



DATA EASY

Datalogger for CONTECA heat meters 7504-7507-7554-7557 series

Quick guide

CALEFFI S.P.A.



TECHNICAL SPECIFICATIONS

DATA EASY is a hardware device made in compliance with industrial standards without moving parts and designed for

ELECTRIC SPECIFICATIONS

| | |
|---------------------------|---|
| Electric supply | 24Vdc +/- 10%, 24Vac (min 20Vac, max 40Vac), alternatively PoE (IEEE 802.3) |
| Installation category | Class II |
| Maximum power consumption | 7.5W |
| Ethernet | N°2 (1 MAC): ETH1: Ethernet 1(PoE), ETH2: Ethernet 2 |
| Communication standard | RS485 |
| Communication protocol | M-bus |

MECHANICAL SPECIFICATIONS

| | |
|-------------------|---|
| Temperature range | Operation: -10°C to +55°C / Warehouse: -25°C to +65°C |
| Dimensions | 90x71x62 mm (HxWxD) – DIN |
| Mounting | 35mm DIN rail (EN60715) |
| Protection class | IP20 (EN60529) |

WIRED M-BUS INTERFACE

| | |
|---|--|
| Baud rate | 9600bps |
| Number of meters supported | max 250 |
| Readout interval | 15 min / 60 min* / 6 hours / 12 hours / 1 day (*factory setting) |
| Acknowledge collisions on M-Bus network | Yes |
| Devices search / acquisition | Via Primary and/or Secondary address |
| Devices supported | *7554 - *7557 - *75525 - 7504 -7507 Series Conteca Meter *With year of production from 2015 |
| Supported configuration | For two-pipe systems |

DATALOGGING

| | |
|-----------------------------|---|
| Data retention | 1 year for intra-day data arriving from wired meters |
| Reports | XLS or CSV format |
| Transmission method | SMTP, FTP (Client), Webserver (Report creation and download) |
| Reports generation planning | Daily / Monthly / Two-monthly / Three-monthly / Four-monthly / Six-monthly / Annual |

USER INTERFACE

| | |
|---------|---|
| Display | Graphic, backlit, 16-bit grayscale, multilingual |
| HTTP | Multilingual webserver for consultation of data and configuration |

LOGIC / ALARMS / PLANNING

| | |
|--|--|
| Alarms notification from M-Bus network | Meter faults/alarms, communication anomalies, thresholds surpassed |
| Scheduled actions | Send readouts report |

DIN rail mounting in an electrical cabinet. The salient technical specifications of the device are shown below:

INSTALLATION

To install the device we recommend complying with the following instructions to ensure optimal commissioning of the system.

Installation must be carried out by specialised personnel authorised to install electrically live equipment.

Mechanical installation

The device is designed exclusively for DIN rail mounting; no other forms of installation are permitted.

DIN rail mounting consists of the following steps:

- Mount the DIN rail to the bottom of the electrical cabinet or in the position planned for installation
- Remove all the device terminals before attaching the device to the DIN rail
- Place the recess in the base of the device on the top of the rail, keeping the device inclined by 45° with respect to the rail. Rotate the device until it engages with the rail.

Electrical installation

Read carefully

To avoid high levels of mechanical stress on the terminals that may damage the device, make all the necessary wiring with the terminals disconnected from the device. Proceed as follows:

- Extract the terminals from the device by pulling them outwards
- Clamp the wires to the extracted terminals, observing the correct polarity
- Refit the terminal with the wires, observing the correct position of the terminal

Before commissioning the device check the following points:

