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DATA SHEET

TRT-P-1R

Produal

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TRT-P-1R - Touchscreen room thermostats



TRT-P-1R smart thermostats offer a modern flush mounted slim design look for heating or cooling control. The thermostats can be used for various zone control or underfloor heating/cooling control applications and they have 3.5” backlit colour touchscreen. The devices are connected to BMS or controllers via Modbus or BACnet communication interfaces. The thermostats can also be configured to be used as a lighting and/or air conditioning interface.

The thermostats are equipped with 7-day clock, a relay output (230 V, 7 A), two external sensor inputs and a digital input.

The products are available with two different supply voltage choices.

Technical specifications

Property	Value
Supply	
-24 models	24 Vac/dc (22...28 V) < 80 mA
-230 models	90...250 Vac/dc
Internal temperature measurement	
Range	0...50 °C (32...122 °F)
Accuracy (25 °C / 77 °F)	±0.5 °C (0.9 °F)
Humidity measurement (RH models)	
Range	0…100 %rH
Accuracy (25 °C / 77 °F)	±2 %rH (20...80 %rH)
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. Resistive inputs can also act as potential free contacts.
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

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Property	Value
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

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.

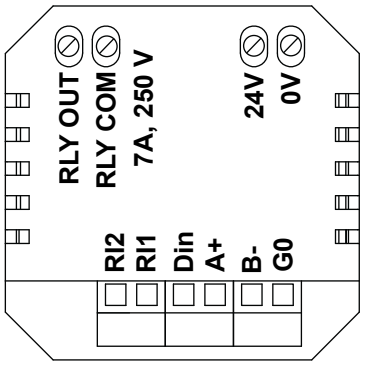
CAUTION: Use single stranded wires or use wire end sleeves if multi stranded wires are used.

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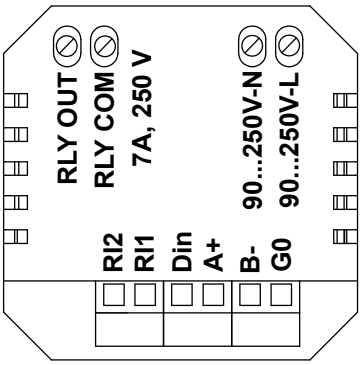
CAUTION: Don't connect fan motors in parallel. One product can control only one fan motor.

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.

-24 models



-230 models

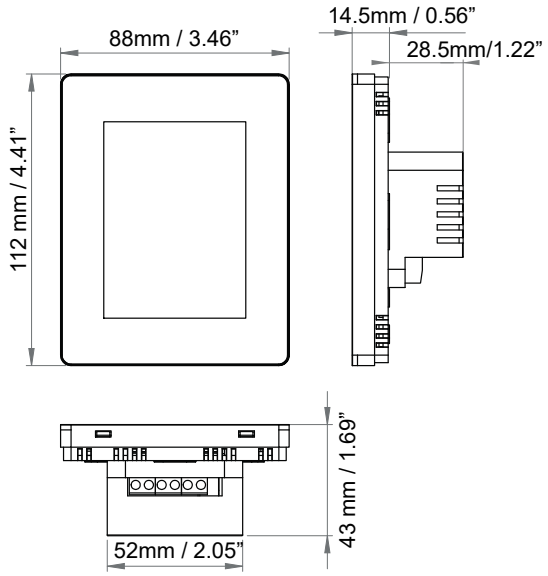


RLY OUT	Relay contact, 230 Vac / 30 Vdc, 7 A	
RLY COM	Relay contact, 230 Vac / 30 Vdc, 7 A	
24V	Supply, 24 Vac/dc	-24 models
0V	0 V, common	
90...250V-N	Supply, 90...250 Vac/dc, neutral	-230 models
90...250V-L	Supply, 90...250 Vac/dc, live	
RI2	External temperature sensor input 2, NTC 10 (control, floor, outside, network only, digital input)	
RI1	External temperature sensor input 1, NTC 10 (control, floor, outside, network only, digital input)	
Din	Digital input, potential free contact (override, e.g. holiday)	
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 thermostat			6001	2				0	
1 Device type	Room thermostat	TRT-P-1R		2					
2 Communication	Modbus	-MOD			M				
	Bacnet	-BAC			B				
3 Power supply	24 Vac/dc	-24				2			
	90...250 Vac/dc	-230				M			
4 Additional measurements	No additional measurements						0		
	Relative humidity	-RH					1		
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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