QUNDIS

Qcaloric 5.5

Electronic heat cost allocator

- ❯ Device for measuring the proportional heat output of radiators.
- ❯ Metrologically 100% compatible with the Qcaloric 5.
- ❯ Improved and extended wireless properties.
- ❯ Can be used as a compact or remote sensor device.
- ❯ All assembly-related properties also match the Qcaloric 5.

Application

The Qcaloric 5.5 is the successor model to the tried-and-trusted Qcaloric 5. In addition to improved energy management, the Qcaloric 5.5 can be operated in different wireless modes. In terms of measuring technology, the Qcaloric 5.5 is 100% compatible to the Qcaloric 5. Installation instructions can be taken over from the Qcaloric 5 without changes being necessary.

In S-Mode (Qwalk-by & Q AMR) the Qcaloric 5.5 is 100% compatible to the Qcaloric 5. In C-Mode (Qwalk-by & Q AMR) the wireless capacities and ranges have been significantly improved compared to the Qcaloric 5 in S-Mode. For secure data transmission, the Qcaloric 5.5 is also available with AES-128 encrypted data transmission according to OMS-Encryption Mode 5.

The electronic heat cost allocator Qcaloric 5.5 has been designed for decentralised use. Values are measured by one or two temperature sensors. In 1-sensor operation only the radiator temperature is measured and a constant value is prescribed for the ambient temperature. In 2-sensor operation the actual difference in temperature between the ambient temperature and the radiator temperature is determined.

These measured values are used as a basic for calculation of the consumption calculation. The main area of application is in central heating systems where the heating energy is used individually by different consumers. The electronic heat cost allocator can be operated as a 1-sensor measuring system or 2-sensor measuring system with product and unit scale.

Such central heating systems are used in e.g.:
❱ Apartment buildings
❱ Offices and administration buildings

Typical users are:
❱ Meter reading service companies
❱ Housing industry and housing associations
❱ Building service companies and property management

The heat cost allocator can be used for all common radiator variants, such as the following:
❱ Ribbed radiators
❱ Tubular radiators
❱ Panel-type radiators with horizontal and vertical water flow
❱ Radiators with internal tube register
❱ Convectors

Q AMR

The electronic heat cost allocators Qcaloric 5.5 type P2 and P3 are equipped with the Q AMR-radio transmitter of the WHE4x device family. The rcu4-radio system is not supported by the Qcaloric 5.5.

In Q AMR (C-Mode) the electronic heat cost allocator Qcaloric5.5 transmits OMS® radio telegrams (OMS® -Open Metering System) parallel to the Qwalk-by radio telegrams. The OMS® radio telegrams meet the Open Metering System Specification and can thus be received by all OMS® -compatible devices.

Data interface

The electronic heat cost allocators Qcaloric5.5 type P2 and P3 can be equipped with the IR-close-range interface of the device family WHE3x /WHE4x . The 1107 data interface is not supported by the Qcaloric5.5.

Programming accessories

The programming accessories are used for communication with the metering devices.

Programming adapter[1]:
The programming adapter can be used as an individual programming tool and as a combi-adapter with the IR programming and readout head.

IR programming and readout head:
The IR programming and readout heat is used as a communication tool between a PC/notebook and the meter. The meter can be programmed and read out using the Qsuite5 (latest available version).

Parameter setting

The following information can be programmed before the measuring device is put into operation:

Standard parameters:
❱ Sensor type
   1-sensor or 2-sensor measuring system
❱ K-value / KC / KQ
   Evaluation factors for calculating radiator heat output (depending on the meter algorithm and sensor type)
❱ Next due date
   Day the annual value is stored (can also be programmed without IR interface using the programming adapter)
❱ Device name / device code
   Device access data as protection from unauthorised device access

[1] Only necessary for meters without an integrated IR close-range interface

Type overview

System[2]	Article number
Qcaloric5.5 (P2) - profile compatibility HKVE 20x	HCA5 xx0x xxxx xxxx x
Qcaloric5.5 (P3) - profile compatibility WHEx	HCA5 xx3x xxxx xxxx x
S-Mode + IR (Q AMR, Qwalk-by)	HCA5 xxxN xxxx xxxx x
C-Mode + IR (Q AMR, Qwalk-by)	HCA5 xxxT xxxx xxxx x

Radio (wireless) features S-Mode

❭ Radio system – parallel transmission of Qwalk-by- and Q AMR-data telegrams

❭ Increased radio performance

❭ Transmission delay (offset)
Time delay for sending data telegrams after the due date or at the beginning of the moth in days (standard = 0 days)

❭ Transmission-free day
A maximum of 2 days from Friday, Saturday and Sunday can be defined as transmission-free days At least 1 day must be set (standard = Sunday)

