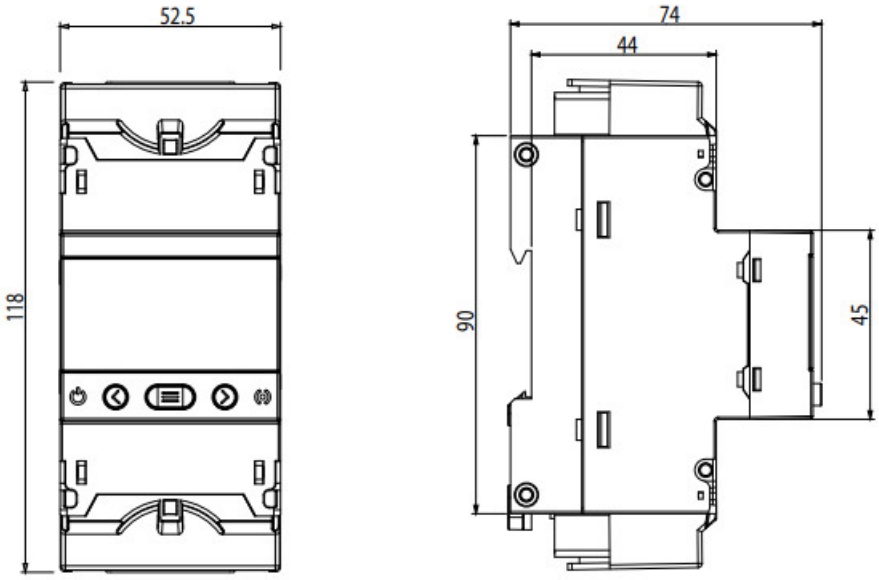
Circutor CVM-E3-MINI-MC-WiEth Three Phase Power Analyser Installation Guide

