ELCOM ELEXIM

MeVOLT

Medium voltage sensor revenue meter

Operation Manual

mevolt.net

Table of Contents

Dectription E²MeVOLT 4
Block diagram of terminal block wiring 5
Features 5
Connecting the sensors to the meter 6
Power supply 6
Energy pulse LED indicator 7
Mechanical Installation 8
E2MeVOLT device: 8
Display operations 9
Navigation button 9
Navigating in Data Display Mode 10
Status Indicators 10
Display Features 12
Measurement Units 12
Data Displays 12
TEST Mode Data Display 13
Billing Period Data Displays 13
Present Billing Period Data 14
Previous Billing Period Data 16
Engineering Maximum Demand Data Display 18
Engineering Data Display 19
Setup Data Display 20
Device Info Display 21
Device Diagnostics Display 22
Programming Mode 23
Navigation Buttons 23
Entering Numeric Values 23
Password Security 23
Setup Menus and Access Rights 24
Viewing and Changing Setup Options 24

LIMITED WARRANTY

The manufacturer offers the customer a 24-month functional warranty on the instrument for faulty workmanship or parts from date of dispatch from the distributor. In all cases, this warranty is valid for 36 months from the date of production. This warranty is on a return to factory basis.

The manufacturer does not accept liability for any damage caused by instrument malfunction. The manufacturer accepts no responsibility for the suitability of the instrument to the application for which it was purchased.
Failure to install, set up or operate the instrument according to the instructions herein will void the warranty.

Only a duly authorized representative of the manufacturer may open your instrument. The unit should only be opened in a fully anti-static environment. Failure to do so may damage the electronic components and will void the warranty.

The greatest care has been taken to manufacture and calibrate your instrument. However, these instructions do not cover all possible contingencies that may arise during installation, operation or maintenance, and all details and variations of this equipment are not covered by these instructions.

For additional information regarding installation, operation or maintenance of this instrument, contact the manufacturer or your local representative or distributor.

WARNING

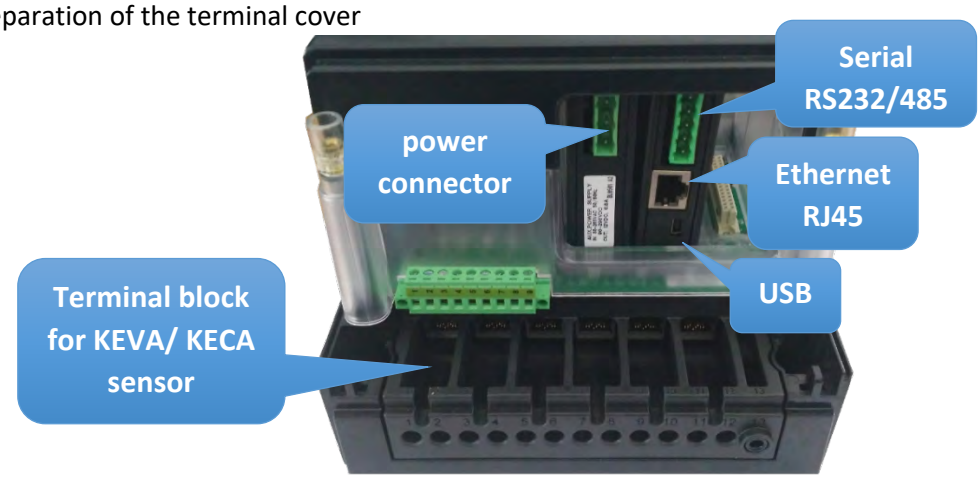
Read the instructions in this manual before performing installation, and take note of the following precautions:

- Ensure that all incoming AC power and other power sources are turned OFF before performing any work on the instrument. Failure to do so may result in serious or even fatal injury and/or equipment damage.
- Before connecting the instrument to the power source, check the labels on the back of the instrument to ensure that your instrument is equipped with the appropriate power supply voltage, input voltages and currents.
- Under no circumstances should the instrument be connected to a power source if it is damaged.
- To prevent potential fire or shock hazard, do not expose the instrument to rain or moisture.
- The secondary of an external current transformer must never be allowed to be open circuit when the primary is energized. An open circuit can cause high voltages, possibly resulting in equipment damage, fire and even serious or fatal injury. Ensure that the current transformer wiring is secured using an external strain relief to reduce mechanical strain on the screw terminals, if necessary.
- Only qualified personnel familiar with the instrument and its associated electrical equipment must perform setup procedures.
- Do not open the instrument under any circumstances when it is connected to a power source.
- Do not use the instrument for primary protection functions where failure of the device can cause fire, injury or death. The instrument can only be used for secondary protection if needed.
- Read this manual thoroughly before connecting the device to the current carrying circuits. During operation of the device, hazardous voltages are present on input terminals. Failure to observe precautions can result in serious or even fatal injury or damage to equipment.

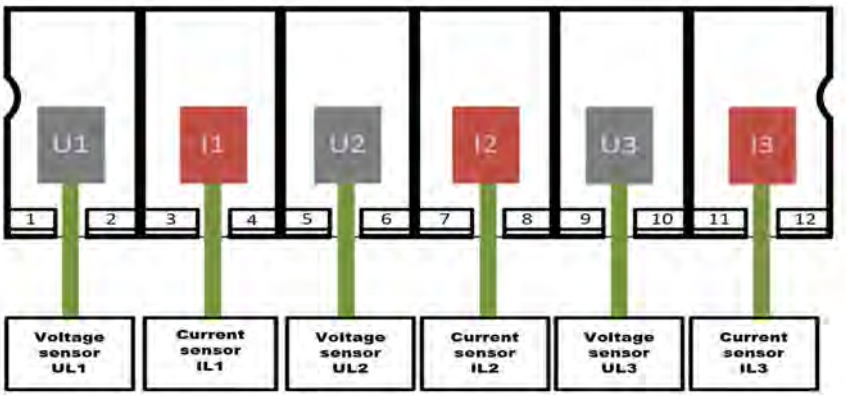
Dectription E²MeVOLT

The main advantage of E2MeVOLT is capability of measuring voltage & current using ABB KEVA/KECA medium voltage sensors. The E2MeVOLT series is a group of state-of-art multi-microprocessor-based digital instruments that incorporate the capabilities of a power quality analyzer, energy meter, fault and data recorder and programmable controller, oriented for substation, industrial and commercial areas. These instruments provide three-phase measurements of electrical quantities in power distribution systems, monitoring external events, operating external equipment via relay contacts, fast and long-term on-board recording of measured quantities, transient voltages, harmonic analysis and disturbance recording.

separation of the terminal cover



Block diagram of terminal block wiring



Features

The E2MeVOLT combines in a single enclosure:

- Precise Class 0.5S Active Energy and Power Demand Meter, Multiple Tariffs & Time-Of-Use (TOU, 16 Summary energy and demand registers for substation energy management, accumulation of energy pulses from external watt-meters, block and sliding demands), transformer and line losses, unique anti-tampering and self-test functions
- State of the art Power Quality Recorder (onboard PQ analyzer according to EN50160; programmable thresholds and hysteresis; ready-for-use reports; sags/swells, interruptions, frequency variations; flicker, temporary overvoltages, transient overvoltages, voltage unbalance, harmonic and interharmonics voltages)
- Digital Fault Recorder (onboard fault detector - programmable fault thresholds and hysteresis, , zero-sequence currents and volts, current and volt unbalance; under-voltage, neutral current; ready-for-use fault reports - fault currents magnitude and duration, coincident volts magnitude, fault waveforms and RMS trace)
- Event Recorder for logging internal diagnostics events, control events and I/O operations
- Four fast Waveform Recorders; selectable AC sampling rate of 32 - 1024 samples per cycle; 20 pre-fault cycles, 1-ms resolution for digital inputs; up to 3 min of continuous recording with an 8 M-byte onboard memory at a rate of 32 samples per cycle, expandable up to 16 M-byte at meter shop
- Sixteen fast Data Recorders (from ½ cycle RMS to 2-hour RMS envelopes; up to 20 pre-fault cycles; programmable data logs on a periodic basis and on any internal and external trigger)
- Programmable Controller (32 control setpoints, OR/AND logic, extensive triggers, programmable thresholds and delays, relay control, event-driven data recording)
- High-Class 3-phase Power meter (true RMS of volts and amps, powers, power factors)
- Demand Meter (amps, volts, harmonic demands)
- Harmonic Analyzer (to 128'th harmonic volts and amps, directional power harmonics and power factor, phasors, symmetrical components)
- 16 programmable timers from ½ cycle to 24 hours for periodic recording and triggering operations on a time basis
- Two slots for hot swap field installable option modules
- Graphic LCD display

