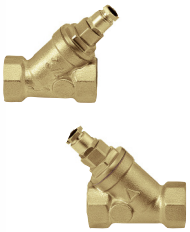
CONTECA® EASY direct heat meter
RS-485 transmission - MID compliant

7504 series

01306/18 GB



Function

CONTECA is a **direct heat energy meter** especially suited to measuring thermal consumption in residential buildings. Thanks to its double memory register, it is able to keep a record of power in both **heating** and **cooling** modes (option 755810).

The device comprises an electronic calculation unit, a turbine flow meter and two temperature probes. The CONTECA meter is very easy to install and hardly requires any maintenance.

The CONTECA meter flow rate gauge is of the turbine type. The turbine speed is measured by means of a high-resistance protected magnetic joint. As the mechanism is inside a vacuum there is no condensation. The mechanism block nut, made of **non-magnetic** material, prevents any attempt of tampering. The electronic technology and the materials used offer **precise and reliable measurements**.

The high-precision NTC temperature probes are easy to seal for greater protection against tampering. The cables connecting the flow and return probes to the calculation unit are 1,9 m long.

The CONTECA meter is equipped with an **8-digit liquid crystal display**. This display enables easy reading of consumption values as well as a range of technical data to allow evaluation of the appliance operating status and data logging.

The CONTECA meter is able to acquire four additional pulse inputs one alarm-status digital input, and is designed for **centralised remote transmission** (max. 250 meters) in the M-Bus communication protocol, via a RS-485 BUS.
The device also supports the MODBUS RTU communication protocol.

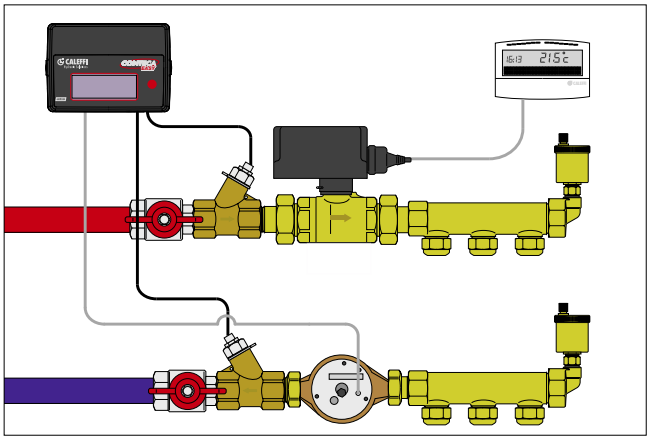
Product range

7504 series	Heat meter with threaded connections	size 1/2"–2" with unions
7504 series	Heat meter with flanged connections	size DN 65–DN 200
Code 755010	Touch screen datalogger	
Code 750450	Datalogger data EASY	
Code 750350	Datalogger data EASY TELE	
7508/7558 series	Additional options	

Technical specifications

- Electric supply: 24 V (+10% / -5%) (ac) - 50 Hz - 1 W
- Data transmission: according to M-Bus protocol on RS-485 BUS fitted for MODBUS RTU communication on RS-485
- Tamper-proof protection
- Advanced control software
- Conformity: directive 2014/32/EU EN 1434 (MI 004)

Standard installation



Technical data

Temperature probes				
Flow probe length		m	1,9	
Return probe length		m	1,9	
Probe type			NTC	
Temperature range limits		°C	10–90 (HEATING MODE) - 2–25 (COOLING MODE)	
Temperature difference limits		K	3–80 (HEATING MODE) - 3–20 (COOLING MODE)	
Measurement sensitivity		°C	≤ 0,05	
Flow meter				
Dimensions/Connection			1/2"–2"	DN 65–DN 200
Body			Brass	Steel
Type of hydraulic connection			**Male with union ISO 228**	**Flanged PN 16 EN 1092-1**
Nominal pressure	PN	bar	Threaded PN 10	Flanged PN 16
Maximum temperature of the medium		°C	90	
Installation			normally horizontal	
Pulse output			class OA-OC in accordance with EN1434-2	
Permanent flow rate	Q_p	l/h	see table 1 and 2	
Minimum flow rate	Q_i	l/h	see table 1 and 2	
Maximum flow rate	Q_s	l/h	see table 1 and 2	
Microprocessor calculation unit				
Metrological specifications			**in compliance with EN 1434-1 - MID 2014/32/EU**	
Precision class			class 3	
Centralised transmission			in M-Bus mode on RS-485	
Ambient temperature range limits		°C	5–45	
Ambient class			MID 2014/32/EU E1-M1	
Heating/cooling measurement unit		kWh	8-digit display	
Electric supply			24 V (+10% / -5%) (ac) - 1 W - 50 Hz	
Protection class			In accordance with DIN 40050: IP 54	
Pulse inputs			class IB in accordance with EN 1434-2	

The CONTECA heat meter is supplied with accessories for installation, probe positioning and subsequent lead sealing.

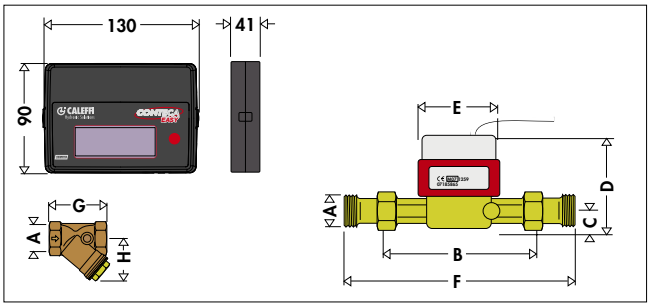
TAB. 1 – Flow rate limits – Connections from 1/2" to 2":
2 Y pockets (the flow pocket is fitted with filter mesh)

Code	Connect.	Meas. type	Q_i (l/h)	Q_p (m³/h)	Q_s (m³/h)
750404	1/2"	Single jet	30	1,5	1,5
750405	3/4"	Single jet	50	2,5	2,5
750406	1"	Multi jet	70	3,5	3,5
750407	1 1/4"	Multi jet	120	6	6
750408	1 1/2"	Multi jet	200	10	10
750409	2"	Multi jet	300	15	15

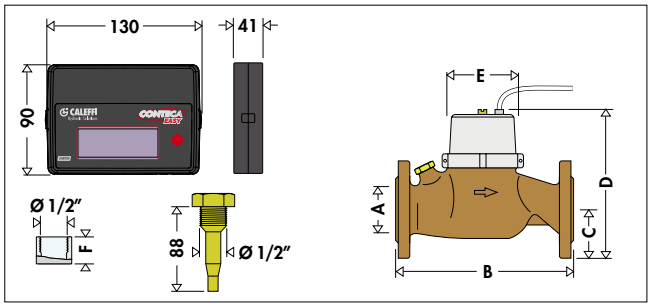
TAB. 2 - Flow rate limits (m³/h) - Connection from DN 65 to DN 200:
2 sleeves, 1/2", to be welded, with brass pocket and 1 lead sealing kit

Code	Connect.	Meas. type	Q_i (l/h)	Q_p (m³/h)	Q_s (m³/h)
750410	DN 65	Woltmann	2500	25	25
750411	DN 80	Woltmann	3200	32	32
750412	DN 100	Woltmann	5000	50	50
750413	DN 125	Woltmann	8000	80	80
750414	DN 150	Woltmann	20000	200	200
750415	DN 200	Woltmann	20000	200	200

Dimensions



Code	A	B	C	D	E	F	H	G	Weight (Kg)
750404	1/2"	110	18	108	80	190	44	59	2,8
750405	3/4"	130	18	108	80	226	51	69	3,2
750406	1"	260	43	159	102	358	60	87	5,2
750407	1 1/4"	260	43	159	102	378	73	99	5,5
750408	1 1/2"	300	46	185	136	438	80	109	8,5
750409	2"	300	57	199	166	458	90	126	9,5



Code	A	B	C	D	E	F	Weight (Kg)
750410	DN 65	200	85	224	150	34	12
750411	DN 80	225	95	235	150	34	16
750412	DN 100	250	110	310	220	25	20
750413	DN 125	250	125	325	250	17	23
750414	DN 150	300	135	380	285	17	38
750415	DN 200	350	165	410	340	17	55

Pre-installation guidelines

It is good practice to provide **shut-off valves** upstream and downstream of the meter in order to facilitate installation and maintenance.

Upstream from the flow rate gauge, it is necessary to fit **a filtering device** in order to protect the gauge.
From diameter 1/2" to diameter 2", this filter is already inside the flow temperature pocket.