❭ No change with the remote sensor system

Qwalk-by	Q AMR
every 128 seconds	every 4 hours
10 hours per day (8 am ... 6 pm)	24 hours per day
monthly: 4 readout dates after the first day of each month	7 days per week
annual: 48 hours after due date	365 days per year
Transmitted data: current consumption value with date, last month's value with date and values from previous 12 months, due date value with date, device status: error code and error date	**Transmitted data:** current consumption value with date, last month's value with date, due date value with date, device status: error code and error date

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[2] For product variants see current price list

Radio (wireless) features C-Mode

❱ Radio system – parallel transmission of Qwalk-by- and OMS® -conformal data telegrams
❱ Increased radio performance
❱ No change with the remote sensor system

Qwalk-by	Q AMR
every 112 seconds	every 450 seconds (7,5 minutes)
10 hours per day (8 am ... 6 pm)	24 hours per day
365 days a year	365 days a year
Transmitted data: current consumption value with date, last month's value with date and values from previous 12 months, due date value with date, device status: error code and error date	**Transmitted data:** current consumption value with date, last month's value with date, due date value with date, device status: error code and error date

Mode change

Switching between S-Mode and C-Mode is possible in both directions.

You will need the Qsuite5 (latest available version), a programming adapter[3] or an IR-programming- and readout-head.

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[3] Programming-adapter and IR-programming- and readout-head required for measuring instruments without integrated IR-interface

Technical data

CE	QUNDIS GmbH hereby declares, that the Qcaloric 5.5 complies with directive 2014/53/EU . The full text of the EU declaration of conformity is available at the following internet address: https://qundis.com/service/downloads-and-information/
Product standard	EN 834
RoHS compliant	EN IEC 63000
Type approval according to German Heating Costs Ordinance	A1.01.2011 - Qcaloric 5.5 - P2 C3.01.2011 - Qcaloric 5.5 - P3
Ambient conditions	
Protection rating	IP43 nach EN 60529
Protection class	III according to EN 61140
Transport	-25 °C ... 70 °C, < 95 % r.F. (without condensation)
Storage	-5 °C ... 45 °C, < 95 % r.F. (without condensation)
Use	5 °C ... 55 °C, < 95 % r.F. (without condensation)
Radio technology	
Radio mode	S-Mode (Q AMR, Qwalk-by) C-Mode (Q AMR, Qwalk-by)
Radio frequency	EN 300 220-2 S-Mode (868,30 +/- 0,30) MHz C-Mode (868,95 +/- 0,25) MHz
Transmission power	S-Mode (max. 14 dBm / typ. 7 dBm) C-Mode (max. 14 dBm / typ. 10 dBm)
Data transmission	EN 13757-4
Electromagnetic compatibility	
Interference resistance and emitted interference	EN 301489-1, EN 301489-3
Security	EN 62368-1, EN 62479
Power supply	
Lithium battery	nominal voltage 3,0 V
Battery life	10 years operation + 1 year reserve + 6 months storage
Display	
Display	Liquid crystal display (LCD), 5 digits (00000 ... 99999)
Measuring system	
Scaling	Product or unit scale
Radiator output range	Algorithm 2: 21 W ... 9999 W Algorithm 3/4: 21 W ... 5500 W
Temperature sensor	NTC (pre-aged)
Single-sensor device	with dynamic heating mode detection
Double-sensor device	one sensor each for radiator and room air temperature

Temperature range of the sensor	0 °C ... 105 °C
tm-max	105 °C
tm-min[4]	35 °C (2-sensor system), 55 °C (1-sensor system)
Algorithmus 2	Single-sensor-Measuring system 255 levels (Basis: K-level 26) Double-sensor-Measuring system 999 levels (Basis: K-level 60)
Algorithmus 3/4	Single-sensor-Measuring system for repair and extension assemblies Double-sensor-Measuring system for repair and extension assemblies
Material	
Dimensions W x H x D	40 x 102 x 30 mm
Cable length Remote sensor	1,5 m / 2,5 m / 5,0 m
Weight Device	55 g
Material Housing	Polycarbonat (PC) + ABS-thermoplastic
Color Housing	white (silk matting)
Installation	
Device versions	Compact device Remote sensor device (Compact device with plugged-in optionally available remote sensor)
New assembly and reassembly	Qcaloric5.5 with available assembly material
Regular replacement, assembly for extension and replacement due to repairs	Qcaloric5.5 with mounting material similar to the product families HKVE 20x and WHE3x/WHE4x
	Device is considered waste electronic equipment for the purposes of disposal in accordance with the European directive 2012/19/EU and must not be disposed of as household waste. ❭ Dispose of the device via the channels provided for this purpose. ❭ Observe the local and currently valid legislation. ❭ Dispose of used batteries in the designated collection points.

