





2160-A

Multifunction Power & Energy Meter



Available In Class 0.2s/ 0.5s/ 1.0 Energy Accuracy

Masibus 2160-A is an easy-to-use, cost effective electrical energy meter that offers all the basic measurement capabilities required for monitoring an electrical installation.

2160-A is available in two display options either bright LED or large multi-line backlit LCD panel for superior readability in poor lighting conditions. It provides four parameters display at a same time.

Based on field requirement 2160-A offers various accuracy class options like Class 0.2s / Class 0.5s Energy accuracy as per IS14697/ IEC 62053-22 and Class 1.0 accuracy as per IS 13779/ IEC 62053-21.

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

2160-A provides four-quadrant energy measurement along with ON (working) hour, RUN (Load) Hour, thus helping to measure and control energy cost.

2160-A provides RS485 port supporting Modbus-RTU protocol for communication. More than basic metering, it optionally provides THD measurements, Maximum Demand and Programmable pulse output.

Along with Maximum Demand option 2160-A can store Power Interruption count with (Last Power OFF & Latest Power ON) Time & Date

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

Features

- Available in Accuracy class 1.0 as per IS 13779/IEC 62053-21
- Optional Accuracy class 0.5s or 0.2s as per IS14697/ IEC 62053-22
- Field programmable CT/PT primary & secondary values
- True RMS measurement
- More than 100 Electrical parameters
- 4 lines 4 digit high-visibility LED display 0.4" [10mm] to display various parameters OR Optional large multi-line backlit LCD panel
- Isolated RS485 (Modbus-RTU protocol)
- Digital pulse output for energy
- Auto Scaling from Kilo to Mega to Giga watt
- Auto Scrolling feature for easy readability for all parameters
- Favorite page Store feature
- Store energy register efficiently during power failure.
- Four Quadrant measurement for PF, Power & Energy (Active & Reactive)
- ON Hour, RUN HOUR & IDLE HOUR register in Non-Volatile Memory
- Password Protection for set parameters

Applications

- Control & Relay Panels
- Motor Control Center Panels
- Power Control Center Panels
- Process Control
- DG Set panels
- Original Equipment Manufacturers (OEMs)
- HVAC & Building Management System
- Energy Management System (EMS)
- HV & LV Switchgear Panels