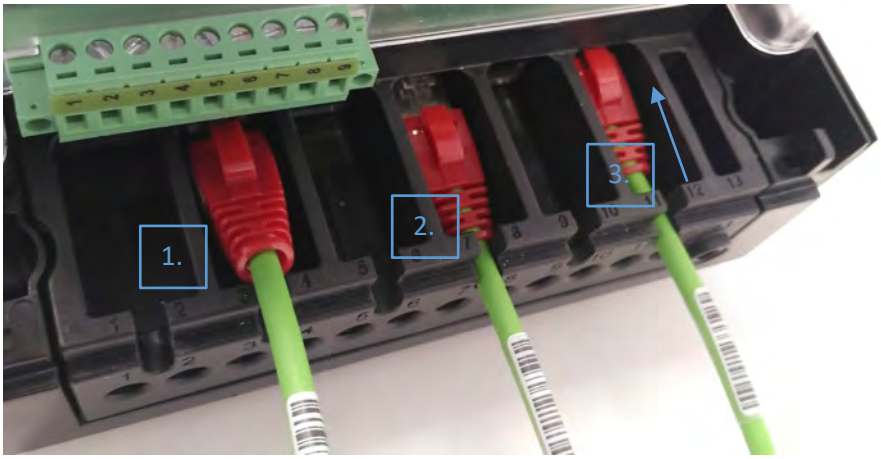
AC Measurement Inputs

- Three AC low voltage inputs for measurement of voltage using ABB KEVA medium voltage sensors (RJ45 connector)
- Three AC low voltage inputs for measurement of current using ABB KECA current sensors for medium voltage (RJ45 connector)

Connecting the sensors to the meter

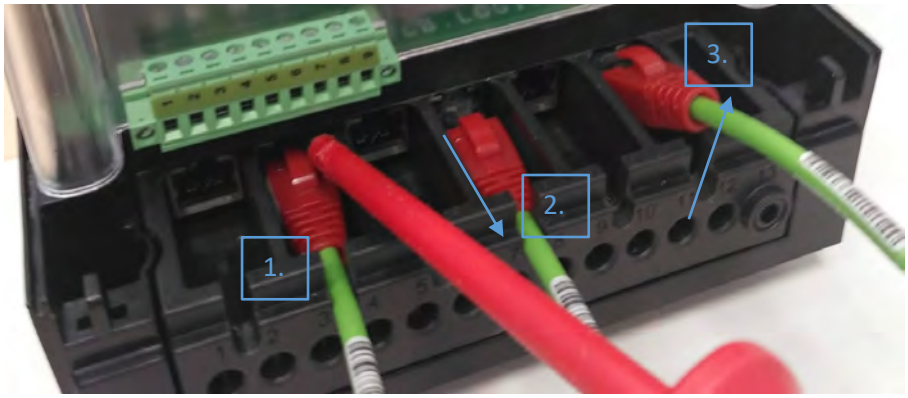
Connection procedure:

1. at an angle slide in the sensor connector into the RJ45 socket
2. push the connector down so that the end of the connector is flush with the edge of the terminal block
3. slide in the connector into the socket



Disconnection procedure:

1. unblocks connector lock (use a screwdriver to help)
2. pull the connector towards you
3. at an angle pull out



Power supply

Modul AC/DC	Modul DC/DC
 V IN: 88-265VAC; 50/60Hz 90-290VDC V OUT:12VDC; 0,8A	 V IN: 18-36V DC V OUT: 12DC; 0,8A

Detail of connected inputs:

Energy pulse LED indicator

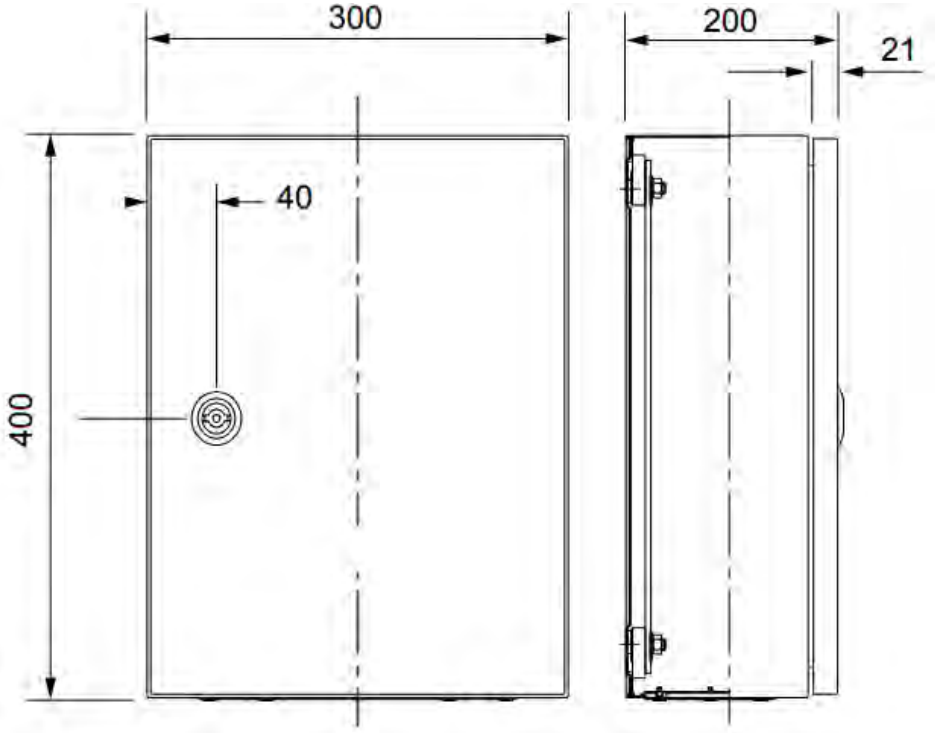
2841 imp/MWh
2841 imp/Mvarh

Default network settings

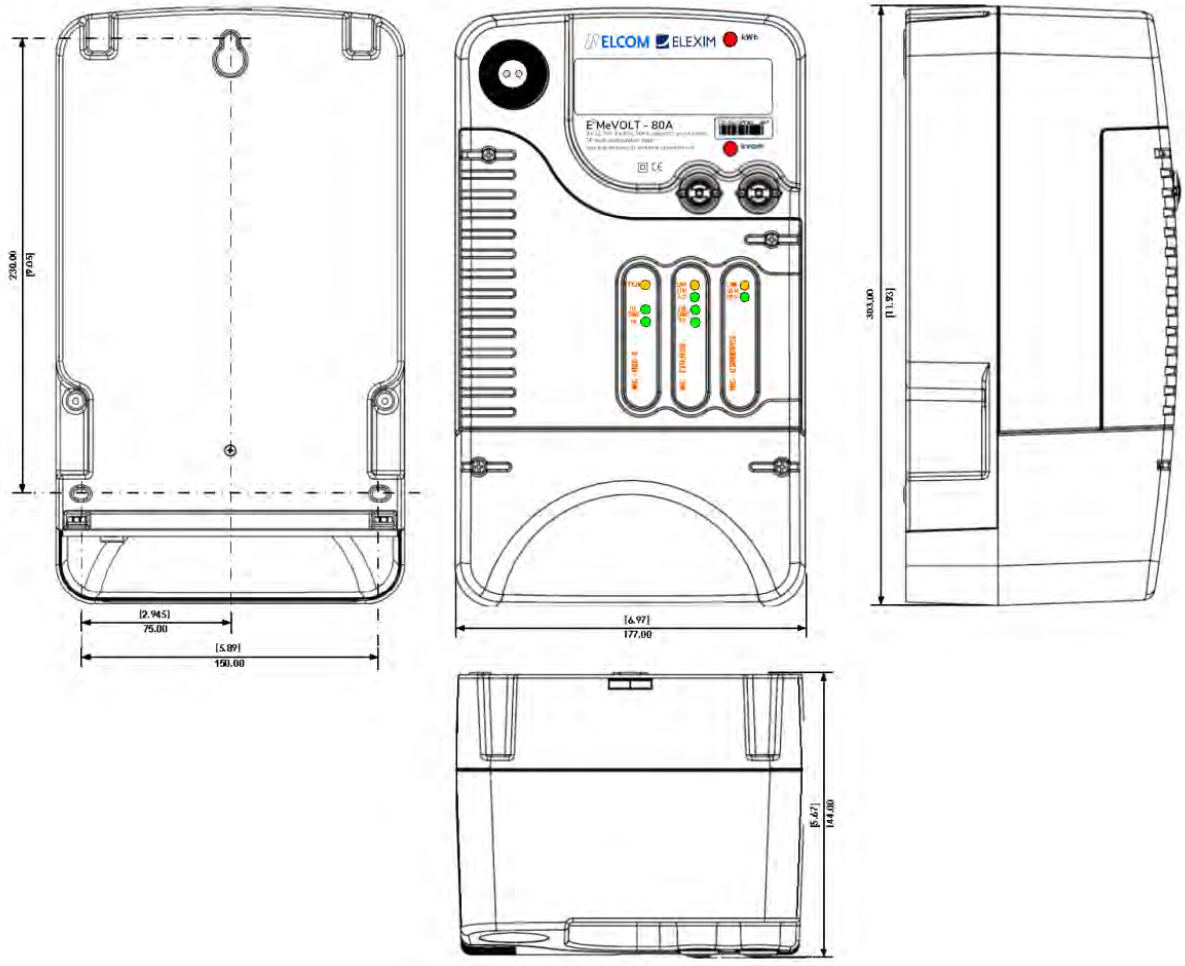
IP: 192.168.0.203
GW: 192.168.0.1
MASK: 255.255.255.0

Mechanical Installation

Enclosure:



E2MeVOLT device:



Using Front Display

Display operations

The E²MeVOLT has a high-contrast graphical LCD display with backlight for local data read outs, meter setup and servicing.

The display operates in two modes:

- Multi-page data display mode with Auto-Scroll feature allows you to scroll through display screens and pages to view various billing, instrumentation and status data.
- Programming mode allows you to enter menu-driven device setups for inspecting and changing factory set meter parameters, or resetting maximum demands, counters and device diagnostics messages.

The display is normally updated once per second except of the clock display where the update rate changes to twice per second.

Navigation button

The E²MeVOLT is provided with two sealable navigation buttons that do not have labels. See the picture above for button locations and their functionality.

You can perform three types of actions with each button:

- Short press, or “press and release”
- Long press, or “press and hold for 1 to 2 seconds”
- Extended press, or ”press and hold for 5 seconds or longer ”

The function of each button changes depending on what operating mode the display is in.

The **SCROLL** button operates once it’s briefly pressed. It has two functions:

- In data display mode, it scrolls through the display pages.
- In programming mode, it scrolls through the menu items and allows changing a selected digit when entering numbers.

The **SELECT/ENTER** button normally operates once it’s released. The button function changes depending on the time the button is pressed:

- In data display mode, when pressed briefly and released, it scrolls through the display views; a long press for more than 5 seconds switches to programming mode.
- In programming mode, when pressed briefly and released, it moves from one menu item to another; along press for one second selects a highlighted menu item allowing to enter a submenu or to store a changed item.

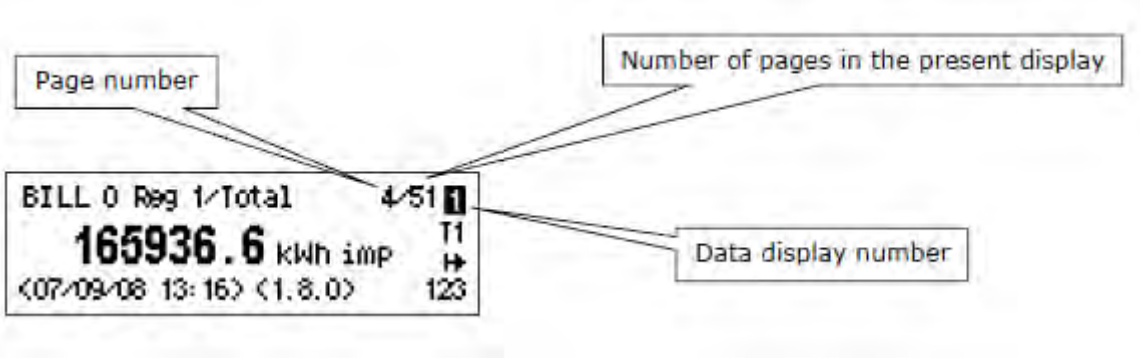
In data display mode, when the **SCROLL** and **SELECT/ENTER** buttons are briefly pressed together and then released, the current display returns to the start page; in some pages, an extended press for more than 5 seconds is used as a “shortcut” for immediate entering a specific programming menu.

Navigating in Data Display Mode

The following table gives a summary of the button operations in data display mode.

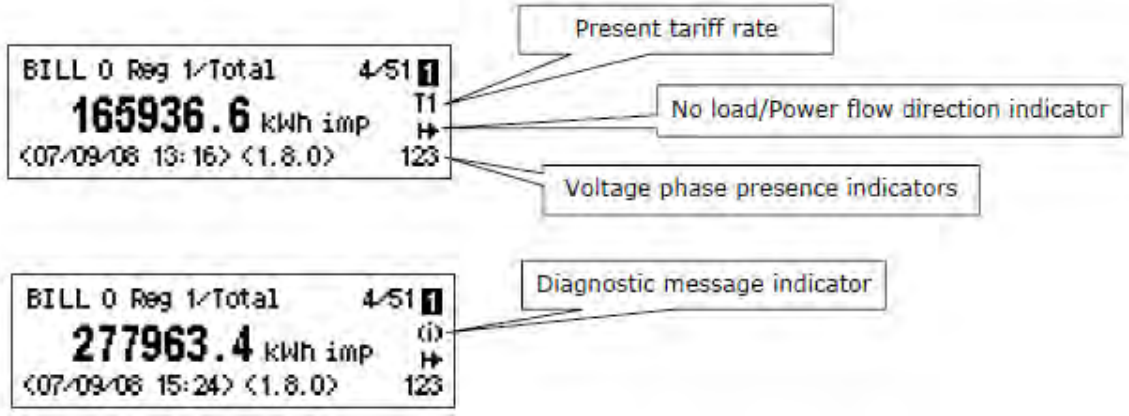
Button	**Press**	**operations**
SCROLL	Short press	Scroll through pages
SELECT/ENTER	Short press	Scroll through displays
SCROLL + SELECT/ENTER	Short press	Return to the start page withina present display
SCROLL + SELECT/ENTER in the clock page	Short press	Enter to/Return from the test display
SCROLL + SELECT/ENTER in selected pages	Extended press	Shortcut for entering a specific menu in programming mode
SELECT/ENTER	Extended press	Enter programming mode

The E^{2}MeVOLT provides 9 different multi-page data displays. Your present location is indicated by three numbers at upper right of the display as shown in the following picture. Use a short press on the SELECT/ENTER button to scroll through displays. Use a short press on the SCROLL button to scroll through the pages.



Status Indicators

Graphical icons at right give immediate meter status indication and show the present tariff rate.



Tariff Rate Indicator

The tariff rate indicator (T1 through T8) is only shown on the billing data displays. It indicates the currently active tariff rate. Whenever there is an important diagnostic message, the tariff rate indicator alternates with a blinking diagnostic indicator (see below).