Installation procedure

- Proceed with installation of the hydraulic components (probe pockets and flow meter) according to the guidelines of paragraph "Hydraulic installation diagrams" on this page;
- After installation, **wash the pipes and carry out a pressure test**;
- **Check the strainers saturation level** and, if necessary, clean it;
- After completing the hydraulic installation proceed with installation of the CONTECA unit: follow the detailed instruction about the electrical connection on pages 5 and 6 ("CONTECA heat meter electrical connections").
- Fit the temperature probes into their pockets by respecting the correct coupling with the flow direction: the flow temperature probe (red label on it) has to be installed on the flow pipe and the return temperature probe (blue label on it) on the return pipe.
- When work has been completed lead sealing of the key components of the heat meter (calculation unit, temperature probes and flow meter) have to be lead sealed. **Lead sealing must be carried out by qualified technicians following the instructions on pages 8 and 9** ("Lead sealing procedure").

Hydraulic installation diagrams

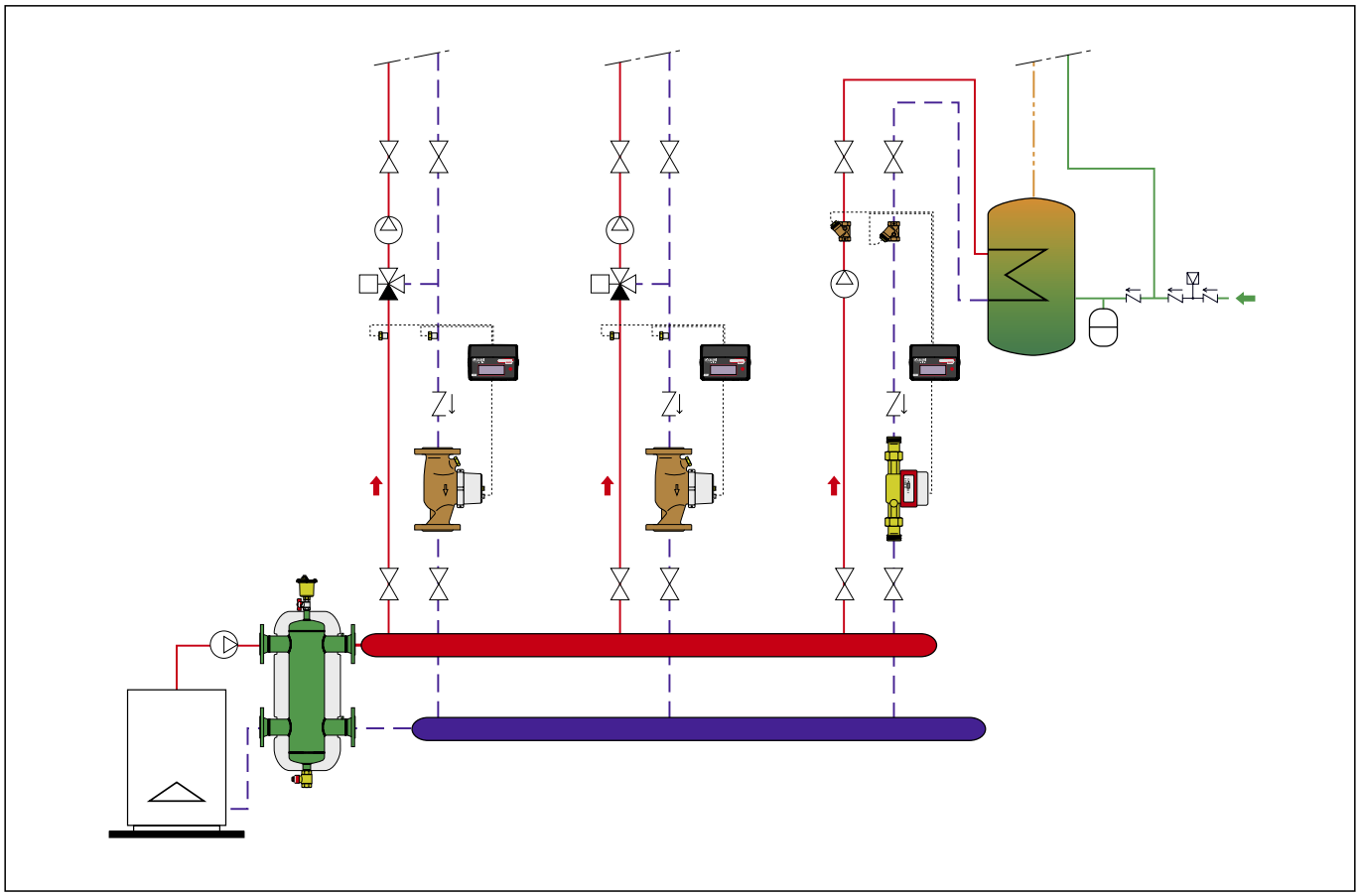
The flow rate gauge must be installed on the **return pipe**.

The hydraulic diagrams given below show:

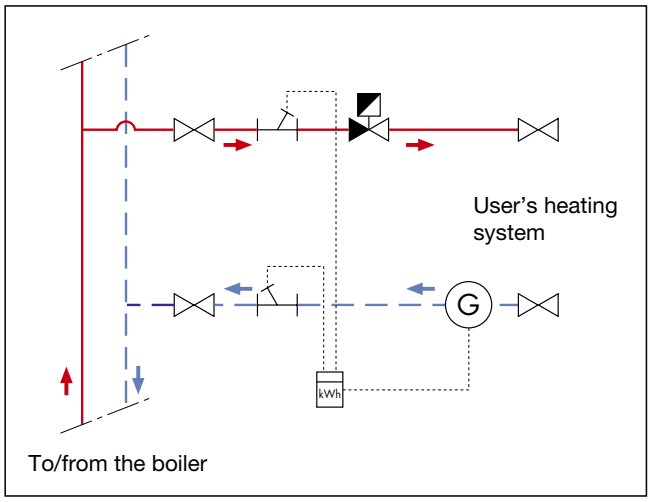
a) **Positioning the gauge**
The flow rate gauge **should preferably be installed** in a horizontal position with the turbine axis vertical, **respecting** the flow direction indicated by the arrow on the body.

b) **Positioning the probes**
The temperature probes (by means of the pocket or sleeve according to the size) must be positioned on the corresponding flow/return pipes. The corresponding flow and return pipes **are understood to be the ones involved with the same flow rate** when the flow has started.

1) Diagram of system with metering on manifold with several stages.



2) Diagram of user circuit - Control with 2-way zone valves



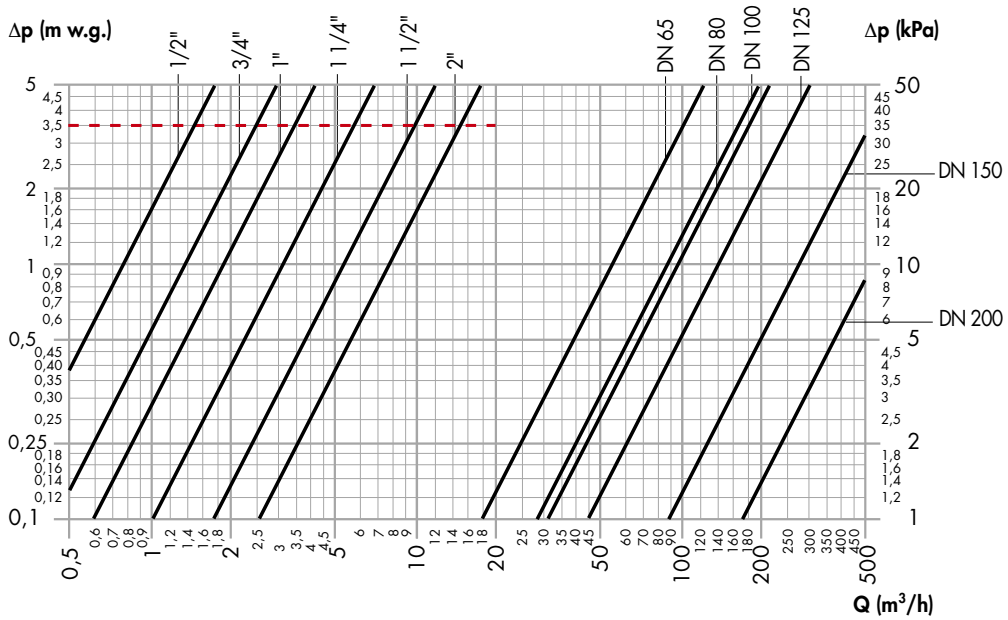
Maintenance work

Filter cleaning
Sometimes it will be necessary to **clean the filter installed in the flow circuit in a suitable position for the protection of the flow rate gauge**.

By observing the instantaneous flow rate and temperature difference values (flow rate significantly reduced in relation to the nominal value and temperature drop significantly increased), it is easy to work out whether the filter is clogged and then clean it as necessary.