CVM-E3-MINI-MC-WiEth Three Phase Power Analyser Installation Guide

CVM-E3-MINI-ITF-WiEth

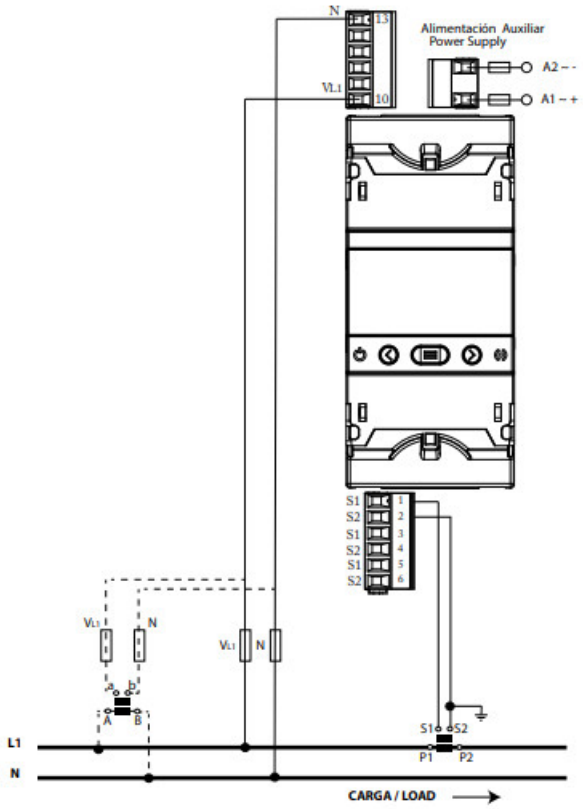
Contents

Dimensions

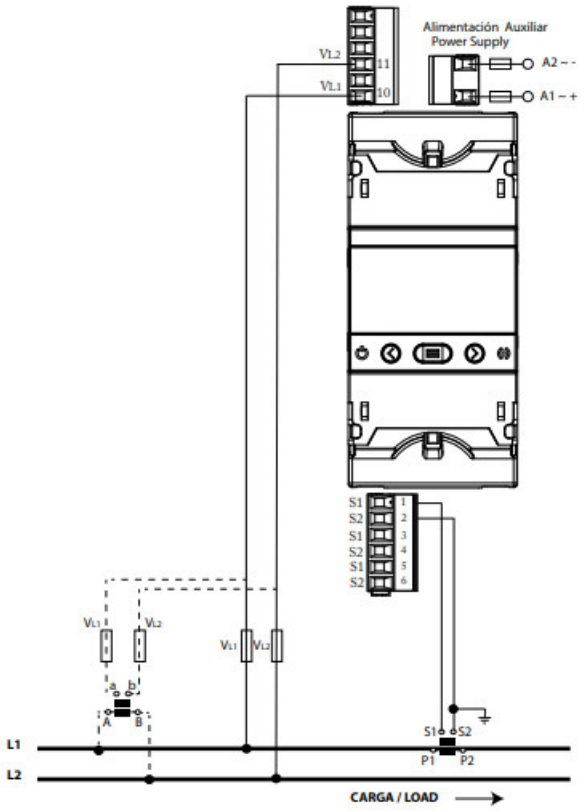


Connections

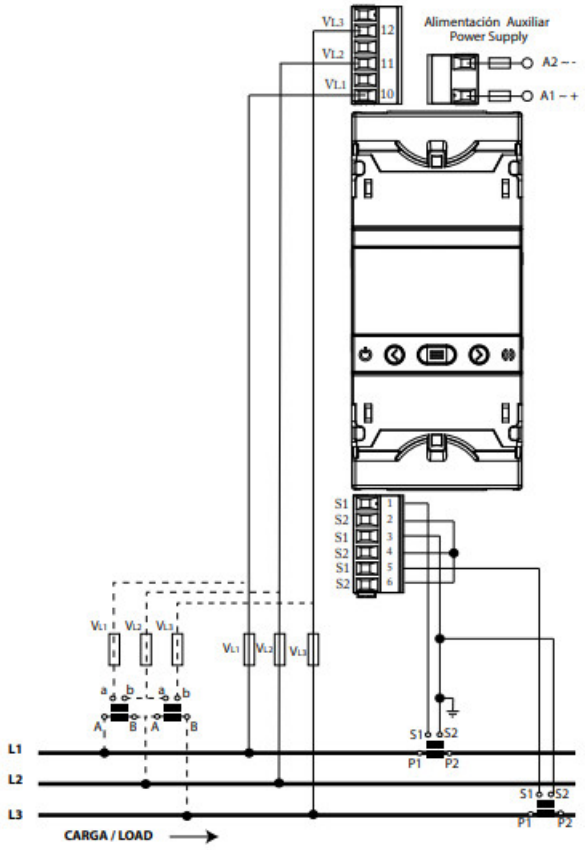
2-wire Single-phase network (Neutral)



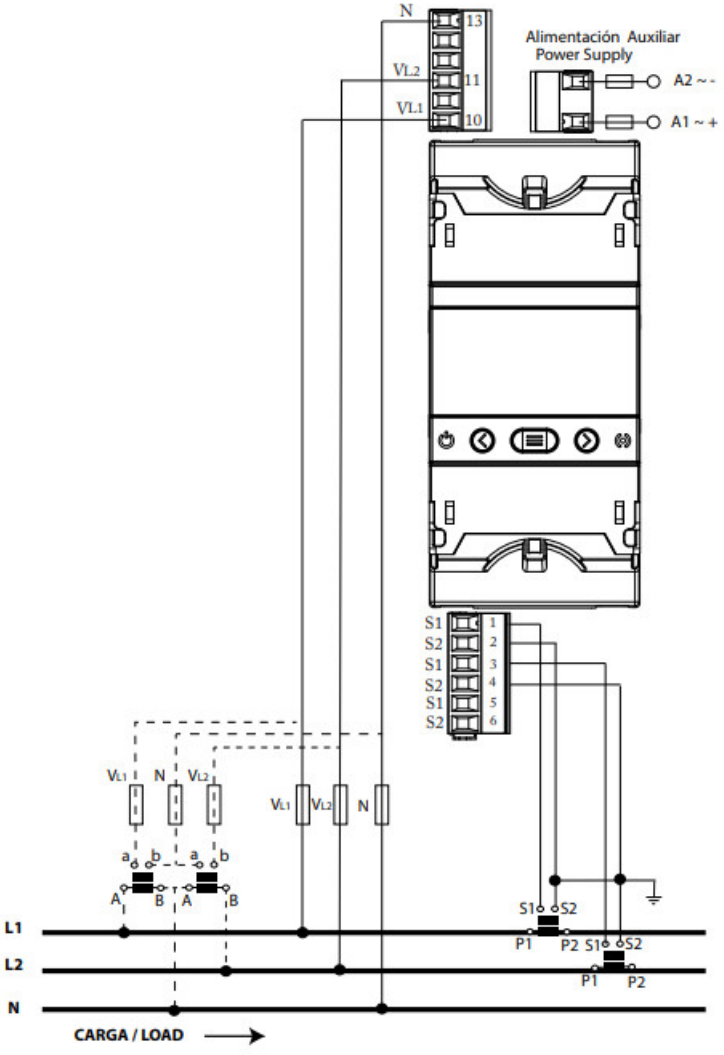
2-wire Single-phase network Phase – Phase



