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LE-03MQ v2

Electric energy meter,
3-phase



Do not dispose of this device in the trash along with other waste!

According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.



Compliance

Directive MID	2014/32/EU
Certificate number	0120/SGS0215

Purpose

The LE-03MQ meter is a static (electronic) calibrated electricity meter for single-phase or three-phase AC in a direct circuit. It is used for indication and registration of consumed electricity and mains parameters with the possibility of remote reading of indications via a wired network of RS-485 standard.

The meter is configured via the configuration menu accessible from the front panel and via the communication port in accordance with Modbus RTU software functions.

Operation and programming manual

Detailed PDF instructions and MID declaration can be downloaded from the website: www.fif.com.pl from the product sub-page.

Functions

- » 1-phase or 3-phase system (3- and 4-wire);
- » 2-way metering (4-quadrant);
- » Indication of kWh/kvar (input/output);
- » Indication of mains parameters;
- » MID compliance;
- » RS-485 port;
- » Modbus RTU protocol;
- » Pulse output SO (×2);
- » Backlit LCD multifunction display;
- » Meter configuration protected by password.

Measured values

Active energy consumed	AE+	[kWh]
Active energy supplied	AE-	[kWh]
Reactive energy consumed	RE+	[kvarh]
Reactive energy supplied	RE-	[kvarh]
Napięcia fazowe	U1, U2, U3	[V]
Prądy fazowe	I1, I2, I3	[A]
Częstotliwość	f	[Hz]
Moc czynna	P	[W]
Moc bierna	Q	[var]
Moc pozorna	S	[VA]
Współczynnik mocy	cosφ	
Harmoniczne THD	%	
Zapotrzebowanie na moc i prąd	kW, kvar, kVA, I	

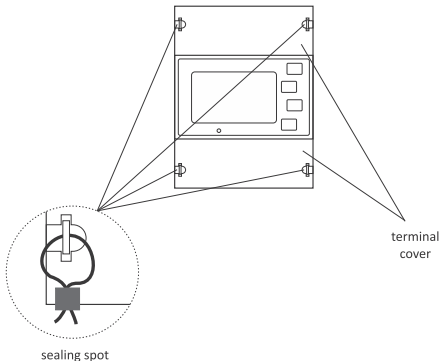
Pulse output

The indicator has the 2 pulse outputs. This allows you to connect a pulse meters-reading pulses generated by the counter.

For proper operation of the indicator is not required to connect additional devices.

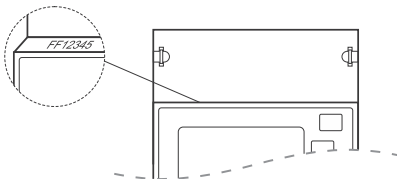
Sealing

The meter has sealable input and output terminal covers to prevent any attempts to bypass the meter.

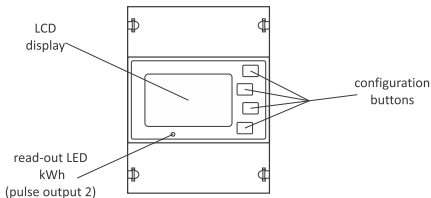


Meter number

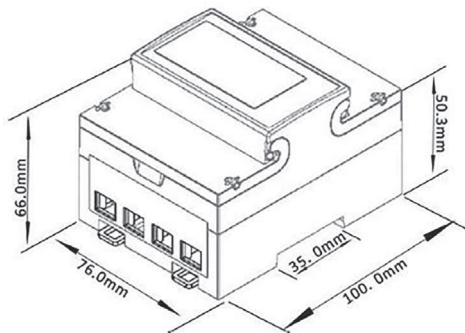
The meter is marked with individual serial number allowing its unambiguous identification. The marking is laser engraved and cannot be removed).



