1a 32 CI2a	Condensation input	Input dedicated for Regin's condensation detector KG-A/1.	
	Ethernet commu- nication port	8P8C modular connector used for Ethernet - TCP/IP communication.	
40 AO1a 41 AO2a 42 AO3a 43 AO4a	Analog output	Output used for valve, damper, or EC fan control.	
50 GND 53 GND	Digital ground	Signal ground for digital inputs.	
51 DI1b 52 DI2b 54 DI3b 55 DI4b	Digital input	Input used for presence, open window, or change-over detection.	
Ext. Disp.	External display communication port	4P4C modular connector used for communica- tion with an ED-RU room unit.	
60 E 61 N 62 A 63 B	RS485 communi- cation port	RS485 connector used for communication via BACnet, or for master/slave communication via Exoline or Modbus. N can be used as common signal reference if a large difference in potential between units in the network is causing communication problems. This connection is not galvanically isolated.	
70 E 71 N 72 A 73 B	RS485 communi- cation port	RS485 connector used for communication via BACnet, or for master/slave communication via Exoline or Modbus. N can be used as common signal reference if a large difference in potential between units in the network is causing communication problems. This connection is galvanically isolated.	



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10 G	Black
11 G0	White
42 A	Yellow
43 B	Brown

### Configuration and commissioning

It is recommended that Application tool is used to perform configuration and commissioning. A room unit with display can also be used by modifying the parameters that are accessed via the parameter menu in the display. The display parameters are listed in the manual.

### Two-room installation

Follow these steps to ensure that the controller automatically associates the connected room units with room 1 and room 2:

1. Make sure that the two room units have different ELA addresses. The ELA address has the format 1:[1-30] and is printed on a label that is located on the back of the room unit PCB, as shown in the following figure.



2. Connect both room units to the controller using the cable splitter.

3. In Application tool, connect to the controller and enable the two rooms function via the *Enable room* 2 configuration setting. The *Enable room* 2 setting is located in the *Configuration -> Control functions* pane.

Load/synchronize the *Enable room 2* parameter to the controller.

4. Allow the controller to identify the room units, which takes up to 45 seconds.

For room units without display, the LED in the centre of the room unit blinks red and blue during the identification phase. The controller has completed the identification when the LED stops blinking.

For room units with display, *FAIL* or **EXE** is shown in the display during the identification phase. The controller has completed the identification when neither *FAIL* nor **EXE** is shown.

The room unit with the lowest ELA will be assigned to room 1. After the room units have been identified by the controller, Application tool provides support functions for checking assigned room unit IDs, and for swapping IDs between room units.

### Technical data

#### General data

Supply voltage	24 V AC (20.427.6 V AC)	
Supply voltage cable specification	0.75 mm² (18 AWG)	
Power consumption without load	<1W	
Memory backup	Backup of memory and real-time clock function	
Battery type	CR2032 replaceable lithium cell	
Protection class	IP20	
Protection class, with terminal protection covers	IP30	

Protection class, electrical	Class III
Ambient humidity	Max. 95 % RH (non-condensing)
Ambient temperature	055 °C
Storage temperature	-2070 °C
Number of DIN modules	8.5
Weight	490 g
Dimensions, controller unit with terminal blocks (WxHxD)	149 x 136 x 58 mm
Dimensions, controller unit with baseplate and terminal protection covers (WxHxD)	153 x 202 x 68 mm
Operating system	EXOrealC

I/Os	
Analogue input a (Ala)	010 V DC, PT1000 Cable specification: 0.50 mm <sup>2</sup> (20 AWG)
Digital input b (Dlb)	Sourcing input type, GND is reference Cable specification: 0.50 mm <sup>2</sup> (20 AWG)
Condensation input a (Cla)	Input dedicated for Regin's condensation detector KG-A/1 Cable specification: 0.50 mm <sup>2</sup> (20 AWG)
Analogue output a (AOa)	010 V DC, max. 5 mA, short-circuit proof Cable specification: 0.50 mm <sup>2</sup> (20 AWG)
Digital output b (DOb)	Mosfet output 24 V AC, max. 2 A, total max. 8 A Cable specification: 0.75 mm <sup>2</sup> (18 AWG)

### RS485 communication ports

Default protocol	EXOline	
Supported protocols	EXOline, Modbus, BACnet MS/TP	
Port isolation	P1: Galvanic common mode voltage, max. 150 V P2: No	
Communication cable specification	Diameter: 0.6 mm (twisted pair)	

#### Ethernet communication port

Default protocol	EXOline
Supported protocols	EXOline, Modbus IP, BACnet/IP

# CE

This product carries the CE-mark. More information is available at www.regincontrols.com.

Declaration of conformity	
RegioArdo RC-A203W-4 (-TP) conforms to the following standards:	
2014/30/EU Electro Magnetic Compatibility (EMC)	
EN 61000-6-2:2005EN 61000-6-3:2007 A1:2011	
2011/65/EU Restriction of Hazardous Substances (RoHS) Directive	
EN 50581:2012	
Derecting of equipment and performe	
Recycling of equipment and packaging Recycling of equipment and packaging should be taken into consideration and disposed of in accordance with local and national legislation/regulations.	
Documentation and Application tool	
All documentation and Application tool can be downloaded from www. regincontrols.com	
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