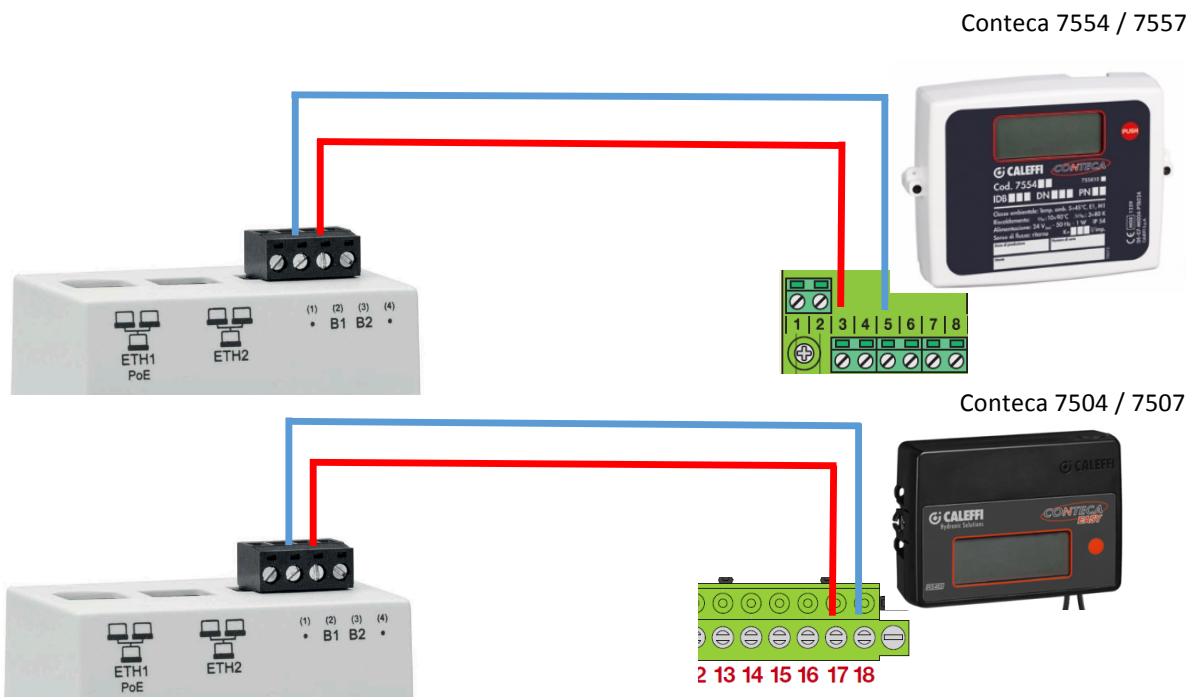
- Make sure the electrical cabinet in which the device is installed is de-energized
- Check for the presence of the general protection devices for the electric supplies (fuses, circuit breakers, RCDs)
- Make sure the electric supply voltage is in compliance with the device operating limits and that the power supply unit power rating is sufficient to assure operation of all the devices connected to it, checking the maximum power consumption of each device (24Vdc +/- 10%, 24Vac (min 20Vac, max 40Vac))
- If using a PoE supply (Power Over Ethernet) make sure the network cable is connected to ETH1 and that the PoE switch is compatible with the device



24Vdc +/- 10%, 24Vac (min 20Vac, max 40Vac)

RS485 network connection

- Connect the heat meter bus network to terminals B1(2) and B2(3), with reference to the manufacturer's guide

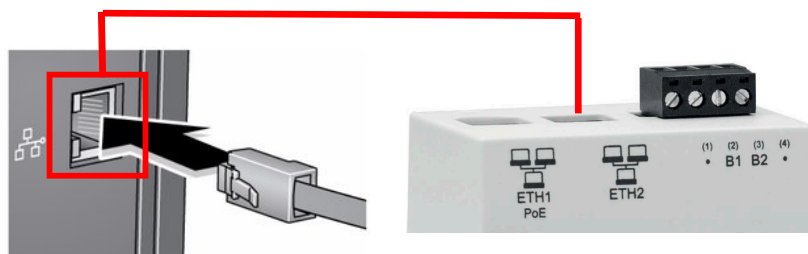


Connecting to a LAN/ADSL network or GPRS-UMTS modem/router

To allow the device to be interrogated from a remote location with transmission of consumption reports and notification e-mails, the device must be able to connect to the Internet via a LAN/ADSL connection or using a modem/router

Connection to a LAN/ADSL network

Using a T568A or T568B Ethernet cable (straight through or crossover) connect DATA EASY port ETH1 or ETH2, without distinction, to a LAN socket.



