

CVM-B100

CVM-B150

Power analyzer for panels

Description

- High-end power analyzers, versatile and expandable, with 4-quadrant measurement (Consumption and Generation). Suitable for high and low Voltage installations, since it can process high voltage and current transformation ratios and is self-scaling.

Features

- Format: 96x96 (CVM B100) and 144x144 (CVM B150)
- High resolution and colour screen
- IP65 front panel protection
- 5 Voltage inputs (3 phases + Neutral + Earth)
- 4 Current inputs, ITF
- Voltage, Current and Power Accuracy = 0.2
- Energy Accuracy = 0.5S
- Expandable up to 4 modules digital/analogue inputs/ outputs modbus/TCPmodbus/XML comm
- 3 capacitive keys (tactile)
- Universal power supply
- Modbus/RTU Bacnet communicate integrated
- Allows customizable views

Other features

- Innovative SCV interface (Slide, Choose & View) for a versatile display of data; the parameters displayed on the screen can be customised
- Electrical parameters: instantaneous, maximum, minimum and demand
- Incremental electrical parameters (energy), hours, costs, emissions
- 3 Tariffs (can be selected via the digital input or RS485 communications)
- Capable of showing costs and KgCO2 emission sources on the screen, depending on the energy consumed or generated
- 2 Relay outputs for alarms with delay, times, ON and OFF, etc.
- 2 Transistor outputs for alarms or impulse generation, with all possible configuration parameters
- 2 digital inputs, with optimal control over the selection of the unit's tariffs or configurable for monitoring purposes, with RS-485 Modbus communications, monitoring or logical states of other electromechanical units. (RCCBs with self-reclosing systems, thermal-magnetic circuit breaker, etc.)



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Applications

- Application for the control and monitoring of all parameters measured by analyzers with communications systems, covering a comprehensive list of parameters in Low and High voltage installations.
- 4 alarms (2 transistor and 2 relay controlled alarms), fully and independently programmable, in accordance with a low or high value, hysteresis, connection/disconnection delays, normally open or closed standby status and latch.
- Generation of impulses with transistor outputs, fully and independently configurable over any incremental parameter (energy, costs, kgCO₂, total meter or tariff hours)
- Transducer that converts analogue signals to any instantaneous parameter that the unit can measure or calculate, with expansion modules with analogue outputs.
- Display of process signals, with a expansion module with analogue inputs; optional reporting of these signals to SCADA systems through other communications systems
- Control of electrical load operations or alarm signals by means of programming the built-in transistor or relay outputs or other outputs added with expansion modules.
- Autonomous datalogger with WEB server, connected to an EDS unit. Direct monitoring of the historical data stored in the unit with a conventional WEB browser.

Características técnicas

Power circuit	100...230 V _{ac} +/-15% / 100...260 V _{dc} +/-15%
	AC Frequency 45...65 Hz
	AC Consumption min. 4 VA / max. VA (25 VA with all expansion options)
	DC Consumption min. 4 VA / max. VA (25 W with all expansion options)
Voltage measurement circuit	Rated voltage 12.7 V...400/600 V p-n / p-p
	Frequency 40 / 70 Hz (360...440 Hz)
	Measurement margin 2.54 %...120% of the Un for Un=500Vac (p-n)
	Admissible overvoltage 750 Vac
	Maximum consumption (limited current) < 0.1 VA
Current measurement circuit	Current measurement channels 4 (3 phases + Neutral)
	Input current .../5A or .../1A .../250mA (MC-ITF)
	Minimum current for class 250 mA
	Start-up current 10 mA
	Measurement margin 0,010...8,48A
	Allowable overload 10A permanent, 100 A t<1s
	Consumption < 0.15 VA
Maximum transformation ratios	Primary V : 6,000,000 (phase-neutral)
	Primary A : 50,000
	Product of Primary V x Primary A<300,000,000,000
Maximum meter value (total)	Yes (Primary A / Secondary A) <1000 →2 GW
	Yes (Primary A / Secondary A) >=1000 →2 TW
Accuracy class	Voltage 0,2%
	Current 0,2%
	Neutral current 0,5%
	Power 0,5% ± 1 digit
	Active energy class 0,5 S
Display of harmonics	Reactive energy class 0,2
	Voltage/Current 50 th

