



TYPE APPROVAL CERTIFICATE

This document is a translation of the Danish type approval certificate. In case of any differences in meaning between the Danish and the English version, the Danish version is valid.

J.no: 573-03-00033

Edition: 3
(replaces editions 2 and 1)

Date: 31 May 2016

Valid until: 31 May 2026

System name: TS 27.21 014

Type approval certificate issued pursuant to article 10 of Statutory Order of the Danish Safety Technology Authority No. 70 of 28 January 1997 on the control of heat cost allocators used as the basis for allocation of heat consumption, as amended.

This validity extension of the approval (edition 3 of 31 May 2016) is issued pursuant to article 6, section 1 of Statutory Order 1166 of the Danish Safety Technology Authority of 3 November 2014 on heat cost allocators used as the basis for allocating heating costs.

HEAT COST ALLOCATOR



RME 95

Applicant: Brunata A/S, Vesterlundvej 14, DK-2730 Herlev

Manufacturer: Brunata A/S, Vesterlundvej 14, DK-2730 Herlev

Device: Heat cost allocator with electrical power supply

Type: RME 95

Use: Registration of the heating consumption of radiators for the purpose of allocating heating costs

Type tested according to DS/EN 834:1995

Note: Measuring devices not completely identical with the approved device can only be used if a separate approval and revision of this certificate has been undertaken.

1 LEGAL DATA

DEVICE

Compact meter

MEASURING PRINCIPLE

Two-sensor measuring

BASIC STATE

Average radiator water temperature, $t_m = 55\text{ °C}$

Reference atmospheric temperature, $t_1 = 20\text{ °C}$

Installation at 66.7 per cent of radiator height

LIMITS FOR USE

$t_{\max} = 77\text{ °C}$

$t_{\min} = 20\text{ °C}$

BATTERY

Battery of the same quality as mercury-free, alkali battery with a voltage of min. 3.25V and max. 4.7V and a capacity of 1050 mAh. The life is min. two years' operation.

SCALE

Product and unit scale

2 PROVISIONS FOR CONTROL

2.1 CONTROL UNDER OPERATION

According to DS/EN 834:1995 and the manufacturer guidelines

2.2 MARKING ON THE DEVICE

Type designation is printed on the front of the device.

t_{\max} and t_{\min} plus TS number are printed on the bottom of the device.

The serial number, which is a unique identification number, is programmed into the meter memory and shown at programmable fixed intervals on the meter display.

The year of the first installation or installation as a result of removal, repair or other interference with the meter, as well as the meter installer's identification information, are printed on label and meter.

2.3 SEALING

The housing for compact meter and remote sensor is sealed by applying a plastic seal.

The seal label indicates the year of sealing and identifies the meter installer.

3 CONSTRUCTION

3.1 CONSTRUCTION

RME 95 is an electronic heat cost allocator based on the two-sensor meter principle in compact format. The NTC type temperature sensors are included in the device's sealable meter housing together with the other meter electronics and display unit.

One of the meter's temperature sensors measures the radiator temperature through embedment in a heat-conducting back piece and the meter's other temperature sensor – thermally separated from the first – measures the room temperature.

After connection, the meter carries out an auto-function test and then starts cyclical measuring of radiator and atmospheric temperature. It also carries out controls, calculations and recordings of counter status as required. These measurements, together with a series of pre-programmed meter and radiator technical data, are stored in an EEPROM type memory.

RME 95 measures the heat supplied to the room from the radiators via the heating system as the difference between the heat supplied to the room from the radiator and the heat supplied to the radiator by the room. Calculation processing of temperature measurements occurs when the difference between radiator temperature sensor and room temperature sensor (Δt) is different from zero.

RME 95 is also furnished with a calendar, whose function is (1) to calculate consumption units for the current measuring period, (2) to auto-read in a separate register on a pre-programmed cut-off date and (3) to register the sum of consumption units and operating status data 18 months in arrears in fortnightly periods from the current time. The meter's calendar function, which works on the basis of activation date and cut-off date for the measuring period, is not used to change the meter's measuring capacity or periodically discontinue the meter operation.

A LCD display shows the current and previous measuring periods' consumption units as well as identification number and scalar quantity in a programmable cycle.

Via an optical connection on the front of the device, all data in RME 95 can be read with a special reading device.

3.2 INSTALLATION

The meter is installed pursuant to DS/EN 834:1995 according to very detailed meter and radiator specific installation methods indicated by the manufacturer. These installation methods must be very carefully observed in order to ensure reproducible heat transfer between radiator and heat cost allocator and thereby correct registration of heating consumption.

4 DOCUMENTATION

Case no. 270-83017, Danish Technological Institute, DTI Energy

Edition/supplement	Issue date	Remarks
Edition 1, j.no.	23 September 1998	Original certificate
Edition 2, j.no. 1998-7053-1157	19 September 2000	Covers edition 1 of 23 September 1998 and validity extension of 19 September 2000
Supplement to edition 2, j.no. 08-3755	23 September 2008	Validity extension
Edition 3, j.no. 573-03-00035	31 May 2016	Validity extension

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