- Always consult a company or home network administrator to obtain information on the LAN network class and associated data for correct configuration (port 80 is used to consult the web server)

Connection to a GPRS-UMTS modem/router

- Use a network cable to connect router port LAN1 to DATA EASY port ETH1 or ETH2



- Secure the two antennas, GSM MAIN and AUX to guarantee a sufficiently strong transmission signal
Keep the antennas at least 1.5 m apart



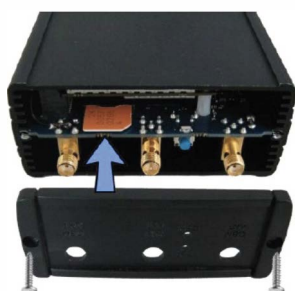
In relation to the SIM card to use (the router is factory configured for use of a **Vodafone** SIM card):

- Check that the SIM card is of the data type and bidirectional Machine-To-Machine (M2M), meaning it allows access to port 80 for consultation of the web server
- The SIM card must be enabled for GPRS/UMTS traffic

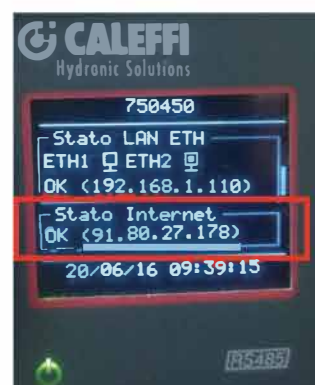
If the operator is not in possession of a Vodafone data SIM card the router settings must be changed (see extended manual)

In this case the operations to be carried out by the user are as follows:

- Remove the front panel with SIM card insertion symbol
- Make sure the SIM card PIN number is disabled
- Insert the data SIM card in the correct direction



Close the front panel



- Power on the router
- Wait for the router to connect to the mobile network
- Check the **INFO** section on the display to ensure the Internet connection is OK (the procedure could take several minutes)

COMMISSIONING

When the installation procedure is completed, after having checked that all connections have been made correctly, to make DATA EASY operational commission the plant by performing the steps described below:

- Fill in the building details form (see page 11).

If meters are found with the same primary address (IDB), proceed with the primary address setup operations (see page 10)

The presence in the system of even one incorrectly connected module or of modules with duplicated primary address, will make it impossible to transfer data.

- Check the correct connection of Conteca heat meters and additional services by referring to the technical datasheets attached to the meter.
- Check that the voltage on terminals (15) and (16) complies with the electrical specifications (24Vdc +/- 10%, 24Vac (min 20Vac, max 40Vac) or, alternatively, PoE (IEEE 802.3)
- Power on DATA EASY
- Set the system Date by selecting the [SETTINGS > General > System date](#) page in the main menu or by accessing the web server (see DATA EASY WEB SERVER manual)
- Start the meters search by clicking [OK](#) in correspondence with the [SEARCH icon](#) or by accessing the web server. (see DATA EASY WEB SERVER manual)
- When the search is completed a list of recognised meters will be displayed with an indication of the communication status ([OK](#) or [ERROR](#))

If some or all of the devices are not detected



- **Re-check correct connection of the bus between DATA EASY and meters and the communication settings (BAUD RATE and address).**

Click [OK](#) to save the recognised meters to the device

On completion of the phases described above we recommend accessing the DATA EASY web server to complete the configuration and set up the necessary parameters for correct operation of the system (see DATA EASY WEB SERVER manual)

LANGUAGE SELECTION

The language choice can be made both via the keypad provided and via the WEB interface.

In the first case, once the security password has been entered, to change the language simply press  or  in the main menus: [INFO](#), [METERS LIST](#), [SEARCH](#) and [SETTINGS](#). The available languages are English and Italian.

