Line-CVM-D32

Line-CVM-D32, Power analyzer

Code: M58100.

> Protocol: Modbus/RTU
> Communications: RS-485 | Bus-Line
> Transistor output: 2
> Measuring current Channels: 3
> Harmonics: 40
> Input current: .../5 A | .../1 A | .../250 mA
> Mounting: DIN rail

Description

The Line-CVM-D32 is a power analyser that measures, calculates and displays the main electrical parameters in single-phase networks, in systems with two phases without ground, with ARON connections or balanced or unbalanced three-phase systems. The measurement is a true RMS that relies on 3 AC voltage inputs and 3 current inputs. The device is modular and scalar thanks to expansion modules with different functionalities. The current is measured indirectly using /5A, /1A or /250mA transformers The voltage is measured directly in networks of up to 300V ~ P-N or through voltage transformers. Supply quality events counter (Overvoltages, gaps and interruptions)

Application

- Measurement of electrical parameters in switchboards and low- and medium-voltage connections where space constraints require installing a space-saving analyser in the DIN rail.
- Measurement of instantaneous, maximum and minimum values of electrical parameters.
- Logging of consumed or generated Active or Reactive Energy.
- Pricing of electricity in up to 4 tariffs (via communications or expansion module inputs)
- Generation of impulses through outputs to a transistor, fully and independently configurable based on any incremental parameter of active or reactive energy, either per total counter or per tariff.
- The installation can be controlled by way of programmable timer on delay, timer off delay and interlock alarms.
- Ability to expand the analyser's features by using expansion modules with transistor, relay or analogue inputs/outputs.
- Convert any instantaneous parameter measured or calculated by the device into analogue signals by incorporating analogue output expansion modules.
- Track the status of components in the installation by using the status of the inputs to the expansion module.

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DIN rail power analyser with quality event counter

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Specifications

AC power supply

Installation category	CAT III 300 V
Consumption	3 ... 8 VA
Frequency	50 ... 60 Hz
Nominal voltage	80 ... 264 V ~

DC power supply

Installation category	CAT III 300 V
Consumption	2 ... 3 W
Nominal voltage	100 ... 300 Vdc

Mechanical characteristics

Size (mm) width x height x depth	52.5 x 118 x 70 (mm)
Envelope	Self-extinguishing V0 plastic
Fastening	DIN rail (IEC 60715)
Weight (kg)	0,228

Environmental characteristics

Protection class	IP30, Front: IP40
Relative humidity (without condensation)	5 ... 95%
Storage temperature	-20 ... +70 °C
Working temperature	-10 ... +50 °C

Standards

Certifications	UL 61010-1
Electrical safety, Maximum height (m)	2000
Standards	UNE-EN 61010-1, UNE-EN 61010-2-30, UNE-EN 61326-1

Current measurement circuit

Installation category	CAT III 300 V
Nominal current (In)	.../5 A, .../1 A, .../0.250A (transformers type MC)
Phase current measuring range	(In: .../5 A): 0.01 ... 10 A(In: .../1 A): 0.01 ... 2 A(In: .../0.250 A): 0.01 ... 0.5 A
Maximum input current consumption	0.9 VA
Maximum pulse current	100 A (< 1s)
Minimum current measurement	0.01 A

Voltage measurement circuit

Installation category	CAT III 300 V
Input impedance	1 MΩ

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Voltage measuring range	20 ... 300 V~
Nominal voltage	300 V Ph-N / 520 V Ph-Ph
Minimum measurement voltage (Vstart)	10 V ac

User interface

LED	2 LED
Keyboard	3 keys
Display type	TFT RGB 1.77" 160x128 pixel

Digital transistor outputs

Pulse width	1 ms
Quantity	2
Type	Optocoupler NO
Maximum frequency	500 Hz
Maximum current	120 mA
Maximum voltage	48 Vcc

Measurement accuracy

Frequency measurement	.../5A (Class 0.1 % for three-phase and phase values), Class 0.1 % (.../1A, .../0.250A)
Phase current measurement	.../5A, .../1A (class 0.2 % for three-phase and phase values), ... / 0.250 A (class 1 % for I ≥ 20 % In, for three-phase and phase values)
Reactive energy measurement (kvarh)	Class 1 (.../5A), Class 2 (.../1A, .../0.250A)
Reactive power measurement (kvar)	.../5A (class 1 % for three-phase and phase values), .../1A (class 1 %), .../0.250A (class 2 %)
Apparent power measurement (kVA)	.../5A (Class 0.5 % for three-phase and phase values), .../1A (Class 1 % for I ≥ 5 % In), ... / 0.250 A (Class 1 % for I ≥ 20 % In)
Active energy measurement (kWh)	Class 0.5S (.../5A), Class 1 (.../1A), Class 1 (.../0.250A)
Active power measurement (kW)	.../5A (Class 0.5 % for three-phase and phase values), .../1A (Class 1 % for I ≥ 5 % In), ... / 0.250 A (Class 1 % for I ≥ 20 % In)
Power factor measurement	.../5A (class 0.5 % for three-phase and phase values), class 0.5 % (.../1A, .../0.250A)
Phase voltage measurement	.../5A, .../1A, .../0.250A (Class 0.2 % for three-phase and phase values)

Serial communication

Technology / Type	RS-485|Bus-Line

Line-CVM-D
Power analyzer, Line series

CODE	TYPE	Input current	Transistor output	Communications	Protocol
M58100.	Line-CVM-D32	.../5 A | .../1 A | .../250 mA	2	RS-485 | Bus-Line	Modbus/RTU

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Bus-Line: RS-485 communications system, with lateral side connector between modules

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Dimensions

Connections