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Technical features

Connections		
Digital inputs	3 (selection of tariffs, states or external alarms)	
	Type	Opto-isolated potential-free contact
	Activation current	4 mA (12V maximum voltage of open contacts)
	Insulation	4 kW
Digital outputs	Generation of impulses or Alarms	
	Type	2 NPN transistors
	Digital outputs to relay	2
	Maximum voltage of operation	+/- 400 Vac
	Maximum operation current	+/- 130 mA
	Maximum frequency	1000 impulses / second
	Pulse duration (T on / T off)	0.3 / 0.7 ms (1 ms of a complete impulse)
	Alarms	
	Type	2 relays
	Maximum power of operation	1500 VA / 180 W
	Maximum voltage of operation	400 V
	Maximum switching current	6A
	Electrical working life (400V / 6A)	3 x 10 ⁴ (85 °C)
	Mechanical working life	1 x 10 ⁷
Integrated communications	RS-485 Modbus or Bacnet RTU A(+) and B(-)	
	Speed	9600...115200
	bits, parity, stop	8, n, 1
Environmental conditions	Operating temperature	
	-10...+50°C	
	Relative humidity	
Build features	5...95%	
	Altitude	
	2000 m	
	Shape	Assembly on 96x96mm or 144x144 panel
	Depth	110mm w/o expansion modules (both models)
Universal power supply	Front panel IP Protection	IP65
	Rear panel IP Protection	IP20
Safety	Power circuit: 100 to 230 Vac +/- 15% / 100...260 Vdc +/-15%	
	Power supply frequency: 45...65 Hz	
Standards	Designed for CAT III 300/520 Vac installations, in accordance with EN 61010	
	Double-insulated electric shock protection, class II	
Standards	IEC 62053-22, ANSI (class 0.5S), IEC 62053-23 ANSI C12.1	
	(class 2), IEC 61010, IEC 61000, UNE-EN 55022. Measurement	
	in accordance with MID, design in accordance with UL	
	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-11, IEC 61000-4-4, IEC 61000-4-5	

References

96 x 96

Current measuring secondaries	Type	Code
/5 or /1 A	CVM-B100-ITF-RS485-ICT2	M56011
/250 mA	CVM-B100-MC-ITF-RS485-ICT2	M56021

144 x 144

Current measuring secondaries	Type	Code
/5 or /1 A	CVM-B150-ITF-RS485-ICT2	M56111
/250 mA	CVM-B150-MC-ITF-RS485-ICT2	M56121

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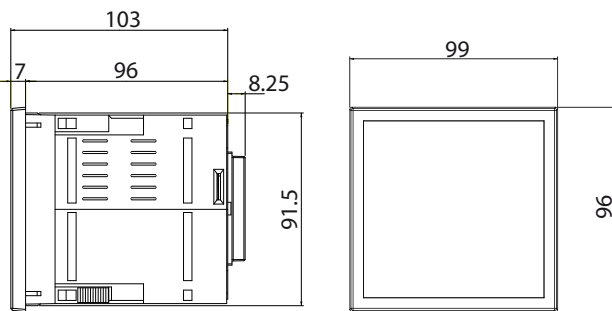
Power analyzer for panel

Expansion modules for CVM B150 and CVM B100

Outputs	Memoria-SD	Digital outputs	Analogue outputs	Protocols	Communication	Type	Code
8 Trans. (*)	-	8	-		-	M-CVM-AB-8I-8OTR	[*] M56E01
8 Relé	-	8	-		-	M-CVM-AB-8I-8OR	[*] M56E02
8 (0/4...20mA)	-	-	4 (0/4...20mA)		-	M-CVM-AB-4AI-8AO	[*] M56E03
-	-	-	-	Ethernet	Modbus / TCP	M-CVM-AB-Modbus-TCP	[*] M56E05
-	-	-	-	LonWorks	LonTalk ISO/IEC 14908 ANSI/EIA 7091	M-CVM-AB-LonWorks	[*] M56E08