DESCRIPTION

The DATA EASY device is shown below with all the main parts identified:



- A. Display
- B. Navigation keypad
- C. Operating status LED
- D. Ethernet port 1 (PoE)
- E. Ethernet port 2
- F. RS485 Bus connector
- G. Electric supply connector
- H. Relay output connector 1 (Normally open contact)
- I. Relay output connector 2 (Normally open contact)
- L. Digital inputs connector
- M. Auxiliary voltage output connector

Display

To access the main menu press any button to open the LCD password input page. Enter the current password (default: 000000) using the **UP** and **DOWN** buttons to select the number from 0 to 9 in the position shown by the blinking cursor, press **OK** to confirm the current position and switch to the next one until all six numbers have been entered.

Main menu

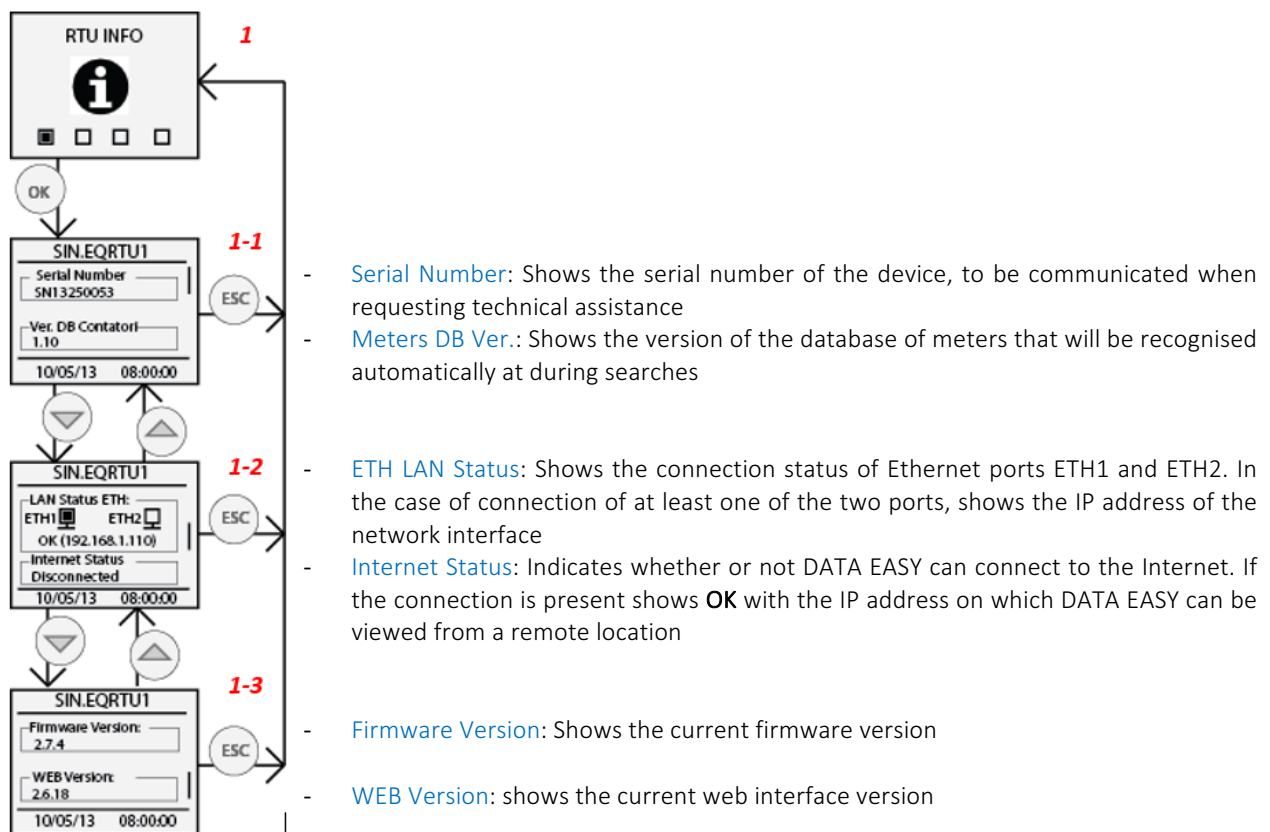
If the correct password has been entered, the main menu (composed of 4 pages) will be displayed:

