Honeywell

E53205
Heat Cost Allocator

PRODUCT DATA

CONTENTS

GENERAL

Application

The E53205 is an electronic device for heat cost allocation on the basis of share of heat output by radiators. In terms of measuring technology, the E53205S is 100% compatible with the E43205. All assembly-related properties also match the E43205. The E53205S has improved and extended wireless properties. Available as compact and remote sensor variant.

The E53205 is the successor model to the E43205. In addition to improved energy management, the E53205 can be operated in different wireless modes. In terms of measuring technology, the E53205 is 100% compatible to the E43205. Installation instructions of E43205 can be used without changes. Communication with current software versions of the HMA Suite (V2.2 or higher) and ACT46 (V1.6 or higher) is possible without restrictions.

In S mode (walk-by & AMR), the E53205 is 100% compatible to the E43205. In C-mode (walk-by & OMS) the wireless capacities and ranges have been significantly improved compared to the E43205 in S-mode.

The electronic heat cost allocator E53205 has been designed for decentralised use. Values are measured by two temperature sensors (radiator and room air temperature). During operation the actual difference in temperature between ambient temperature and radiator temperature is determined.

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

Such 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 the following types of radiator:

- Ribbed radiators
- Tubular radiators
- Panel-type radiators with horizontal and vertical water flow
- Radiators with internal tube register
- Convectors

Restrictions

Electronic heat cost allocators cannot be used with steam heaters, fresh-air radiators, underfloor heating, ceiling heating elements or flap-controlled radiators.

In the case of combined valve and flap-controlled radiators, metering devices may only be installed if the flap control unit has been removed or disabled in the “open” position.

Convectors that can change their output through an electric fan and towel heaters with an electric heating cartridge must not be fitted with electronic heat cost allocators unless the respective electric system has been removed or disabled.

1-sensor and 2-sensor metering system

A joint use of different metering device types is only allowed within a property as long as they all use a standard metering system and have a standard measuring algorithm.

Compatibility

The 202R can NOT be replaced by the E53205 AMR since the radio transmitter fitted in the heat cost allocator is not compatible with the rcu4 system.

SPECIFICATIONS

Device data

Table 1. Device Data

Device data	
Measuring system	1 sensor each for radiator and room air temperature
Device type	(P2) profile compatibility HKVE 20x
Power supply	3V lithium battery
Service life	typ. 10 years
Display	Liquid crystal display (LCD)
Scope of display	5 digits (00000 ... 99999)
Evaluation	Algorithm 2: K-values values (basis: K-value 60)
Radiator power range	21 Watt ... 9,999 Watt ...
Sensor temperature range	0 °C ... 105 °C
tm-max tm-min(*) (*) mean design temperature	105 °C (compact device), 105 °C (remote sensor device) 35 °C
Temperature sensor	NTC, prematurely aged
Device versions	Compact device Remote sensor device (compact device with inserted remote sensor) Remote sensor cable length: 2.5 m
Installation material	New installation and conversion: E53205 with existing installation material Standard replacement, extension installation and repair replacement: E53205 with installation material following the HKVE 20x family.

AMR

E53205 electronic heat cost allocators are equipped with the AMR radio transmitter of the

E43205A device family. The rcu4 radio system is not supported by the E53205.

OMS

In C-mode the electronic heat cost allocator E53205 transmits OMS telegrams (OMS = Open Metering System) parallel to the walk-by telegrams. The OMS telegrams meet the "Open Metering System Specification" and can thus be received by all OMS-compatible devices.

Data interface

E53205 electronic heat cost can be equipped with the IrDA close-range interface of E43205 device family. The 1107 data interface is not supported by the E53205.

Programming accessories

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

Programming adapter:

The programming adapter can be used as an individual programming tool and as a combi-adapter with the IrDA programming and readout head.

Programming accessories

IrDA programming and readout head(*):

The IrDA programming and readout heat is used as a communication tool between a PC/netbook and the meter. The meter can be programmed and read out using the HMA Suite (V2.2 or higher).

(*) Only necessary for meters without an integrated IrDA close-range interface.

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 calculation of radiator heat output (depending on meter algorithm and sensor type)
- Next due date
  Day annual value is stored (can also be programmed without IrDA interface using programming adapter)
- Device name / device code
  Device access data as protection against unauthorised access

