

CHAPTER 4



Electric heating controllers

Read more about Regin's extensive range of controllers for electric heating, for wall or DIN-rail mounting, 1-phase 230 V, 2- or 3-phase 230 V/400 V.

- Pulser
- TTC
- Slave board
- Step controllers
- Accessories

Electric heating controllers

Electric heating controller



Wall mounting



DIN-rail mounting

These PULSER controllers are intended for control of radiators or electric heating batteries. They can either be mounted on a wall or in a cabinet. The controllers pulse the entire power output ON/OFF and utilise time-proportional triac-control. Automatic adaption of control function, P or PI-control.

- Automatic adaption of control function and supply voltage
- 1-phase or 2-phase supply

Technical data	
Supply voltage	200...415 V AC, 50...60 Hz, 1-phase or 2-phase, automatic adaptation
Ambient temperature	Max 30°C (N.B Pulsar generates 20W. Heating at full load).
P-band	20 K (Rapid temperature changes) 1.5 K (Slow temperature changes)
Reset-time	6 min (Rapid temperature changes)
Pulse period	60 s
Inputs	
Sensor	One (1), main sensor or two (2) (Only Pulsar-M)
Setpoint	0...30°C, the sensor determines the scale range (Regin NTC-sensor)
Night set-back	0...10 K
Output (load)	16 A (1 A) 1-phase max 3.6 kW, 2-phase max 6.4 kW
Mounting	DIN-rail or wall-mounting
Protection class	IP30 (PULSER/D IP20)

For automatic adaption both 230V AC or 400V AC

Description	Mounting	Type	Notes
Basic model	Wall	PULSER	
Basic model	DIN-rail, 6.6 modules (115x88x59)	PULSER/D	
ADD-on unit	Wall	PULSER-ADD	
With min/max limitation	Wall	PULSER-M	
For external control signal 0...10 V DC	DIN-rail, 6.6 modules (115x88x59)	PULSER-X/D	

1-phase, 230 V AC or 2-phase, 400 V AC

Description	Supply voltage	Mounting	Type	Notes
With reset function for heater high temperature limit	230 V AC	Wall	PULSER220R	
For external control signal 0...10 V DC	230 V AC	Wall	PULSER220X010	
For external control signal 0...10 V DC	400 V AC	Wall	PULSER380X010	

Electric heating controller with display



Pulser-DSP is a room controller intended for electric heating control. The controller can be connected to 1-phase or 2-phase electric heating i.e. electric batteries, radiators etc. Pulser-DSP has a built-in sensor and an external sensor can be used, as well. Presence detector can be connected for control of so called comfort heating. This means that, when the room is empty, the controller is set to stand-by position with reduced setpoint. Setpoint, P-band and stand-by settings etc. are set by using the buttons on the controller.

- With display
- Adjustable P-band and I-time

Technical data	
Supply voltage	200...415 V AC, automatic adaptation
Output (load)	2.3 kW at 230 V AC, 4 kW at 400 V AC
Settings	
Setpoint	0...30°C, the sensor determines the scale range (Regin NTC-sensor)
Comfort heating	0...30°C
Stand-by temperature	0...30°C
P-band	0.5...99.9 K
I-Time	1...999 s
Presence detection	On/Off
Mounting	Wall-mounting
Protection class	IP30

Description	Type	Notes
Room controller with display	PULSER-DSP	

Electric heating controller



Pulser-LON is a room controller based on LON-technology. It has a triac output for controlling electric heating (10 A) and an extra output (cooling or heating), 3-position or 24 V AC thermal actuator. The controller has a built in sensor and setpoint knob. The setpoint can be shifted +/- 3°C. An external sensor or setpoint device can also be used. Pulser-LON can operate in different running modes: present, nonpresent and stand-by. The basic setpoint can be shifted with different values for heating and cooling. A window contact can be used to block the control when a window is open.

