



FEATURES

- True RMS Measurement
- 3 or 2 Element Measurement
- Accuracy Class 1 (IS14697)
- Programmable PT / CT Primary
- Energy Storage in EERAM
- Run hour Indication
- Replaces several meters in a electrical panel
- Direct reading without multiplication factor
- Measures 4 quadrant power and records 2 quadrant energy
- Built in phase analyzer for proper connection
- Digital Calibration by software
- Sealed dustproof ABS Plastic Enclosure
- Low PT/CT Burden (Less than 0.2VA)

OPTIONAL FEATURES

- Accuracy Class 0.5 (IS14697)
- Total Harmonic Distortion (THD) display of 3 phase voltage and current
- Optically isolated RS485 communication output with MODBUS RTU protocol
- Optically isolated RS485 communication output with PROFIBUS DP-Slave protocol
- RJ45 Ethernet connectivity with MODBUS / TCP support
- Separate energy register for export energy recording
- 1 No. potential free relay output contact for user defined function
- 2 No. digital input for user defined function

APPLICATIONS

- Energy Data Logging with PC
- Panel metering in Sub-stations, Power stations, and Gensets
- Motor, Compressor, Pump etc. Test system
- Industrial buildings & Factories

MULTI FUNCTION METER PMM 9012



PMM 9012

GENERAL DESCRIPTION

ICD Power Multimeter is designed to display all electrical parameters in one single equipment. The Power Multimeter is fully integrated without having any transducers or converters externally. It is a Microcontroller based circuit designed with powerful software built-in for sampling voltage and current inputs for the measurement of several AC parameters.

It replaces several meters like 3 voltmeters, 3 Ammeters, Wattmeter, Frequency Meter, kVAr Meter, PF Meter and selector switches for the above in an electrical panel. This can be installed in a metering panel or test benches of the equipment under test. It also displays all parameters in sequence when the display mode is selected in auto scrolling.

The CT & PT primary values are selectable through keypad at user end to get the display in full-scale reading of voltage, current and power without having any multiplication factor. Also auto ranging feature is included for all parameters.

DATA LOGGING

The Power Multimeter can be provided with a RS 485 serial port or ethernet supporting MODBUS - RTU, PROFIBUS DP-Slave or MODBUS TCP Protocol. Several Power Multimeters can be installed at different load centres and connected by multidrop RS485 serial communication network / LAN to log the data on PC for viewing all the parameters in a centralised control room.

An User friendly software package can be supplied to view, On Line Data, Historical Data, Graphical representation of several parameters. Also useful database on the performance and energy consumption of electrical systems can be generated.

TECHNICAL SPECIFICATION

MEASURED QUANTITIES

Parameter Shown : 1)3 Phase, Phase to Neutral Voltage
 2)3 Phase, Phase to Phase Voltage
 3)3 Phase Current
 4)3 Phase kVA, kW, kVA & PF
 5)Average Voltage, Current, Total kVA, kW, kVA, PF & Frequency
 6)Total kWh and Run Hour

RATINGS

Voltage Range : 80V to 520V AC line to line for LT
 25V to 140V AC line to line for HT
 Standard Current : 1A / 5A
 Max. Current : 1.5A / 7.5A
 Frequency Range : 40.00 to 60.00 Hz
 PF Range : 0.00 Lag to 0.00 Lead
 Auxiliary Supply : 240V AC (-20% to +10%)
 Operating Temperature : 55° C (Max.)