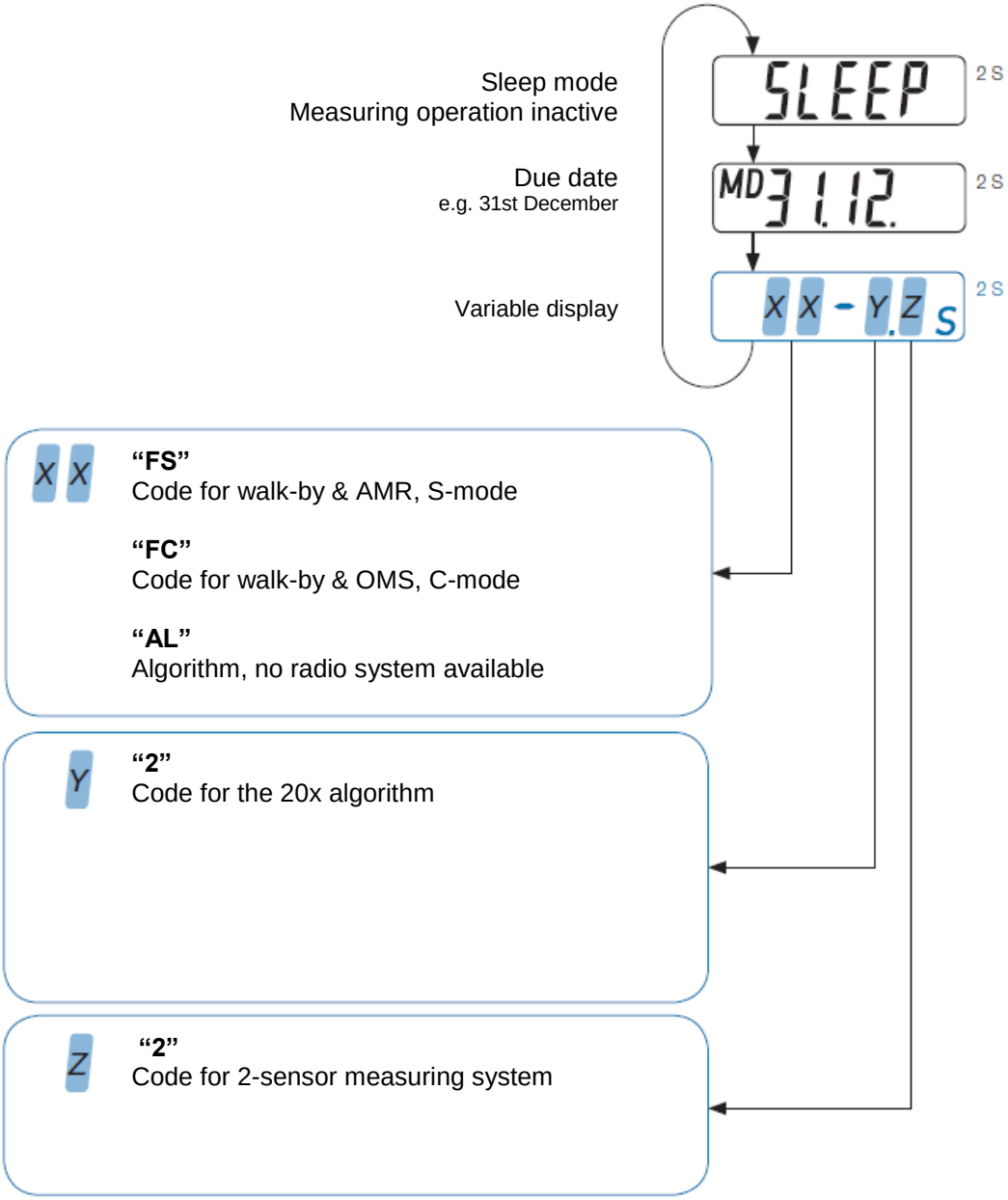
DISPLAYS

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

Display Loops during Normal Operation

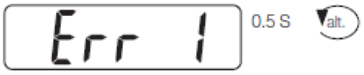
The heat cost allocators are supplied in sleep mode. Measuring operation is inactive.

Display Loops in Sleep Mode



Special displays

Error messages
"Err 1" appears permanently. All other error messages are displayed in quick succession alternating with consumption values.

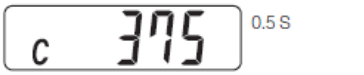


Consumption display suppressed
Displayed in the event of an error in place of the invalid consumption values, depending on programming.

End of battery run time
Displayed after end of service life, alternating with consumption values, depending on programming.

Manipulation or housing opening
Displayed in the event of manipulation either as plain text alternating with consumption values or by indicator "c" shown discreetly on all displays, depending on programming.

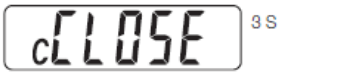
Example: Display "current value" with "c".



Data interface
(IrDA close-range interface)
Indicates an active IrDA close-range interface.

Radio system activated
S-mode: walk-by & AMR
C-mode: walk-by & OMS
Indicates transmission of installation.
Display sequence: InSt8, InSt7, ... InSt1

Commissioning
Display appears following fitting to installation plate.
After that display changes to normal mode display loop.



Remote sensor code 3 S
HCA has detected a remote sensor and adjusts its measuring behaviour accordingly.

S-Mode (Wireless) Features

- Radio system – parallel transmission of walk-by and AMR data telegrams
- Transmission delay (offset)
  Time delay for sending 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

Table 2. Transmission behaviour

walk-by(*)	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
current consumption values 13 Statistic values	data telegrams or statistics and consumption values

(*) Compatible with E53205 / transmission delay or transmission-free days for walk-by only available in S-mode.