- With LonWorks communication
- Heating and cooling

Technical data	
Supply voltage	1-phase, 230 V AC and 24 V AC
Output (load)	10 A
Setpoint	0...30°C, the sensor determines the scale range (Regin NTC-sensor)
Setpoint adjustment	+/-3°C adjustment
Load (extra output)	24 V AC, 3-point or one on/off, 0.5 A
Mounting	Wall-mounting
Protection class	IP30

Description	Type	Notes
Room controller with LON-communication, heating or cooling in sequence	PULSER-HC-LON	

Electric heating controller



The controller TTC2000 is designed for wall-mounting and can be used with internal or external setpoint. Automatic adaptation of control function, P or PI control. The controller can also be set to be controlled by an external 0...10 V DC signal. To control extra load the slave board TT-S1 can be easily mounted into the unit.

- 3-phase
- Wall-mounting

Technical data	
Supply voltage	3-phase, 210...255 / 380...415 V AC, automatic adaptation
Setpoint	0...30°C, the sensor determines the scale range
Max load	Max 25 A, min 3 A/ phase
Sensor inputs	Two (2), main- and min/max-limit sensors (Regin NTC-sensor)
Control signal	0...10 V DC (external signal)
Mounting	Wall-mounting
Protection class	IP30

Description	Type	Notes
Controller for electric heating	TTC2000	

Slave board



The slave board TT-S1 is intended to be used together with the electric heating controller TTC2000 in order to control extra loads.

Description	Type	Notes
Slave board for control of extra load (+17 kW)	TT-S1	

Scales and knobs for Pulser and TTC

Alternative setpoint scales, when using sensors with other temperature ranges.

Scales for TTC25/40 and Pulser/D	Temperature range	Type	Notes
Temperature range	20...50°C	3933	
Temperature range	40...70°C	3934	
Temperature range	60...90°C	3935	
Knobs for TTC2000			
Temperature range	20...50°C	3608	
Temperature range	40...70°C	3609	
Temperature range	60...90°C	3610	
Knobs for Pulser			
Temperature range	0...30°C	2271	
Temperature range	20...50°C	1588	
Temperature range	40...70°C	1589	
Temperature range	60...90°C	1590	

Electric heating controller



TTC25

These TTC-electric heating controllers are intended for control of electric heating batteries or radiators. The controller pulses the entire power output ON/OFF and utilises time-proportional triac control. The controller is intended for DIN-rail mounting. Automatic adaptation of control function, P or PI control. It can also be set to be controlled by an external 0...10 V DC signal.

- 3-phase
- DIN-rail



TTC40F



TTC63F



TTC80F

Technical data	
Supply voltage	
TTC25...40	3-phase, 210...255 / 380...415 V AC, automatic adaptation
TTC63...80	3-phase, 400 V AC
Output	
TTC25...	25 A, 400 V AC, 17 kW (230 V, 10 kW)
TTC40...	40 A, 400 V AC, 27 kW (230 V, 16 kW)
TTC63F	63 A, 400 V AC, 43 kW
TTC80F	80 A, 400 V AC, 55 kW
Setpoint	0...30°C (sensor determines the scale range) N.B : Not on TTC...X models*
Sensor inputs	Two (2), main- and max, min limit sensors (Regin NTC-sensor) N.B : Not on TTC...X models
Control signal	0...10 V DC
Mounting	DIN-rail
TTC25...	195x100x95, 11.2 modules
TTC40...	195x220x95, 11.2 modules
TTC63F	195x220x105, 11.2 modules
TTC80F	195x220x105, 11.2 modules
Protection class	IP20

Description	Load	Type	Notes
TTC-electric heating controllers with temperature controller, also for 0...10 V DC control signal	25 A	TTC25	
TTC-electric heating controllers for external control signal 0...10 V DC only	25 A	TTC25X	
TTC-electric heating controllers with temperature controller, also for 0...10 V DC control signal	40 A	TTC40F	
TTC-electric heating controllers for external control signal 0...10 V DC only	40 A	TTC40FX	
TTC-electric heating controllers with temperature controller, also for 0...10 V DC control signal	63 A	TTC63F	
TTC-electric heating controllers with temperature controller, also for 0...10 V DC control signal	80 A	TTC80F	



To control larger electrical loads see step controllers TT-S4/D and TT-S6/D