

CVM-A1500-FLEX-485-ICT2

CVM-A1500-FLEX-485-ICT2, Power quality analyzers with recording of quality events and transients in accordance with (IEC 61000-4-30 Ed.2) Class A

Code: M56351.

> Protocol: Modbus RTU | BACnet | webserver (HTTP) | XML | HTML5
> Memory: 200 MB
> Memory: Yes
> Events / Waveform: Yes
> Certification: -
> Energy accuracy: 1
> Communications: RS-485 | Ethernet
> Transistor output: 2
> N° relays: 2
> Digital inputs: 2
> Harmonics: 63
> Input current: Rogowski
> Mounting: Pannel
> Modules: 144 x 144

Description

CVM-A1500 is a panel mounted power quality analyzer with EMS (Energy Management Software) integrated. Its internal Web Server (html5) allows any user to have full installation control by using any web browser.

Designed to be installed in the most relevant or critical part of electric installations since it registers and monitors a wide range of variables (almost one year of data with RMS, maximum and minimum values). The device also registers power quality events such as swells, dips, interruptions (every half cycle) and transients (according to **IEC 61000-4-30** Class A). Any event will be immediately captured with the voltage and current waveform.

This model adds the measurement of power quality variables (defined in the standard **EN 50160**) such as flicker, unbalance (Kd) and asymmetry (Ka) coefficients or voltage and current harmonics decomposition up to 63th. In addition it is possible to monitor in real time the instantaneous waveforms of voltage and current through its oscilloscope function.

As an added value, **CVM-A1500** displays the number of events and transients on each affected phase with the level reached, duration and its associated waveform. In addition, those events are directly displayed in CBEMA, ITIC y SEMI-F47 graphs.

The smart design of the **CVM-A1500** allows users to customize their own screens in order to access to the information faster and easy. Remark that the device allows the connection though PowerStudio software to save and store, in a redundant way, all the information in a server or PC avoiding memory limits.

- Dimensions:144 x 144 mm
- Energy Management Software (EMS) included with historical data register
- Register of power quality events, waveforms and instantaneous parameters.
- Expandable up to 3 modules (inputs/outputs and communications)
- VGA color display with high definition
- IP 65 with airtight seal
- 5 voltage channels + 4 ITF current channels (current sensors not included)
- Active energy class 0,2S (**IEC 62053-22**)
- Universal switching power supply AC/DC or DC
- Ethernet communications (Web Server) + RS-485 (ModBus RTU or BACnet protocol)
- 5 user customizable screens
- 3 tariffs (selectable by digital input or by communications)



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- Cost calculation(any currency) and emissions of $kgCO_2$
- 2 relay outputs for alarms + 2 transistor outputs for alarms or pulses + 2 digital inputs to select tariff, to control logical states or pulse centralizer from any external meter.

Application

- Control, monitoring and logging of the power quality in High and Low Voltage distribution panels. Performed directly or remotely thanks to its WEB server. Integration in SCADA systems through XML requests.
- 4 alarms (2 per transistor and 2 per relay), fully and independently programmable according to a low or high value, hysteresis, connection/disconnection delays, normally open or closed standby status and interlocking.
- Generation of impulses with transistor outputs, fully and independently configurable over any incremental parameter (energy, costs, $kgCO_2$, total meter or tariff hours).
- Transducer converting analogue signals to any instantaneous parameter measured or calculated by the unit, with built-in expansion modules with analogue outputs.
- Display of process signals featuring a built-in expansion module with analogue inputs, with optional reporting of these signals to SCADA systems through communications systems.
- Control of electrical load or alarm signal operations by programming the transistor or relay outputs that are built-in or added through expansion modules.
- Datalogger integrated with Web server and XML (log of historical data).

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Specifications

AC power supply

Installation category	CAT III 300 V
Consumption	15 ... 22 VA
Frequency	45 ... 65Hz
Nominal voltage	100...240 V ~

DC power supply

Installation category	CAT III 300 V
Consumption	8 ... 10 W
Nominal voltage	120 ... 300 Vdc

Mechanical characteristics

Size (mm) width x height x depth	144.7 x 144.7 x 131.1 (mm)
Envelope	Self-extinguishing plastic UL94-V0
Fastening	Pannel (DIN43700) 138x138
Weight (kg)	0,752

Environmental characteristics

Protection class	IP 40 (Front), IP 65 (Sealing gasket), IP 30 (not installed)
Relative humidity (without condensation)	5 ... 95%
Storage temperature	-20... +80 °C
Working temperature	-10 ... +50 °C