www.masibus.com sales@masibus.com

TECHNICAL SPECIFICATIONS

Modes Type	TECHNICAL SPECIFICATIONS										
March Marc		Meter Type	Pulse Output (Optional)								
Pubmer Vallage	3Ph4W/ 3Ph3W (Site s	electable)	1 1 1								
Pates rate Pat	· ·	Input	7.1	24VDC, 20m	A						
Proceed Voltage 2,420 N Final Voltage	Voltage			Programmabl	e from 100 to 6000	0 pulses per Energy					
Secondary Configuration 20 20 20 20 20 20 20 2											
Nominal Voltage Configurable for 3PMAW and Philf Waystern 40 20% for prison 40	ě .	-	Output Type			n Kequired]					
Parel	*										
December											
Current		· · ·	Voltago	Орцопаі	<u> </u>	(Standard)					
Current 1		•	-	0.1% of reading	0	0.5% of reading					
Secondary Current 1 or 3A (Site selectable)				0.170 Of Teading	~	0.5% of reading					
Burden	Secondary Current	1 or 5A (Site selectable)		0.2% of FS		0.5% of FS					
Overload For SA CT & A. Continuous (50A for seed For SA CT & Continuous (50A for seed For SA Ct and Ct and Ct Sacrating (1992) Sacra			Active Power*	0.2% of reading	0.3% of reading						
Overload For 1A CT 2A Continuous 50A for 3sec O.15 of 15 https://doi.org/10.0026/07.50 O.15 of 51 https://doi.org/10.0026/07.50 O.15 of 52 https	CT Ratio	_	,	+/- 0.01% of FS	+/- 0.01% of FS	+/- 0.01% of FS					
Starting Current Apparent Express Cook Scheduler Apparent	Overload										
Frequency	Starting Current		,								
Communication Communicatio			1.1								
Active Chergy Passe War	, ,		(=0.02 01 lb)								
ELD			Active Energy*								
Reactive Energy	LED		<u> </u>	IEC 62053-22	IEC 62053-22	IEC 62053-21					
Log Panel (Optional) Sines / Clais 1.1 Damel Apparent Energy Class 0.5 Class 0.5 Class 1.0	LED	3mm Round LED for Parameter Indication	Reactive Energy*								
LCD Panel (Optional) Salines 7 digits - Heighty 7 x Width: 5.15 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wis Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 7 x Width: 5.97 mm bar Greath for Wish Load for each playint 8 y minute 1 x Load Applicable for Power Supply Power Calculated Oranter for GPW Calculated Vertice for GPW Frequency System Frequency System Frequency System Frequency Power Pactor Phase wise P Factor Phase wise P For the Wish Reactive Energy for Import & Export (Separate) Apparent Power (VA, KVA & MWA) Apparent Power (VA, KVA & MWA) Apparent Power (VA, KVA & MWA) Power Power Quality Share for each Voltage and Current Power Quality Frequency Power Pactor Power Supply Less than 3VA ICLD Panel win Backlight t			, , , , , , , , , , , , , , , , , , ,								
Secondary terminals		e e	0,								
Proper Supply Process Supply Proce	LCD Panel (Optional)		(*PF 0.5 Lag-1.0 - 0.8 Lead Applicable for Power & Energy Parameter)								
Voltage L1-12, L2-13, L1-13 and Average (3Ph3W & 3Ph4W) L1-12, L2-13, L1-13 and Average (3Ph3W & 3Ph4W) All phase currents & their average (mA, A, ka) Calculated Neutral Current for SP3W For calculated Current consider it when All other phases are > 0.2 Al Frequency System Frequency Power Factor Phase wise PE A werage PF Phase Angle Phase wise Phase wise (Phase wise PE A werage PF Phase Angle Phase wise PE Acceptable Active Power (WA, KWA & MWA) Apparent Power (WA, KWA & Block/Siding) Harmonics for each Voltage and Current (9" to 15" odd) THD for Voltage & Current (Phase wise) Power Quality Power Quality Power Quality Power Quality Power (Wality MD+RTC option only) Min-Max Value (VI, PF, Frequency, Total w, Total VAR, Total VA) Communication Output KS485 Baud Rate Power Otal (with MD+RTC option only), Min-Max Value (VI, PF, Frequency, Total w, Total VAR, Total VA) Fortion (Wality Based (WA) Fortion		Bar Graph for % Load for each phase	Auxiliary Power Supply								
Voltage	Keys		Power Supply)VDC					
Voltage 1.4-N. L2-N. L3-N. B. average (IPh & 3Ph-MV)											
L1-N, L2-N, L3-N & average (19h & 9h4w)	Voltage		Burden		•	0 3/					
Calculated Vehtral Current for SP4W Calculated Vehtral Current for SP4W Calculated Vehase Current for SP4W For calculated Current consider it when All other phases are > 0.2 Al Frequency System Frequency Power Factor Phase wise P & Average PF Phase wise P & Average PF Phase wise P & Average PF Phase wise & Total) Phase wise P & Average PF Phase wise & Total Phase Wise Mase wise & Total Phase Wise Mase Wise Wise MWN Phase Total wise Mise Mase Phase Wise Phase Wise Phase Ph	, 3,144,65					acklight through					
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For calculated Current consider it when All other phases are > 0.2 A	Current										
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Insulationnesistance: 200MQ or more at 500 V DC between power terminals and grounding terminal grounding terminal grounding terminals. Active Power (WA, KWA & MWA) Power (Phase wise & Total)	Frequency	System Frequency	, , , , , , , , , , , , , , , , , , , ,								
Phase Argle Phase wise Power Power (Wark VAW & MW) Power (Wark VA & MVA) Apparent Power (VA, KVA & MVA) Energy Power (Wark VA & MVA) Apparent Energy Demand Maximum Demand on KW/KVA (Block/Sliding) Harmonics for each Voltage and Current (3" to 15" odd) THD for Voltage & Current (Phase wise) Secial Features Real clock & date Percentage Voltage & Current Unbalance ON hour, LoAD hour, IDLE hour up to 65000 PINTR counts PINTR Power Interruption count up to 65000 PINTR counts PINTR Time Stamp Last day Energy for Total (with MD-RTC option only), Min-Max Value (V, I, PF, Frequency, Total w, Total VAR, Total VA) Communication Output R\$485 Interface R8485 Baud Rate 9600, 19200, 38400 (Selectable) Start bit 1 None, Odd, Even (Selectable) Protocol Modbus-RTU Phase wise & Total) Mounting Type Panel mount Size (in mm) 96 (H) x 96(W) x 64 (D) Pront Bezel (in mm) 96 (H) x 96(W) 96 (H)		ū .									
Reactive Power (VAR, KVAR & MVAR) Apparent Power (VA, KVA & MVAR) Reactive Energy for Import & Export (Separate) Apparent Energy Apparent Energy Apparent Energy Maximum Demand on KW/KVA (Block/Sliding) Harmonics for each Voltage and Current (Phase wise) THD for Voltage & Current Unbalance ON hour, LOAD hour, IDLE hour up to 65000 PINTR counts PINTR Power Interruption count up to 65000 PINTR counts PINTR Power Interruption count up to 65000 PINTR counts PINTR Power Interruption count up to 65000 PINTR counts PINTR Power Interruption Total (with MD+RTC option only), Min-Max Value (V, I, PF, Frequency, Total w, Total VAR, Total VA) Total VAR, Total VA) Total VAR, Total VA Total VAR, Total	Phase Angle		· ·								
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TECHNICAL SPECIFICATIONS

Ordering code												
Model	Accuracy		Communication		Max. Demand		THD		Output		Display Type	
2160-A	Χ		Χ		Χ		Χ		Χ		Χ	
	S	Class 1.0	1	RS485 Modbus	Ν	None	Ν	None	Ν	None	LED	7 seg LED [4 x 4]
	1	Class 0.5s			Υ	Required	Υ	Required	1	Pulse Output	LCP	LCD Panel
	2	Class 0.2s										