

HYDROCLIMA

HEAT COST ALLOCATORS



MEMBER

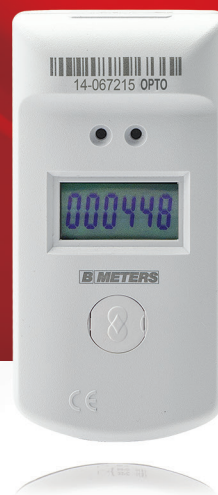
OMS[®]
Open Metering System

www.oms-group.org



HYDROCLIMA RFM

Remote reading heat cost allocators



HYDROCLIMA OPTO

Optical reading heat cost allocators

In recent years, Energy savings and the Environment protection have become among the most important topics discussed by the public. The use of fossil fuels to heat homes represents one of the major contributors to pollution and an approximate breakdown of costs does not encourage users to an optimized use of their heating systems.

*In order to a more equitable distribution of the costs and the actual achievement of savings targets without having to give up the desider level of thermal comfort, **B METERS** introduces its new **HYDROCLIMA** heat cost allocator.*



Comfort and energy savings

Heat cost allocators are electronic devices for detection, with respect to a predetermined period, of the heat energy consumption of an individual radiator. It has been proved that the adoption of a metering system can result in average savings of up to 25% of the fuel consumed to heat a building with central heating, thus promoting a thrifty use of energy. This reduces waste, while offering the possibility to obtain the desired degree of thermal comfort in each room of the apartment only paying for the amount of heat actually consumed.

The adoption of a metering system based on HYDROCLIMA heat cost allocators by **B METERS** does not require any inconvenient masonry work, modifications to the existing heating system or considerable expense for the occupants.

Installing heat cost allocators enables owners to:

- regulate the temperature of each room to their requirements
- independently meter total and per room consumption
- optimise consumption in relation to their life style
- pay for their actual consumption, rather than according to floor space

HYDROCLIMA heat cost allocators measure both the radiator's surface temperature and the room temperature of the room by high precision sensors. They operate with temperatures, ranging from 35°C to 90°C.

Easy to install and configure, and with a wide range of recorded data available combined with RF reading capability (HYDROCLIMA-RFM), make **B METERS** heat cost allocators among the most advanced available on the market. They are designed to satisfy all the requirements of the EN 834 standard and provide all the information required to calculate the cost of heating with the systems envisaged by international standards.



Heat cost allocators

HYDROCLIMA



Features

- Counting of the radiator consumption units
- Recording of monthly consumption units (12-24 previous months)
- Recording of average room temperature (thermal comfort) by month (12-24 previous months) and for the entire calculation period
- Recording of temperature statistics compiled during the current and previous calculation period
- 21°C-28°C, 28°C-35°C, >35°C radiator temperature
- <16°C room temperature
- **Remote sensor version available on request**



New anti-fraud system "SEALTRIGGER"

Any attempt to remove the front seal directly activates the removal alarm thus making obsolete the solution of the metal back plate separated from the plastic faceplate of the heat cost allocator.

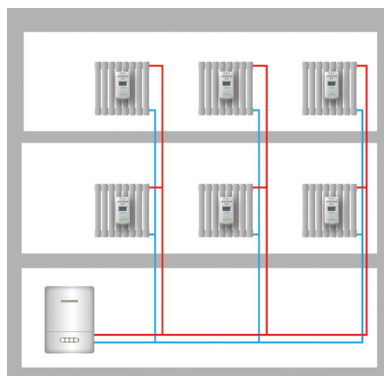
Applications

HYDROCLIMA heat cost allocators can be installed in centralised heating systems, where the heating cost can then be shared in relation to the actual consumption by the occupants.

This means move from cost sharing on the basis of floor space to a division based on the actual use of heating energy.

Heat cost allocators can be installed in any type of centralised heating system with radiators.

The typical application is an heating system with risers. However, the units can also be used in other types of system where it is not possible to modify the system itself to install direct metering systems.



Installation

The mounting brackets are designed to install the allocators to all sorts of radiator, whether pipe or panel type.

They are built to prevent tampering and damages to the allocator.

The screws cannot be tampered with from behind the radiator, and it is also possible to fit a security seal so to prevent tampering and fraud. A special quick setting, high thermal conductivity industrial glue is used to secure the allocators to panel radiators, or they can be installed by welding two studs with a special welding machine which does not affect the looks and functionality of the radiator.