Diagnostic Indicators

The diagnostic indicators listed in the following table are displayed as blinking icons. If there are a number of diagnostic events, a higher priority event is indicated first.

Indicator Icon	Event Priority	Despription
	High	Low lithium battery indicator with auto-reset. Indicates that the battery voltage is below its operational limit. The battery should be checked and replaced. See the meter installation manual for the battery replacement procedure. The icon is automatically shut down after the battery voltage returns to its normal value.
	Medium	Electromagnetic field indicator with auto-reset. Indicates presence of a high electromagnetic field that can affect accuracy of energy measurements. The electromagnetic interference event start and end time are recorded in the meter event log. The icon is automatically shut down after the electromagnetic field disappears.
	Low	General diagnostic message indicator: indicates that there are diagnostic messages you can inspect via the DIAGNOSTICS display. The icon is shut down after you explicitly reset diagnostics messages either from the display or via communications. You can disable diagnostic message indicator via the Display Setup menu.

No Load/Power Flow Direction Indicator

The power flow indicator gives information on the load presence and shows the direction of active power.

Indicator Icon	Despription
	No load.
	Direct active power flow – imported (delivered) active energy.
	Reversed active power flow – exported (received) active energy.

Phase Presence Indicators

Phase presence indicators “123” show the status of either V1-V2-V3 phase-to-neutral voltages in line-to-neutral wiring modes, or V12-V23-V31 phase-to-phase voltages in line-to-line wiring modes.

Indicator Icon	Despription
	All voltages are present and above the voltage dip threshold.
	Blinking phase indicator – the phase voltage is below the defined voltage dip threshold. Possibly indicates an incorrect meter nominal voltage setting.
	Dashed phase indicator - the phase voltage is either missing or below the voltage interruption threshold.

If the phase voltage is below the defined voltage dip threshold, its corresponding phase indicator is blinking. If the phase voltage is either missing or below the voltage interruption threshold, the phase indicator is replaced with a dash.

Display Features

The E²MeVOLT display has a number of programmable features that can be disabled, enabled and adjusted via the meter Display Setup.

Backlight

A short press on any button while the display backlight is off switches the backlight on. The backlight stays on as long as you selected in the display setup and then dims to conserve power. The backlight time is factory set to 1 minute and can be programmed from 1 to 10 minutes. You can temporarily set the backlight to continuous operation if you need to work in dark for more time. The backlight is not operational if voltages are missing on meter terminals while the meter is powered from the battery.

Auto-Return

If the Auto-Return feature is enabled and no button is pressed for the programmable Auto-Return interval (1 to 30 minutes for data displays; fixed at 5 minutes for setup menus), the display automatically returns to the default page from any other data display or a setup menu. If the Auto-Scroll feature is enabled, the display immediately enters the auto scroll sequence.

Auto-Scroll

If the Auto-Scroll feature is enabled, the data display automatically scrolls through all pages of all data displays that are included into the programmable auto-scroll sequence. The scroll interval is adjustable in the range of 2 to 30 seconds. The scroll sequence may include all or only selected displays.

The display automatically enters auto scrolling if no button is pressed for the Auto-Return interval when the Auto-Return feature is enabled, or in 1 minute if this feature is disabled. In the last case, the scroll sequence is restored from the point where it was interrupted. To stop auto scrolling, press briefly any button if the backlight is on; else press briefly any button twice since the first press only sets the backlight on and does not affect auto scrolling.

Auto-Scroll is not operational in TEST mode.

Measurement Units

The following table shows the display resolution for common displayed quantities. All measured data is displayed in primary units.

Measured Quantity	Voltage Connection	Units and Display Resolution
Energy		kWh, kvarh, kVAh with one decimal place. The number of digits is programmable
Power	Direct (PT = 1.0)	kW, kvar, kVA with three decimal places
	Transformer (PT>1.0)	MW, Mvar, MVA with three decimal places
Voltage	Direct (PT = 1.0)	Volts with one decimal place
	Transformer (PT>1.0)	Kilovolts with three decimal places
Current		Amperes with two decimal places

Data Displays

The E²MeVOLT has 9 multi-page data displays listed in the following table.

Display Number	Display Label	Display Contents
1	BILL 0	Present (0) billing period data
2	BILL 1	Last (-1) billing period data
3	BILL 2	Second previous (-2) billing period data
4	BILL 3	Third previous (-3) billing period data
5	MAX. DEMAND	Engineering maximum demands
6	ENGINEERING	Instrumentation data

7	SETUP	Basic meter setup data
8	DEVICE INFO	Device service data
9	DIAGNOSTICS	Device diagnostics messages

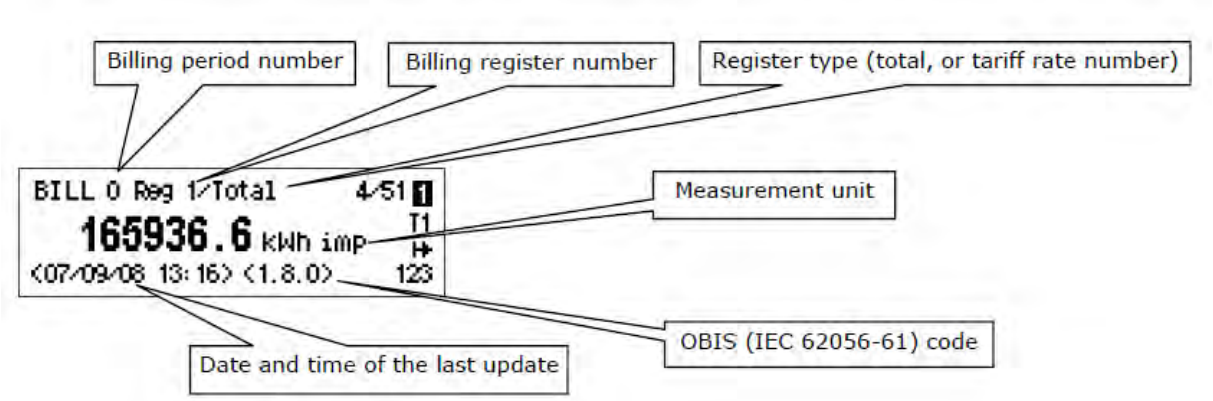
TEST Mode Data Display

The TEST data display is shown in TEST mode in place of the billing period data displays.

	TEST mode display: test LED pulse rate in secondary Wh/imp, test kWh and kvarh energy registersr eadings in primary units with an extended 0.001 kWh resolution. Extended press SCROLL +SELECT/ENTER is a shortcut for immediate entering the TEST mode setup menu.

Billing Period Data Displays

The E²MeVOLT provides four billing data displays: one for the present billing period and others – for three previous billing periods. All displays have a layout shown in the following picture. See OBIS Identification Codes.

