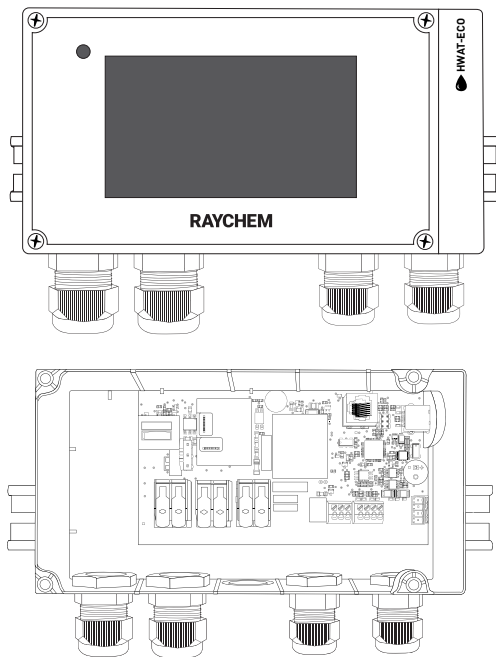


## ELECTRONIC CONTROLLER FOR HOT WATER TEMPERATURE MAINTENANCE SYSTEMS



### PRODUCT OVERVIEW

The nVent RAYCHEM HWAT-ECO controller is designed for operation with the nVent RAYCHEM HWAT-L, -M and -R self-regulating heating cables.

### FEATURES

- Intuitive set-up and programming of the unit by a 5" inch colour touch screen
- Flexible temperature control of hot water temperature maintenance systems
- Energy savings through an integrated function that lowers the maintain temperature during hours of low water consumption
- Heat-up cycle function that increases the water temperature of the hot water in the pipes
- Alarm relay with change over contact to signal power, temperature or communication problems
- Hot water storage & pipe temperature monitoring with high and low temperature alarm and system shut down.
- Seven pre-defined building timer programmes that can be customized by the user
- Pre-set up in power-off mode by external power bank/charger via USB connection

### GENERAL

Area of use Non-hazardous locations; for HWAT -L/ -M / -R heating cables only

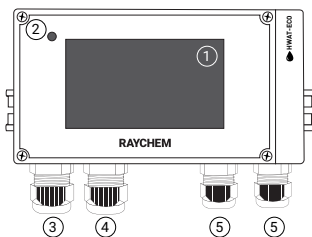
### ELECTRICAL PROPERTIES

Supply Voltage	180-253 VAC; 50/60Hz
Operating temperature	0°C to 40°C ambient
Power consumption	Max. 3,5 VA
Switching capacity output relay	20 A 230 VAC, +10/-15%
Size Power supply terminals	3 x 6 mm <sup>2</sup> max.
Size Heating cable terminals	3 x 6 mm <sup>2</sup> max.
Size Alarm terminals	3 x 1,5 mm <sup>2</sup> max.
Size Sensor terminal - Boiler	2 x 1,5 mm <sup>2</sup> max.
Size Sensor terminal - Pipe	2 x 1,5 mm <sup>2</sup> max.
Alarm relay	Single pole double throw relay, volt-free; Max. switching capacity (resistive load only) 1 A/30 VDC 0.5 A/125 VAC, Max.: 60 VDC/125 VAC
Circuit breaker	Max. C 20 A ( C-Characteristics)
Real time clock	Automatic Summer/ Winter time and leap year correction
Clock back-up time	10 days
Clock accuracy	+/-10 minutes per year
Keylock	Password protection for parameter settings
USB Port	For pre-setup in power off mode; for firmware upgrades

## ENCLOSURE

Dimensions	210 mm x 90 mm x 85 mm
Ingress protection class	IP54 – indoor use only
Enclosure material	Polycarbonate
Mounting option	Mountable DIN RAIL, 35 mm
Cable entries	2 x M25 and 2 x M20 (1 Blanking plug for 2nd. M20)
Storage temperature	-20 °C to +50°C
Flammability class	DIN EN 60730/VDE 0631-1
Weight	990 g

