



PM2140

Multifunction Meter

Metering, Protection, Retransmission



Aux. Supply



True RMS



Minimum
Maximum



Auto Scroll/
Favourite Page



Auto Scaling



RELAY /
ANALOG
Output



Masibus PM2140 is an easy-to-use, low cost electrical panel meter that offers all the basic measurement capabilities required for monitoring an electrical installation.

PM2140 has 3 Line 4 digit bright 0.4" LED display for superior readability in poor lighting conditions. Phase wise parameters display has been provided along with various LED indications.

PM2140 is available in flush panel mount enclosure having front panel keys for easy set up. PM 2140 has Class 1.0 accuracy as per IS 13779/IEC 62053-21 for Energy and better than 0.5% accuracy for basic instantaneous parameters.

The CT/PT ratio and installation type is site selectable, making the meter possible to be used in various types of three phase installations.

More than a basic metering, it provides RS485 port with Modbus-RTU protocol as a standard feature & Relay/ Analog output as optional features.

PM2140 provides all the basic electrical parameter measurement along with Minimum, Maximum logging, Isolated Relay Output (with High or Low Side) or Analog Output like 4-20mA or 0-10V DC option.

PM2140 provides energy measurement along with Power Interruption Count, ON hour & RUN (Load) Hour, thus helping to measure and control energy cost.

Meter stores energy and programmed parameters into its non-volatile permanent memory.

Features

- Energy accuracy class 1.0 as per IS 13779/ IEC 62053-21
- Better than 0.5% accuracy for instantaneous parameters
- Compact flush panel mounting.
- Field programmable CT/PT ratio.
- True RMS measurement.
- Ultra bright 3 line 4 digit LED Display 0.4" for PM2140 with auto scaling capability.
- Universal power supply.
- Optional Relay / Analog output.
- Isolated RS485 (Modbus-RTU protocol)
- 4 keys for configuration.
- Password protection for set parameters.
- Permanent memory based energy storing along with other parameters like ON Hour, LOAD HOUR and Power Interruption Count.

Applications

- Electrical panels
- Energy Management System(EMS) & Energy audit
- Distribution systems
- Process monitoring and interface with PLC / SCADA / RTU
- HV & LV switchgear panels
- Control & Relay Panels
- Motor control center panels
- Power control center panels
- Process control
- Original Equipment Manufacturers (OEMs)
- HVAC & Building management system
- Remote monitoring of electrical panels

