CVM144 Power Quality Analyzer

To satisfy our customers' needs, NMI offers the CVM144 power meter, which measures, calculates, and displays main electrical parameters (37 discrete values) from any industrial three-phase, or single phase power system, either 2, 3 or 4 wire configurations.

MEASUREMENTS:

THREE PHASE VALUES:
Active Energy (kWh)
Inductive Reactive Energy (kVarhL)
Capacitive Reactive Energy (kVarhC)
Apparent Power (kVA)
Active Power (kW)
Power Factor (PF)
THD Measuring (V, A)
Harmonic decomposition up to the 31st
Inductive Reactive Power (kVarL)
Capacitive Reactive Power (kVarC)
Maximum Demand

VALUES PER PHASE:
Voltage
Current
Reactive Power (+) and (-)
THD (V and A)
Power Factor

NEUTRAL:
Calculated Neutral Current
Leakage Current*
Measured Neutral Current*
(*)Only with the appropriate expansion module

OUTPUTS:
Digital IN and OUT
Analog IN and OUT
Alarming

Compliance:
Accuracy: ANSI C12.16
FCC: Class A Part 15
UL/CUL/CSA Listed

FEATURES:
Energy Displayed kWh, kVarLh, kVarCh
Field Programmable
Three – Four Digit – LED Displays
Measuring Range: 120–480 VAC (Optional 600V)
Data Communications and Relays
LEDs Indicate Displayed Values
Minimum and Maximum Values for Each Parameter
Power and Harmonic Values Displayed
Neutral Current Measurements (Optional)

Communication Options:
Modbus / Profibus / Johnson Controls N2 / TCP IP

TECHNICAL CHARACTERISTICS:
Power supply circuit (*) 120 - 480 VAC (+10% / -15%)
Consumption 5 VA (*) Model Specific
Frequency 45...65 Hz

Measuring circuit
Rated voltage 500 VAC phase-neutral /
866 VAC phase-phase
Frequency 45...65 Hz
Voltage circuit consumption 0.75 VA
Rated current *I*n .../5 A (option: .../1 A)
Permanent overload 1.2 *I*n

Class
Voltage — 0.5 % ± 2 digits
Current — 0.5 % ± 2 digits
Power — 1 % ± 2 digits

Digital Output transistor
Maximum operating power 750 VA
Maximum operating voltage 250 VAC
Maximum operating current 3 A
Mechanical life 3 x 10^7 operations
Energy / alarm impulses 1 impulse/second maximum
At full loading:
- electrical life (250 VAC / 3A)
- operating frequency
1 x 105 operations
450 operations / hour

Analog outputs
Output type 0 / 4 ... 20 mA
Resolution 4 000 dots (12 bits)
Maximum impedance 500 Ω

Analog inputs
Input type 0 ... 20 mA
Resolution 4 000 dots (12 bits)

CVM144 Models

Harmonic decomposition up to the 31st on the display (A)	Three-phase 50...60 Hz	Insulated inputs (ITF)	Energy	THD Measuring (V, A)	True effective value	LED Display	Digital inputs	Relay output	Leakage / Neutral current	Analogue inputs	Analogue outputs	Communications	MODBUS Protocol (RTU)	PROFIBUS Protocol	Johnson Controls Protocol	Type	Code
EXPANDIBLE EQUIPMENT																	
	•		•	•	•	•										CVM 144	M50600
	•	•	•	•	•	•										CVM 144-ITF	M50700
•	•	•	•	•	•	•										CVM 144-ITF-HAR	M50760
	•	•	•	•	•	•						TCP-IP	•			CVM 144-ITF-ETHERNET	M50750
	•	•	•	•	•	•						RS485		•		CVM 144-ITF Profibus	M50730
	•	•	•	•	•	•						RS485			•	CVM 144-ITF Johnson Controls	M50C10
COMPLETE EQUIPMENT																	
	•	•	•	•	•	•		2				RS485	•			CVM 144-ITF RS485-C2	M50710
	•	•	•	•	•	•		2			4	RS485	•			CVM 144-ITF RS485-C2-A4O	M50614
	•	•	•	•	•	•		2		2	2	RS485	•			CVM 144-ITF RS485-C2-A2I/2O	M50618
	•	•	•	•	•	•		2		2	2	TCP-IP	•			CVM 144-ITF-ETHERNET-C2-A2I/2O	M50A58
	•	•	•	•	•	•		2	•			TCP-IP	•			CVM 144-ITF-ETHERNET-C2-currents	M50751
	•	•	•	•	•	•		2		2	2	RS485		•		CVM 144-ITF Profibus-C2-A2I/2O	M50A38
	•	•	•	•	•	•		2	•			RS485		•		CVM 144-ITF Profibus-C2-Currents	M50741
	•	•	•	•	•	•		2		2	2	RS485			•	CVM 144-ITF Johnson Controls-C2-A2I/2O	M50741
	•	•	•	•	•	•		2	•			RS485			•	CVM 144-ITF Johnson Controls-C2-Currents	M50C11
INTERCHANGEABLE EQUIPMENT (for expandable equipment)																	
								2	•							Mod CVM 144 C2-Currents	M51001
								2				RS485	•			Mod CVM 144 RS485-C2	M51010
								2	•			RS485	•			Mod CVM 144 RS485-C2-Currents	M51011
							4	2				RS485	•			Mod CVM 144 RS485-C2-Digital	M51016
								2				RS232	•			Mod CVM 144 RS232-C2	M51020
								2	•			RS232	•			Mod CVM 144 RS232-C2-Currents	M51010
							4	2				RS232	•			Mod CVM 144 RS232-C2-Digital	M51010

Dimensions