F&F Filipowski sp. j.
Konstantynowska 79/81 95-200 Pabianice
phone/fax: (+48 42) 215 23 83 / 227 09 71 POLAND
http://www.fif.com.pl e-mail: biuro@fif.com.pl

ELECTRICITY CONSUMPTION METER
3-phase

LE-03MQ CT

WARRANTY. The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase.

5 903125998 21

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: 2014/32/EU
Certificate number: 0120/SGS 0216

Purpose

The LE-03MQ CT is a static (electronic) calibrated single-phase or three-phase alternating current electricity meter in a semi-indirect system. It is used for indication and registration of electric energy consumption and parameters of the power supply network with the option for remote reading through a wired RS-485 network. The meter works with current transformers (CT) with a secondary current of 1 A or 5 A.

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

User manual and programming instructions

Detailed PDF manual available for download from the following website: www.le.fif.com.pl

Features

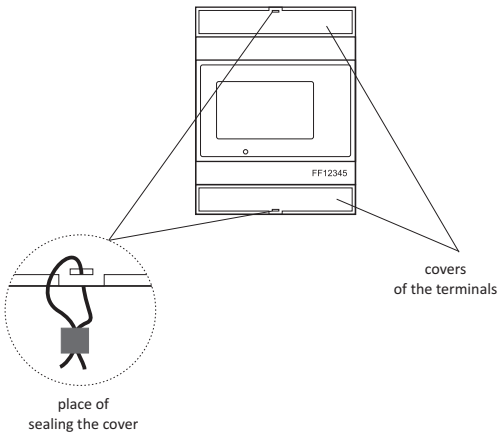
* 1-phase or 3-phase system (3- and 4-wire)
* two-way measurement (4-quadrant)
* 1 A or 5 A transformers
* current ratio 1÷9999
* indications of kWh/kvar (imported/exported)
* indications of network parameters
* MID compliance
* RS-485 port
* Modbus RTU protocol
* SO (×2) pulse output
* backlit, multifunctional LCD
* password-protected meter configuration

Measured values

Active energy imported/exported	AE+/AE-	[kWh]
Reactive energy imported/exported	RE+/RE-	[kvarh]
Phase voltage	U1, U2, U3	[V]
Phase currents	I1, I2, I3	[A]
Frequency	F	[Hz]
Active power	P	[W]
Reactive power	Q	[var]
Apparent power	S	[VA]
Power factor	cosφ	
Total Harmonic Distortion THD	%	
Power and current demand	kW, kvar, kVA, I	

Number of the meter

The meter is marked with an individual serial number, which makes it possible to identify it unambiguously.
The marking is indelible (laser engraving).

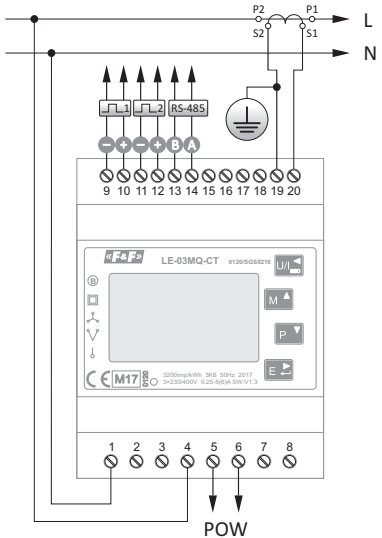


Sealing

The meter has the option of sealing the input and output terminals, preventing the meter from being bypassed.

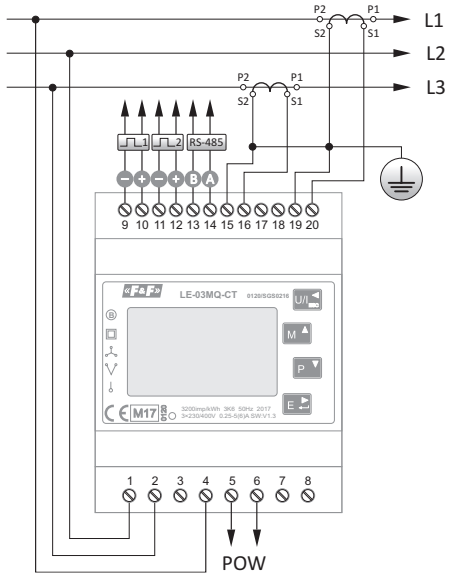
Connection diagram

1-phase 2-wire installation



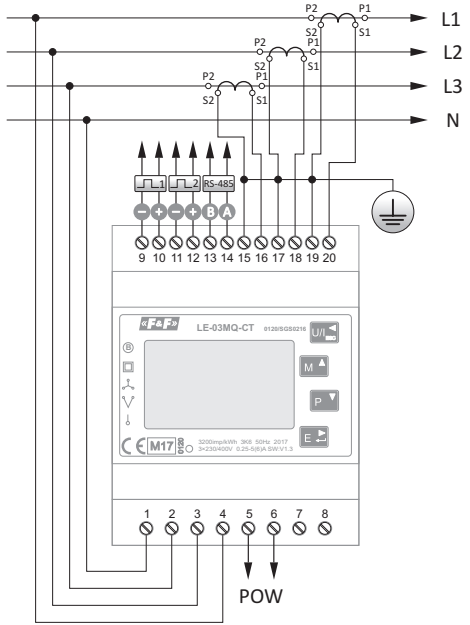
1÷4 – voltage inputs
5, 6 – power supply (POW)
9÷12 – pulse outputs
13, 14 – RS-485 (B, A)
15÷20 – current inputs

3-phase 3-wire installation



1÷4 – voltage inputs
5, 6 – power supply (POW)
9÷12 – pulse outputs
13, 14 – RS-485 (B, A)
15÷20 – current inputs

3-phase 4-wire installation



1÷4 – voltage inputs
5, 6 – power supply (POW)
9÷12 – pulse outputs
13, 14 – RS-485 (B, A)
15÷20 – current inputs

Technical data

reference voltage	3×230/400 V
base current	0.25÷5 A
maximum current	6 A
minimum measured current	0.02 A
measured voltage	
L-N	100÷289 V AC
L-L	173÷500 V AC
accuracy of measurement	class 1
overload capacity	30×Imax/10 ms
insulation	4 kV/1 min; 6 kV/1 µs
own energy consumption of the meter	10 VA; 2 W
power of current inputs	<1 VA
power supply voltage of the meter	85÷275 V AC /120÷380 V DC
counter display range	0÷9999999.9 kWh
meter constant kWh	3200 imp/kWh
meter constant kvarh/kWh	0,01, 0,1, 10, 100 imp/kvar
reading signalling	1×LED
pulse outputs kWh/kvarh	
OC (open collector)	27 V DC/50 mA
pulse time kWh/kvarh	60, 100, 200 ms
port	RS-485
communication protocol	Modbus RTU
working temperature	-25÷55°C
terminal	4.0 mm² screw terminals
tightening torque	0.5 Nm
dimensions	4 modules (72 mm)
mounting	on TH-35 rail
ingreess protection	IP51

Configuration software

A program for PCs (with Windows) that allows you to check the status of the meter and configure all of its settings is available for download on the fif.com.pl website (on the LE-03MQ CT meter subpage).

CE and MID declarations

Copy of the CE and MID declarations available for download from the website: from the product subpage.