Hydraulic characteristics

Flow meter + pockets for probes (if threaded connection)

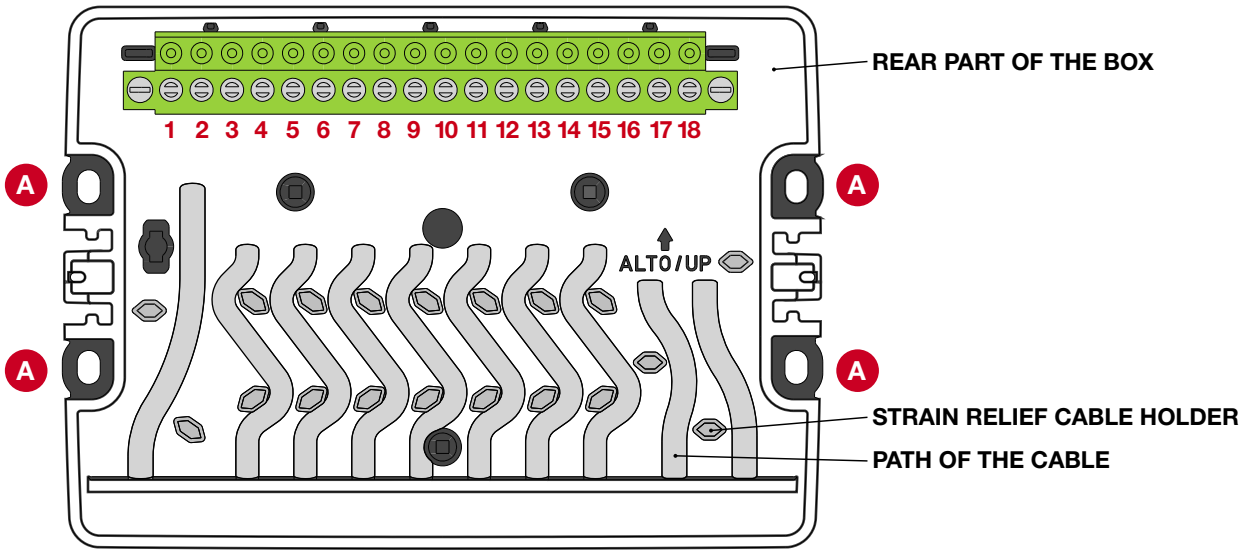


	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Kv	2,5	4,2	5,9	10,1	16,9	25,3	180	320	285	450	890	1700

The dotted red line indicates the pressure loss corresponding to the permanent flow rate (Q_p) (Δp=3,5 m w.g., for threaded connections only).

CONTECA heat meter electrical connections

When mounting in a box or directly on a wall, use the screws provided in the package, fixing them in the slots A in order to level the device correctly.

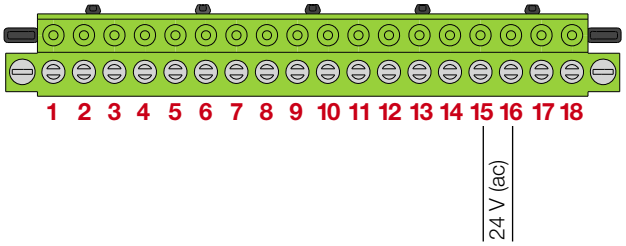


Pins	Description	Option
1 - 2	OUT 2 - Open collector pulse output for COOLING units. GND=2 / duration 120 ms / Vmax 24 V (dc) - 50 mA	755882
2 - 3	OUT 1 - Open collector pulse output for HEATING units. GND=2 / duration 120 ms / Vmax 24 V (dc) - 50 mA	755881 - 755882
4	NOT used	
5 - 6	IN 4 - 4th pulse input (generic). GND=6	2 x 755825
6 - 7	IN 3 - 3rd pulse input (generic). GND=6	755825
8 - 9	IN 2 - Pulse input for DCW. GND=9	
9 - 10	IN 1 - Pulse input for DHW. GND=9	
11 - 12	**Pulse input for the heating volume meter**	
13 - 14	Digital input (it must NECESSARILY be a volt free contact - any voltage, even if minimum, MUST be avoided)	
15 - 16	**Power supply 24 V (ac) 50 Hz - 1W**	
17 - 18	**Transmission Bus RS-485 / RS-485 A=18 RS-485 B=17**	

• **Power supply**

15 - 16 Centralised power supply 24 V (ac)

The 24 V (ac) electricity supply line should be used solely for the heat meters and not directly controlled by the user.



• **Data centralisation**

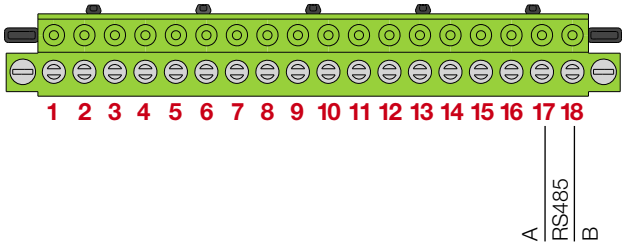
In the case of centralised data transmission via bus the following connection plan must necessarily be carried out:

17 - 18 Polarised transmission bus - Bus RS-485

17 Tx (RS-485-B) **18 Rx** (RS-485-A)

For the transmission bus, use an unshielded 2 x 1 mm² FROR 450/750 2x1 CEI 20-2211 IMQ cable (**our code 755855/N**).

Note: The transmission polarity must be fully observed.



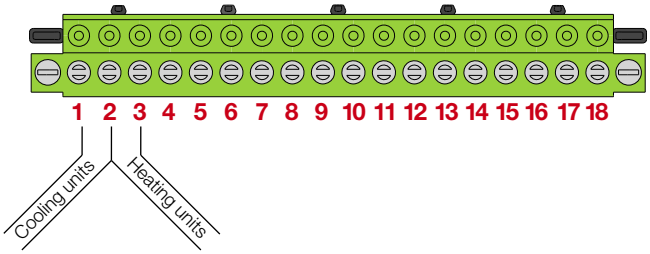
• **Energy pulse outputs - codes 755881/755882**

2 - 3 Heating units output to remote acquirer (kWh) (Type OC)

1 - 2 Cooling units output to remote acquirer (kWh) (Type OC)

These outputs can be connected to our code 755890 (remote energy totaliser) or a general supervisor.

Output specifications:
1 PULSE = 1 kWh - open collector contact
Pulse duration: 120 ms
Max. frequency = 1 Hz



• **Additional pulse inputs codes 755825**

E.g. => Technical water - Electric energy - Gas

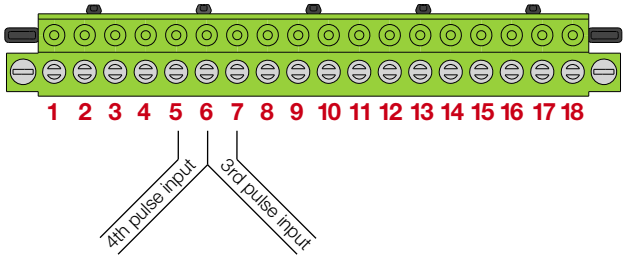
NB: The pulse inputs are enabled with codes 755825.
The metering system must be provided with a volt free contact and the weight of the pulse must be indicated.

E.g. => 1 Pulse = 10 litres of technical water
1 Pulse = 0,1 kWh electric energy
1 Pulse = 1 Nm^3 gas

6 - 7 3rd pulse input

5 - 6 4th pulse input

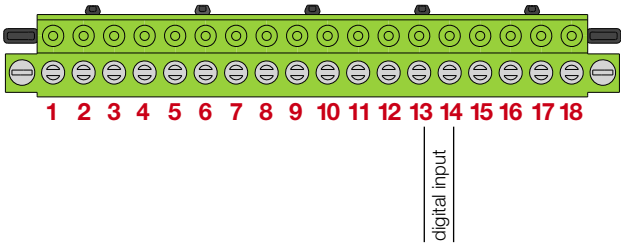
Minimum pulse duration: 120 ms
Max frequency = 1 Hz



• **Digital input**

The digital input must be potential free (class IB)

13 - 14 Connection of the auxilliary microswitch of the zone valve (ON/OFF status). When in the ON status an internal register logs the hours of opening.



Notes: - Each 7504 series device is supplied with a tamper-proof lead sealing kit for the temperature probes and for the plastic electronics box.

