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DATA SHEET

TRI-1R

Produal

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TRI-1R - Touchscreen room unit



TRI-1R touchscreen room units provide attractive user interface and sensor for room control applications. The devices are connected to BMS or controllers via Modbus or BACnet communication interfaces. The room units have 320 x 480 pixel 255 colour touchscreen that displays the plant and control status information on the modern intuitive user interface.

The room unit includes internal temperature measurement. In addition, models with humidity and/or CO_2 measurement are available.

The users can use the unit to change the control settings such as the set point, fan speed and operation mode. They can switch lights and air conditioning units on/off, or activate the Party Mode for extended or boost period.

The room units are equipped with a relay output (230 V, 7 A), two external sensor inputs and a digital input.

Technical specifications

Property	Value
Supply	24 Vac/dc (22...28 V) < 80 mA
Internal temperature measurement	
Range	0...50 °C (32...122 °F)
Accuracy (25 °C / 77 °F)	±0.5 °C (0.9 °F)
CO_2 measurement (CO2 models)	
Range	0...5000 ppm
Accuracy (25 °C / 77 °F)	±50 ppm + 3 % from reading
Calibration	Automatic
Warm-up time	< 20 seconds
Non-linearity	< 1 % FS
Time constant	2 min
Humidity measurement (RH models)	
Range	0…100 %rH
Accuracy (25 °C / 77 °F)	±2 %rH (20...80 %rH)

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Property	Value
Relay output	230 Vac, 7 A (res.) / 2.2 A (inductive) or 115 Vac, 7 A (res.) / 1.3 A (inductive)
Inputs	
Analogue inputs	2 x external NTC 10 sensor
Digital inputs	1 x digital input, potential free contact, impedance <1 kΩ
Communication (MOD models)	Modbus RTU
Bus speed	9600*/19200/38400/57600/76800 bit/s
Parity	none*/odd/even
Stop bits	1 or 2
Unit load	1/2 UL
Communication (BAC models)	BACnet MS/TP
Bus speed	9600*/19200/38400/57600/76800 bit/s
Parity	none*/odd/even
Stop bits	1 or 2
Unit load	1/2 UL
Display	3.5" backlit touchscreen, 320 x 480 pixels, 255K colours
Operating conditions	
Temperature	0...50 °C (32...122 °F)
Humidity	0...95 %rH (non-condensing)
Storage conditions	
Temperature	-30...70 °C (-22...158 °F)
Humidity	0...95 %rH (non-condensing)
Wiring terminals (power supply and outputs)	
Wire type	Solid and stranded wire
Wire size	Solid: 0.05...2.5 mm^2, stranded: 0.05...1.50 mm^2 / 14...30 AWG (UL)
Rising clamp size	2.5 x 2.2 mm
Wiring terminals (communication and inputs)	Tilted terminals
Wire type	Solid and stranded wire
Wire size	0.05...1.5 mm^2 / 14...30 AWG (UL)
Rising clamp size	2.5 x 1.9 mm
Housing	
Protection class	IP20
Materials	Polycarbonate plastics, self extinguishing
Mounting	On a flush mounting box (60 mm hole distance)
Dimensions (w x h x d)	88 x 112 x 43 mm
Weight	220 g
	* = factory setting

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Wiring

Warning: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

Warning: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (safety extra low voltage) electricity network.

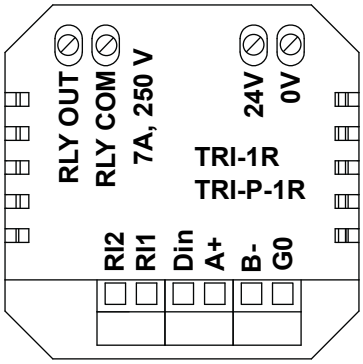
CAUTION: The product may only be connected to overvoltage category I or II electricity network according to IEC 60664-1.

CAUTION: The used cables must have minimum of 230 Vac insulation for SELV wiring, if the mounting box includes also 230 Vac voltage wirings.

CAUTION: Use single stranded wires or use wire end sleeves if multi stranded wires are used.

CAUTION: Don't connect fan motors in parallel. One product can control only one fan motor.

CAUTION: The relay connection wiring cross sections must be adapted to the overload protection conditions (max. 10 A). The wirings must always comply with local regulations.