## TYPICAL ENCLOSURE DIMENSIONS AND MODULE LAYOUT



1. Touch screen: size 5" resistive
2. LED Green: Power to heating cable  
Blinking: Error/Warning message
3. M25 Gland: Power cable
4. M25 Gland: Heating cable
5. M20 Gland: Sensor Hot water storage/Sensor Pipe/external alarm

## PROGRAMMING

Selectable temperatures	37°C up to 65°C in 24 blocks of 1 hour per day
Default programmes	7 built-in building specific programmes, editable
Timer	Programme can be modified in steps of one hour. Following operation modes are selectable: OFF, ECONOMY, MAINTAIN and HEAT-UP CYCLE

## SENSOR

Temperature sensor type	NTC 2 KOhm / 25°C, 2-wire
Sensor tip dimensions	Ø 5 mm; length 20 mm
Sensor cable length	3 m; cable extension up to 100 m, cross section extension cable: 2 x1,5 mm <sup>2</sup>
Temperature range	0°C to 90°C

Sensor data	Temperature	Resistance
	40°C	1211 Ohm
	45°C	1033 Ohm
	50°C	884 Ohm
	55°C	762 Ohm
	60°C	658 Ohm
	65°C	571 Ohm

## MONITORING

Boiler temperature alarm	High temperature alarm/cut	Adjustable range: maintain temperature to 65°C or OFF
	Low temperature alarm /cut	Adjustable range: maintain temperature to 37°C or OFF
Pipe temperature alarm	High temperature alarm/cut	Adjustable range: maintain temperature to 65°C or OFF
	Low temperature alarm	Adjustable range: maintain temperature to 37°C or OFF
Sensor alarm	Sensor open circuit Sensor short circuit	
Heating cable connection	Heating cable open circuit	

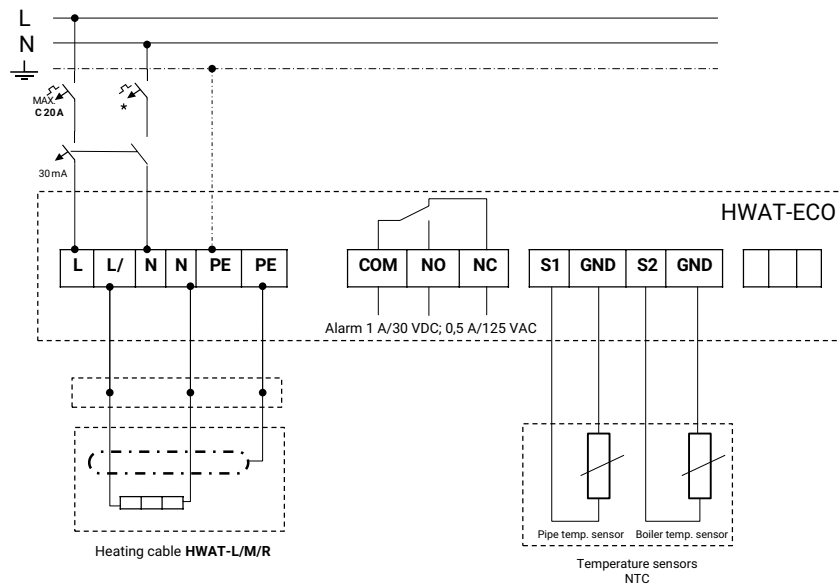
## MEMORY

Parameters	All parameters are stored in nonvolatile memory, except date and time
Clock back-up time	10 days

## APPROVALS

Approvals	CE, VDE, RHOS, WEEE
Electromagnetic Compatibility (EMC)	EN 61000-6-1: 2007; EN 61000-6-3:2007 + A1:2011

## ELECTRICAL SCHEME



## ORDERING DETAILS

Catalog number	HWAT-ECO
Part number	1244-019897
Weight	990 g
In package	Control unit, Din-rail, 1 Line sensor

## ACCESSORY

Catalogue description	Pipe sensor	Power bank
Part number	1244-015847	1244-020365

**Important:** The Raychem HWAT-ECO controller is for use with the Raychem HWAT- heating cables only. The warranty and system listing will be invalidated if the HWAT-ECO controller is used with other heating cables.

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