V3IS01181-010

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Mod. Energy-230 Wi-Fi

Manuals download PDF

1 User Manual

SINGLE-PHASE ACTIVE ENERGY METER WITH WI-FI MODULE

⚠ Read all the instructions carefully

Energy meter from DIN bar designed to measure the consumption of active energy into the grid in single-phase systems. The current insertion is direct for values up to 40A.
The integrated Wi-Fi module is used to manage the device remotely using your smartphone or tablet. You need to connect the device to your home router and install the dedicated App on your smartphone or tablet, available free of charge for Android and iOS devices.
On the application it is possible to view the measurements of total energy, partial energy and instantaneous power. It has a pulse output for remote energy counting.
Energy-230 Wi-Fi is an electronic device intended to operate in environments with overvoltage category III and pollution degree 2 according to the EN 61010-1 standard.

Code	Model	Description
VE794600	**Energy-230 Wi-Fi**	Single-phase active energy meter with Wi-Fi interface

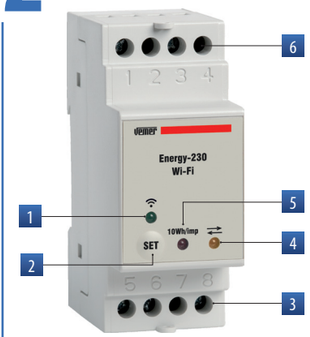
SAFETY WARNINGS

During product installation and operation it is necessary to observe the following instructions:
1) The product must be installed by a qualified person, strictly in observance of the connection diagrams shown in this manual.
2) The product must be installed and activated in compliance with current electric systems standards
3) After installation inaccessibility to the terminals without using dedicated tools must be guaranteed
4) Do not use the product for anything other than the indicated purpose.
5) The product must be installed in an adequately protected closed electrical panel.
6) In the supply network there must be a bipolar disconnection.
7) In the electrical system upstream of the product must be installed a protection device against the overcurrents.
8) Before accessing the connection terminals, make sure that the leads are not live.
9) Do not connect or feed the product if any part of it is damaged.
10) The product can be used in environments with Measurement Category III and Pollution degree 2, according to the Standard EN 61010-1.

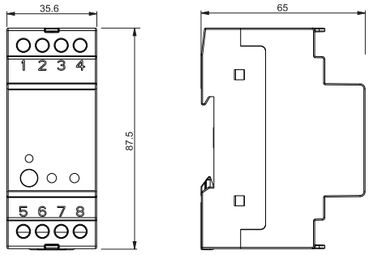
TECHNICAL SPECIFICATIONS

- Power supply: 230 Vac (-15% ÷ 10%) 50/60 Hz
- Absorption: 4.7 VA (1.5 W)
- Starting current: Ist = 20 mA
- Minimum current: Imin = 0.25 A
- Reference current: Iref = 5 A
- Maximum current: Imax = 40 A
- Insertion type: direct
- Pulse output for remote reading of the collected energy count:
  - 200 imp/kWh
  - Pulse duration 100 ms ±15%
  - Pulse voltage 9 ÷ 24 VDC ± 10%
  - Switchable output current 20 mA Max
- Cable terminal block with a maximum section of 6 mm²
- Communication interface: Wi-Fi and Bluetooth BLE 5.0
- Operating frequency band:
  - Wi-Fi: 2.4 GHz IEEE 802.11 b/g/n
  - Bluetooth: 2400-2483.5 MHz
- Maximum transmitted radiofrequency power:
  - Wi-Fi: 18.3 dBm
  - Bluetooth: 4 dBm
- LED: 3 operation status signal LEDs
- Precision: Class B
- Keypad: 1 key for configuration
- Operating temperature: -10°C ÷ 45°C
- Operating humidity: 20 ÷ 90% non-condensing
- Storage temperature: -25°C ÷ 70°C
- Insulation: reinforced between accessible parts (front) and all the other clamps
- Container: 2 DIN modules
- Degree of protection: IP20/IP51 on the front