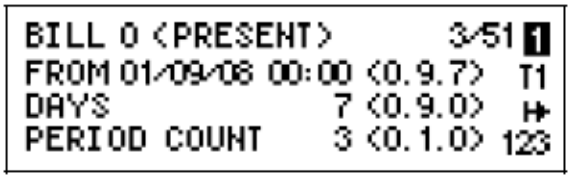


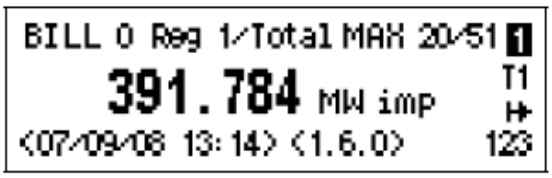
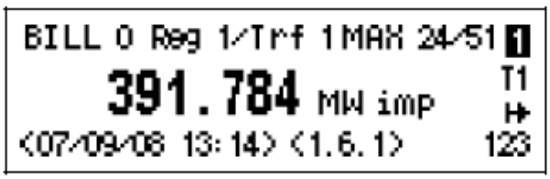
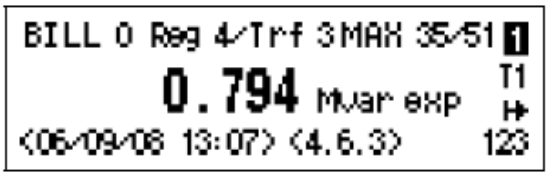
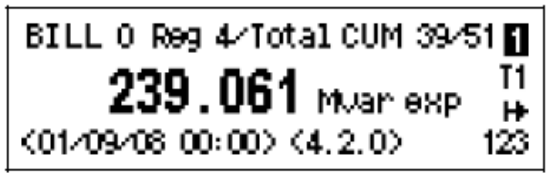
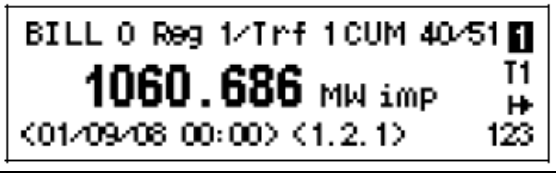
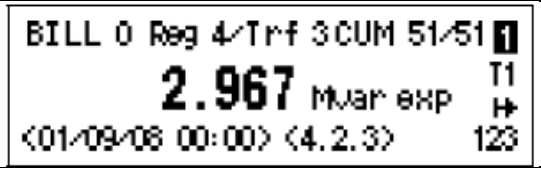
Each billing period display lists all total and tariff energy, maximum demand and cumulative maximum demand registers for all configured billing registers and all active tariffs. The E²MeVOLT automatically arranges pages in each display. Only registers you selected in the billing/TOU register setup and tariff rates listed in the TOU daily profiles are included.
The order of pages is shown in the following table.

Number of Pages	Display Contents
1-10	Register 1…10 total energy readings
1-8	Register 1 tariff 1…8 energy readings
1-8	Register 2 tariff 1…8 energy readings
…	…
1-8	Register 10 tariff 1… 8 energy readings
1-10	Register 1…10 total maximum demand
1-8	Register 1 tariff 1…8 maximum demand
1-8	Register 2 tariff 1…8 maximum demand
…	…
1-8	Register 10 tariff 1…8 maximum demand
1-10	Register 1…10 total cumulative maximum demand
1-8	Register 1 tariff 1…8 cumulative maximum demand
1-8	Register 2 tariff 1…8 cumulative maximum demand
…	…
1-8	Register 10 tariff 1…8 cumulative maximum demand

Present Billing Period Data

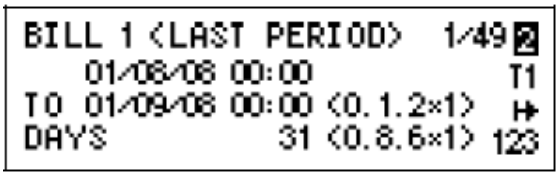
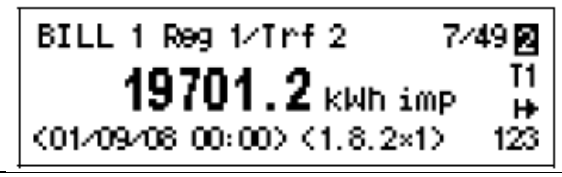
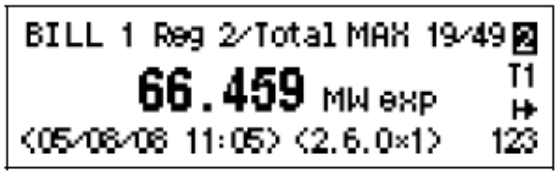
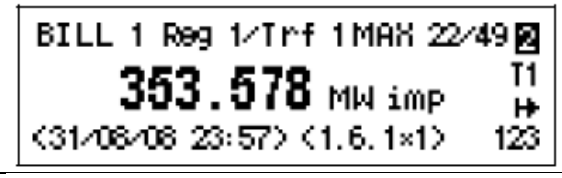
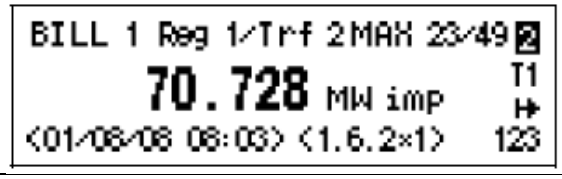
The following example demonstrates the present billing period displays for four configured billing registers (kWh imported and exported, kvarh imported and exported) and for three active tariff rates. The actual register contents in your installation may be different depending on your selection of register sources.

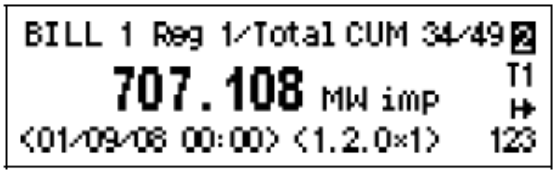
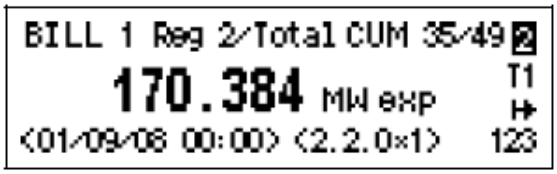
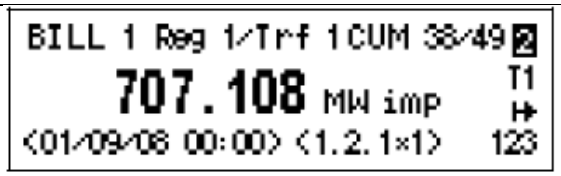
	Clock display. Indicates present time and date. The date order can be changed via the Local Settings setup menu. Short press SCROLL + SELECT/ENTER moves to the test pattern display page. Extended press SCROLL + SELECT/ENTER is a shortcut for immediate entering the clock setup menu.
	Test pattern display you can enter from the lock page by short press SCROLL + SELECT/ENTER. All pixels are lit up. The second short press SCROLL + SELECT/ENTER returns to the clock page.
	Present billing period data - general page: period start date and time, period duration in days, and the billing period count (number of maximum demand resets). Extended press SCROLL + SELECT/ENTER is a shortcut for immediate entering the billing maximum demand reset/end of billing period menu
	Total energy reading of register 1 – imported kWh.
	Total energy reading of register 2 – exported kWh.
	Total energy reading of register 3 – imported (inductive) kvarh.
	Total energy reading of register 4 – exported (capacitive) kvarh.
	Tariff 1 energy reading of register 1 – imported kWh.

	Tariff 2 energy reading of register 1 – imported kWh.
…	…
	Tariff 3 energy reading of register 4 – exported kvarh
	Total maximum demand reading of register 1 – imported kW.
…	…
	Total maximum demand reading of register 4 – exported kvar.
	Tariff 1 maximum demand reading of register 1 – imported kW.
…	…
	Tariff 3 maximum demand reading of register 4 – exported kvar.
	Total cumulative maximum demand reading of register 1 – imported kW.
…	…
	Total cumulative maximum demand reading of register 4 – exported kvar.
	Tariff 1 cumulative maximum demand reading of register 1 – imported kW.
…	…
	Tariff 3 cumulative maximum demand reading of register 4 – exported kvar.

Previous Billing Period Data

The following example demonstrates billing displays for the three previous billing periods. Displays for the last billing period (BILL 1) and for two preceding billing periods (BILL 2) and (BILL 3) look the same.