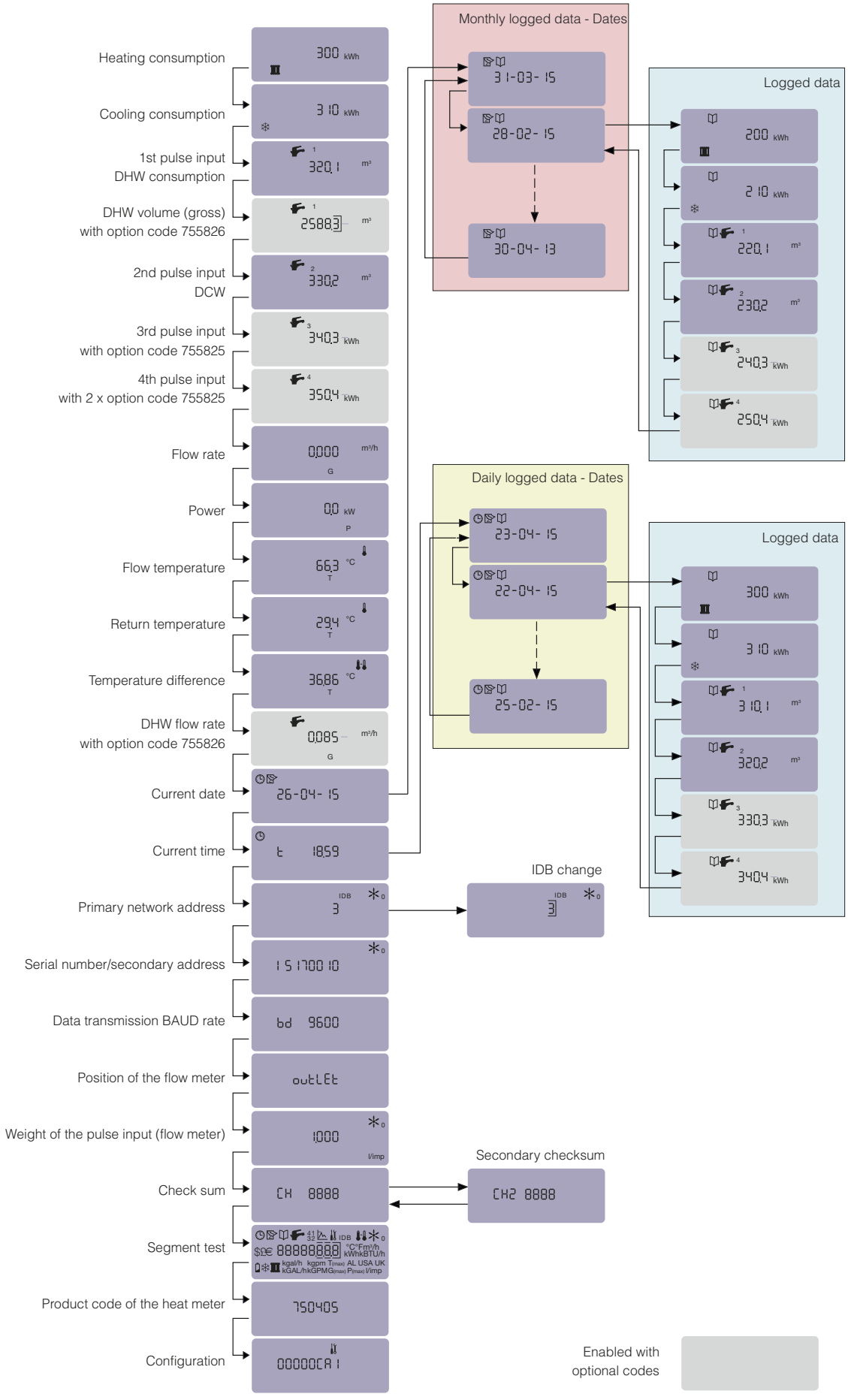
- Make the cables to pass through the cable fairleads and the strain relief cable holders.
The basic function of the partition is to protect the electronics card from dust and jets of water.

Operating information

The accumulated energy amounts are retrieved in a non-volatile memory device (EEPROM) each time the units of measurement are completed (1 kWh) and, at the same time, this increase causes the display to be updated (see “User information cycle”).

User information cycle

The heat meter is equipped with a liquid crystal display. The display is activated by pressing the button on the front.
By repeatedly pressing the button briefly it is possible to scroll through the various information windows. In some views, holding the button for some seconds allows additional information to be shown on the display.

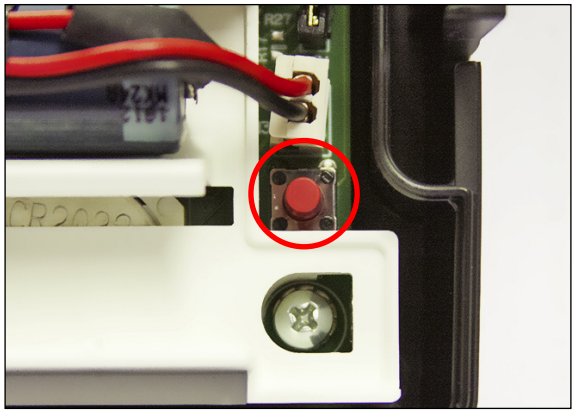


Test instructions

The 7504 series calculator is equipped with a quick output test feature, located inside the plastic box.
In order to access this, remove the seal and take out the fixing screws.

The PCB has a button on the very edge of the right-hand side (fig. 1) which can be used to select the technical menu.

(fig. 1)

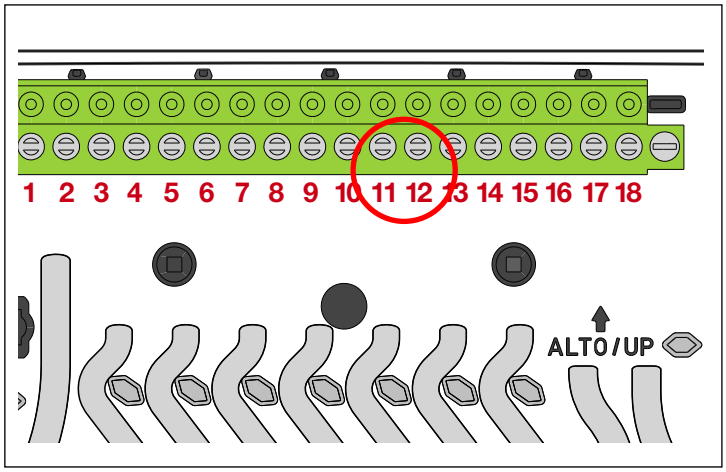


Use the button (push) on the display front panel to scroll through the screens. The unit of measurement for the energy, when in test mode, is Wh (fig. 2).

(fig. 2)

The pulse input can be simulated by connecting pins 11 - 12 (fig. 3).
The maximum input frequency is 1 Hz.

(fig. 3)



The probes, which are absolutely inseparable from the electronics circuit, may be placed in a thermostatic bath, observing the temperature range 10–90°C and a ΔT between 3–80 K.

The energy increases on the basis of the following equation:

$$\Delta E = \kappa \cdot \Delta T \cdot \Delta V \cdot 0{,}2777698 \cdot 10^{-3}\ [Wh]$$

κ = Volume specific heat [kJ/m^{3}K]
ΔT = Temperature difference [K]
ΔV = Volume of the medum [l]

$\Delta V = N \cdot P$
with N = number of pulses
P = weight of the pulse in litres

Operating specifications

1) The software used to control the metering process, in order to avoid energy metering under non-operating conditions, impements the following principle, based on consumption processing depending on a specific flow temperature value (FT):

   Heating metering **is activated for a FT value >22°C** (factory set).
   Cooling metering **is activated for a FT value <15°C** (factory set, with optional code 755810).

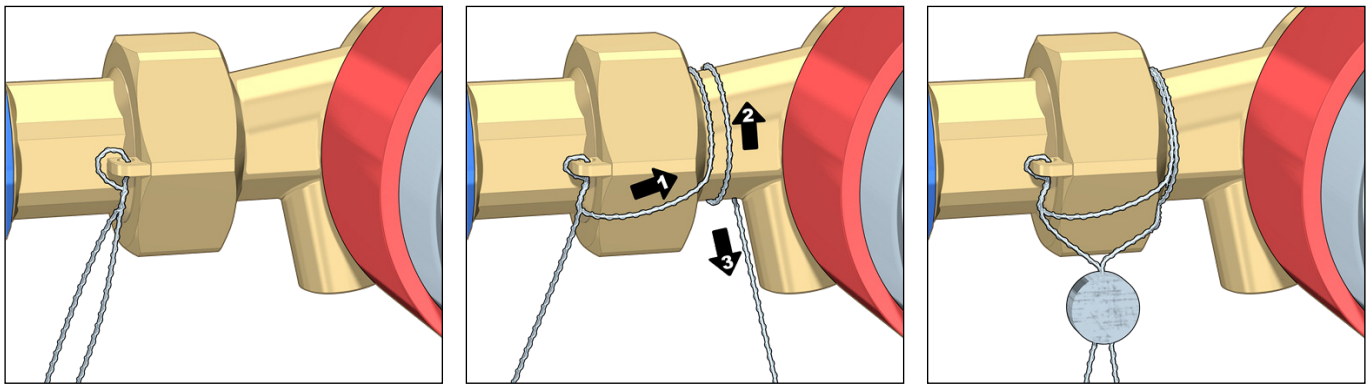
   The set values may be modified by an authorised technician on request.