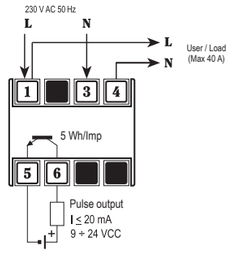
2 INSTRUMENT DESCRIPTION and DIMENSIONS



1 Green LED: Wi-Fi network connection status
2 SET key: configuration activation/ deactivation
3 Clamps for pulse output
4 Yellow LED: Wi-Fi configuration/ pairing or power output
5 Red LED: absorbed energy signal (flashing with a frequency of 10Wh)
6 Clamps for direct insertion of measuring conductors



3 CONNECTION DIAGRAM



4 ⚠ WARNINGS FOR THE CORRECT POSITIONING AND CONNECTION OF THE DEVICE TO A WI-FI NETWORK

WARNINGS

Use of the energy meter via the Energy Wi-Fi App must be performed in the presence of a 2.4 GHz Wi-Fi network connected to the Internet.

The smartphone used for configuration must be connected to the same Wi-Fi network.

Make sure you have a Vemer account.
Also ensure that the distance from the router is such as to ensure stable communication.

03-2024

REFERENCE STANDARDS

EU CONFORMITY DECLARATION
Vemer declares that the device complies with the Communitary Directive 2014/53/EU (RED) with reference to the following standards:
• EN 61010-1 • EN 50470-1 • EN 50470-3 • EN 300 328 • EN 301 489-1
• EN 301 489-17
The full text of the EU Conformity Declaration is available at www.vemer.it address.

information to users pursuant to art. 14 of the directive 2012/19 / EU of the european parliament and of the council of 4 july 2012 on waste electrical and electronic equipment (WEEE)

If the crossed-out bin symbol appears on the equipment or packaging, this means the product must not be included with other general waste at the end of its working life.

The user must take the worn product to a sorted waste center, or return it to the retailer when purchasing a new one.

Products for disposal can be consigned free of charge (without any new purchase obligation) to retailers with a sales area of at least 400 m², if they measure less than 25 cm.

An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials.

5 PRELIMINARY OPERATIONS

For the correct operation and use of the device through the remote control via the App, carefully follow the points below:

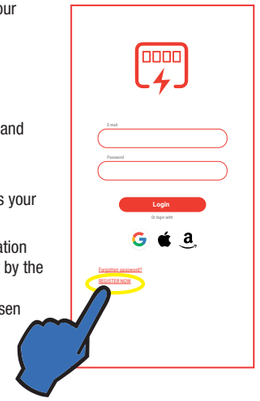
- Install and connect the device according to the connection diagrams in this manual.
- Check that:
  1. the Router and/or the Wi-Fi Access Point are correctly switched on and at a distance such as to guarantee a stable communication signal with the device
  2. the Router has full access to the Internet and there are no browsing restrictions (firewall settings, parental control,...)
  3. The 2.4 GHz frequency band is also enabled in the Router settings (if the Router only supports the 5 GHz frequency range, it will not be possible to operate the device; for further information see the user instructions of your Router)
  4. the smartphone used for configuration is connected to the same Wi-Fi network to which the device is connected
  5. position detection (GPS) of your smartphone is active and the consent to the Energy Wi-Fi App to be able to identify the position (GPS) of the device is enabled (adapt the settings on the smartphone such as to be able to perform this tracking; for further information see the instructions of your smartphone)

- Create a Vemer account:

1. Install and launch the **Energy Wi-Fi** App on your smartphone (or tablet)
2. Choose **"REGISTER NOW"** and fill in the "e-mail" and "password" fields

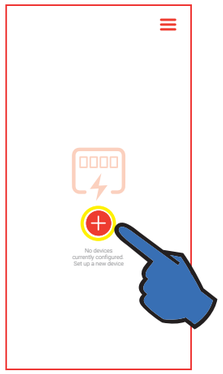
Note: for security reasons, it is advisable to choose a password different from the one used to access your e-mail inbox