Standards

Certifications	CSA 61010-1 3rd edition
Electrical safety, Maximum height (m)	2000
Standards	UNE EN 61000-6-4, UNE EN 61000-6-2, IEC 60664-1, CAN/CSA-22.2 No. 61010-1 3rd. Edition 2012-05, IEC 61010-2-030, Measures according to : IEC 61557-12

Current measurement circuit

Installation category	CAT III 600 V
Nominal current (In)	1000 / 100 mV ~
Phase current measuring range	10 ... 120 % In
Minimum current measurement	10 A

Voltage measurement circuit

Installation category	CAT III 600V
Sampling frequency	40...70 Hz

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Input impedance	1.2MΩ
Frequency measuring range	40...70 Hz
Voltage measuring range	20...600 V~
Maximum input voltage consumption	0,15VA
Minimum measurement voltage (Vstart)	10 V~

User interface

LED	3 LED
Resolution of the display	VGA (640x480)
Keyboard	Capacitive, 3 keys
Display type	TFT color

Digital inputs

Input/output insulation	4 kV
Quantity	2
Type	Potential-free contact
Maximum short-circuit current	5 mA
Maximum open circuit voltage	15 Vdc

Digital relay outputs

Electrical life (at maximum load)	$3x10^4$ cycles
Mechanical life	$1x10^7$ cycles
Maximum switching capacity	1500 VA

Digital transistor outputs

Pulse width	1 ms
Quantity	2
Pulse output, time period (Ton / Toff)	0,3 ms/0,7 ms
Maximum frequency	1 kHz
Maximum current	130mA
Maximum voltage	48 Vdc

Measurement accuracy

Voltage asymmetry (Ka)	Class A (IEC 61000-4-30)
Voltage unbalance (Kd)	class A (IEC 61000-4-30)
Frequency measurement	Class 0.02
Phase current measurement	Class 0.2 ±1 digit
Reactive power measurement (kvar)	(Vn 230/110 Vac) 2 ± 2 digit
Apparent power measurement (kVA)	(Vn 230/110 Vac) 1 ± 2 digit
Active power measurement (kW)	(Vn 230/110 Vac) 1 ± 2 digit



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Power factor measurement	Class 0.5
Voltage THD	Class 1
Phase voltage measurement	Class 0.5 ±1 digit
Neutral voltage measurement	Class 0.5 ±1 digit (55...500 V~)
Pinst. Flicker	3 % (IEC 61000-4-15)
Pst Flicker	5 % (0,2...10 Pst) (IEC 61000-4-15)
Voltage harmonics (THD)	Class 1

Serial communication

Protocol	ModBus/RTU, BACnet
Technology / Type	RS-485 / BACnet

CVM-A
Power quality analyzers, colour display, panel mounted

CODE	TYPE	Energy accuracy	Input current	Certification	Communications
M563110000A00	CVM-A1500A-ITF-485-ICT2	0,2S (.../5A)	.../5 A | .../1 A | 250 mA	IEC 61000-4-30 (Class A)	RS-485 | Ethernet
M563510000A00	CVM-A1500A-FLEX-485-ICT2	1	Rogowski	IEC 61000-4-30 (Class A)	RS-485 | Ethernet
M56311.	CVM-A1500-ITF-485-ICT2	0,2S (.../5A)	.../5 A | .../1 A | 250 mA		RS-485 | Ethernet
M56351.	CVM-A1500-FLEX-485-ICT2	1	Rogowski		RS-485 | Ethernet

Four-quadrant measuring device with PowerStudio embedded. Integrated Datalogger module. Optional Modbus/TCP. 200MB Internal memory
See expansion modules and accessories (sealing gaskets) for CVM-A/CVM-B.
Precision power without connected sensors.

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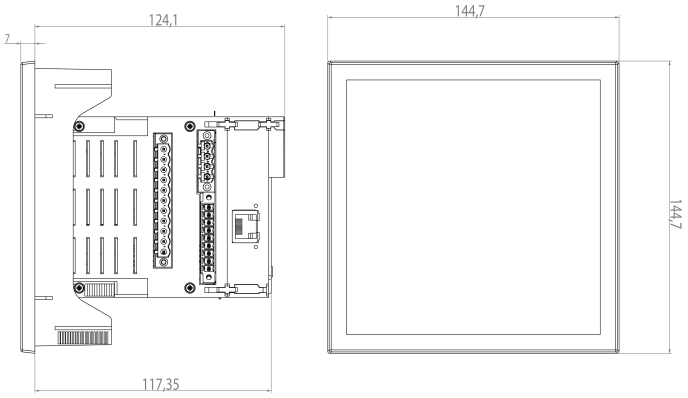


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Dimensions



Connections

Measurement system: 4W-3 Ph (FLEX type transformer secondary: /100 mV~)