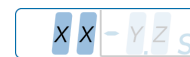---

[4]   Average design temperature

Display indications in normal operation

Device states, consumption values and measuring system information are displayed on the LCD in a display loop.

consumption value: current	`375`	2 s
Display test: everything on	`MD 8.8.8.8.8 P` `kc          S`	0,5 s
Display test: everything off		0,5 s
due date: e.g. 31st December	`MD 31.12.`	2 s
consumption value: due date	`M    789`	5 s
Checksum	`M  c 1056 P`	2 s
Evaluation level: K-level	`k    060`	1 s
Variable display: see description	`X X - Y.Z S`	1 s

Description: Variable display (XX)	**FS** - Code for Qwalk-by & Q AMR, S-Mode **FC** - Code for Qwalk-by & Q AMR, C-Mode **AL** - Algorithm, no radio system available	`X X - Y.Z S`
Description: Variable display (Y)	**2** - Code for the 20x-algorithm **3** - Code for the WHE3x-algorithm **4** - Code for the WHE4x-algorithm	`X X - Y.Z S`
Description: Variable display (Z)	**1** - Code for 1-sensor measuring system **2** - Code for 2-sensor measuring system	`X X - Y.Z S`
Description: Variable display (S)	**S** - Remote sensor active	`X X - Y.Z S`

Dimensional drawings: Device

P3

P2

40 mm
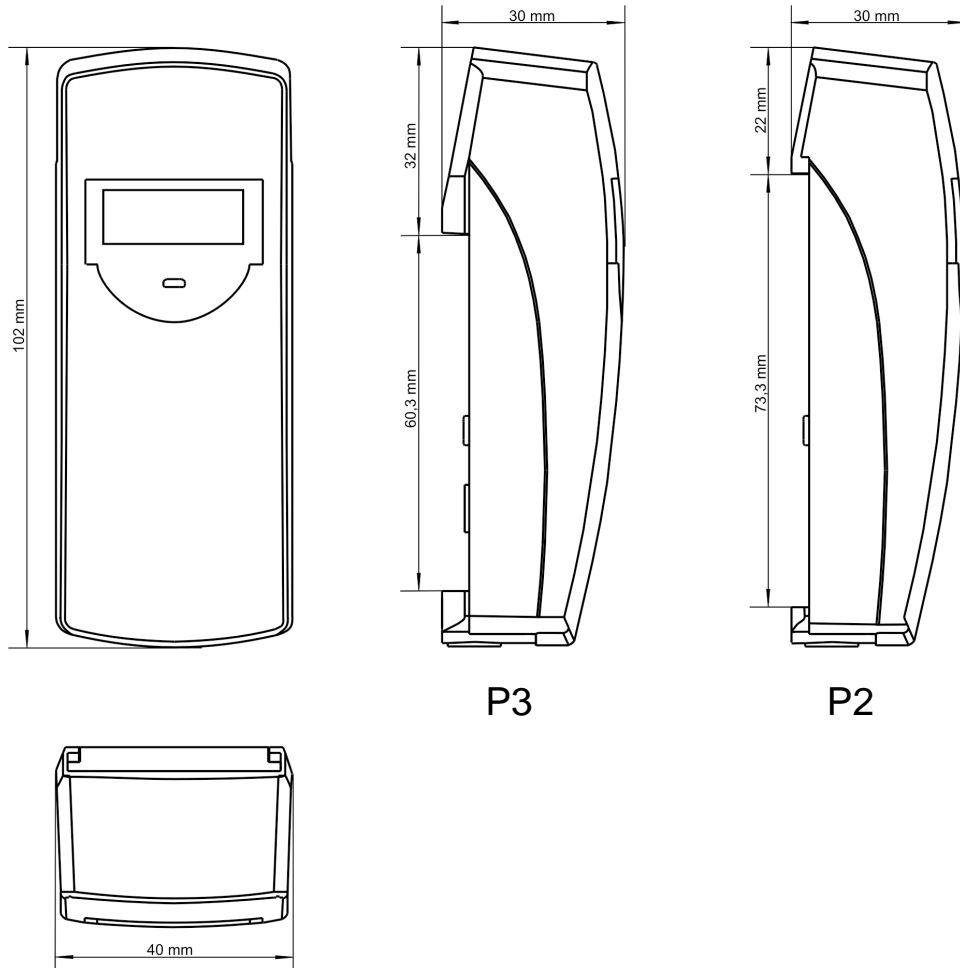
Dimensional drawings: plug-in panel