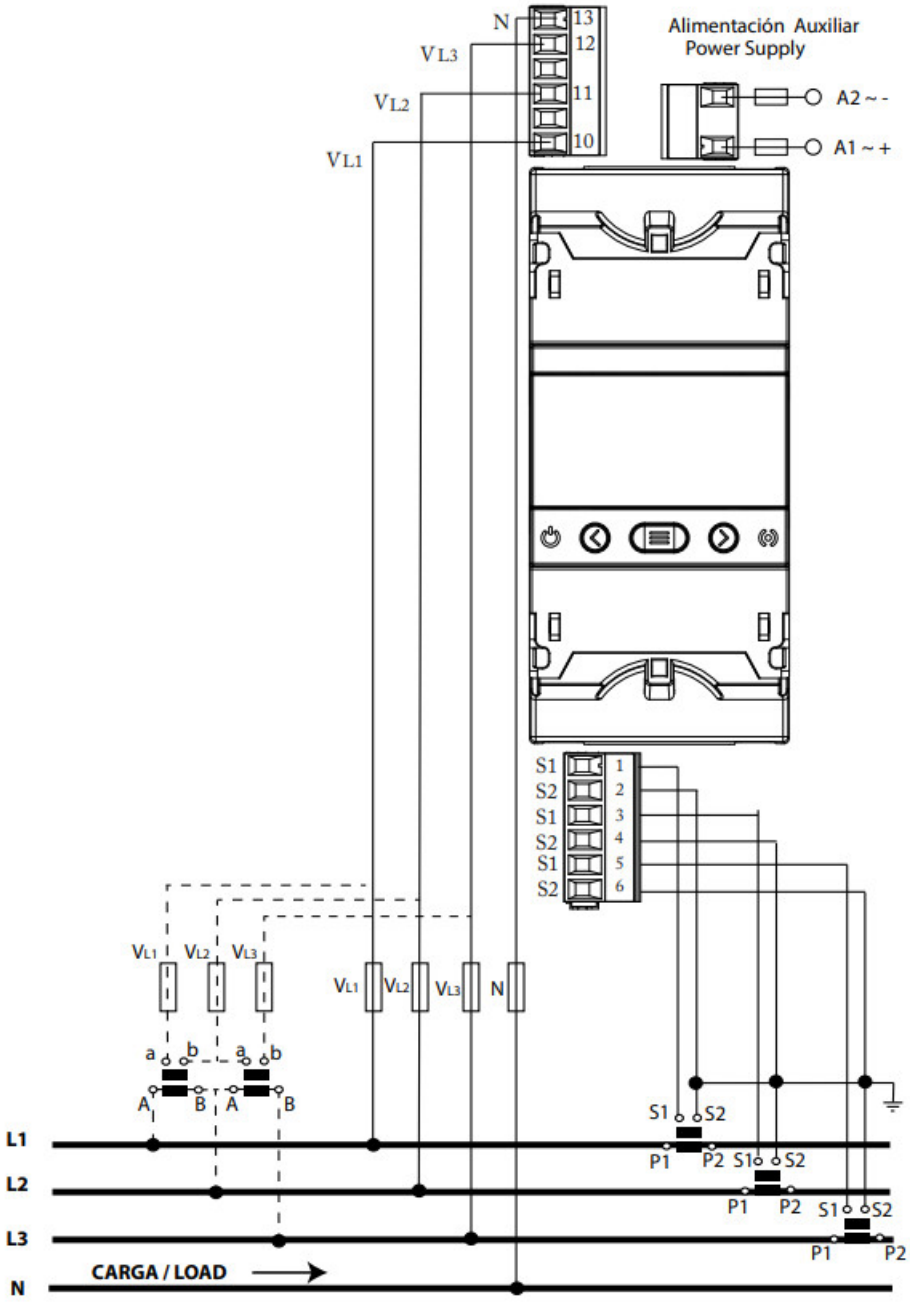
3-wire three-phase network (ARON)



