



CVM-A1500AFLEX-485-ICT2, Power quality analyzers with recording of quality events and transients Calibration Certificate (IEC 61000-4-30 Ed.2) Class A

Code: M563510000A00

> Protocol: Modbus/RTU | BACnet | webserver (HTTP) | XML | HTML5

> Memory: 200 MB > Memory: Yes

> Events / Waveform: Yes

> Certification: IEC 61000-4-30 (Class A)

> Energy accuracy: 1

> Communications: RS-485 | Ethernet

> Transistor output: 2

> Nº 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

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.

- O Dimensions:144 x 144 mm
- o Energy Management Software (EMS) included with historical data register
- o Register of power quality events, waveforms and instantaneous parameters.
- o Expandable up to 3 modules (inputs/outputs and communications)
- O VGA color display with high definition
- o IP 65 with airtight seal
- o 5 voltage channels + 4 ITF current channels
- o 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)
- o 5 user customizable screens
- o 3 tariffs (selectable by digital input or by communications)







Power analyzer for panel with power quality measurement parameters

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- Cost calculation(any currency) and emissions of kgCO<sub>2</sub>
- o 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**

- o 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
- o 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
- o Generation of impulses with transistor outputs, fully and independently configurable over any incremental parameter (energy, costs, kgCO<sub>2</sub>, total meter or tariff hours).
- o Transducer converting analogue signals to any instantaneous parameter measured or calculated by the unit, with built-in expansion modules with analogue outputs.
- $\circ$  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.
- o Control of electrical load or alarm signal operations by programming the transistor or relay outputs that are built-in or added through expansion modules.
- o Datalogger integrated with Web server and XML (log of historical data).







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## Specifications

Installation category	CAT III 300 V
Consumption	15 22 VA
Frequency	45 65Hz
Nominal voltage	100240 V ~
OC 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)
Fastening	Pannel (DIN43700) 138x138
Weight (kg)	0,8
invironmental characteristics	
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- 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
oltage measurement circuit	
Installation category	CAT III 600V
Sampling frequency	4070 Hz
Input impedance	1.2ΜΩ







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Voltage measuring range	20600 V~
Maximum input voltage consumption	0,15 VA
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
Туре	Potential-free contact

## Digital relay outputs

Maximum short-circuit current

Maximum open circuit voltage

Electrical life (at maximum load)	3x10 <sup>4</sup> cycles
Mechanical life	1x10 <sup>7</sup> cycles
Maximum switching capacity	1500 VA

5 mA

15 Vdc

### Digital transistor outputs

Quantity2Pulse output, time period (Ton / Toff)0,3 ms/0,7 msMaximum frequency1 kHzMaximum current130 mAMaximum voltage48 Vdc	Pulse width	1 ms
Maximum frequency 1 kHz  Maximum current 130mA	Quantity	2
Maximum current 130mA	Pulse output, time period (Ton / Toff)	0,3 ms/0,7 ms
	Maximum frequency	1 kHz
Maximum voltage 48 Vdc	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
Power factor measurement	Class 0.5
Voltage THD	Class 1







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Phase voltage measurement	Class 0.5 ±1 digit
Neutral voltage measurement	Class 0.5 ±1 digit (55500 V~)
Pinst. Flicker	3 % (IEC 61000-4-15)
Pst Flicker	5 % (0,210 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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Dimensions Connections

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





