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ENERGY METER three phase type

LE-03M

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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.

PURPOSE

LE is a static (electronic) rated energy which is to serve as an auxiliary meters to measure energy consumption in a three phase direct system. t is used for readings and recordings taken power with remote readout via a RS-485 protocol.

FUNCTIONING

The meter LE with the influence of the flowing current and the applied voltage shall accurately measure the amount of energy consumed by each phase. Energy consumption is sygnaled by flashing of LEDs (800 pulses / kWh), The sum of energy absorbed by the three phases is converted into the total energy taken by the three-phase system,and its value is displaied by the LCD. Digits after the decimal point means hundredths of kWh (0.01 kWh = 10 Wh).
Communication with the rate of working as a slave device is in compliance with the standard Modbus RTU via RS-485. Record the readings give the result in terms of kWh according to the indications on the display indicator. Each of the indicators is identified by a unique address assigned by the user.

Parametrs of MODBUS RTU protocol

Communication parameters	
Protocol	MODBUS RTU
Working mode	SLAVE
port settings	Number bits per second: 9600Data bits: 8 Parity: none Start bits 1 Stop bits 1
Network adresses range	1÷245
Command codes	3: Read the value of one, and a few records (0 × 03 - Read Holding Register) 6: Setting the value of a single register (0 × 06 - Write Single Register)
The maximum frequency queries	15Hz

Registry parameters				
adress	**description**	**cmd**	**type**	**atr**
0	read the registry value of the 1st (R0)	03	int	read
1	read the registry value of the 2nd (R1)	03	int	read
2	read the registry value of the 3rd (R2)	03	int	read
6	set the number of the meter	06	int	write

Register values are stored as integers. To get the result display should be recast algebraic registers three values obtained in accordance to the following formula: **(R0 × 256² + R1 × 256 + R2) / 10 ,** where:
R0 - the number of register 0; R1 - the number of register 1, R 2 - the number of the register 2
NOTE! The need to read all three records together. Inability to read the value

Pulse output

Indicator has a pulse output SO + - SO-. This allows you to connect another pulse device reading (SO) pulses generated by the meter. For proper operation of the meter is not required to connect additional devices.

Meter adress

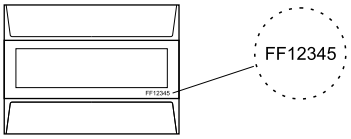
Make a change of meter address via RS-485 with Modbus RTU protocol command setting the desired value in the registery of the meter. The default meter address: 1.: NOTE! During the change of address, hold down the rate of the 9th

Sealing

Indicator has a sealable terminal covers input and output do to prevent bypass the meter.

Meter number

Meter is marked individual serial number to uniquely identify it. Is indelible marking (laser engraving).



ASSEMBLY

1.Take OFF the power.
2.Energy meter put on the rail, in the switchgearbox.
3.Supply connect to joints 1(L1), 3(L2), 5(L3)
4. The system which is measured, or a single receiver connect to joints: 2(L1), 4(L2), 6(L3)
5. Cabke N connect to joint 7.
6. Additional receiver pulse connect to joints 9 (+) - 8 (-)
7.Joints 10 and 11 connect to RS-485 system.

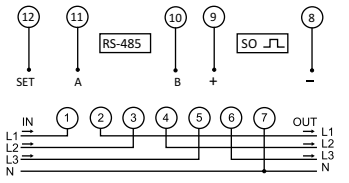
TECHNICAL DATA

reference voltage		3×230/400V+N
basic current		3×10A
max current		3×100A
min current		0,04A
measure precision with IEC61036		class 1
meter's own power consumption		<10VA; <2W
range of display reportsT0 i T1		0÷99999,99kWh
constatnt of the meter	(1,25Wh/puls)	800pulses/kWh
eeading signaling		red LED
pulse output SO+ SO-		open colector
connection voltage SO+ SO-		<30V DC
connection current SO+ SO-		<27mA
constant SO+ SO-	(1,25Wh/pulse)	800pulses/kWh
time pulse SO+ SO-		34÷80msec
port		RS-485
comunnication protocol		MODBUS RTU
working temperature		-20÷55°C
protection level		IP20
connection		screw terminals 25mm^2
dimensions		7 modules (122mm)
fixing		on the rail TH-35

Lenght of pulse SO+ SO- dependent on load of the meter:

5÷40A	80msec	65A	52msec	85A	40msec
45A	75msec	70A	48msec	90A	38msec
50A	68msec	75A	46msec	95A	36msec
55A	62msec	80A	42msec	100A	34msec
60A	57msec				

WIRING DIAGRAM



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