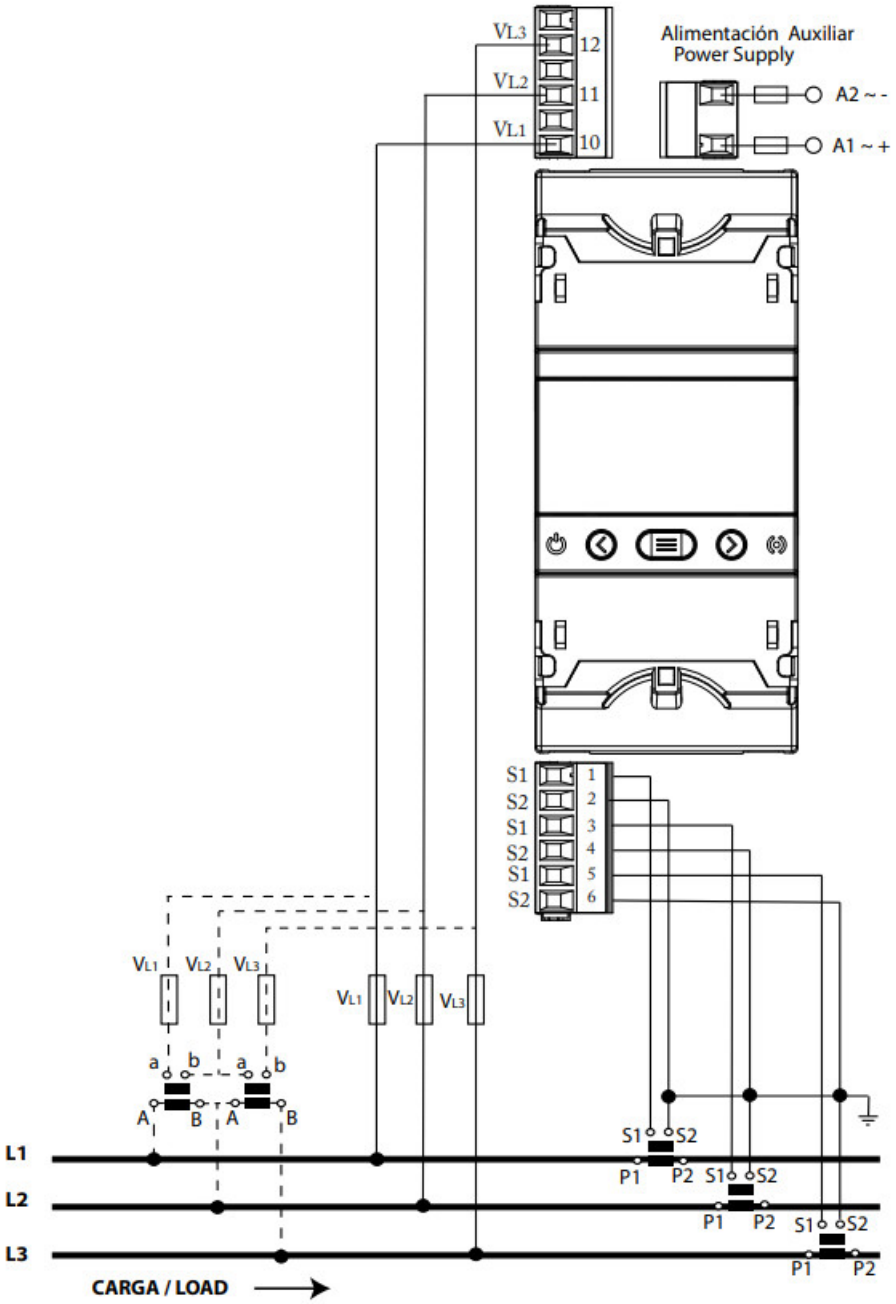
3-wire two-phase network



4-wire three-phase network



3-wire three-phase network



This manual is a CVM-E3-MINI-ITF-with installation guide. For further information, please download the full manual from the CIRCUTOR website: **www.circutor.com**

IMPORTANT!

The device must be disconnected from its power supply sources (power supply and measurement) before undertaking any installation, repair or handling operations on the unit's connections.
Contact the after-sales service if you suspect that there is an operational fault in the device.

The device has been designed for easy replacement in case of malfunction.

The manufacturer of the device is not responsible for any damage resulting from failure by the user or installer to heed the warnings and/or recommendations set out in this manual, nor for damage resulting from the use of non-original products or accessories or those made by other manufacturers.

DESCRIPTION

The CVM-E3-MINI-WiEth device measures calculate and display the main electrical parameters of the following networks: single phase, two-phase, with and without neutral, balanced three-phase, with ARON measurements, or unbalanced.

The measurement will be taken in RMS with the three AC voltage inputs and three current inputs.

CVM-E3-MINI-ITF-WiEth, indirect current measurement with /5A or /1A transformers.

INSTALLATION

The device must be installed on an electric panel or enclosure, attached to a DIN rail (IEC 60715).

IMPORTANT!

 Take into account that when the device is connected, the terminals may be hazardous to the touch, and opening the covers or removing elements may provide access to parts that are dangerous to the touch. Do not use the device until it is fully installed.

The device must be connected to a power circuit that is protected with gl (IEC 269) or M-type fuses with a rating of 0.5 to 2 A. It must be fitted with a circuit breaker or equivalent device, in order to be able to disconnect the device from the power supply network. The power and voltage measuring circuit must be connected with cables that have a minimum cross-section of 1mm 2.