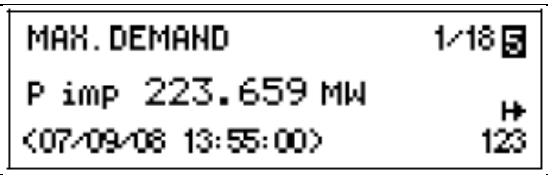
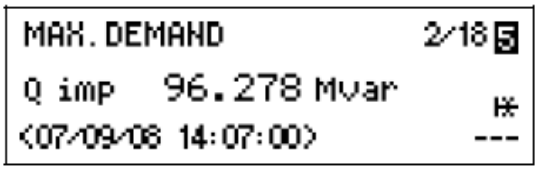
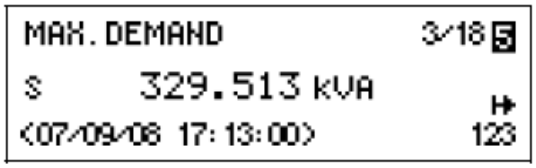
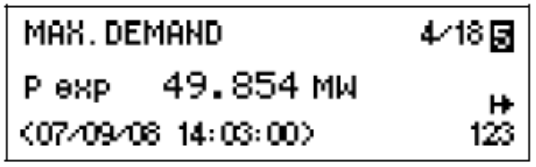
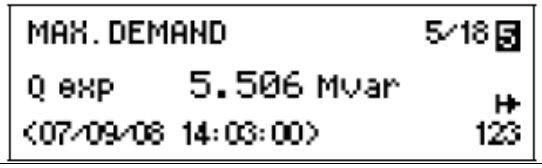
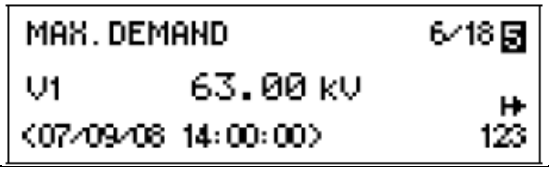
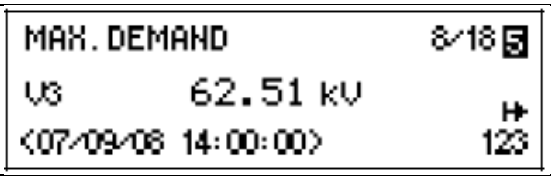
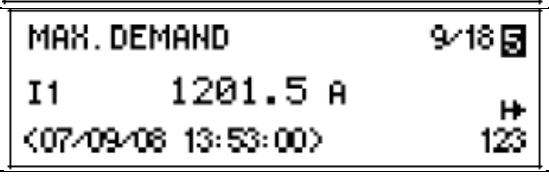
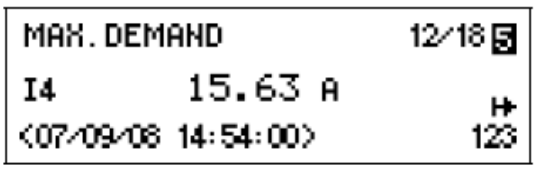
	Previous billing period data - general page: period start date and time, period end date and time, and period duration in days.
	Total energy reading of register 1 – imported kWh.
	Total energy reading of register 2 – exported kWh.
...	...
	Tariff 1 energy reading of register 1 –imported kWh.
	Tariff 2 energy reading of register 1 – imported kWh.
...	...
	Total maximum demand reading of register 1 – imported kW.
	Total maximum demand reading of register 1 – exported kW.
...	...
	Tariff 1 maximum demand reading of register 1 – imported kW.
	Tariff 2 maximum demand reading of register 1 – imported kW.
...	...

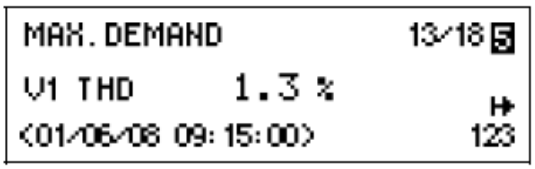
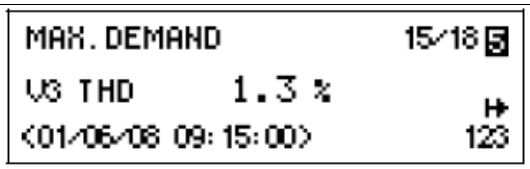
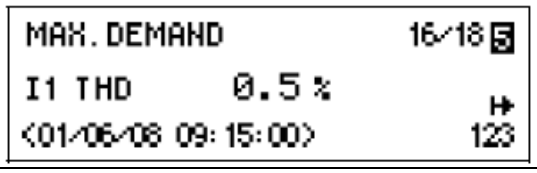
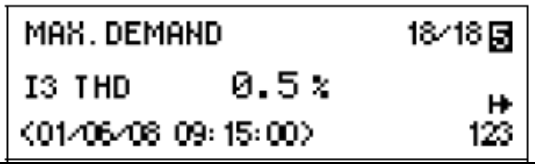
	Total cumulative maximum demand reading of register 1 – imported kW.
	Total cumulative maximum demand reading of register 1 – exported kW.
…	…
	Tariff 1 cumulative maximum demand reading of register 1 – imported kW.
…	…
	Tariff 3 cumulative maximum demand reading of register 4 – exported kvar.

Engineering Maximum Demand Data Display

Maximum demand displays show engineering maximum demands (not billing maximum demands) for powers, voltages, currents and total harmonics. Each quantity is displayed with the date and time of the last update.

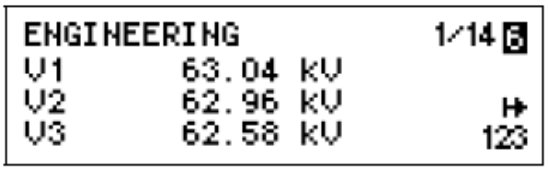
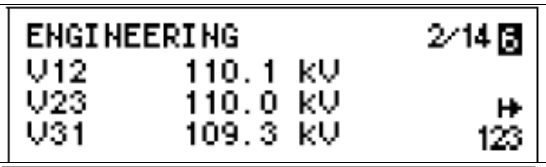
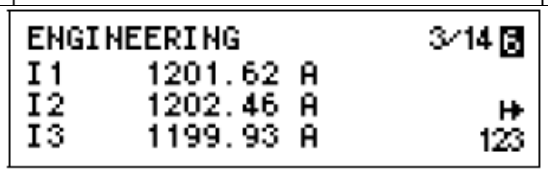
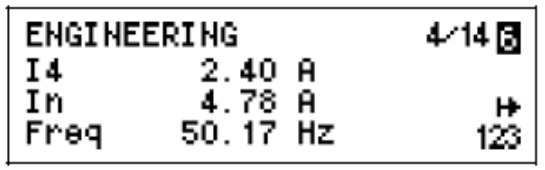
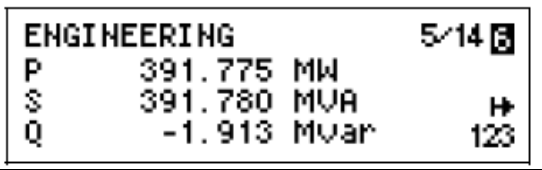
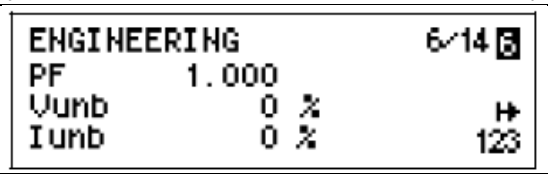
From any maximum demand display, you can use an extended press SCROLL + SELECT/ENTER as a shortcut for immediate entering the corresponding maximum demand reset menu.

