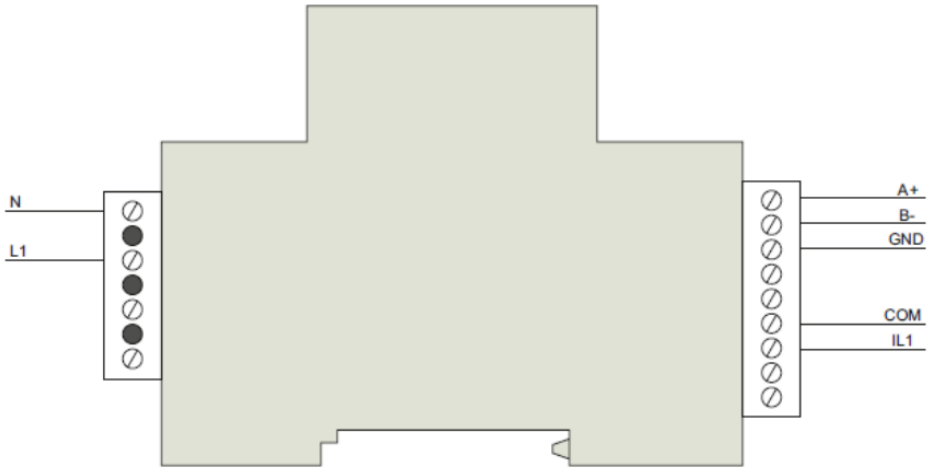
SKM8

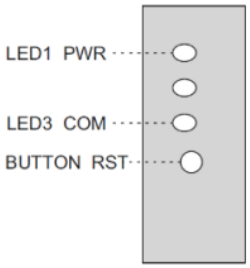
Description	
	SEM One is a single-phase network meter of 4 quadrants that allows you to monitor the electrical parameters of your installation, including active, reactive and apparent energy; powers, voltage, current, frequency, cos phi and more. Its design, of reduced dimensions, allows it to be placed easily and simply in any installation.
Featured Features	
	-Ideal for energy saving and cost distribution submetering applications -Measurement of energies, powers, voltage, current, frequency, cosine of phi and more -Operating time counter to monitor working hours of machinery -Energy measurement in 4 quadrants
Electrical data	
Power supply	85 .. 264 VAC
Frequency	47 .. 63 Hz
Consumption	1 .. 2,63 VA
Environmental conditions	
Temperature	-10 .. +60 ºC
Humidity	5% .. 95%
Mechanical data	
Surround material	UL94-V0 self-extinguishing plastic
Protection degree	IP30
Dimensions	18 x 70 x 109 mm
Weight	70 g
Mounting	DIN rail
Maximum working altitude	2000 m
Serial interface	
Type	RS-485 three threads (A+/S GND/ B-) (RX/GND/TX)
Transmission speed	9600 / 19200 bps configurable
Data bits	8
Parity	No Parity / Configurable Par
Stop bit	1 / 2 configurable
Characteristics and electrical safety	
External cover	CAT III 300 V according to EN 61010
Protection class	Class 2
External instrument transformers	TRA y TRC series (In / 0,250 A)
Regulations	
	UNE EN 61010-1:2010, UNE-EN 61000-6-2, UNE-EN 61000-6-4

Electrical wiring

The SKM8 is powered between the L1 and N terminals, and external current transformers are required for current measurement. Below is the detail of each terminal:



Leds



Installation

The installation of the equipment is carried out on a DIN rail mounting, leaving all the connections inside an electrical panel.
The equipment must be connected to a power circuit protected with type gL (IEC 269) or type M fuses, between 0.5 and 2 A. It must be provided with a magneto-thermal switch or equivalent device to disconnect it from the power supply network. The power supply circuit of the equipment is connected with a cable with a minimum section of 1 mm². The secondary line of the current transformer will have a minimum section of 2.5mm².
The insulation temperature of the cables that are connected to the equipment must be at least 62ºC.

Communication

The equipment has an RS-485 type communication port for reading and writing the device parameters. To do this, the equipment uses the Modbus/RTU communication protocol.

By default, it is configured with the peripheral number 64 (in decimal) and communication mode 4, that is, 9600 bps, 8, N, 1. Using the address change command we can assign any other address (maximum FF in hexadecimal equivalent to peripheral 255). If you do not remember the slave number, you can retrieve the address that comes by default (64 decimal), for this you must:

- Remove auxiliary power to the equipment.
- Permanently activate the button located on the front of the equipment.
- Power it again and stop pressing the button, in this way the equipment will automatically recover the default peripheral number.

Modbus RTU memory map

Magnitude	Symbol	Input Registers	Holding Registers	Unity	Function
Peripheral number			0x00		3,6,16(0x10)
Communication parameters			0x01	0: 9600, 8, E, 1 1: 19200, 8, E, 1 2: 9600, 8, N, 2 3: 19200, 8, N, 2 4: 9600, 8, N, 1 5: 19200, 8, N, 1	3,6,16(0x10)
Hardware version			0x07		3
Software version			0x08		3
Model			0x0B		3
Current transformer XX/250mA			0x32	Default value 100A	3,6,16(0x10)
Voltage	VI1	0x02-0x03		V x 10	4
Current	AI1	0x04-0x05		mA	4
Active power	API1	0x06-0x07		w	4
Reactive power	RPI1	0x08-0x09		w	4
Apparent power	VAI1	0x0A-0x0B		w	4
Power factor	PFI1	0x0C-0x0D		x 1000	4
Cos φ	COSI1	0x24-0x25		x 1000	4
Frequency	FQI1	0x28-0x29		x 100	4
Active energy	AE	0x3C-0x3D		w.h	4
Inductive reactive energy	IE	0x3E-0x3F		w.h	4
Capacitive reactive energy	CE	0x40-0x41		w.h	4
Maximum demand	MDI	0x44-0x45		w/VA	4
Apparent energy	VAE	0x56-0x57		w.h	4