2) The software used to control the metering process also operates on the principle that consumption processing depends on **the presence of a minimum temperature difference** in order to further safeguard against unnecessary measurements or minimal unwanted metering deriving from tolerances in temperature detection **a dead band of 0,4 K** is therefore defined.

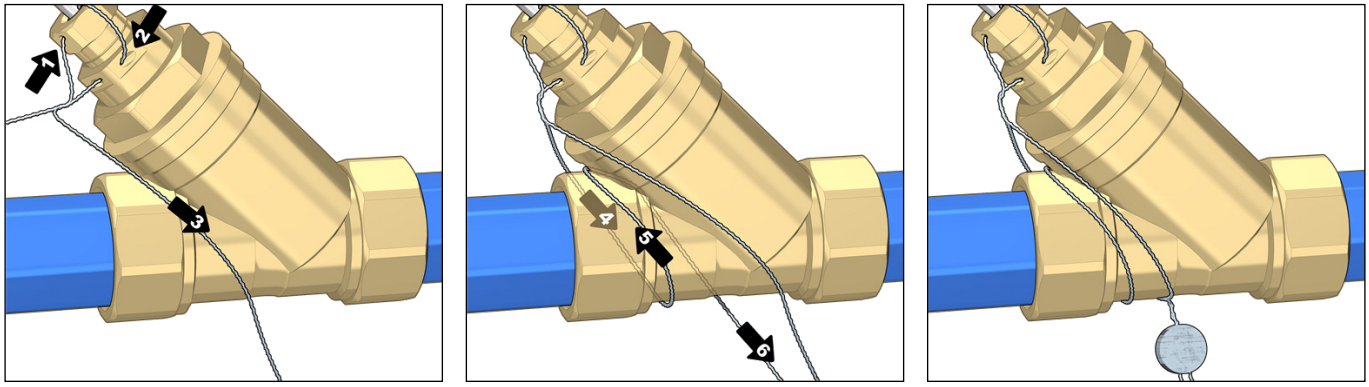
3) The software used to control the metering process also requires **the flow rate gauge to be installed on the return pipe**.
   Authorised technicians can, on request, adapt the configuration set so as to position the gauge on the flow pipe.

Lead sealing procedure

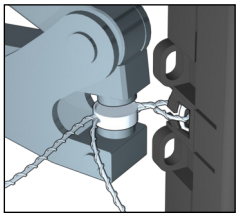
Heat meters with threaded connections



A) Insert the steel wire in the dedicated hole in one of the nuts screwed on the flow meter body and twist it;
B) Wind the wire tightly as shown in the picture so that, once the seal will be in place, it will be impossible to unscrew the nut without either breaking the seal or cut the wire;
C) Twist the wire and insert the lead seal;

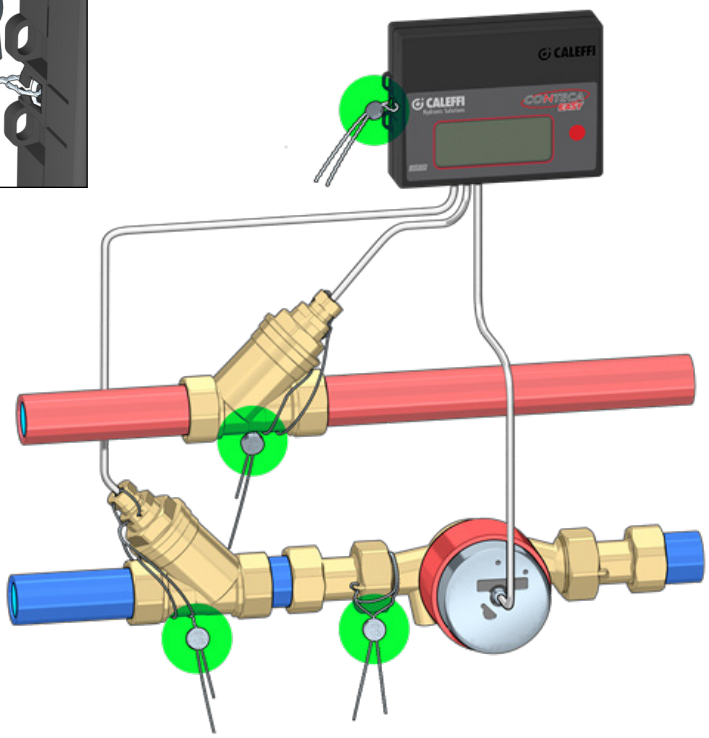


D) Make the steel wire pass through the holes in the fitting of the temperature probe (1) and through the probe pocket (2) and twist it;
E) Wind the wire tightly as shown in the picture so that, once the seal will be in place, it will be impossible to remove the probe without either breaking the seal or cut the wire;
F) Twist the wire and insert the lead seal;
G) Repeat steps D, E, F for the other temperature probe.



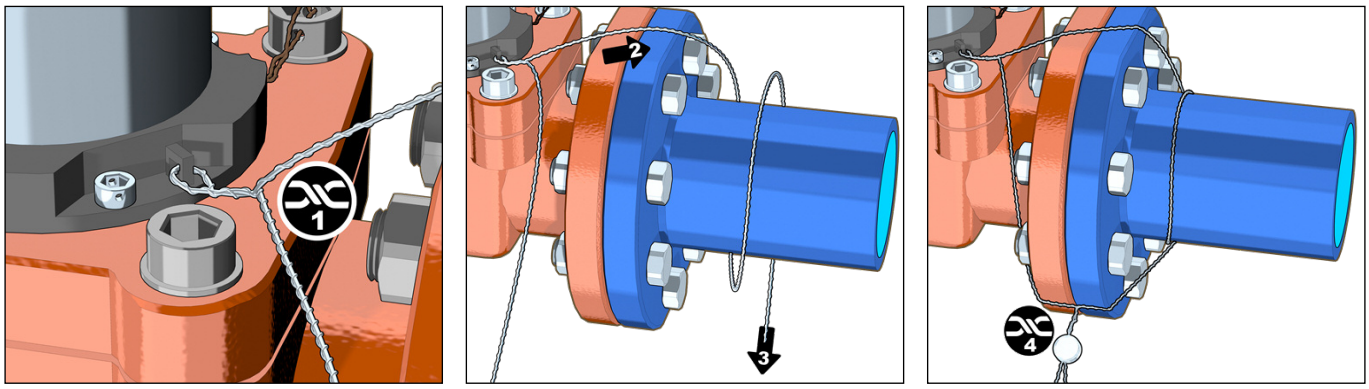
H) Make the steel wire pass trough the dedicated passages on one side of the heat meter calculation unit, twist it and insert the lead seal.

I) Apply the minting to the lead seals highlighted with the green circles in the picture on the right.

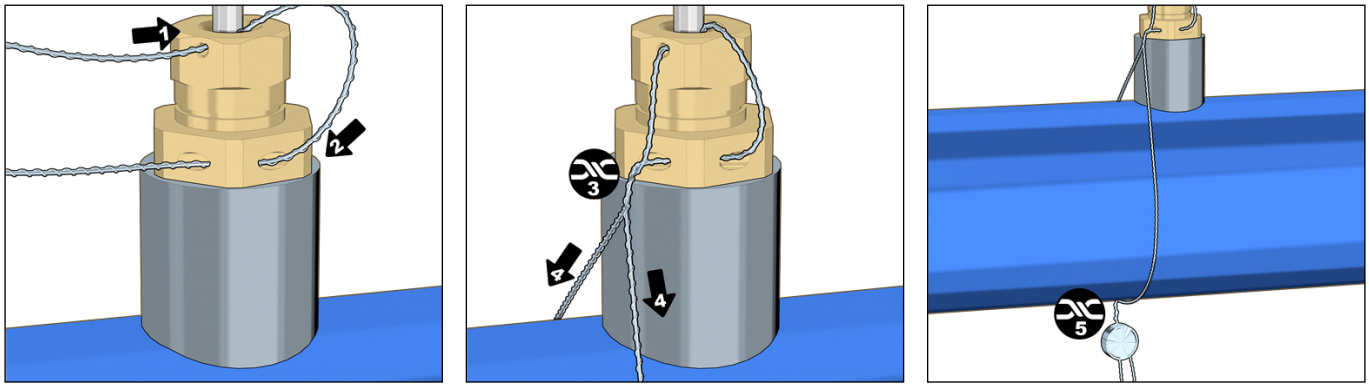


Lead sealing procedure

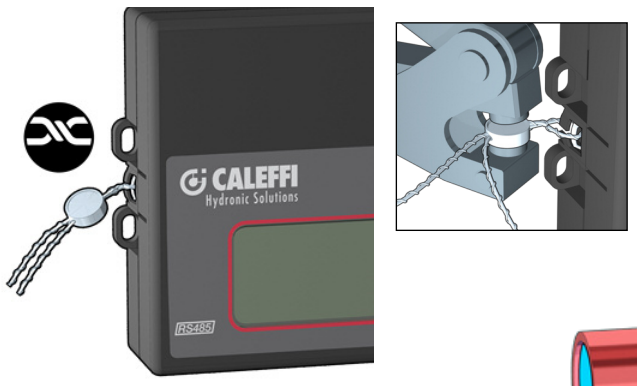
Heat meters with flanged connections



A) Insert the steel wire in the loop on the flow meter body and twist it;
B) Wind the wire tightly around the pipe as shown in the picture so that, once the seal will be in place, it will be impossible to remove the flow meter without either breaking the seal or cut the wire;
C) Twist the wire and insert the lead seal;