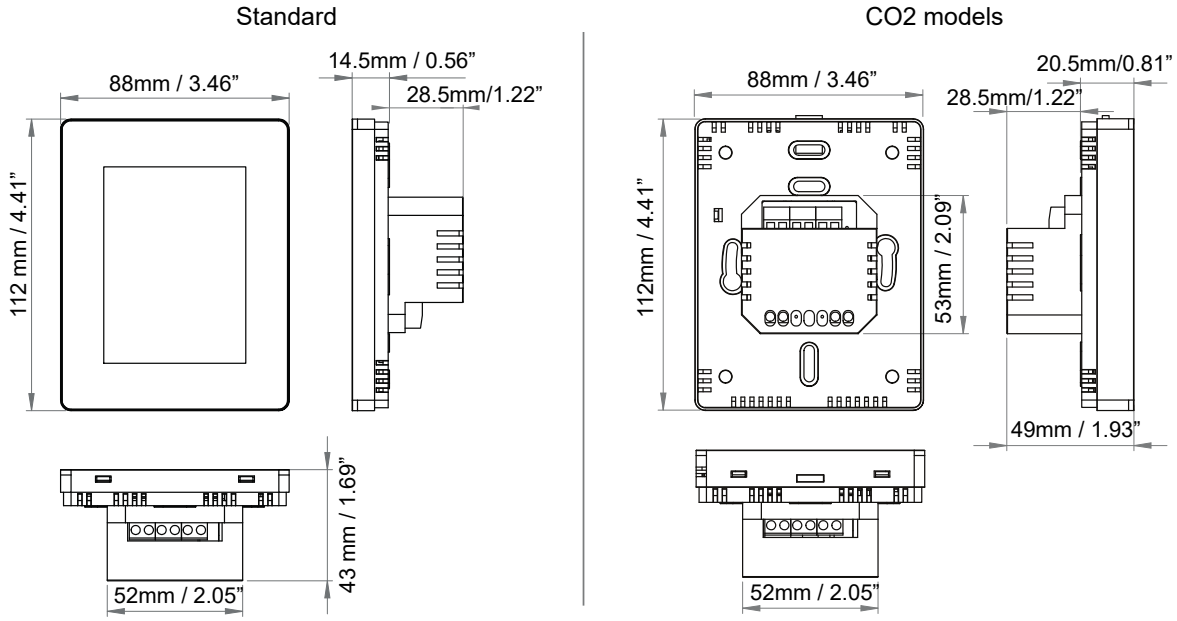


RLY OUT	Relay contact, 230 Vac / 30 Vdc, 7 A
RLY COM	Relay contact, 230 Vac / 30 Vdc, 7 A **Warning:** Add an external fuse to relay common connector. Use a time-lag fuse (max 10 A) that is in accordance with the standard IEC 60127-2. The product doesn't have an internal fuse for the relays.
24V	Supply, 24 Vac/dc
0V	0 V, common
RI2	External temperature sensor input 2, NTC 10
RI1	External temperature sensor input 1, NTC 10
Din	Digital input, potential free contact
A+	Modbus RTU / BACnet MS/TP, RS-485
B-	
G0	0 V, common

Ordering information

			Type	0	1	2	3	4	5	6
0	Touchscreen room unit			6001	6		2		0	
1	Device type	Room unit	TRI-1R		6					
2	Communication	Modbus	-MOD			M				
		Bacnet	-BAC			B				
3	Power supply	24 Vac/dc	-24				2			
4	Additional measurements	No additional measurements						0		
		Relative humidity	-RH					1		
		CO_2	-CO2					2		
		Relative humidity and CO_2	-RH-CO2					3		
5	Reserved								0	
6	Body colour	White (RAL 9010)	-W							W
		Black (RAL 8022)	-B							B

Dimensions



Supported standards and directives

Standard	Description
2014/30/EU	Electromagnetic Compatibility (EMC).
2014/35/EU	Low Voltage Directive (LVD).
2011/65/EU	Restriction of Hazardous Substances (RoHS2) Directive.
EN 61000-6-1:2007	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments.
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
EN 61000-6-3:2007/ A1:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
EN 61000-6-4:2007/ A1:2011	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.
EN 60730-1:2016	Automatic electrical controls - Part 1: General requirements.

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