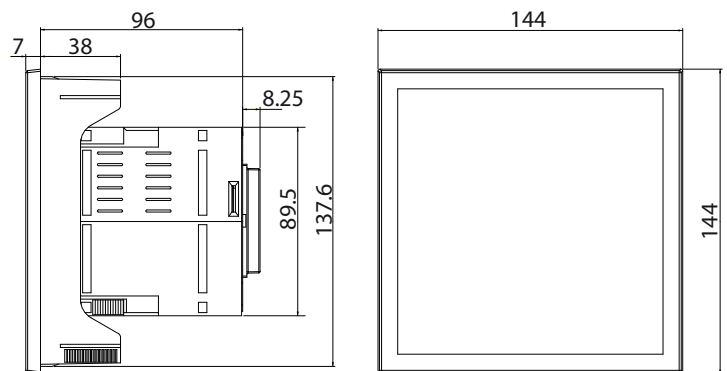
Dimensions

CVM B100



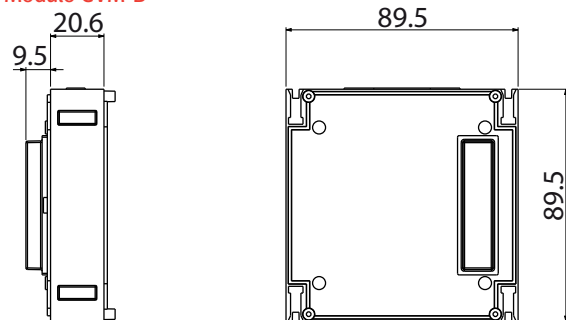
Window level: 92x92 mm

CVM B150



Window level: 138x138 mm

Módulo CVM-B



Note: for other options consult the product manual

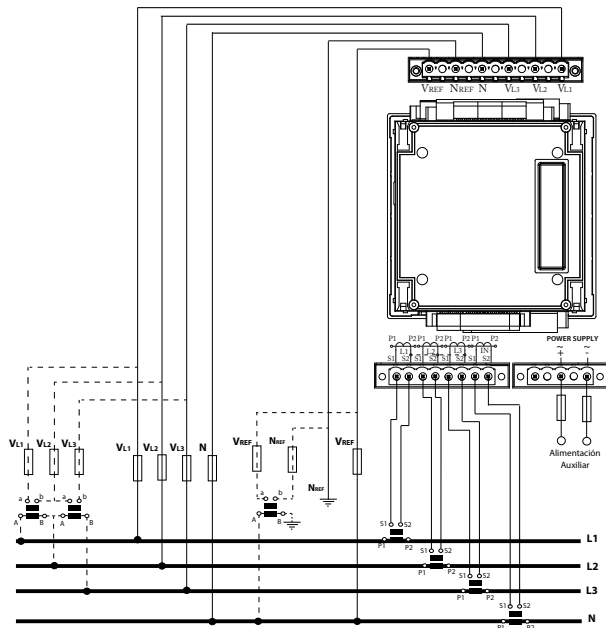
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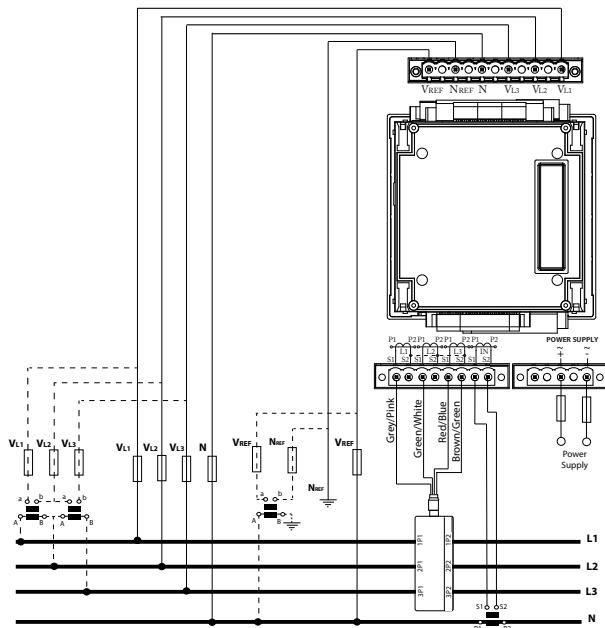
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Connections

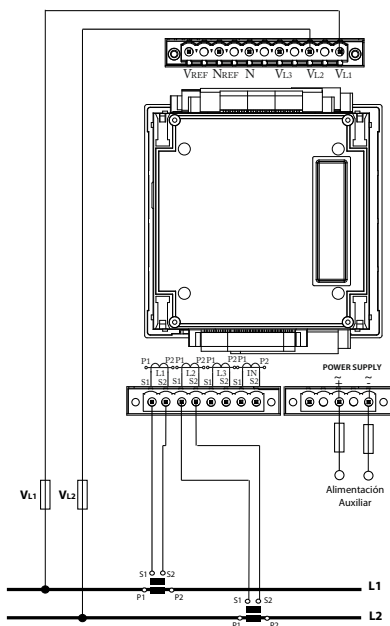
Three-phase measurement, with or without voltage transformer and current transformers



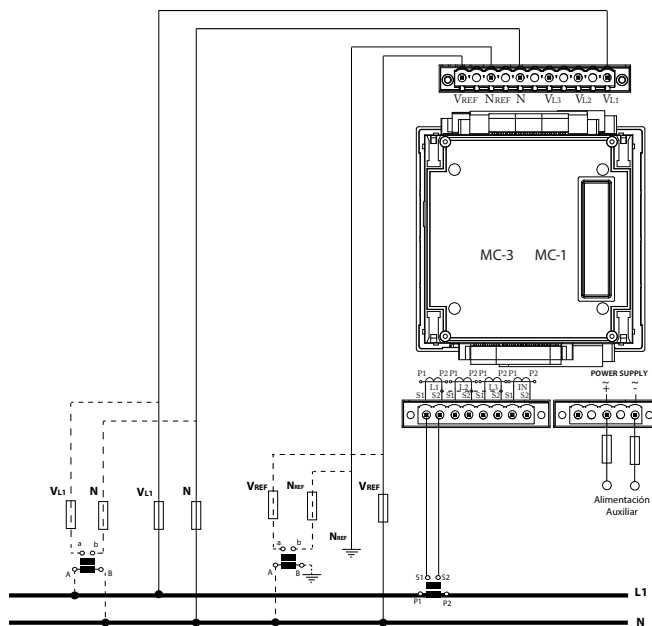
Three-phase measurement, with or without voltage transformer and MC-3 type transformers (1250 mA) + MC-1 for neutral current



Direct phase-phase measurement with current transformers



Measurement in single-phase system with or without voltage transformer



Note: for other options consult the product manual