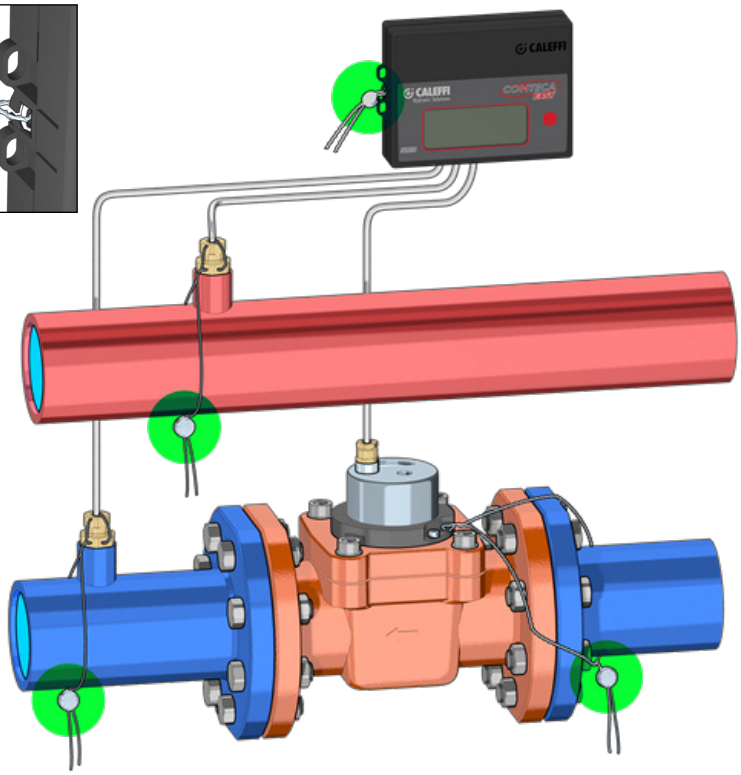


D) Make the steel wire pass through the holes in the fitting of the temperature probe (1) and through the probe pocket (2) and twist it;
E) Wind the wire tightly as shown in the picture so that, once the seal will be in place, it will be impossible to remove the probe without either breaking the seal or cut the wire;
F) Twist the wire and insert the lead seal;
G) Repeat steps D, E, F for the other temperature probe.



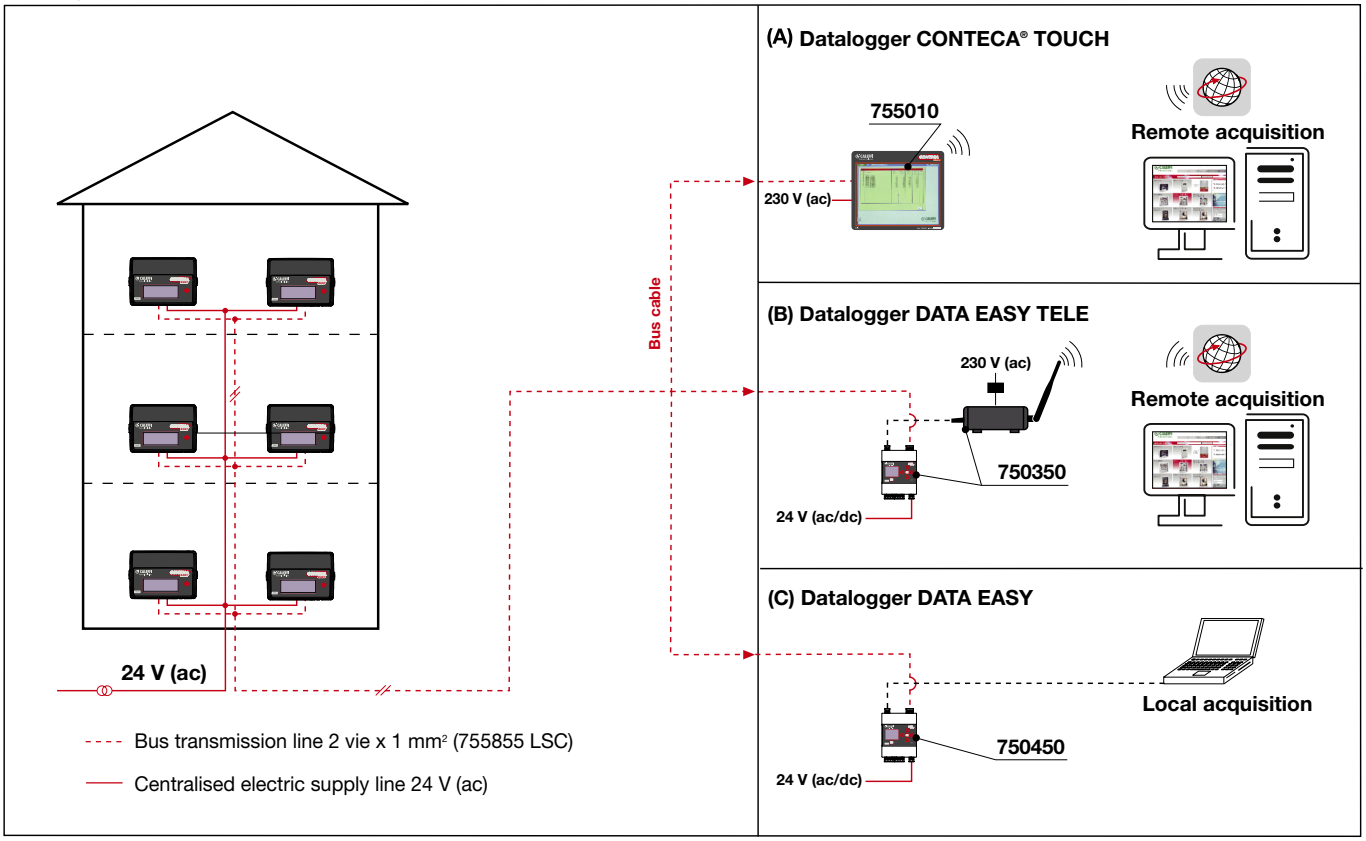
H) Make the steel wire pass trough the dedicated passages on one side of the heat meter calculation unit, twist it and insert the lead seal.

I) Apply the minting to the lead seals highlighted with the green circles in the picture on the right.

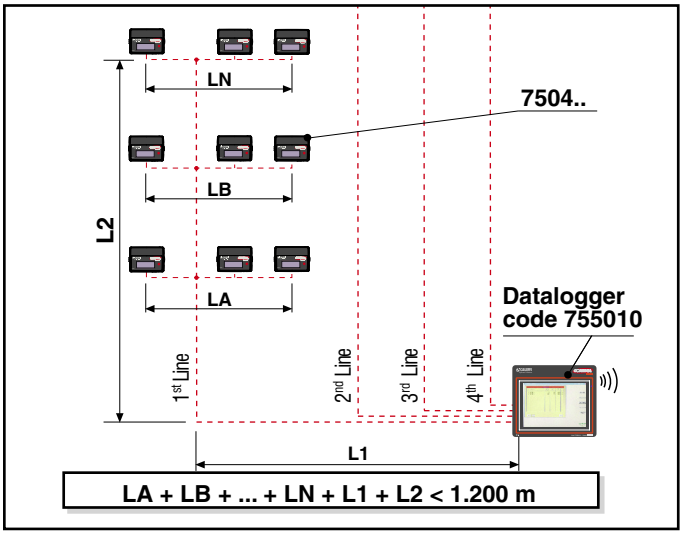


DATA CENTRALISATION

Building transmission network layout



N.B.:
The transmission bus code 755855/N is a 2-way device (section 2 x 1 mm²). The controller allows a **maximum of 250 users**. The laying methods are in accordance with tree distribution (star).
The **maximum length** of each individual section is **1200 m**.
It is possible to lay up to a **maximum of 4 separate sections**, using code 755005.

