Direct single-phase meter

MK-LCD

Electronic single-phase energy meter with direct connection for DIN rail mounting

Description

Electronic single-phase meter for active energy, with direct connection for DIN rails.

Other features include:

- Connection error indicatorCurrent up to 120 A (depending on the type)
- RS-485 Communications, (depending on the type)
- 1 digital output with optoinsulated transistor
- Partial meters
- Displays instant parameters, such as the voltage, current and power.

Application

Features

Power circuit / Measurement	Single-phase: 110 V - 230 V ac (-15...+20%)
Consumption	3 V·A
Frequency	50...60 Hz
Minimum current	300 mA / 600 mA (depending on type)
Nominal current	30 A / 60 A (depending on type)
Maximum current	60 A / 120 A (depending on type)
Maximum meter value	**999,999 kW·h (Minimum resolution of the display 10 W.h)**
Class/Accuracy	Class 1
Output transistor	Optoinsulated (collector open) NPN
Maximum switching voltage	24 V dc
Maximum switching current	50 mA
Maximum Impulse frequency	1 impulse / s
Duration of the Impulse	500 ms ON / 500 ms OFF
Energy output	100 impulses / kW·h (no programmable)
Communications	
Type	RS-485
Communication parameters	9600 bps, 8, n, 1
Build features	
Type of box	Self-extinguishing plastic
Degree of protection	Fitted unit (frontal): IP 51 Terminals: IP 20
Dimensions	70 x 80 x 75 mm (4 modules)
Weight	200 g
Ambient conditions	
operating temperature	0 ... +50 ºC
Humidity	95% without condensation
Altitude	2000 m
Safety	
Category III-300 Vac **EN 61010**. Double-insulated electric shock protection class II	
Standards	
EN 61010	

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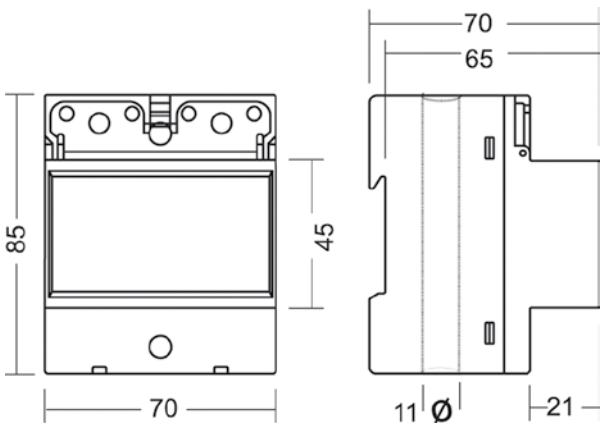
Dimensions

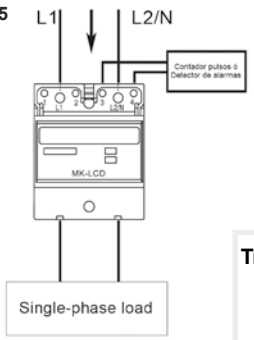


References

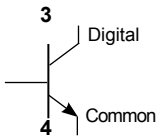
Parameters measured	Input range	Partial meters	Quadrants	Communications with the MODBUS (RTU) protocol	Rates	Digital output	DIN Modules	Type	Code
kW·h, V, A, W	0.3..0.60 A	Yes	2	-	-	1	4	**MK-30 LCD**	**M30120**
kW·h, V, A, W	0.6...120 A	Yes	2	-	-	1	4	**MK-60 LCD**	**M30220**
kW·h, V, A, W	0.3..0.60 A	Yes	2	RS-485	-	1	4	**MK-30 LCD-RS485**	**M30121**
kW·h, V, A, W	0.6...120 A	Yes	2	RS-485	-	1	4	**MK-60 LCD-RS485**	**M30221**

Connections

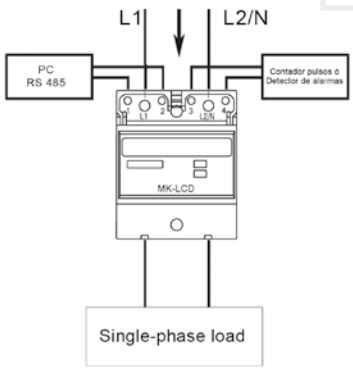
MK-LCD without RS-485



Transistor output

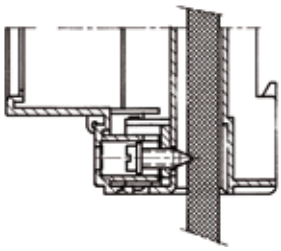


MK-LCD with RS-485



Diagram

Details of the voltage tap



Description of terminals

No. of Terminals	Description of terminals	
	MK-LCD without RS-485	**MK-LCD with RS-485**
1	Not used	RS-485 (B)
2	Not used	RS-485 (A)
3	RL1 Relay Output	RL1 Relay Output
4	Common Relay	Common Relay
5	L1 Voltage/Current input	L1 Voltage/Current input
6	N/L2 Voltage input	N/L2 Voltage input