Front description



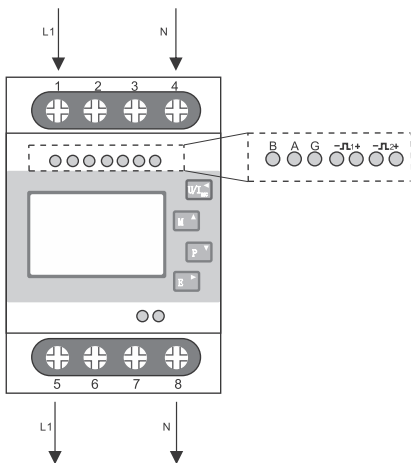
Dimensions



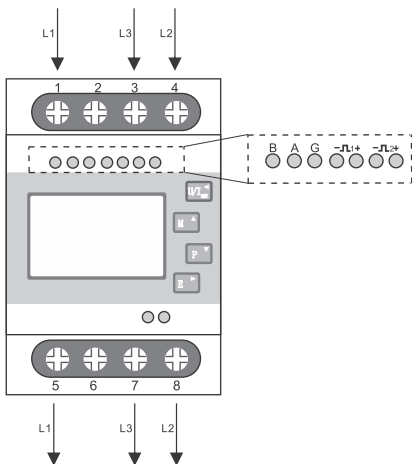
Service program

A PC program (with Windows) is available at www.fif.com.pl (on the subpage of the LE-03MQ meter) to check the meter states and make all its settings.

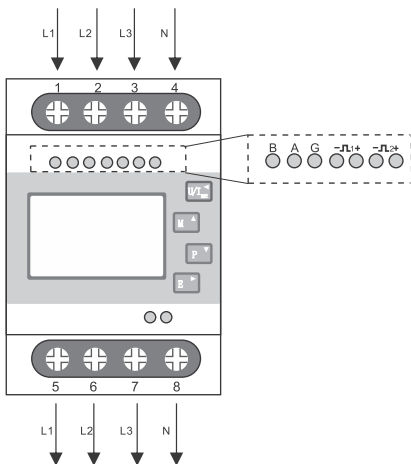
Wiring diagram



1-phase 2-wire system



3-phase 3-wire system



3-phase 4-wire system

Technical data

rated voltage	3×230/400 V
minimum measured current	0.02 A
base current	5 A
maximum current	100 A
voltage measuring range	
L-N	176÷276 V AC
L-L	304÷480 V AC
measurement accuracy (EN50470-1/3)	B class
rated frequency	50 Hz
overload	30×I _{max} /10 ms
insulation	4 kV/1 min; 6 kV/1.2 μs
insulation protection class	II
housing	PC+ABS material
environmental conditions class	
mechanical	M1
electromagnetic	E2
own power consumption	<10 VA; <2 W
indication range	0÷9999999.9 kWh
read-out signalling	red LED
communication protocols	Modbus RTU
pulse outputs	2
type	open collector
maximum voltage	27 V DC
maximum current	27 mA
output 1	
meter constant	0.01, 0.1, 1, 10, 100 pulses/kWh or 0.01, 0.1, 1, 10, 100 pulses//kVarh
pulse time	60, 100, 200 ms

output 2	
meter constant	400 pulses/kWh
pulse time	200 ms
working temperature	-25÷55°C
humidity	
(non-condensing)	≤95%
mounting altitude	up to 2000 m a.s.l.
terminal	
high-current	25 mm ² screw terminals
low-current	2.5 mm ² screw terminals
dimensions	4 modules (76 mm)
mounting	on TH-35 rail
internal (housing recommended)	IP51
external (housing required)	IP54
ingress protection	IP51

Warranty

F&F products are covered by a 24-month warranty from the date of purchase. The warranty is only valid with proof of purchase. Contact your dealer or contact us directly.

CE declaration

F&F Filipowski L.P. declares that the device is in conformity with the essential requirements of the Low Voltage Directive (LVD) 2014/35/EU and the Electromagnetic Compatibility (EMC) Directive 2014/30/UE.

The MID and CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found www.fif.com.pl on the product subpage.

General work safety conditions

- » Please read the instructions carefully before installation.
- » The device should be installed and operated by qualified personnel who are familiar with its design, operation, and associated risks.
- » Do not install a meter that is damaged or incomplete.
- » The user is responsible for proper grounding of the system, proper selection, installation, and efficiency of other devices connected to the meter, including safety devices such as over-current, residual current and overvoltage circuit breakers.
- » Before connecting the power supply, make sure that all cables are connected correctly.
- » It is essential to observe the operating conditions of the meter (supply voltage, humidity, temperature).
- » To avoid electric shock or damage to the meter, turn off the power supply whenever the connection is changed.
- » Do not make any changes to the unit yourself. Doing so can result in damage to or improper operation of the device, which in turn can pose a threat to people operating it. In such cases, the manufacturer is not responsible for the resulting events and may refuse the provided warranty in the event of a complaint.
- » Do not tighten the terminals without the wire inserted. This may damage the lift mechanism of the terminal or the plastic cover of this terminal.

