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LE-03M

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

MID Directive	2014/32/EU
Certificate number	0120/SGS0306

Purpose

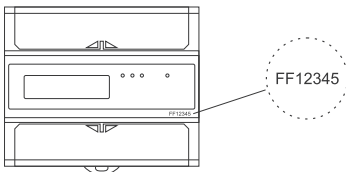
The LE-03M is a static (electronic) calibrated electricity meter of three-phase alternating current in a semi-direct system. It is used for reading and recording of consumed electric energy and mains parameters with remote readout via a wired RS-485 network.

Functioning

The LE-03M under the influence of current flow and applied voltage makes precise measurement of the amount of consumed electricity. Energy consumption is indicated by a flashing LED (800 pulses/kWh). The sum of energy consumed by all three phases is converted into the total energy consumed by the three-phase system and its value is shown on the LCD.

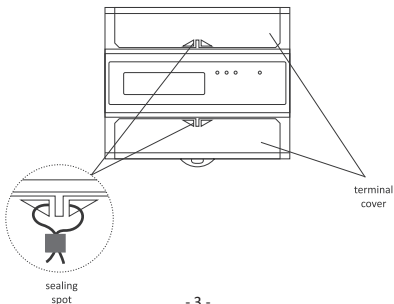
Meter number

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

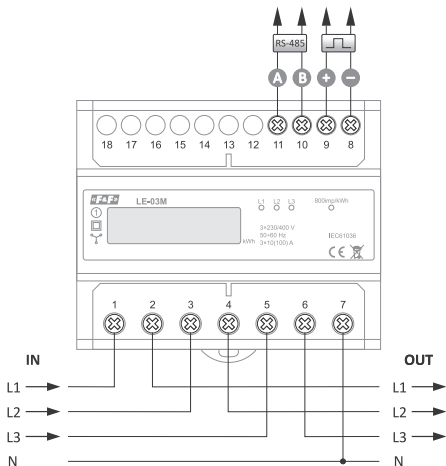


Sealing

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



Wiring diagram



- | | | | |
|---|------------------------------|----|-------------------|
| 1 | L1 _{IN} phase wire | 7 | N-wire neutral |
| 2 | L1 _{OUT} phase wire | 8 | pulse output (-) |
| 3 | L2 _{IN} phase wire | 9 | pulse output (+) |
| 4 | L2 _{OUT} phase wire | 10 | RS-485 output (B) |
| 5 | L3 _{IN} phase wire | 11 | RS-485 output (A) |
| 6 | L3 _{OUT} phase wire | | |

Modbus RTU protocol parameters

Communication parameters

Protocol	Modbus RTU
Operation mode	Slave
Port settings	Baud rate: 9600 bps Parity: NONE Stop bits: 1
Modbus address (<u>factory settings</u>)	<u>1</u> ÷245

Measurement registers

address	description	com- mand	type	atr
0	Active energy (R0)	03	int	R
1	Active energy (R1)	03	int	R
2	Active energy (R2)	03	int	R
6	Meter address	06	int	W

Legend:

R – read, W – write.

Register values are stored as integers.

To get a reading, the three received registers values should be transform algebraically in accordance with the following formula:

$$(R0 \times 256^2 + R1 \times 256 + R2) / 10,$$

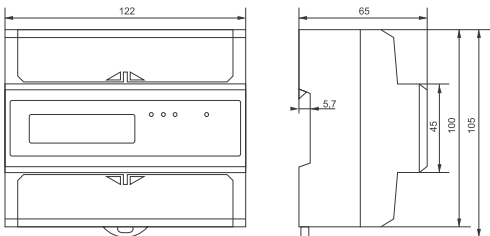
where:

R0 – register number 0;

R1 – register number 1;

R2 – register number 2

Dimensions



LE Config service programm

Program for test reading of the counted energy value and for basic settings of the meter parameters.

Available at www.fif.com.pl (on the device's subpage).

For communication of the meter with the computer, the USB CN-USB-485 converter or any RS-485/USB standard is required.

Technical data

installation	4-wire
rated voltage	3×230/400 V
minimum measured current	0.04 A
base current	3×10 A
maximum current	3×100 A
voltage measuring range	160÷265 V
measurement accuracy (EN50470-1/3)	class B
rated frequency	50 Hz
insulation protection class	II
housing	PC+ABS material
own power consumption	<10 VA; <0.2 W
indication range	0÷99999.9 kWh
constant	800 pulses/kWh
signalling current consumption A, B, C phases	3× red LED
read-out signalling	red LED
communication	
port	RS-485
communication protocol	Modbus RTU
transmission parameters	9600 bps
parity	NONE
stop bits	1
pulse output	
type	open collector
maximum voltage	27 V DC
maximum current	27 mA
pulse time	35÷80 ms*

* depends on the current consumption

working temperature	-25÷55°C
terminal	25 mm ² screw terminals
dimensions	7 modules (122 mm)
mounting	on TH-35 rail
ingress protection	IP20

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 sp. j. 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 CE and MID 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.