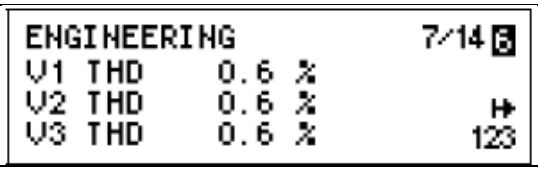
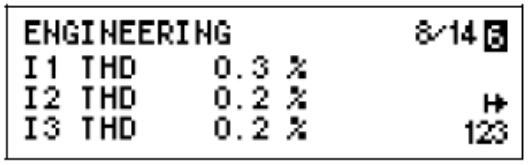
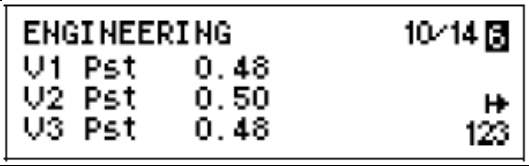
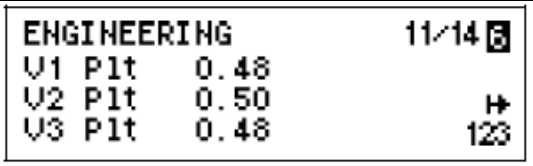
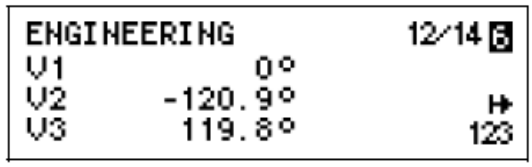
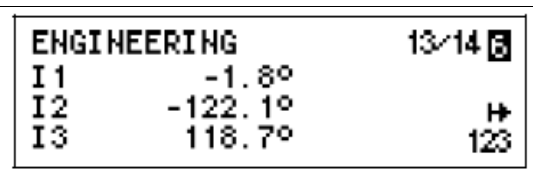
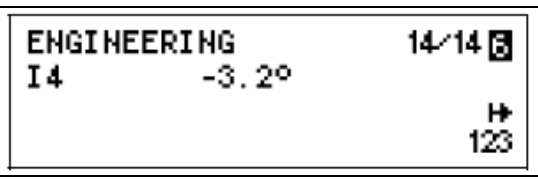
	kW import maximum demand
	kvar import (inductive) maximum demand
	kVA maximum demand
	kW export maximum demand
	kvar export (capacitive) maximum demand
	V1 maximum demand Indicate V12 voltage in line-to-line configurations.
...	...
	V3 maximum demand Indicate V31 voltage in line-to-line configurations
	I1 maximum demand
...	...
	I4 maximum demand

	V1 THD maximum demand
...	...
	V3 THD maximum demand
	I1 THD maximum demand
...	...
	I3 THD maximum demand

Engineering Data Display

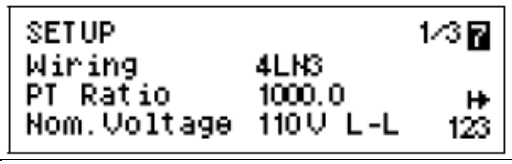
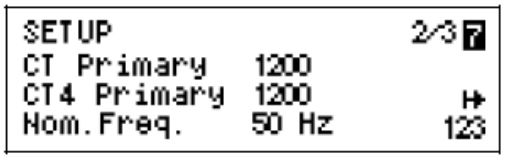
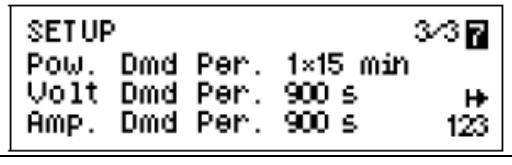
Engineering data represent general instrumentation data you can use while installation and inspecting the meter. Use phase angles displays to check the order of phases when connecting wires to the meter terminals.

	Phase-to-neutral voltages. Only displayed in 4-wire configurations with a neutral.
	Phase-to-phase voltages
	Phase currents
	Auxiliary current Neutral current Frequency
	Total powers
	Total power factor Voltage unbalance, % Current unbalance, %

	Phase voltage THD Indicate phase-to-phase voltage THD in line-to-line configurations
	Phase current THD
	Short-term flicker
	Long-term flicker
	Voltage phase angles (relative to V1 voltage). Indicate phase-to-phase voltage angles in line-toline configurations.
	Phase current phase angles (relative to V1 voltage)
	Auxiliary current phase angle (relative to V1 voltage)

Setup Data Display

The setup data display shows basic device settings that can be required for immediate inspecting while meter testing and at the time of installation.

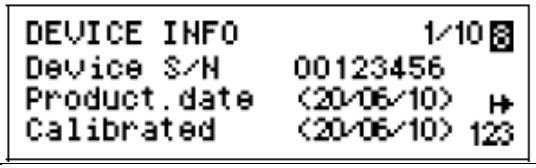
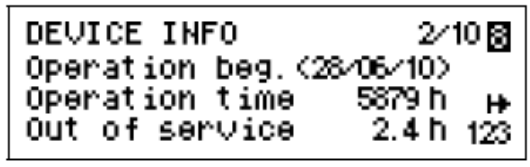
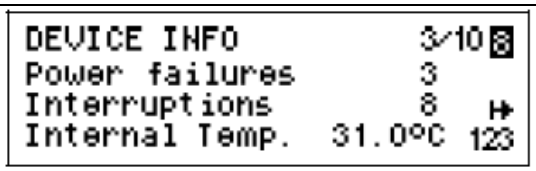
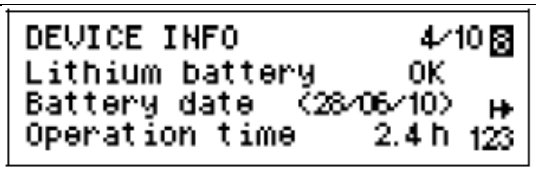
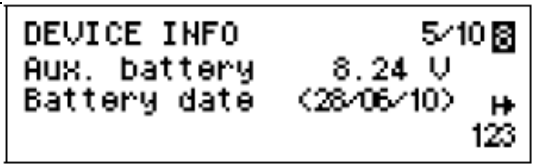
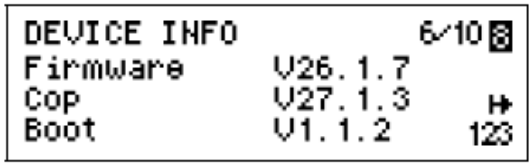
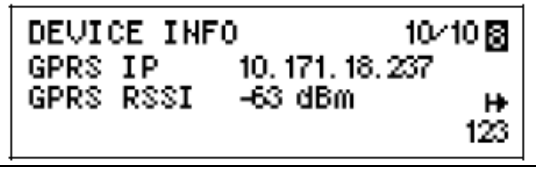
	Device wiring mode (see Basic Meter Setup for full list of wiring modes), external potential transformer ratio and the nominal device voltage.
	Primary ratings of the external current transformers (main and auxiliary current inputs) and the nominal device frequency.
	Power demand period (number of blocks x block demand period), and voltage and ampere demand periods.

Device Info Display

The device info display provides different service information that may be required for meter identification and inspection, like product and firmware information, batteries status, operation time, communication settings, and so on.

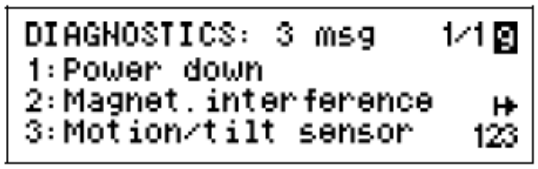
NOTE

Always clear the meter operation time and fault counters before putting the meter into operation. Clear the battery operation time counters after replacing a battery.

	Meter identification info: serial number, production date and calibration date
	Meter operation time counters (since start of operation): Start of operation date Total operation time in hours Out of service time in hours
	Power failure counters (since start of operation): Total number of power failures Total number of 3-phase voltage interruptions Internal meter temperature
	Lithium battery status and operation time: Battery status Battery replacement date Total operation time
	Auxiliary battery status and operation time: Battery status and voltage Battery replacement date
	Meter firmware information: Host processor firmware version Fast transient coprocessor firmware version Host boot loader firmware version
	Memory information: Program flash memory size Data flash memory size
	Serial communication ports info: network address, baud rate and communication protocol.
	Ethernet network info: Device MAC address Network IP address Default gateway IP address
	Wireless GPRS network info: Network IP address Receive signal strength indicator (RSSI), dBm

Device Diagnostics Display

The diagnostics display shows device diagnostic messages recorded as a result of the meter self-test diagnostics during start-up and operation.

	If there are more pages, use a short press on the SCROLL button to scroll through the entire list of messages. Extended press SCROLL + SELECT/ENTER is a shortcut for immediate entering the diagnostics reset menu.

If there are diagnostic messages, the (i) diagnostic icon at right on the display flashes until you clear the device diagnostics. Some of the diagnostics events are cleared automatically as the event source disappears.

The diagnostic icon can be disabled or enabled via the Display Setup menu.

