# Honeywell Home Hydronic Metering



# E53205

Heat Cost Allocator

# APPLICATION

The E53205 is an electronic device for heat cost allocation on the basis of share of heat output by radiators.

The E53205S and C have improved and extended wireless properties. It is available as compact and remote sensor variant.

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.

The E53205 is the successor model to the E43205. Communication with actual software versions of the HMA Suite and ACT46 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.

#### 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.

# **TECHNICAL DATA**

General device data		
Measuring system:	2-sensor metering system	
	1 sensor each for radiator and	
	room air temperature	
Temperature sensors:	NTC, prematurely aged	
Sensor temperature range:	0 °C 105 °C	
tm-max:	105 °C	
	(compact and remote device)	
tm-min*:	35 °C	
Radiator power range:	21 Watt 9.999 Watt	
Power supply:	3V lithium battery	
Service life:	typ. 10 years	
Display:	Liquid crystal display (LCD)	
Scope of display:	5 digits (00000 99999)	
Device type:	(P2) profile compatibility HKVE	
	20x	
Evaluation:	Algorithm 2: K-values	
	values (basis: K-value 60)	

Delivery	
Device versions:	<ul> <li>a) Compact device Remote sensor device (compact device with inserted remote sensor)</li> <li>b) Remote sensor device (Cable lenght: 2.5 m or 5 m)</li> </ul>
Installation material: New installation and conversion: Standard replacement, extension installation and repair re-placement:	E53205 with actual installation material E53205 can use the originally used E4x installed material
*mean design temperature	
Norms and standards	

Component	Number
Heat cost allocator for	DIN EN 834:2013
acquiring consumption	
data for room heating	
Type approval acc. to	A1.01.2011 - E53205 - P2

# **TECHNICAL CHARACTERISTICS**

#### AMR

E53205 electronic heat cost allocators are equipped with a AMR radio transmitter. The rcu4 radio system is not supported by the E53205.

#### OMS

In C-mode the electronic heat cost allocator E53205 transmits OMS (Generation 4) 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

The E53205 heat cost allocator can be programmed with the IrDA close-range interface (HCAPH001001) of E43205 device family.

#### **Programming accessories**

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

- The HCA (E53...) can be programmed and read out using the actual HMA Suite
- The HCA (E53...) can be programmed by using the programming adapter (HCAPH001001) as an individual programming tool
- The programming adapter (HCAPH001001) can be used as well as a combiadapter for the IrDA programming and readout head (WFZ.IRDA-USB)
- The IrDA programming and readout head (WFZ.IRDA-USB) can be used as a well as a communication tool between a PC/netbook and the HCA (E53...)

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

Roller counter and unit

Directive 2014/53/EU (RED)

Standard parameters

HKVO

CE conformity

With radio support

- Sensor type
   1-sensor or 2-sensor measuring system
- K-value / KC / KQ Evaluation factors for calculation of radiator heat output (depending on HCA algorithm and sensor type)
- Next due date
   Day annual value is stored (can also be programmed with-out IrDA interface using programming adapter)
- Device name / device code
   Device access data as protection against unauthorised access

#### 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

#### **Transmission behaviour of S-Mode**

Walk-By	AMR
every 128 seconds	every 4 hours
10 hours per day (8 am - 6 pm)	24 hours per day
monthly: 4 readout days from the first of each month	7 days per week
annually: 48 days after due date	365 days per year
current consumption values 13 Statistic values	Data telegrams and statistics, consumption values

#### Displays

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



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Code for the 20x algorithm

Code for 2-sensor measuring system

#### C-Mode (Wireless) Features

- Increased radio capacity in C-mode max. 10 dBm
- Radio system parallel transmission of Walk-By and OMS data telegrams
- No change with the remote sensor system

#### **Transmission behaviour of C-Mode**

Walk-By* <sup>1</sup>	AMR (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 RML5-STD and readout software ACT46 are required.