- **INFO**: summary of all the main information
- **METERS**: list displayed of all meters entered with the possibility of readout access
- **SEARCH**: starts the meters search in accordance with the latest saved settings
- **SETTINGS**: provides access to the settings menu in which the essential parameters can be edited

Pressing **OK** in correspondence with one of the pages opens the submenus, which allow the display and setting of the network parameters as shown in the figure:

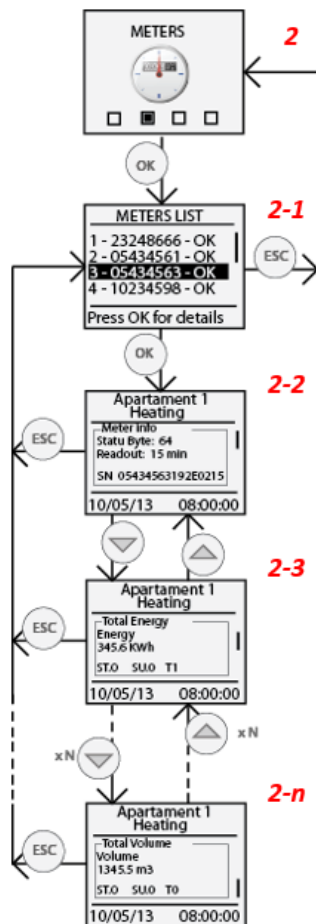
Info

Pressing **OK** in correspondence with the main **INFO** menu opens a submenu that allows display of the network parameters, as shown in the figure:



Meters list

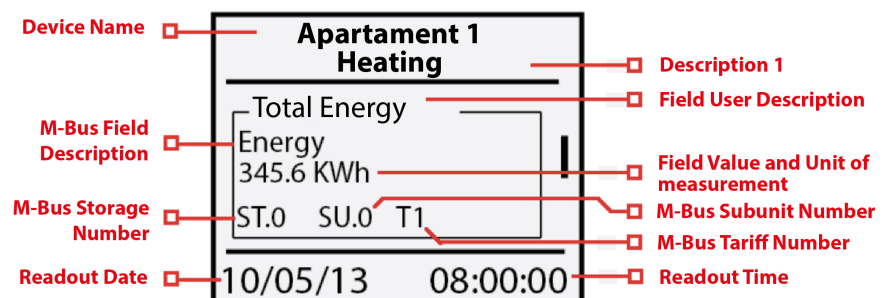
Press the **OK** button on the **METERS LIST** menu to access a submenu in which you can view a list of all meters with details of the latest readout for each meter.



Shows a list of all the previously saved meters identified with the first 8 digits of the meter serial number (e.g. 05434563). Also the communication status is shown for each meter, indicating **OK** if the last readout was performed correctly or **ERROR** if a communication error occurred at the time of the last readout.

Press **OK** in correspondence with a meter in the list in order to consult the values related to the latest readout performed (if present). The first frame displayed is a summary of the main meter information, such as the meter readout interval and the complete serial number.

Press the **UP** and **DOWN** navigation buttons to consult the value of the meter fields related to the readout date and time. The meter fields shown on the display are those in which the option “**Display Value**” is enabled in the “**Meters Data Setup**” section in the “**Devices**” page of the “**Settings**” menu
The information given for each displayed field is as follows:



- **Device Name:** Shows the reference of the meter specified in Device Name of the Devices web page in the Settings menu.
- **Description 1:** Shows the value entered in Description 1 of the Devices web page in the “Settings” menu.
- **Field User Description:** Shows the detailed description entered in the meters database, which describes the displayed field in detail
- **M-Bus Field Description:** Shows a description of the field as defined in the M-Bus standard.
- **Field Value and Unit of measurement:** Shows the value and unit of measurement of the displayed field with reference to the readout being viewed.
- **M-Bus Storage Number:** Shows the Storage Number related to the displayed field. Refer to the meter manual for detailed information.
- **M-Bus Subunit Number:** Shows the Subunit Number related to the displayed field. Refer to the meter manual for detailed information.
- **M-Bus Tariff Number:** Shows the Tariff Number related to the displayed field. Refer to the meter manual for detailed information.
- **Readout Date:** Shows the date to which the displayed readout refers
- **Readout Time:** Shows the time to which the displayed readout refers

Search

Press **OK** in correspondence with the **SEARCH** icon to start scanning the bus to acquire the connected meters.