Heat cost allocator

HYDROCLIMA-OPTO



- 2 temperature sensors
- Thermal comfort recording
- Min/max temperature recording
- Temperature statistics:
 - Front sensor (thermal comfort)
 - number of values below 16°C
 - Rear sensor (radiator):
 - number of values 21°C - 28°C
 - number of values 28°C - 35°C
 - number of values over 35°C
- Consumption /temperature average log up to 24 months previous



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ACCOUNTING REGULATION

EN 834



Infrared reading interface

OPTO-USB optical head

The OPTO-USB head, once connected to a PC, allows you to configure the allocator, reads its values and displays all recorded parameters.

DataBox

The Databox is a compact device with high protection housing which stores the data from up to 1000 allocators for uploading to a PC for processing.

All HYDROCLIMA allocators are equipped with optical interfaces to enable easy data reading, thus saving time in collecting the data required for metering.

The HYDROCLIMA-OPTO allocator stores the data required to completely analyze its operating conditions throughout the calculation period. This includes temperature statistics measured by the allocator over 4 different temperature ranges, which can be used to identify improper use of the system and tampering.

Technical data sheet

Version	HYDROCLIMA-OPTO, 2 sensors, EN834, EN60950-1, EMC compliant
Display	LCD, 6 digits
Dimensions	90 x 44 x 24 mm
Battery life	> 10 years
Calculation start temperature	21°C Δt 3K, 38°C (optional, summer mode)
Reading method	optical
Operating temperature	35°C - 90°C
Types of central heating	two/single pipe
Max radiator power	12,500 W
Measured temperature absolute value uncertainty	1%
Tamper alarm	yes, with date log
Configuration	via optical port
Configuration parameters	date of activation, calculation period parameters (calculation off months, summer months), comfort recording on/off

Display mode:

Automatic display (every 10 sec.) of units consumed during current calculation period and total consumption during previous period; this enables the user to compare current consumption with previous.

Data displayed in standard operating mode



Current calculation period consumption



Total consumption for previous calculation period



Check code, used to verify the transmitted data in case of auto-reading

Display mode following illumination of the IR port



Display test: all segments light up



Current calculation period consumption



Previous calculation period value

Optical port illumination

Illuminating the port for 2 seconds activates a more detailed display



Average ambient temperature for the current calculation period



Average ambient temperature for the previous calculation period



Calculation period start date



Calculation period end date



Allocator serial number (without year of manufacture)



Check code, used to verify the transmitted data in case of auto-reading

Accessible data by reading:

Type of reading	via optical interface
Allocator serial number	yes
Energy consumption	for current calculation period and 9 previous periods
Energy consumption monthly	of current and previous calculation period (12-24 months)
Thermal comfort temperature (ambient)	radiator and ambient temperature over all current and previous calculation period
Thermal comfort temperature (ambient) monthly	of current and previous calculation period (12-24 months)
Max/min temperature	of front or radiator sensor
Current date and time	yes
Calculation start date	for current and previous calculation period
Error log	yes
Date housing first opened	yes
Device status (alarm information)	housing opened, temperature range exceeded, battery discharged, temperature measurement system fault,
Statistics of number of temperature measurements	recording of front sensor range: <16°C recording of rear sensor ranges: 21°C-28°C, 28°C-35°C e >35°C

Heat cost allocator **HYDROCLIMA-RFM**



- 2 temperature sensors
- Thermal comfort recording
- RF data transmission (M-BUS EN 13757-4 protocol)
- Min/max temperature recording
- Temperature statistics:
 - Front sensor (thermal comfort)
 - number of values below 16°C
 - Rear sensor (radiator):
 - number of values 21°C - 28°C
 - number of values 28°C - 35°C
 - number of values over 35°C
- Consumption unit and average temperature log up to 24 months previous



RF reading accessories

RFM-RX2 receiver

the RFM-RX2 receiver receives the RF signal from the allocators and is used in the Walk by reading mode



Micro-Repeater RFM-RPT

the repeater extends the range of the RF signal, to enable the allocators to be read from farther away.



GPRS RFM-C1 concentrator

The RFM-C1 concentrator collects the allocator readings and sends them to a set email address over the GPRS network, thus eliminating the need to be close to the allocators when reading them (fixed infrastructure).