3. Check your e-mail address: confirm account activation by clicking on the link contained in the e-mail sent by the system
4. Log in by entering the e-mails and passwords chosen during registration



6 CONFIGURATION REMOTE CONTROL

To configure the device using a smartphone proceed as follows:



1. Verify that the phone you are using is connected to the home Wi-Fi network where the device will be connected.
2. Launch the **App** and press the **"+" button** on the Home page.
3. On the ***Energy Wi-Fi,*** hold down the **SET key** until the **yellow LED (⇄)** starts to flash quickly to activate configuration mode. Now wait for the **yellow LED (⇄)** to start flashing slowly before proceeding.
4. On the ***App:***
   a. follow the instructions in the wizard and press **"Next"**.
   b. find and select in the list the device ***"EW_..."*** to connect to the Energy Wi-Fi (the **yellow LED (⇄)** will come on fixed to indicate the connection between the App and the device).
   c. now enter the full name (SSID) and password of the Wi-Fi network to which the device is connected, being sure to faithfully type in all the component characters (upper-case, lower-case, spaces, digits).
   Press ***Continue*** to proceed.
5. On the ***App*** enter a name that helps identify the ***Energy Wi-Fi*** and confirm by pressing the **Save**
6. On the ***Energy Wi-Fi*** , check that the **green LED (ᯤ)** starts flashing and after a short while becomes fixed to indicate correct connection with the home network.

The configuration procedure has ended. At this point:

the ***App*** displays the list of devices associated with your account which must also include the newly associated device

on the***Energy Wi-Fi*** the **green LED (ᯤ)** will be on fixed

7 LED SIGNALS

The 3 LEDs on the device, based on the types of ignition described in the table, help to understand the operating status of the device:

LED	Ignition type	Operating status
GREEN (ᯤ)	Fixed on	Normal operation
	Slow flashing	Attempting to connect to the Wi-Fi network (during the remote control configuration phase)
	Single flashing	Incorrect Wi-Fi password entered
	Double flashing	No Wi-Fi connection or incorrect Wi-Fi network name entered
	Triple flashing	Generic Wi-Fi connection error
	Quadruple flashing	No Internet connection
	Short shutdown	Time absence
YELLOW (⇄)	Fixed on	Power produced (during normal operation of the device)
	Fixed on	Connection with smartphone successful (during the remote control configuration phase)
	Fast flashing	Preparation of BLE mode for remote control configuration
	Slow flashing	BLE mode active for remote control configuration
RED (10Wh/imp)	Flashing	Energy absorbed (each flash indicates an increase in the energy meter of 10 Wh)
GREEN (ᯤ) + YELLOW (⇄)	Simultaneous short ignition	No network configuration
	Simultaneous fixed access	Starting and/or resetting of the device
	Simultaneous fast flashing	Keypad lock enabled (displayed when the key is pressed)
	Alternate	Device identification (displayed with application command)
GREEN (ᯤ) + YELLOW (⇄) + RED (10Wh/imp)	Simultaneous slow flashing	Internal memory error

8 KEYBOARD OPERATION

The key on the device, depending on the type of pressure exerted, is used to perform the operations described in the table:

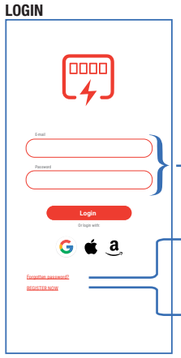
KEY	Pressure type	Function
SET	Prolonged pressure (> 3 sec)	Enabling of BLE mode for remote control configuration
	Short pressure	Forcing of communication with the server
	Short pressure (during the remote control configuration phase)	BLE mode output for remote control configuration
	Prolonged pressure (> 5 sec) (during the remote control configuration phase)	Reset settings: reset of all settings to factory values and deletion of account association

9 APP DESCRIPTION

Thanks to the ***Energy Wi-Fi App*** you can manage your device remotely, easily and intuitively.