The default search settings are:

- Speed: 9600bps
- Search type: Primary ID + Secondary ID
- Primary ID scanning range: 1-250

Once the meters search is complete, press **OK** to save all the meters returned by the search, otherwise press **ESC** to quit without saving any of the meters returned by the search.

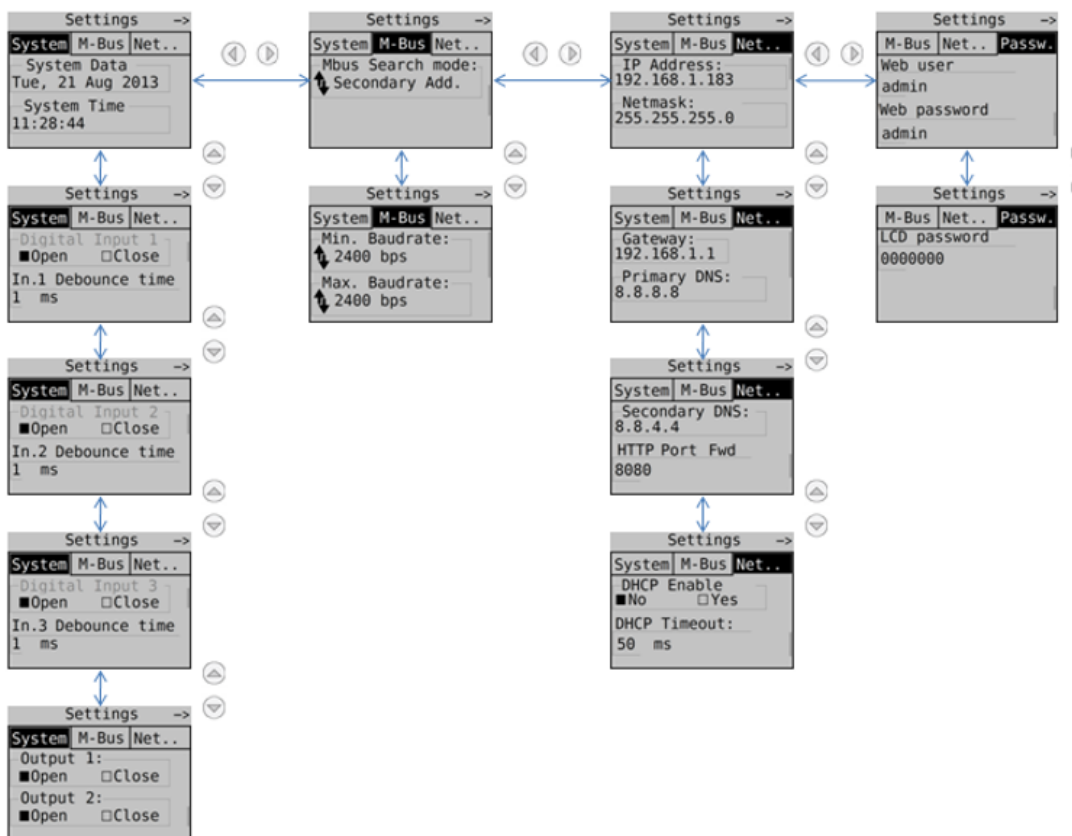
Settings

Press **OK** in correspondence with the **SETTINGS** icon to access the submenu, which is divided into four sub-sections.

General Password

M-Bus

Network



For each field reached by means of the navigation buttons press **OK** to select the field to be edited and then press **OK** again to edit the values, which are to be entered using the navigation arrows.

| IDB | Apartment reference | Floor | Unit number | Serial number | Occupant |
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| IDB | Apartment reference | Floor | Unit number | Serial number | Occupant |

