



CVM MINI Power Quality Analyzer

To satisfy our customers' needs, NMI offers the CVM MINI power meter, which measures, calculates, and displays main electrical parameters from any industrial three-phase, or single phase power system, either 2, 3 or 4 wire configurations.

Features:

Power supply circuit:

- Single-phase: 85 - 265 VAC
- Voltage tolerance: -15 % / +10 %
- Frequency: 50 - 60 Hz
- Maximum consumption: 3.0 VA
- Operating temperature: -10°C + 50°C
- Humidity (without condensation): 5% 95%

Measurement circuit:

- Rated voltage: phase-neutral / between phases
-300 V AC. / 520 V AC.
- Frequency: 45 ~ 65 Hz
- Rated current: IN / 5 A or IN / 1 A
- Permanent overload: 1.2 In
- Power consumption voltage circuit: 0.7 VA
- Power consumption current circuit: ITF / Shunt
0.9 VA / 0.75 VA

Mechanical features:

- Casing material: IP 51
- Protection: IP 31
- Assembled equipment (front) & Non assembled equipment (sides and rear cover):
- Self extinguishing V0 plastic
- Dimensions (mm): 85 x 52 x 70 mm (3 step)
- Weight: 0.210 kg
- Voltage measure and supply wires: 1 mm²
- Secondary current transformers wires: 2.5 mm²
- Maximum altitude: 2.000 m.

Output transistors features:

- Type: Opto-isolated transistor (open collector): NPN
- Maximum operating voltage: 24 V DC.
- Maximum operating current: 50 mA
- Maximum frequency: 5 impulses / second
- Impulse length: 100 ms

Communication Options:

Modbus RS485 RTU



Accuracy class:

- Voltage: 0.5 % ± 1 digit
- Current : 0.5 % ± 1 digit
- Power / Energy: 0.5 % ± 1 digit

Measurement loggers:

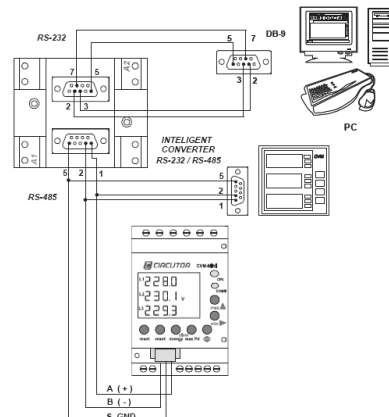
Current / Voltage / Power factor: 0.5 to 1
Scale range measurement margin: ITF 0.2 % 120 %
Temperature sensor: ± 2°C / -10°C +50°C

Safety:

Category III - 300 V AC. / 520 AC. EN-61010 Class II
double insulation against electric shock

Standards:

IEC 664, VDE 0110, UL 94, IEC 801, IEC 348, IEC 571-1,
EN 61000-6-3,
EN 61000-6-1, EN 61010-1, EN 61000-4-11, EN 61000-4-2,
EN 61000-4-3,
EN 61000-4-4, EN 61000-4-5, EN 55011



Digital Output Programming for Alarming / Trending

LIST OF VARIABLES AND ALARMS CODES FOR THE CVM-MINI

If no variable is required enter No. par. = 00.

Parameter	Symbol	L1 Code	L2 Code	L3 Code
Voltage (phase-neutral)	V	01	06	11
Current	A	02	07	12
Active power	kW	03	08	13
Reactive power -(Ind/Cap)	kvar	04	09	14
Apparent power	kVA	38	39	40
Power factor	PF	05	10	15
% THD V	THD V	25	26	27
% THD A	THD A	28	29	30

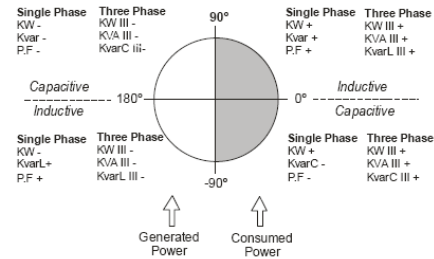
Parameter	Symbol	Code	Parameter	Symbol	Code
Three-phase active power	kW III	16	Neutral current	I_n	37
3 pha. inductive power	kvarL III	17	Max demand (L1)	Md (Pd)	35*
3 pha. capacitive power	kvarC III	18	Max demand (L2)	Md (Pd)	42*
cos φ three-phase	cos φ	19	Max demand (L3)	Md (Pd)	43*
3 pha. power factor	PF III	20	Active energy	kWh III	31
Frequency (L1)	Hz	21	Inductive reactive energy	Kvar h L III	32
V phase phase L1- L2	V 12	22	Capacitive reactive energy	Kvar h C III	33
V phase phase L2 - L3	V 23	23	Apparent energy	KVA h III	44
V phase phase L3 - L1	V 31	24	Active energy generated	Kw h L III -	45
Apparent power	kVA III	34	Inductive energy generated	Kvar h L III -	46
Maximum demand	Md (Pd)	35	Capacitive energy generated	Kvar h C III -	47
Three-phase current	A III	36	Apparent energy generated	KVA h III -	48
Temperature	°C	41			

*Variables only valid if the Maximum Demand for current has been set per phase.

There are also some variables that refer to the three-phases at the same time. If one of these variables has been selected, the alarm will go off when any of the three-phases meet the preset conditions.

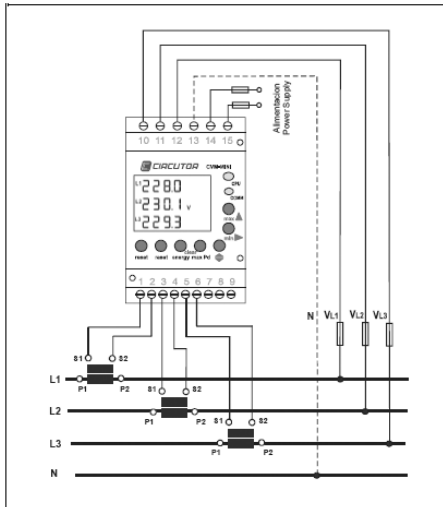
Parameter	Symbol	Code	Parameter	Symbol	Code
Voltages (phase-neutral)	V1 or V2 or V3	90	Power factors	PF1 or PF2 or PF3	94
Currents	I1 or I2 or I3	91	Voltages (phase-phase)	V12 or V23 or V31	95
Active powers	kW1 or kW2 or kW3	92	% THD V	THDV1 or V2 or V3	96
Reactive powers	kvar1 or kvar2 or kvar3	93	% THD I	THDI1 or I2 or I3	97
Apparent powers	kVA1 or kVA2 or kVA3	98			

FOUR QUADRANTS OF THE CVM MINI

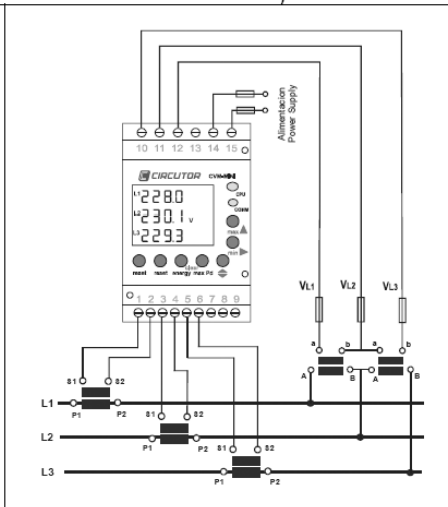


Wiring Diagrams

4 wire / 3 wire (low voltage)



3 wire (2 voltage transformers and 3 current transformers)



3 wire (2 voltage transformers and 2 current transformers)

