PULSER-DSP

Triac Controller for electric heating. Single phase or two phase.

PULSER-DSP is an electric heating controller for control of heating batteries, electric panels, etc.

- **Features display, built-in sensor and setpoint adjustment**
- **Possible to connect external sensor**
- **Settings for setpoint, P-band etc. are made via the buttons on the front**

- **For loads of up to 2.3 kW (230 V) or 4 kW (400 V)**
- **Adapts automatically to connected supply voltage 200...415 V**
- **Input for occupancy control (night setback)**

Function

PULSER-DSP is an electric heating controller (triac control) for single phase or two phase electric heating. It is intended primarily for wall mounting and is connected in series between power supply and an electric heater, for example an electric heating battery or electric panel.

PULSER-DSP has a built-in temperature controller with input for an external sensor which is placed in a supply-air duct or in a room, for example. For controlling room temperature the built-in sensor in PULSER-DSP can be used.

The controller pulses the entire power output ON/OFF. The controller 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 approx 60s.

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 phase angle, to eliminate network disturbance.

Sensors

The controller has a built-in sensor. Alternatively an external sensor (Regin NTC 0…30°C) can be used.

Setpoint

Is set in the setting-level menu. The settings are factory set to 21°C.

Setpoint adjustment

By pressing [+] or [-] button on the front individual setpoint adjustments can easily be made, without entering the setting level of the menu system.

Settable +/- 3K in 0.5 steps.

Occupancy control

The controller has an input for closing contact from an external occupancy detector or similar device, enabling PULSER-DSP to be configured between normal and economy running modes. The two running modes have individual setpoints, with symbols in the display indicating which is currecly active. On closed contact, the controller runs with a normal setpoint. On open contact, it runs in its economy mode. This function is activated via the menu system.

Display and menu system

The menu system of the controller has a level for setting that is accessed in the following way: both buttons [<] and [>] are pressed for five seconds.
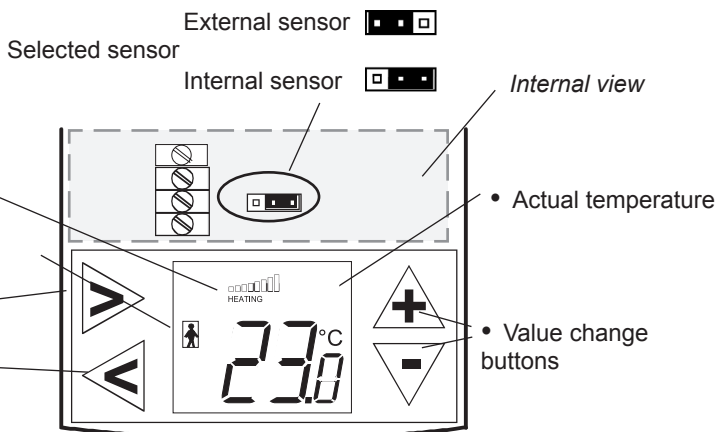
The display shows 000.

Then press button [−] three times, the controller enters setting level and gives access to setpoints, control parameters etc. See overleaf.

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THE CHALLENGER IN BUILDING AUTOMATION
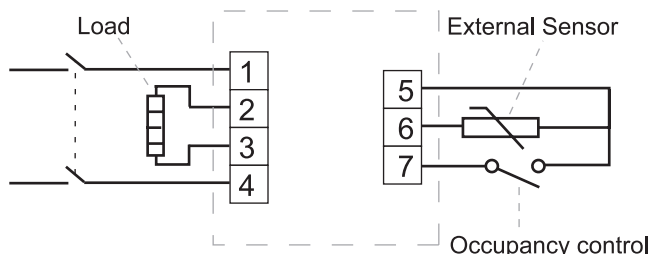
Technical data

Supply voltage	200... 415 V AC 50 Hz, single or two phase. Automatic adaption
Power output	Max. 10 A, min. 1 A. At 230 V the maximum load is 2.3 kW and the minimum load 230 W. At 400 V the maximum load is 4 kW and the minimum load 400 W
Power emission	The controller emits approx. 15 W of heat which must be dissipated
Ambient temperature	Maximum 30°C with no condensation
Storage temperature	-40 - +50°C.
Ambient humidity	90% RH maximum
Protection class	IP20
Pulse period	60 seconds, fixed
Indicator	LED that is lit when power is pulsed to the heater
Built-in sensor	Measuring range 0...30°C
Input external sensor/setpoint	Intended for NTC-sensor 0...30°C
Occupancy control	Closing potential free contact. N.B. There is a line-potential(230 or 400 V AC) on all terminals.
Settings (menu)	Factory settings (rangeability 0...30°C)
Setpoint	21°C
Occupancy control	21°C (setpoint comfort)
	17°C (setpoint stand-by)
P-band	0.5...99.9 K
I-time	1...999 sec.
Calibratation (temp. sensor)	+/- 3 K
Occupancy function	Active or Inactive (factory setting is Inactive)
	This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-3 and EN 6100-6-1, European LVD standards IEC 669-1 and IEC 669-2-1 and carries the CE mark

CE

Display

- Graphical read-out of actuated heat

- Occupancy control:
  Person in frame: presence detected
  Person outside frame: no presence detected

- Menu selection buttons

External sensor
Selected sensor
Internal sensor
Internal view
- Actual temperature
- Value change buttons

Wiring

Load

External Sensor

1
2
3
4

5
6
7

Occupancy control

Dimensions

86
115
Depth: 27 mm

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