Programming Mode

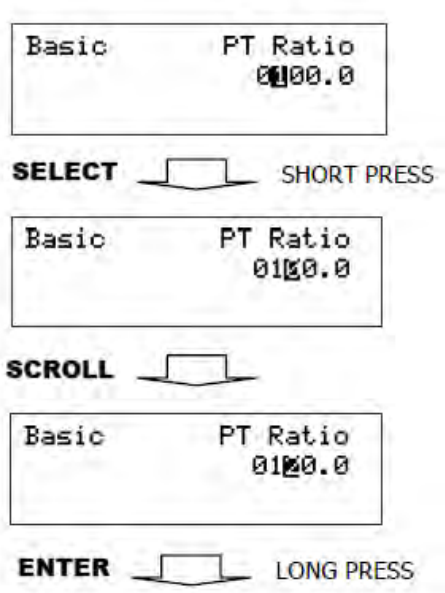
To enter programming mode from the data display, press and hold the SELECT/ENTER button for more than 5 seconds.

Navigation Buttons

The following table gives a summary of the button operations in programming mode.

Button	Press	Operations
SCROLL	Short press	Scroll through a menu item list in a highlighted window or increment a highlighted digit in a numeric field
SELECT/ENTER	Short press (less than 1 second) = SELECT	Highlight a menu window or a digit in a numeric field
SELECT/ENTER	Long press (1 to 2 seconds) = ENTER	Store the changed item or perform an action indicated in a highlighted window

Entering Numeric Values

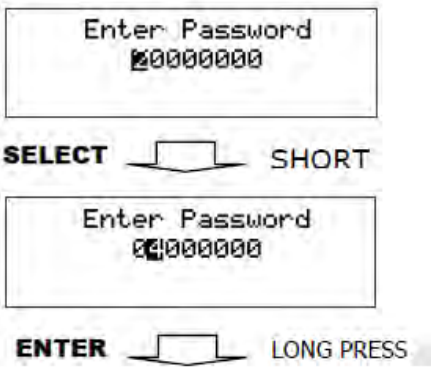


Whenever a numeric value is to be changed, use a short press on the SELECT/ENTER button to highlight a desired digit, and then use the SCROLL button to change the value of the highlighted digit. A highlighted digit appears in inversed color. If you missed a digit, just continue moving through the rest of digits until you reach the desired place.

Once the number is set to the desired value, press and hold the SELECT/ENTER button for 1-2 seconds to save your new setting.

To reject your changes and restore the previous value, use a short press on the SELECT/ENTER button to return to the higher-level window.

Password Security



The setup menus are secured by 8-digit user passwords. Every time you enter programming mode, you are prompted for a correct password. The meter is primarily shipped with all passwords preset to 9 at the factory.

It is recommended that you change the factory set passwords as fast as possible to protect your setups and accumulated data from unauthorized changes.

Enter the password as you enter numeric values. As you move to the next place, the digit entered is saved and then zeroed. If you missed a digit, you should re-type all preceding digits before you reach the missed place again. Once the password is set to the desired value, press and hold the SELECT/ENTER button for more than 1 second. If the password you entered is correct, you move to the main device menu, otherwise you return back to the data display.

Setup Menus and Access Rights

The E2MeVOLT setup is menu-driven. The meter provides 12 menus that allow local accessing a limited number of meter setups and control functions listed in the following table. Access to particular menus is granted depending on the security level of the password you entered.

Menu Label	Menu Function	Security Level	
		View	Change
Reset	Reset of billing and engineering maximum demands, device diagnostics, meter and battery operation time counters and failure counters	Low	See Table below
RTC	RTC clock setup	Low	Low
Display	Display setup	Low	Low
Test	TEST/NORMAL mode switching and LED pulse rate setup for TEST mode	Low	Medium
Basic	Basic device setup	Low	High
Options	Device options setup	Low	High
COM1	COM1 serial port setup	Low	Medium
COM2	COM2 serial port setup	Low	Medium
COM3	COM3 serial port setup	Low	Medium
Net	Ethernet network setup	Low	Medium
Local	Local settings	Low	Medium
Access	Meter passwords setup	High	High
Loader	Launches flash download via a local serial port	Medium	Medium

Access to the RESET menu entries is allowed depending on your security level.
If your security level does not allow access to a menu, it will not be listed in the main menu list, and you will not be able to highlight menu items that you are not allowed to change, but you can still view their present settings.

Viewing and Changing Setup Options

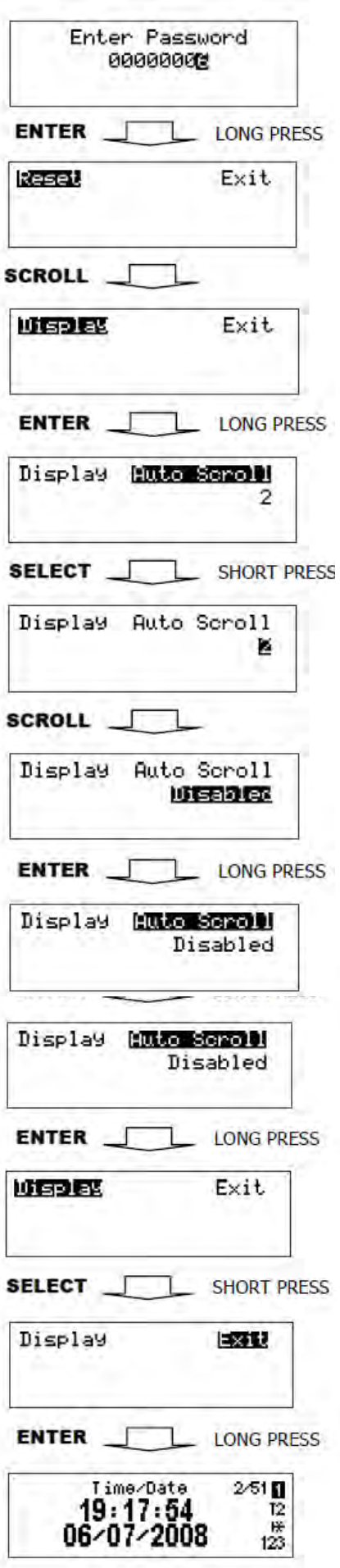
Once you entered a correct password you are moved to the main meter menu.

The main menu has two windows: the left window displays a submenu list, while the right window is an assisting Exit window that allows easy returning back to the data display. A currently active menu item is highlighted by inversed color.

To select a desired menu entry from the menu list:

1. If the left window is not highlighted yet, highlight it by briefly pressing the SELECT/ENTER button.
2. Use the SCROLL button to scroll through the menu list until the desired menu entry appears.
3. Press the SELECT/ENTER button for more than 1 second to enter the selected submenu.

Once you entered a submenu, the left window is still showing the menu name, while the upper-right window represent a submenu options list, and the lower-right window indicates the present option value.



To select an option you want to view or change:
Use the SCROLL button to scroll through the option list until the desired option's name appears in the window.

To change the selected option's value:

1. Press the SELECT/ENTER button briefly to highlight the lower-right window.
2. If an option is represented by a list of values, use the SCROLL button to scroll through the list until a desired value appears in the window. It an option is represented by a numeric value, use the SCROLL button to adjust each digit to the desired value, and use a short press on the SELECT/ENTER button to move through digits.
3. Once the desired value is selected, press the SELECT/ENTER button for more than 1 second to save your new setting. You return to the upper-right window and can continue scrolling through the rest of options or can return to the main menu.

If you wish to leave the option value unchanged, use a short press on the SELECT/ENTER button to return to the upperright window.

To exit the submenu and return to the main menu:

1. If the upper-right window is not highlighted yet, highlight it by briefly pressing the SELECT/ENTER button.
2. Press the SELECT/ENTER button for more than 1 second. You will return to the main menu.

To exit the main menu and return to the data display:

1. Press briefly the SELECT/ENTER button to highlight the right-upper Exit window.
2. Press the SELECT/ENTER button for more than 1 second. You will return back to the data display.