11,5 mm

40,95 mm

91,3 mm

76,3 mm

25,95 mm

44,8 mm
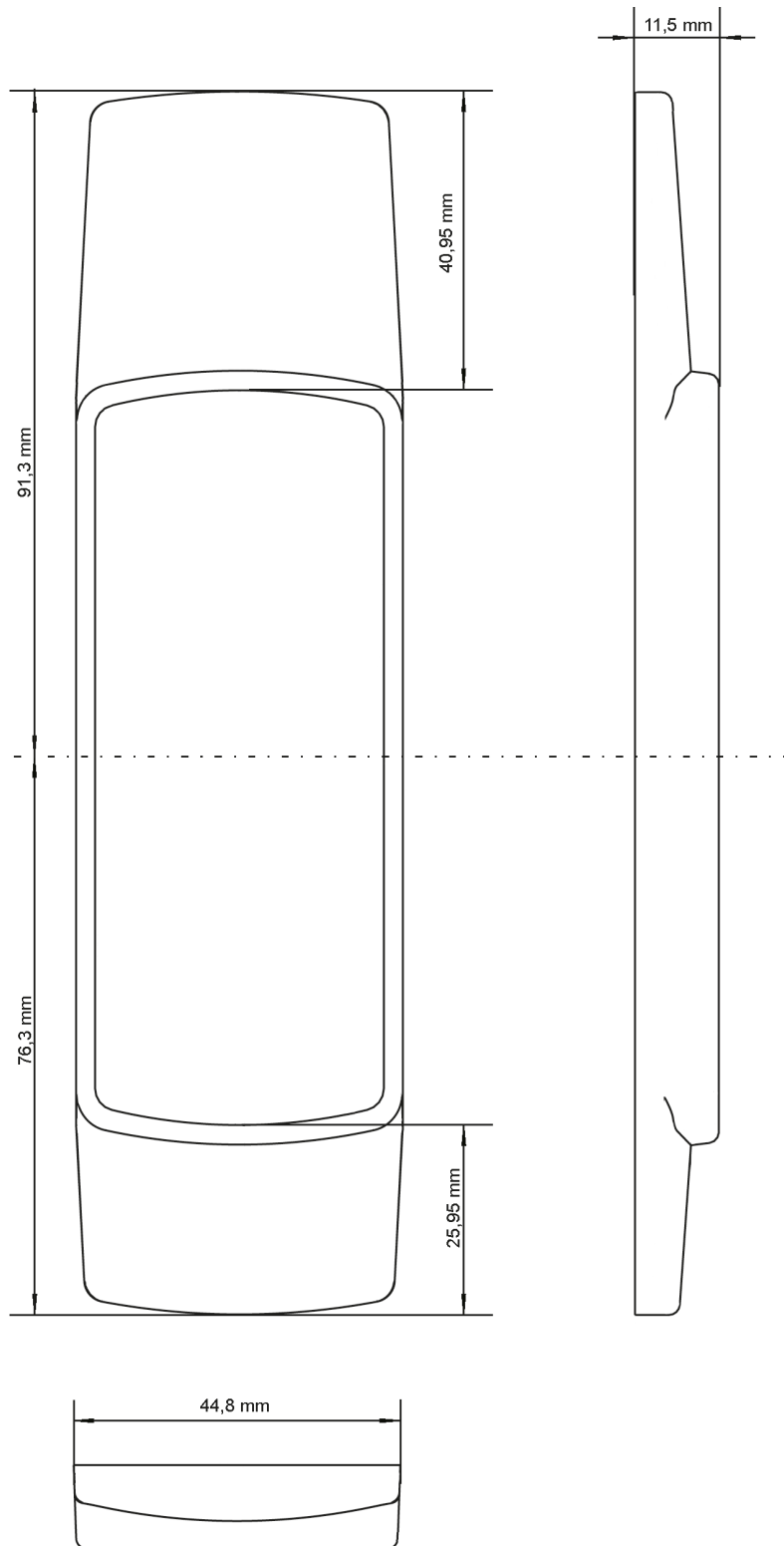
Restrictions

Electronic heat cost allocators are not applicable for steam heating, fresh air radiators, underfloor heating, radiant ceiling heating, flap-controlled radiators.

For valve-controlled and damper-controlled radiators, installation of measuring devices is only permitted if the damper control is removed or shut down in the -open- position.

Convectors on which the output can be changed by means of an electric fan, as well as heated towel rails with an electric heating cartridge, may not be equipped with electronic heat cost allocators without dismantling or decommissioning the additional electrical equipment.

Single-sensor and Double-sensor measuring system

Joint use of different types of measuring devices within a property is only permitted if they all have a uniform measuring system and a uniform measuring algorithm.

Compatibility

The 202R cannot be replaced by the Qcaloric5.5 Q AMR, because the radio transmitter fitted in the heat cost allocator is not compatible with the rcu4-system..

Likewise, the WHE2 CANNOT be replaced by the Qcaloric5.5, as both the measurement algorithm and the radio transmitter fitted in the heat cost allocator (for WHE26) are not compatible.