The secondary line of the current transformer will have a minimum cross-section of 2.5 mm 2.
It's mandatory to connect the current transformer to the ground, see Connections.
The temperature rating of insulation of wires connected to the devices will be at a minimum of 62ºC

Technical features

AC Power supply	
Rated voltage	100 … 240 V ~ ± 10%
Frequency	50 … 60 Hz
Consumption	4 … 5.2 VA
Installation category	CAT III 300 V
DC Power supply	
Rated voltage	100 … 240 V ± 10%
Consumption	2.5 … 2.8 W
Installation category	CAT III 300 V
Voltage measurement circuit	
Rated voltage (Un)	300 V F-N / Ph-N, 520 V F-F / Ph-Ph
Voltage measurement margin	5 … 120% Un
Frequency measurement margin	45 … 65 Hz
Input impedance	400 kΩ
Min. voltage measurement (Start)	11 V F-N / Ph-N
Installation category	CAT III 300V

Current measurement circuit	CVM-E3-MINI-ITF-WiEth
Rated current (In)	…/5A o …/1A
Current measurement margin	2 … 120% In
Min. current measurement (I start)	0.2% In
Consumption	0.9 VA
Installation category	CAT III 300V
Measurement accuracy	
Voltage measurement	0.5% ± 1 dígito/digit
Current measurement	0.5% ± 1 dígito/digit
Frequency measurement	0.50%
Active power measurement	0.5% ± 2 dígitos/digits
Reactive power measurement	1% ± 2 dígitos/digits
Active energy measurement	Clase 1 / Class 1 Clase 0.5 / Class 0.5
Reactive energy measurement	Clase 2 / Class 2
Ethernet communication	
Type	Ethernet 10BaseT – 100BaseTX auto detectable / self-detectable
Connector	RJ45
Protocol	Modbus TCP – Web server – MQTT (2)
Connection mode to Network	DHCP ON/OFF (ON or defect / by default)
Wi-Fi communication	
Band	2.4 GHz (Rango /Range : 2.4 … 2.5 GHz)
Standard	IEEE 802.11 b / g , IEEE 802.11 n (hasta / up to 150 Mbps)
Max. Output power	IEEE 802.11 b : 20 dBm IEEE 802.11 n : 14 dBm
Bluetooth® communication	
Protocols	Bluetooth v4.2 BR/EDR and BLE specification
Radio	NZIF receiver with –97 dBm sensitivity Class-1, class-2 and class-3 transmitter Adaptive Frequency Hopping (AFH)