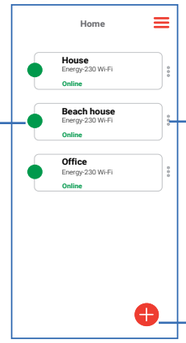
⚠ **Important**: The following figures display the App at the time of publication of these user instructions. Newer versions of the App may deviate in terms of graphics and content.

LOGIN



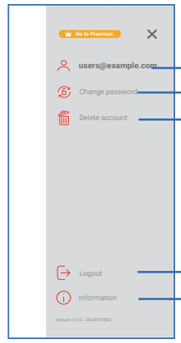
- Enter e-mails and passwords chosen during registration (see BOX 5)
- Recovers login credentials if forgotten
- Used to create a new Vemer account (see BOX 5)

HOME



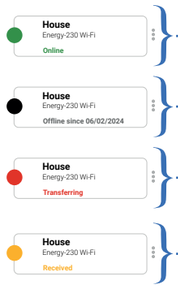
- Identifies the status of the device (see icon legend table)
- Used to rename or delete the device (see BOX 11)
- Used to start the configuration procedure of a new device (see BOX 6)

APPLICATION MENU



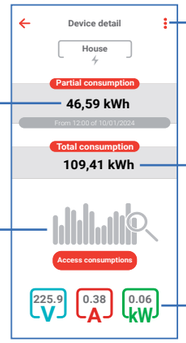
- Vemer account used to access the application
- Used to change the account password with which you logged into the application
- Used to delete the Vemer account created with the registration from the Cloud server (as required by GDPR)
- Used to log out of the application to be able to access it with another user (see BOX 5)
- Used to view contacts and to access the Privacy Policy

ICON LEGEND



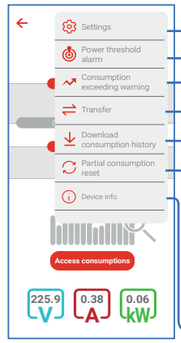
- Indicates an OnLine device associated with your account
- Indicates an OffLine device associated with your account
- Indicates a device transferred to another user
- Indicates a device received from another user

DEVICE DETAIL



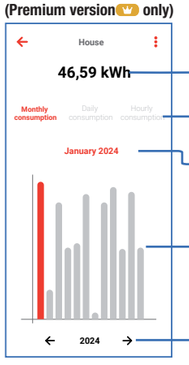
- They allow access to the advanced configuration of the device
- Indicates the partial energy consumption and when the last reset occurred
- Indicates the consumption of the total energy measured by the device
- Allows access to graphs relating to energy consumption
- They indicate the three instantaneous quantities measured: Voltage, Current, Power

CONFIGURATION MENU



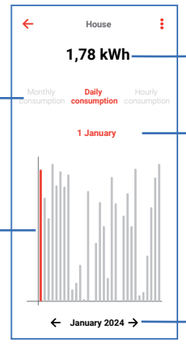
- Allows access to the device settings menu
- Allows access to the Power Threshold Alarm menu (Premium version only)
- Allows access to the Consumption Exceeding Warning menu (Premium version only)
- Used to transfer control of the device to another user (Premium version only)
- Used to download the consumption history saved on the Cloud (Premium version only)
- Used to reset the partial energy consumption meter
- Used to view device information:
  1) Identifier
  2) Serial Number
  3) Modem version
  4) MAC address
  5) Wi-Fi signal strength

MONTHLY CONSUMPTION GRAPH (Premium version only)



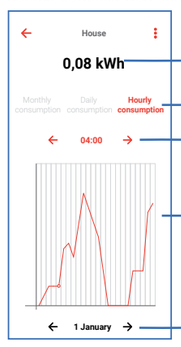
- Indicates the consumption recorded in the selected month
- Used to select the consumption period to be displayed
- Indicates the selected month
- Indicates the graph with the consumption trend of the selected year, month by month (the system is used to store in the Cloud and to view the consumption of the last 18 months)
- Used to select the consumption year to be displayed