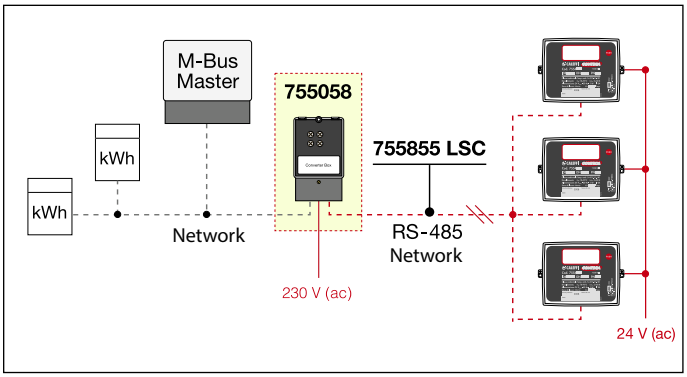


755058

Slave M-Bus/RS-485 converter.
It provides adaptation and galvanic separation between M-Bus and RS-485 physical layers. Il allows connection of CONTECA heat meters to a M-Bus physical layer, making them visible as standard M-Bus slaves.
Power supply 230V (ac) – 9VA
Working temperature: -10 – 60°C.

Code	
755058	slave M-Bus/RS-485 converter

Slave M-Bus - RS-485 cod. 755058 converter application diagram
The communication protocol between the M-Bus master and CONTECA® heat meters is compliant to EN 1434, part 3.



755010 Datalogger CONTECA® TOUCH

The function of the controller is to acquire, via bus, all the totalised values of the individual users (heating and cooling units / mass / status of the zone valve), consumer operating status (ON/OFF), totalised values from the additional pulse meters (domestic cold/hot water) and operational diagnostics.
All the above-described totalised values are recorded on a daily basis in log files that are useful for consumption analysis cost allocation. **Maximum number of heat meters: 250**.

It includes:
- 1 touch-screen CPU
- 1 wall mounting bracket

The controller has the following feratures:
- 1 touch-screen LCD monitor for viewing consumption and user data.
- 1 RS232 port
- 1 RS485 port
- 2 USB ports
- 1 LAN port
- acquisition software
- instruction manual

Power supply: 230 V (ac) ±10% - 50 Hz - 60 W.
Ambient conditions: 10-35°C - no dust.

N.B.: Before commissioning of the system the identifying data (Serial number - Apartment No. - Name of the tenant) must be sent to Caleffi for a correct configuration of the device.

750350 Datalogger DATA EASY TELE

The datalogger allows acquisition and logging of the consumption data from CONTECA® heat meters via communication BUS. Thanks to the integrated web interface it is possible to read logged and instantaneous data, and generate consumption reports.
Coupled with an UMTS router, it allows the remote control of the CONTECA® heat meters network.
The router for the datalogger **DATA EASY** is provided with the Access point function for the control of the LAN network. If a M2M data SIM is fitted (not provided) and the router is connected to the datalogger **DATA EASY** the management of a dynamic IP is possible, by means of Dyn DNS. It enables the users to exploit all the potentialities of the system giving them the complete control of the CONTECA® network via browser.
Maximum number of heat meters: 250.

Main specifications of the datalogger:
- Power supply: 24 V (dc) ±10%, 24 V (ac) - 3 W.
- 2 Ethernet connections: ETH1 (PoE), ETH2.
- Ambient temperature range: 0-50°C.
- Mounting: on a 35 mm DIN rail (EN 60715).
- Daily data logging: 10 years.
- Reports: In XLS or CSV format.
- Tranfer methods: FTP (Client), Webserver.

Main specifications of the UMTS router:
- Power supply: 100-240 V (ac) / 9 V (dc) - 7 W.
- LAN: Wireless AP, router switch with 4 ports with firewall.
- Dimensions: (H x W x D) 36 x 85 x 100 mm (mounting on a horizontal plane).
- Certifications: CE, EN 60950-1.

750450 Datalogger DATA EASY

The datalogger allows acquisition and logging of the consumption data from CONTECA® heat meters via communication BUS. Thanks to the integrated web interface it is possible to read logged and instantaneous data, and generate consumption reports.
The main setting can be carried out locally via web interface by connecting a PC to one ethernet port with switch functionality.
The SMART function allows the automatic detection of the heat meters connected to the network. It is possible to acquire data with automatic creation of consumption reports, this feauture makes the system user-friendly and reduces the number of operations to be carried out.

Maximum number of heat meters: 50.

Main specifications of the datalogger:

- Power supply: 24 V (dc) ±10%, 24 V (ac) - 3 W.
- 2 Ethernet ports: ETH1 (PoE), ETH2.
- Ambient temperature range: 0–50°C.
- Mounting: on a 35 mm DIN rail (EN 60715).
- Daily data logging: 10 years.
- Reports: In XLS or CSV format.

755826

Flow rate threshold - DHW recirculation

In domestic water distribution systems with recirculation of hot water it might be necessary to lay the recirculation pipes inside the housing units. Due to this, hot water meters are subject to flow rates that do not represent a real consumption.
The flow rate threshold option allows discrimination of real consumption from flow rates due to recirculation, making it possible to meter the exact hot water consumption, used for cost allocation. The option must be associated to the CONTECA® heat meter supplied and its implementation and setting on site must be carried out by Caleffi or authorized qualified personnel. Once the DHW flow rate in the absence of any tapping have been determined, the value (threshold) is set on the CONTECA®.
Whenever the detected flow rate is lower or equal to the threshold, only the GROSS register is incremented, while, in case of a flow rate higher than the threshold, both the GROSS and the NET registers are incremented.

The user will read on the display:

- NET consumption

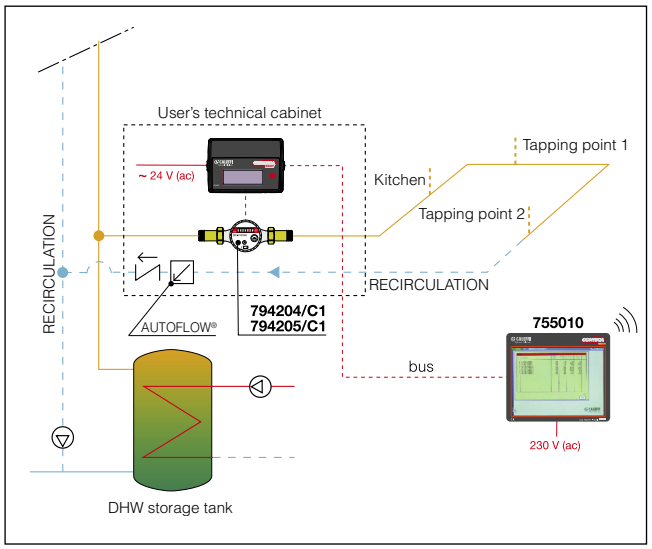
- GROSS consumption

- DHW flow rate

In order to keep a constant recirculation flow rate it is mandatory to introduce automatic flow rate regolators with setting below 100 l/h on the return pipe of each user and specific pulse output water meters with weight of the pulse equal to 1 litre (codes 794204/C1 and 794205/C1).

With option code 755826 an AUTOFLOW with 1/2" connections and nominal flow of 40 l/h (code 127141 M04) is provided.

Installation layout for code 755826



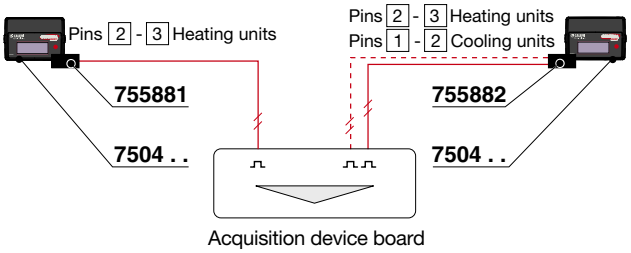
755810 Cooling units metering

The CONTECA meter, once the software module has been activated, can **keep a record of the heating and cooling units in separate registers through the evaluation of a negative temperature difference**, both for current values and for log files

75588. Pulse output

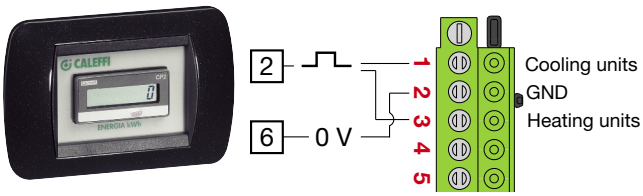
The pulse outputs can be used to transfer the heating and/or cooling energy consumptions, DCW and DHW to a generic acquirer. The pulse output with no potential is an **open collector** with pulse period 120 ms - Vmax 24 V (dc).