User interface	
Display	LCD Custom COG de alto contraste / high contrast
Keyboard	3 teclas/keys
LED	2 LED
Environmental features	
Operating temperature	-10ºC … +50ºC
Storage temperature	-30ºC … +80ºC
Relative humidity (non-condensing)	5 … 95%
Maximum altitude	2000 m
Protection degree	IP30, Frontal / Front : IP40
Mechanical Features	
Dimensions	52.5x118x74 mm
Weight	275 g.
Enclosure	Self-extinguishing V0 plastic
Attachment	Carril DIN / DIN rail (1)

1. Minimum recommended distance between DIN rails: 150 mm.
2. Consult.

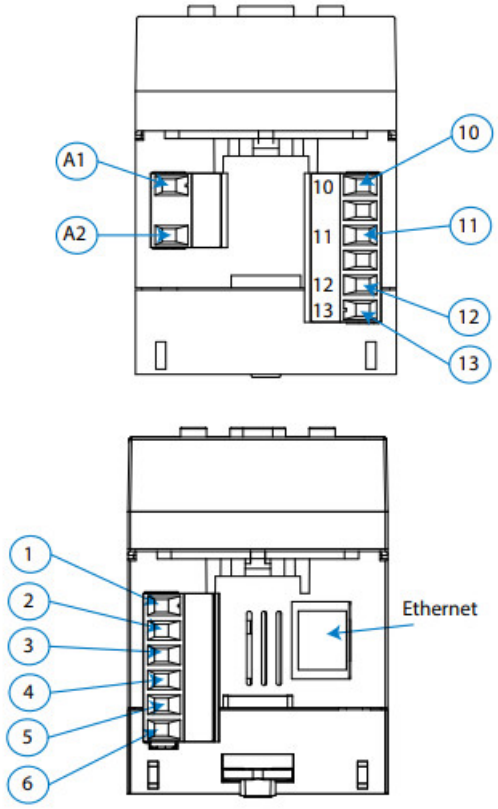
Note: Device images are for illustrative purposes only and may differ from the actual device.

Key	
	Short keystroke:
	Previous screen
	Long keystroke (2 s):
	Display of minimum value
	Short keystroke:
	Next screen.
	Long keystroke (2 s):
	Display of maximum value
	Short keystroke:
	Jump between different profiles (analyzer, e3)
	Accessing the programming menu
	Long keystroke (2 s):
	Display of the Maximum Demand
	Long keystroke (2 s):
	Unlocks the active alarm
	Long keystroke (2 s):
	screen device information
	Long keystroke (2 s):
	Ethernet – Wi-Fi communications screens

Terminal connections designations

Al	— +, Auxiliary power supply
A2	— -, Auxiliary power supply
10	VL1, Ll voltage input
11	VL2, L2 voltage input
12	VL3, L3 voltage input
13	N, Neutral voltage input
1	Sl, Ll current input
2	S2, Ll current input
3	51, L2 current input
4	S2, L2 current input
5	51, L3 current input
6	S2, L3 current input
Ethernet	Ethernet connection

Technical service



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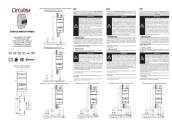
Documents / Resources

	Circutor CVM-E3-MINI-MC-WiEth Three Phase Power Analyser [pdf] Installation Guide CVM-E3-MINI-ITF-WiEth, Three Phase Power Analyser, Power Analyser, CVM-E3-MINI-MC-WiEth Three Phase Power Analyser, Three Phase Power Analyser

References

- Productos y soluciones integrales para la eficiencia energética eléctrica

Manuals+,