 $^{\star2}\,\rm OMS$  "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 the HMA Suite, a programming adapter HCAPH001001 and the IrDA programming and readouthead WFZ.IRDA-USB are required.

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

#### **Display Loops in Normal Operation**

#### Special displays



# DIMENSIONS

#### Heat Cost Allocator



All dimensions in mm unless stated otherwise Note:

#### **Snap on Panel**

#### Overview





# SYSTEM OVERVIEW

The Heat cost allocator can be integrated into various type of HON systems.

For further details or variants of the HON systems pls contact your HON account manager.



## **ORDERING INFORMATION**

### Options

OS-No.:	Description:
E53205C-HW	G5.5 Heat Cost Allocator, C mode
E53205S-HW	G5.5 Heat Cost Allocator, S mode

#### Accessories

	Description		Part No.
	НСАРН	Mechanical programming adapter	
11 11 11 11 11 11 11 11 11 11 11 11 11		Programming adapter for G5 and G5.5 systems	HCAPH001001
	WFZ.IRDA-USB	USB Programming adapter	
		USB to IrDA programming adapter	WFZ.IRDA-USB
T	FKx	Installation Material	
		Prism	FKA0001
		Installation plate P2 standard	FKA0005
▼ ∩ 💷 🚃		Security seal blue P2 for G5 HCAS	FKK0037
		Safety cap for remote sensor	FKK0045
		Clamping bracket (pipes TE 46 mm)	FKT0016
		Clamping bracket trapezoidal 50 mm	FKT0019
		Clamping bracket trapezoidal 65 mm	FKT0020
		Selflocking nut M3, 1000 pcs.	FNM0005
		Wall bracket for EW600 Meter	HMRIK001001
		Bateria para WTT16 (3.6V / 13AH)	WTZ.BAT
	HCAI-K00x	Installation sets for compact devices	
Manager I		MTG kit ribbed rads ptch greater than 40 mm	HCAI-K001-001
		MTG kit rib rads ptch less than 40 mm	HCAI-K001-002
i o		MTG kit cast radiators, slender, division 20 - 40 mm	HCAI-K001-003
		End faces cast radiators	HCAI-K001-004
		MTG kit ribbed rads clearance greater than 40 mm	HCAI-K001-006
democration 1		MTG kit hygiene rads welded installation	HCAI-K001-007
		HCA mounting kit vertical panel rads	HCAI-K002-001
		Installation set for alu ribbed radiator	HCAI-K004-001
		HCA mounting kit lamella type radiator	HCAI-K007-001
	HCAI-K010	Installation sets for remote devices	
		Sensor attach kit rib rad GRTR 40 mm	HCAI-K010-001
		Sensor attachment cast radiator RR KR	HCAI-K010-004
		Sensor attachment for panel radiator	HCAI-K010-005
		Sensor attachment for all ribbed radiator	HCAI-K010-010
		Sensor attachment for ribbed convectors	HCAI-K010-012
		HCA wall bracket P2	HCAI-K010-0P2
		HCA remote sensor 2.5 m cable	HCAI-K010-0S2
		HCA remote sensor 5.0 m cable	HCAI-K010-0S5
		Dismanteling tool for remote sensor	HCAI-P002-001

#### **Associated Products**

OS-No.:	Description:	EAN Code:	
Associated Datacollector (fixed):			
RNN55-STD	Network node G5.5 C/S - STD	5059087001740	
RNN55-230V	Network node G5.5 C/S - 230V	5059087001733	
Associated Datacollector (mobile):			
RML5-STD	WALKBY ACT46 BLUETOOTH V.5	4029289081360	
Associated Gateway:			
RNG5-STD	RNG5 Gateway (Battery supply)	4029289081605	
RNG5-230V	RNG5 Gateway (230VAC supply)	4029289083050	
RNG55-D-STD	Network Gateway 5.5 direct 2G/3G - STD	5059087001726	
RNG55-D-230V	Network Gateway 5.5 direct 2G/3G - 230V	5059087001719	

For more information

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