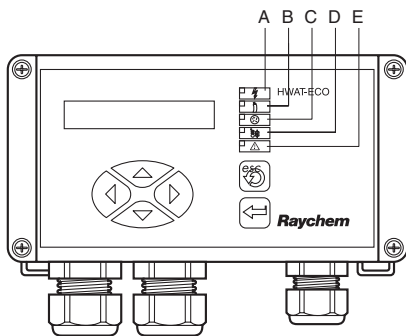


# HWAT-ECO TEMPERATURE CONTROL UNIT



## MODULE LAYOUT



- A** Power supply on (green LED)
- B** Power to heater on (green LED)
- C** Legionella prevention (green LED) - heating cable 100% powered - increased risk of scalding
- D** Maintain temperature lowered following boiler temperature decrease (green LED) - boiler temperature is lower than expected.
- E** Error (red LED)



Change menu selection or position cursor

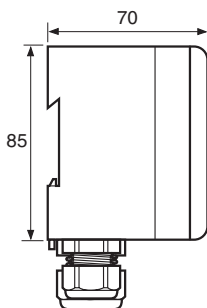
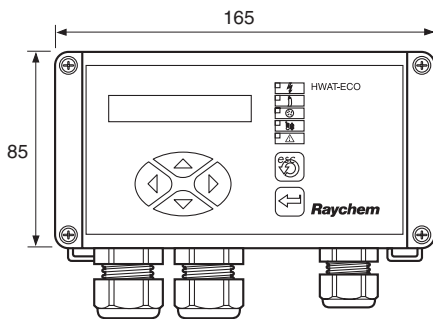


Escape, backspace or NO



Confirm selection, new value or YES

## TECHNICAL DATA



(Dimensions in mm)

Product description	HWAT-ECO
Use	Only for HWAT-L/M/R heating cables
Selectable maintain temperature	37°C to 65°C in max. 48 timer blocs per day
Operating voltage	230 VAC (+10%, -10%), 50 Hz
Switching capacity	20 A / AC 230V
Internal power consumption	2,5 VA
Circuit breaker	Max. 20 A, C-Characteristic
Power cable section entry	1.5 - 4 mm <sup>2</sup> for fixed wiring only
Auxiliary cable section entry	Up to 16 AWG (1.3 mm <sup>2</sup> )
Weight	880 g
Mounting options	Wall mount with 2 screws or DIN rail
Cable glands (entries)	2 x M20 and 1 x PG13.5 with 3 inputs for external wires of 3-5 mm
Protection level	IP 54
Ambient temperature	0°C to 40°C
Housing material	ABS
Internal temperature alarm	85°C
Master/slave cable	2-wire twisted pair shielded, max. 1.3 mm <sup>2</sup> core and insulation of 500 V
Master/Slave	Master is selectable in the unit, up to 8 slaves can be connected
BMS interface	0 - 10 VDC
Alarm relay contacts	Max. 24VDC or 24 VAC, 1 A, SPDT voltage free
Boiler temperature sensor	PTC KTY 81-210 or PT 100 2-wire
Power correction factor	60% to 140% (fine tuning of maintained temperature)
Clock back-up time	Min. 1 year with lithium battery CR2025 (3V)
Clock accuracy	±10 minutes per year
Real time clock	Automatic summer/winter time and leap year correction
Parameters stored in non-volatile	All parameters, except date and time memory
Approval	VDE according to EN 60730
EMC	According to EN 50081-1/2 for emission and EN 50082-1/2 for immunity

Raychem requires the use of a 30 mA residual current device and a C-Characteristic circuit breaker to provide maximum safety and protection from fire. The unit complies with IEC1000-3-3 (flicker) if installed according to part 3 of VDE 0838. To avoid flicker install the unit in such a way that at the current value of the systems start-up temperature (max. 20 A per heating circuit) the voltage drop does not exceed 1% at the power supply of the lighting apparatus (normally subpanel).

## PROGRAMME

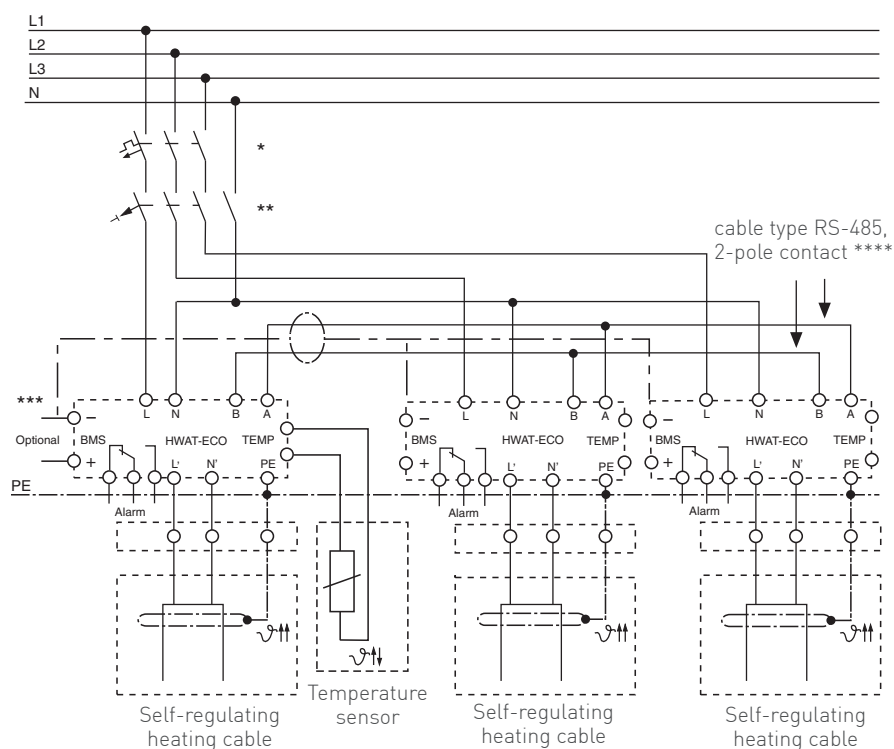
The HWAT-ECO has 7 different building specific time/temperature programmes. These programmes are based on our long experience for optimum comfort and energy saving. For user specific changes in the programming, the Edit timer programme can be used.

Programme name	Building type
Programme 0	Constant temperature ( $\pm 55^{\circ}\text{C}$ )
Programme 1	Apartment block
Programme 2	Prison / Barracks
Programme 3	Hospital
Programme 4	Hotel
Programme 5	Sports centre / Swimming pool
Programme 6	Office

### In addition, user specific programmes can be created

Temperature can be varied in 1/2 h blocks to any desired temperature between: OFF, economy  $t^{\circ}$ , maintain  $t^{\circ}$  and legionella prevention (100% powered, increased risk of scalding)

## WIRING DIAGRAM FOR HWAT-L / HWAT-M / HWAT-R WITH HWAT-ECO TEMPERATURE CONTROL UNIT



- \* Two- or four-pole electrical protection by circuit breaker may be needed for local circumstances, standards and regulations
- \*\* Depending on the application, one- or three-pole circuit-breakers or contactors may be used
- \*\*\* Optional: Potential-free circuit-breaker for connection to the BMS
- \*\*\*\* The earth wire of shielded RS-485 cable needs to be connected to the BMS (-) terminal of each HWAT-ECO in the Master / Slave network.