DISPLAY

Type : 2 Row 16 Character LCD with Backlit
 Character Size : 4.35 (H) x 2.95 (W) mm
 LCD Power Save Mode : Provided. When no key is pressed for 3 minutes, the LCD Backlit is switched OFF to save power and enhance the life of LCD. The LCD is switched ON when any key is Pressed

MEASUREMENT

Method : 3 Phase 4 wire for LT
 3 Phase 3 wire for HT
 Accuracy : Class 0.5, 1

INPUT AND OUTPUT

Calibration LED output : 3200 Imp/kWh
 Digital Input (Option) : 2 (Function user defined)
 Relay Output (Option) : 1 (Function user defined)

KEY FUNCTIONS

Key Pad : 4 Keys namely Index, Shift, Increment and Enter used for Program mode setting and Run mode selection
 Program mode Parameters : PT Primary Voltage, CT Primary Current, Device address, Energy and Run hour Reset
 Unauthorised Person Entry Protection : Provided through Password Facility
 Setting, Energy and Run hour Storage : EERAM

COMMUNICATIONS (Option)

Type : RS485, Ethernet
 Protocol : MODBUS - RTU, MODBUS - TCP, PROFIBUS DP-Slave
 Isolation : Provided
 Traffic Status : Indicated through TXD, RXD LED

CASE AND DIMENSIONS

Enclosure : ABS Plastic
 Dimension : 96(H) x 96(W) x 120(D) mm
 or 96(H) x 96(W) x 80(D) mm
 Cutout : 88(H) x 88(W) mm
 Mounting : Flush / Panel

APPROVALS

Type test Approved as per IS14697 Standards for Class 1, Class 0.5
 Confirms EMI, EMC Regulations as per IS14697 standards

PARAMETERS DISPLAYED

PARAMETERS	RANGE	RESOLUTION	ACCURACY
R, Y, B Voltage (LT Meter)	180 V - 270 V	0.1 V	± 0.5% + 2 least digit
RY, YB, BR Voltage (LT Meter)	310 V - 470 V	0.1 V	± 0.5% + 2 least digit
R, Y, B Voltage (HT Meter)	Primary Voltage	0.01 kV	± 0.5% + 2 least digit
RY, YB, BR Voltage (HT Meter)	Primary Voltage	0.01 kV	± 0.5% + 2 least digit
Current	0 - 100 A 100 A & above	0.1 A 1 A	± 0.5% + 2 least digit
kVA / kW / kVA 3 Phase & Total (LT Meter)	0 - 1000 kVA / kW / kVA 1000 kVA / kW / kVA & above	0.1 kVA / kW / kVA 1 kVA / kW / kVA	± 0.5% + 2 least digit for kW/kVA ± 1% + 2 least digit for kVA
kVA / kW / kVA 3 Phase & Total (HT Meter)	0 - 10000 kVA / kW / kVA 10000 kVA / kW / kVA & above	1 kVA / kW / kVA 0.01 MVA / MW / MVA	± 0.5% + 2 least digit for kW/kVA ± 1% + 2 least digit for kVA
3 Phase Power Factor & Total	0.0 lag to unity to 0.0 lead	0.001	± 0.5% + 2 least digit
Frequency	40.00 - 60.00 Hz	0.01 Hz	± 0.2% + 2 least digit
kWh (LT Meter)	9999999.9	0.1 kWh	Class 1 or 0.5
kWh (HT Meter)	99999999	1 kWh	Class 1 or 0.5
Run Hour	9999.59 Hours Max.	1 Minute	± 1 Sec / Day

PLEASE PROVIDE THE FOLLOWING DETAILS WHILE PLACING YOUR ORDER / ENQUIRY

1. Voltage Input 2. Current Input 3. HT / LT Application 4. CT Primary 5. PT Primary 6. Self Powered / External Supply.

OUR RANGE OF PRODUCTS

Volt Meter, Ammeter, VAF Meter, Energy Meter, Dual Source Meter, Load Manager, Power Multimeter, Trivector Meter, Maximum Demand Controller, Harmonic Indicator, Power Factor Controller, Smart PF Controller, Power Factor Correction Panel, AC Voltage Controller, AC Current Controller, Motor Protection System, Voltage/Current/Power/Frequency Transducer, Power Transmitter, Energy Management and Billing Systems etc...



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