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The HYDROCLIMA-RFM allocator is equipped with both an RF module and an optical port. The main benefit is that the meter reader needs not to enter the apartment to perform the reading. The allocator transmits the recorded information in two ways (primary for daily\weekly\monthly readings and extended for the end of period reading); the transmission interval can be set as desired.

Technical data sheet

Version	HYDROCLIMA-RFM, 2 sensors, EN834, EN60950-1, EN 13757-4
Display	LCD, 6 digit
Dimensions	90 x 44 x 24 mm
Battery life	> 10 years
Calculation start temperature	21°C Δt 3K, 38°C (optional, summer mode)
Reading method	<ul style="list-style-type: none"> • M-BUS EN13757-4 radio wireless (optical reading still available) • OMS version available upon request
Operating temperature	35°C - 90°C
Types of central heating	two/single pipe
Max radiator power	12,500 W
Measured temperature absolute value uncertainty	1%
Tamper alarm	yes, with date log
Configuration	via optical port

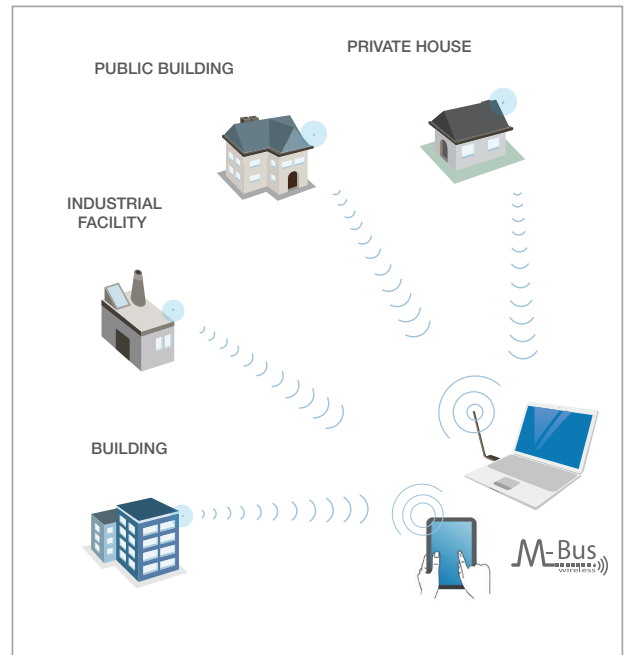
RF reading:

The allocator's data can be transmitted in two ways:

- primary mode: for frequent readings during the calculation period
- extended mode: used for final metering at the end of the period

Both modes can be configured in terms of how frequently the data are transmitted: you can select the day, month and time of day during which the data are to be transmitted. In extended mode you can optionally transmit the following additional information:

- monthly consumption for the concluded period (12 months)
- monthly average ambient temperature for the concluded calculation period (12 months)



HYDROLINK M-bus radio wireless remote reading system, based on RF transmission using the Wireless M-BUS protocol (PN-EN13757)

HYDROLINK COMPATIBLE: RF transmissions use the same system developed by BMETERS for RF acquisition of water meter data. The signal receivers and accessories are the same and can be used for reading both heat allocator

Accessible data by reading:

Type of reading Type of radio transmission - communication	via radio primary mode	via radio extended mode	via optical interface
Allocator serial number	yes	yes	yes
Energy consumption for calculation period	—	for previous calculation period	for current calculation period and 9 previous
Energy consumption monthly	last 3 months	of previous calculation period (12 months)*	of current and previous calculation period (12 – 24 months)
Thermal comfort temperature (ambient) monthly	last 3 months	of previous metering period (12 months)*	of current and previous calculation period (12 – 24 months)
Further average temperature values	average ambient temperature from start of calculation period	average ambient temperature in previous calculation period	radiator and ambient temperature over all current and previous calculation period
Max/min temperature	—	—	of front or radiator sensor
Current date and time	yes	yes	yes
Metering start date	—	for previous calculation period	for current and previous calculation period
Total number of values for entire calculation period	—	for previous calculation period	for current and previous calculation periods with single/two sensor method
Error log	yes	yes	yes
Date housing first opened	yes	yes	yes
Record of number of temperature measurements	of front sensor or rear sensor	below 16°C	recording of front or rear sensor ranges: <16°C radiator: 21°C - 28°C 28°C - 35°C over 35°C
Device status (alarm information)	housing opened, temperature range exceeded, power failure, temperature measurement system fault, RF transmitter fault		



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