C-Mode (Wireless) Features

- Radio system – parallel transmission of walk-by and OMS data telegrams
- Increased radio capacity in C-mode (10 dBm)
- No change with the remote sensor system

Table 3. Transmission behaviour

walk-by(1)	OMS(2)
every 112 seconds	every 7.5 minutes
10 hours per day (8 am - 6 pm)	24 hours per day
365 days per year	365 days per year
current consumption values 13 Statistic values	current consumption values

(1) For this mobile data logger Q log 5.5 and readout software ACT46.PC V1.6 are required.
(2) OMS “Open Metering System” communication architecture for intelligent meters for different manufacturers and branches.

Mode Change

It is possible to change between S-mode and C-mode in both directions. For this HMA Suite (V2.2 or higher), a programming adapter or an IrDA programming and readouthead(*) are required.

(*) Only required for meters without integrated IrDA close-range interface.

Table 4. Norms and standards

Component	Number
Heat cost allocator for acquiring consumption data for room heating	DIN EN 834:2013
Type approval acc. to HKVO	A1.01.2011 - E53205 - P2
CE conformity	Roller counter and unit
With radio support	Directive 1999/5/EC (R&TTE Directive)

ORDERING INFORMATION

Table 5. Ordering Information

OS-Number	Item
E53205C-HW	G5.5 Heat Cost Allocator, C mode
E53205S-HW	G5.5 Heat Cost Allocator, S mode

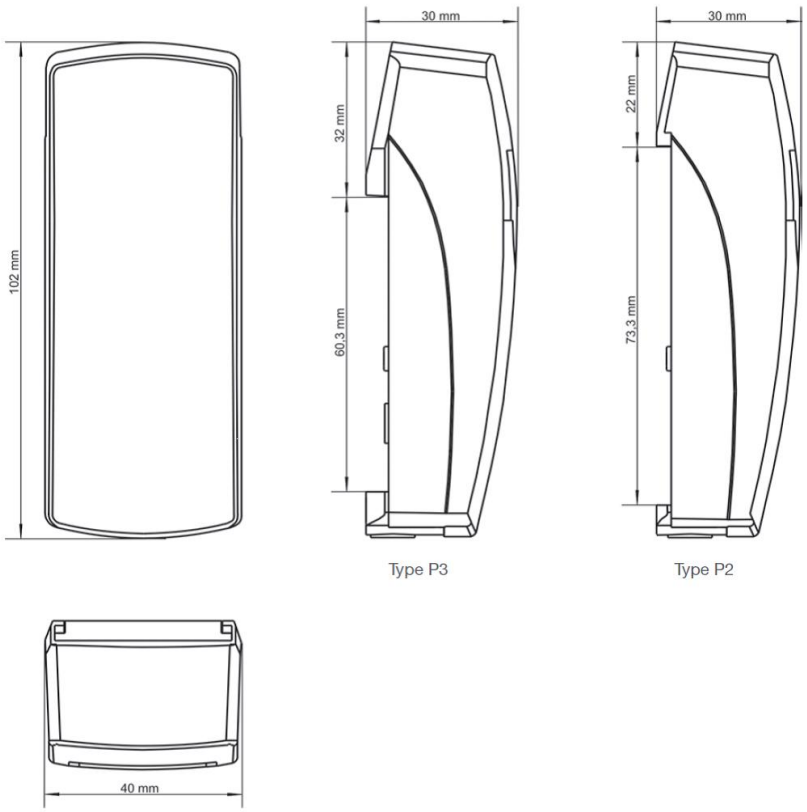
ACCESSORIES

Table 6. Ordering Information

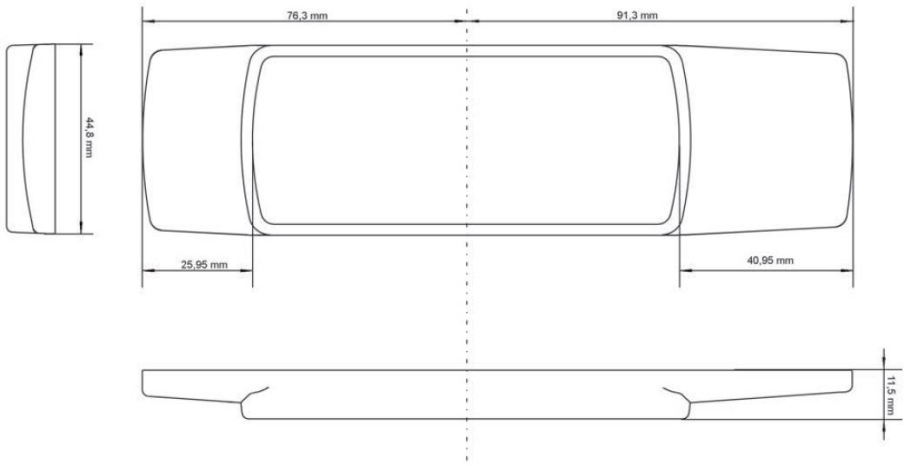
OS-Number	Item
HCAI-K010-0S2	Remote sensor with 2.5m cable
HCAPH001001	Programming adaptor for G5 and G5.5 systems
WFZ.IRDA-USB	USB to IrDA programming adaptor
FKK0037	Security seal for G5 and G5.5 heat cost allocators.

DIMENSIONS

Heat Cost Allocator



Snap on Panel



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