Code	
755881	Single pulse output - HEATING UNITS
755882	Double pulse output - HEATING/COOLING UNITS



755890 Remote energy totalizer

Electronic 8-digit LCD totaliser equipped with cover plate for **three-slot recessed electric box**.
Lithium battery: duration 8 years - max. frequency 20 Hz
Suitable for pulse outputs code 755881/755882.
Cable (not supplied): 2x1 mm², shielded, on a dedicated cable raceway, max lenght 75 m.



755825 Generic pulse input acquisition

The CONTECA module can **acquire up to two additional** pulse inputs (one pulse input - 1 x code 755825, 2 pulse inputs - 2 x code 755825), as well as the 2 already dedicated to DHW and DCW.
Sometimes, and normally when there is a controller (code 755010), it is beneficial to use the communication bus to transfer the user data in terms of consumption (gas meter / electricity meter). The generic pulse input must **have no potential (no voltage, maximum frequency 1 Hz**). Class IB. Residences and hotels are particularly suitable types of users.

DATA CENTRALISATION WITH MONITOR-PULSE

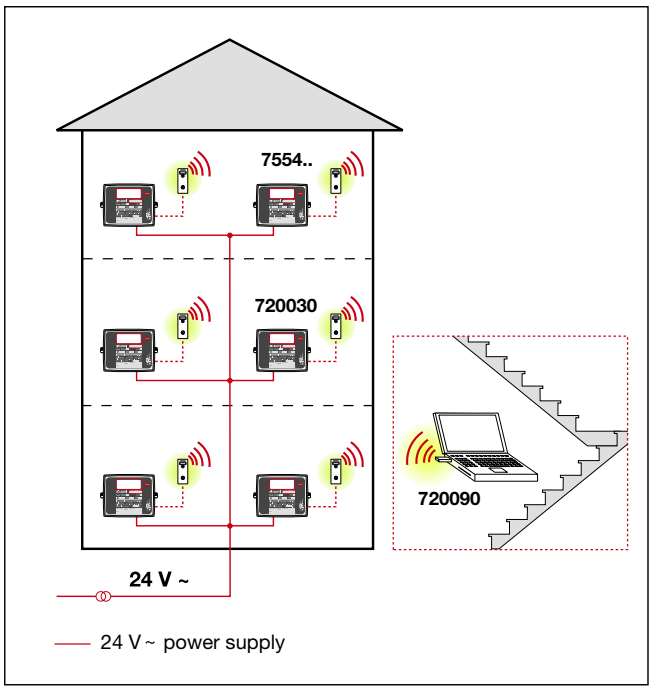
720090

USB/radio device +
software SW7200 for reading and processing data consumption.
Two-way wireless transmission
868.0÷868.6 MHz, 10 mW.
For Microsoft® Windows operating system.

Code

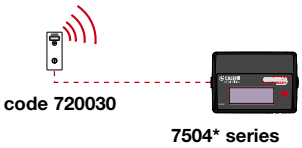
720090	USB/radio device + software SW7200

Building transmission diagram

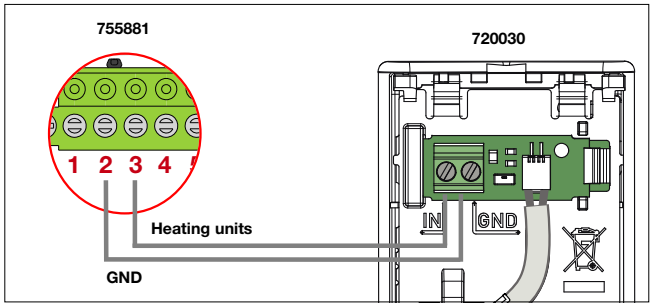


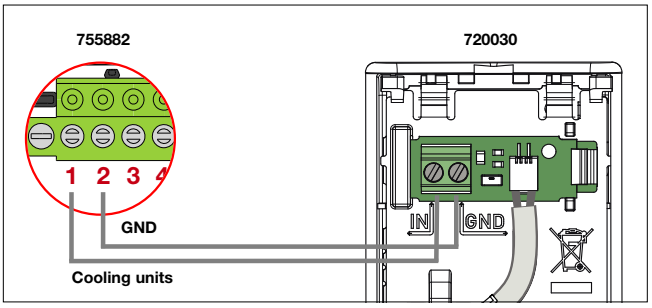
720030 MONITOR-PULSE

Pulse acquirer.
Power supply: lithium battery.
6-digit display with user button.
Daily data logging.
Seal and sensor for tamper-proof protection.
It allows acquisition of one pulse output from the heat meter.
Two-way wireless transmission
868.0-868.6 MHz, 10 mW.
Protection class: IP 31.



Electrical connections between CONTECA® easy and monitor-pulse code 720030.





SPECIFICATION SUMMARY

7504 series
CONTECA® direct heat meter **conforming to directive 2014/32/EU (MID)** for the use in heating and cooling systems, with the following characteristics: turbine flow meter for hot water **with magnetic joint** (maximum temperature 90°C) with pulse output, NTC temperature probes, 8-digit display, temperature range 2-90°C, protection class IP 54, transmission via **TWO-WAY** RS-485 in accordance with M-Bus or MODBUS RTU communication protocol, electric supply 24 V (ac) 50 Hz - 1 W. **Options:** up to 2 additional pulse inputs - up to 2 pulse outputs.

Code 755810
Metering in cooling mode. Upon activation of the software module, CONTECA can keep a record of the heating and cooling units, on the evaluation of the temperature difference reversal, in separate registers for both the current values and for the logged files.

Code 755881 - 755882
The pulse outputs (1 output code 755881, 2 outputs code 755882) make it possible to transfer the heating and cooling consumptions to a generic pulse acquirer. The volt free pulse output is **open collector** with a pulse duration of 120 ms - Vmax 24 V (dc) - 50 mA.

Code 755825
The additional pulse inputs (up to two) make it possible to collect consumptions from generic meters (e.g. gas or electric meters). The generic pulse inputs must be IB class, **volt free**, max frequency 1 Hz.

Code 755826
Flow rate threshold for domestic hot water metering in the presence of recirculation systems. The option allows discrimination of real DHW consumption from flow rates due to recirculation with the aim of providing a correct metering.

Code 755890
Remote energy totalizer with 8 digit LCD display equipped with cover plate for **three-slot recessed box**. Lithium battery: life 8 years - max frequency 20 Hz. Suitable for pulse outputs code 755881/755882. Cable length (2x1 mm^2), not supplied: max 75 m. Cable in a dedicated cable raceway.

Code 755010
CONTECA® TOUCH compact datalogger with touch screen, fitted with RS-232 - RS-485, USB and LAN ports, with user monitoring function (max 250), and daily logging of consumption data. Automatic transmission of data via email and FTP server. Electric supply 230 V (ac). Ambient temperature range 10-35°C with no dust.

Code 750350
Datalogger for consumption data acquisition and logging with the following specifications: Communication via RS485 physical layer in M-Bus protocol. Power supply 24 V (dc) - 3 W or 24 V (ac) - 3 W. Local and remote access via PC browser thanks to the integrated web interface. Daily data logging: 10 years. Mounting on a 35 mm DIN rail (EN 60715). 2 Ethernet ports. Reports in .XLS or .CSV format. Maximum number of heat meters connected 250. Ambient temperature range 0–50°C.
UMTS router with the following specifications: power supply: 100÷240 V (ac) / 9 V (dc) - 7 W, LAN: wireless AP, router switch with 4 ports with firewall. Management of a dynamic IP by means of Dyn DNS. Dimensions (H x W x D): 36 x 85 x 100 mm. Certifications: CE, EN 60950 - 1.

Code 750450
Datalogger for consumption data acquisition and logging. Communication via RS-485 physical layer in M-Bus protocol. Power supply 24 V (dc) - 3 W or 24 V (ac) - 3 W. Integrated web interface. Daily data logging: 10 years. Mounting on a 35 mm DIN rail (EN 60715). 2 Ethernet ports. Reports in .XLS or .CSV format. Maximum number of heat meters connected 50. Ambient temperature range 0–50°C.

CERTIFICATION OF EVALUATION PROCEDURE FOR CONFORMITY TO DIRECTIVE 2014/32/EU (MID directive)

CONTECA 7504 series

With reference to CONTECA 7504 series heat meters, please note that the procedure for conformity to the requirements of directive 2014/32/EU, better known as the MID (Measuring Instruments Directive), has been completed.

FC This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: no changes or modifications allowed on the equipment not expressly approved by the party responsible for compliance. It could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a
Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a
residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

IC This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

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