TECHNICAL SPECIFICATIONS

Meter Type		Output	
3Ph4W/ 3Ph3W (Site selectable) / 1Ph2W		Communication Output RS485	
Input		Interface	RS485
Voltage		Parity	None, Odd, Even (Selectable)
Direct Voltage	20V to 350V (L-N) or 34V to 620V (L-L) @ 240V Nominal Voltage	Baud Rate	9600, 19200, 38400 (Selectable)
PT Secondary (Nominal Voltage)	63.5V L-N to 240V L-N Configurable for 3Ph3W or 3Ph4W system	Start Bit	1
Burden	0.5VA per phase	Stop Bit	1, 2 (Selectable)
PT Ratio	1 to 9999 Programmable	Protocol	Modbus-RTU
Overload	1.2 x Nominal Voltage (Continuous) 1.5 x Nominal Voltage (3 sec)	Relay Output (Optional in lieu of Analog o/p)	
Current		AC Rating	250V, 5A
Secondary Current	1 to 5A	DC Rating	±30V, 5A
Direct Current	0.02A to 6A	Relay Set Point	High Side or Low Side Option
Burden	0.25VA per phase	Relay O/P Parameters [Field Selectable]	Phase Volt / Avg. Volt / Phase Current / Avg. Current / Sys. Freq. / Phase Watt / Sys. Watt / Phase VAR / Sys. VAR / Phase VA / Sys. VA / Phase PF / Sys. PF
CT Ratio	1 to 9999 Programmable	Relay Contact Type	SPNO [Factory Default] SPNC [Contact Factory Before Ordering]
Overload	For 5A CT: 8A (Continuous) For 1A CT: 2A (Continuous) Up to 50A (3sec)	Analog Output (Optional in lieu of Relay o/p)	
Starting Current	10mA	Output Type [Factory Set]	Current O/P: 4-20 mA DC Voltage O/P: 0-10 V DC
Frequency	45 to 65 Hz	Response Time	< 1 Sec
Display & Keys		Output Impedance	< 550 Ohms for 4-20 mA DC o/p > 2K for 0-10 V DC o/p
Display	3 line 4 digit 0.4" [10 mm], 7-segment LED Various Instantaneous parameters with Energy Kilo & Mega Indication	Analog O/P Parameters [Field Selectable]	Phase Volt / Avg. Volt / Phase Current / Avg. Current / Sys. Freq. / Phase Watt / Sys. Watt / Phase VAR / Sys. VAR / Phase VA / Sys. VA / Phase PF / Sys. PF
Status LED Indication	Alarm and RS485 communication Configuration and Manual Scroll Energy pulse	Power Supply	
Keys	PROG/Enter, Esc/Shift, UP, Down	Power Supply	85-265V AC, 50/60Hz or 100-300V DC
Calculated Parameters		Burden	<3VA
Over Display & Modbus		Isolation (Withstanding voltage)	
Total Energy	Active Energy Reactive Energy Apparent Energy	Between primary terminals* and secondary terminals**: At least 2000 V AC for 1 minute Between primary terminals*: At least 2000 V AC for 1 minute Between secondary terminals**: At least 2000 V AC for 1 minute	
Voltage	L1-L2, L2-L3, L1-L3 and Average (3Ph3W & 3Ph4W) L1-N, L2-N, L3-N & average (1Ph & 3Ph4W)	* Primary terminals indicate Aux Supply, voltage i/p, current i/p ** Secondary terminals indicate Communication o/p and Relay/Analog o/p	
Current	All phase currents & their average	Insulation resistance: 200 MΩ or more at 500 V DC between terminals	
PF	Phase wise and System PF, Phase angle	Physical	
Frequency	System Frequency	Mounting Type	Panel mount
Power (Phase wise & Total)	Active Power Reactive Power Apparent Power	Size (in mm)	100 (H) x 100 (W) x 55 (D)
Special Features		Front Bezel (in mm)	100 (H) x 100 (W)
ON Hour	up to 65000 hours recording	Panel Cutout (in mm)	92 (H) x 92 (W)
Load Hour	up to 65000 PINTR counts	Depth Behind Panel	50 mm
PINTR Power Interruption count	up to 65000 PINTR counts	Material	ABS
% Unbalance	Voltage Unbalance % & Current Unbalance %	Accessory	2 Panel mount clamps
Accuracy		Weight	0.3 Kg
Voltage	±0.5% of reading	Enclosure Protection	IP50 front fascia; Overall IP20
Current	±0.5% of reading	Terminal & Cable Size	Barrier Type terminal / Cable Size [3 mm ²]
Frequency	±0.5% of reading	Environmental	
Power Factor	±0.5% of FS	Operating Temperature	0 to 55 °C
Active Power* (≥0.02 of Ib)	±1.0% of reading ± 0.01% of FS	Storage Temperature	-10 to 70°C
Reactive Power* (≥0.02 of Ib)	±2.0% of reading ± 0.01% of FS	Relative Humidity	30 to 95% RH non-condensing
Apparent Power* (≥0.02 of Ib)	±2.0% of reading ± 0.02% of FS	Warm Up Time	5 minutes
Active Energy*	Class 1.0 as per IS 13779/ IEC 62053-21		
Reactive Energy*	Class 2.0 as per IS 13779		
Apparent Energy*	Class 2.0		
(*PF 0.5 Lag-1.0 - 0.8 Lead Applicable for Power & Energy Parameter)			

Ordering code

Model	Phase	Accuracy	Communication	Output	
PM2140	X	X	X	X	
	1	1- Phase	S	Class 1.0	
	3	3 - Phase	1	RS485 Modbus	
				N	None
				2	Relay Output
				3	4-20 mA Analog o/p
				4	0-10 V DC Analog o/p

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All specifications are subject to change without notice due to continuous improvements.
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