DAILY CONSUMPTION GRAPH



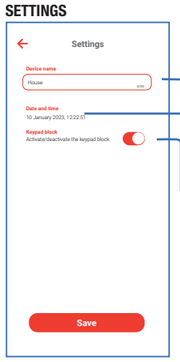
- Indicates the consumption recorded on the selected day
- Used to select the consumption period to be displayed
- Indicates the selected day
- Indicates the graph with the consumption trend of the selected month, day by day
- Used to select the consumption month to be displayed (Premium version only)

HOURLY CONSUMPTION GRAPH



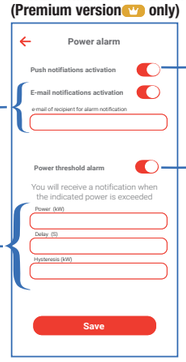
- Indicates the consumption recorded in the selected time
- Used to select the consumption period to be displayed
- Indicates the selected time
- Indicates the graph with the consumption trend of the selected day, hour by hour
- Used to select the consumption day to be displayed

SETTINGS



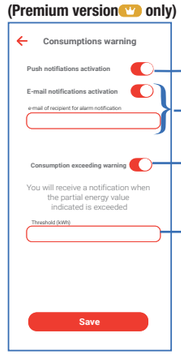
- Used to rename the product
- Used to check the date and time synchronised on the device
- Used to activate/deactivate operation of the device keypad

POWER THRESHOLD ALARM (Premium version only)



- Used to activate the receipt of push notifications on your smartphone
- Used to activate the receipt of e-mail notifications and to enter the e-mail address
- Used to activate or deactivate the alarm when the power threshold is exceeded
- They are used to enter the values for which an alarm is generated:
  1) Power (kW)
  2) Delay (seconds)
  3) Hysteresis (kW)

CONSUMPTION EXCEEDING WARNING (Premium version only)



- Used to activate the receipt of push notifications on your smartphone
- Used to activate the receipt of e-mail notifications and to enter the e-mail address
- Used to activate or deactivate the consumption exceeding alarm
- Used to enter the value for generating of the warning

10 HOW TO DO IN CASE OF REPLACEMENT OF THE ROUTER

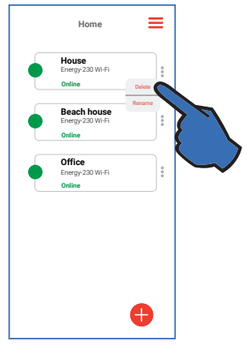
In case of replacement of the Router/Access Point of the home network or if it is necessary to change the network settings entered in the device (SSID network name or password) configure the device described in BOX 6.

⚠ **Important:** Do not remove/delete the device from the application of the user with whom the device is associated before proceeding with the configuration procedure.

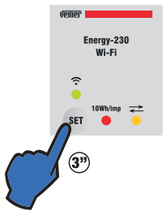
11 HOW TO DELETE THE DEVICE LINKING FROM AN ACCOUNT (DE-LINK) AND TO RESET THE SETTINGS

If you need to unpair/delete a device from your user and/or to reset the network settings of the device, proceed in one of the following two ways to do so alternatively:

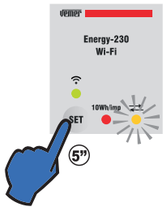
a. on the **App** go to the "HOME" page, identify the device to unpair/delete, select the **Delete** option in the device menu and confirm.



b. on the ***Energy Wi-Fi***, press and hold the **SET key** until the **yellow LED (⇄)** starts flashing quickly in order to activate the configuration mode.



Now wait for the **yellow LED (⇄)** to start flashing slowly.
Now press and hold the **SET key** (at least 5 seconds) until the **green (wifi) and yellow (⇄)** LEDs come on simultaneously.



At the end of one of the two operations described above, the **green(wifi) and yellow (⇄)** LEDs on the device will briefly light up simultaneously to confirm that the operation has taken place.

⚠ **Important:** Perform a reset to clear the network settings and reset the partial meter, returning the device to the factory values.

Reconfigure the device (see BOX 6) to restore normal operation.