PULSER/D

Electric heating controller with PI-control, 230...400 V AC, DIN-rail mounting

Electric heating controllers intended for control of radiators or electric heating coils. They can be mounted on a DIN-rail in a cabinet. The electric heating controllers pulse the whole load on/off and utilise time-proportional triac control. Automatic control function adaptation, P- or PI-control.

- ✓ For loads up to 3.6 kW (230 V) or 6.4 kW (400 V)
- ✓ Automatic adaption of control function, P or PI-control.
- ✓ Automatic adaption for supply voltage
- ✓ Night set-back 5 K
- ✓ Intended for DIN-rail mounting in a cabinet

APPLICATION

This is an electric heating controller (triac control) for single phase or two phase (210 - 415 V) electric heating. It has a built-in temperature controller with input for a sensor placed in a supply-air duct or in a room, for example.

FUNCTION

The electrical heating controller pulses the entire power output ON/OFF. It utilises time-proportional control, the ratio between On-time and Off-time is varied to fit the prevailing heating requirement e.g. ON = 30 s and OFF = 30 s gives 50 % output power. The cycle-time (the sum of on-time and off-time) is fixed at approximately 60 seconds.

This control accuracy contributes to reduced energy costs and to the increased comfort of an even temperature. Since the current is switched by a semiconductor (triac) there are no moving parts that can wear out. The current is switched at zero crossing, to eliminate network disturbance. It automatically adapts control mode to suit the dynamics of the controlled object.

For rapid temperature changes, the electric heating controller will work as a PI-controller with a fixed P-band and a fixed I-time. For slow temperature changes it will work as a P-controller with a fixed P-band. It can also provide night set-back via an external time switch. On closure of the time-switch contact the controller set-point is lowered by 5 K.

INSTALLATION

The electric heating controller is intended primarily for DIN-rail mounting in a cabinet and is connected in series between power supply and an electric heater, for example an electric heating battery or electric panel.

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REGIN THE CHALLENGER

TECHNICAL DATA

Supply voltage	230...400 (210 - 415 V ~ 50/60 Hz 16 A)
Pulse period	60 s
Mounting	DIN-rail
Power dissipation	20 W of heat at full load
Protection class	IP20
P-band	20 K (rapid temperature changes), 2 K (slow temperature changes)
I-time	6 min (rapid temperature changes)
Ambient temperature	0...40 °C
Ambient humidity	Max. 90 % RH, non-condensing
Storage temperature	-40...+50 °C
Number of modules	6.6
Dimensions (W x H x D)	115 x 88 x 59
Cable connection	Cage clamp
Weight (incl. packaging)	0.36 kg

Output load	Resistive load, max 16 A, min 1 A
Sensor inputs	One input for main sensor
Sensor element	NTC Regin standard
Setpoint	0...30 °C (the external sensor determines the temperature range)
Setpoint alternatives	Either internal setpoint potentiometer or external setting device.
Night setback	5 K
Indication	Red LED that is lit when power is pulsed to the heater.

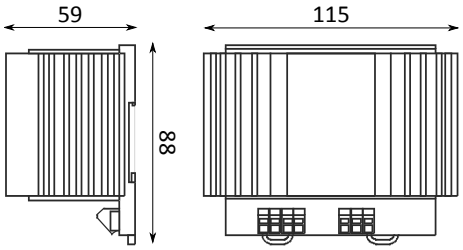
CE

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

ACCESSORIES

Article	Description
TG-R.../TG-G.../TG-K...	Regin's temperature sensors

DIMENSIONS



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WIRING

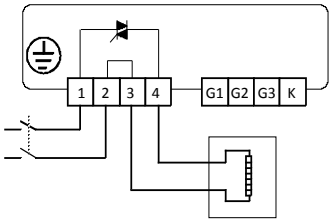

Fig. 1 Supply voltage and load

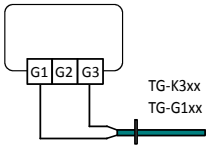

Fig. 2 External sensor and internal setpoint

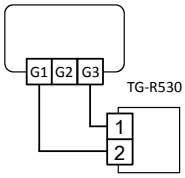

Fig. 3 Room sensor and internal setpoint

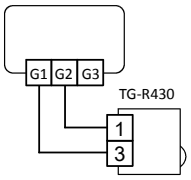

Fig. 4 Room sensor using TG-R430 as external sensor and setpoint

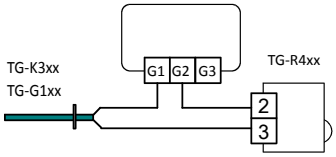

Fig. 5 External separate sensor and TG-R4XX

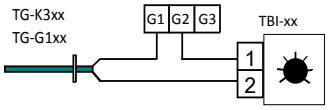

Fig. 6 External separate sensor and potentiometer TBI-XX as setpoint

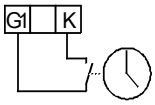

Fig. 7 Night set-back 5K function

PRODUCT DOCUMENTATION

All documentation can be downloaded from www.regincontrols.com.

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