



2160 Energy Meter

Features

- Accuracy class 0.5 as per 14697/IEC 60687
- Field programmable CT & PT primary values
- True RMS, microcontroller based
- Aux powered
- Four row LCD back-lit to display various Parameters
- Isolated RS485 (Modbus-RTU protocol)
- Digital pulse output for energy
- Auto Scaling from kilo to Mega to Giga watt

Benefits

- 50 Electrical parameter display
- Low burden
- It stores energy data & programmed parameter into non-volatile memory using EEPROM
- Password Protection for setup parameters

Application

- 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

Technical Specifications:

Voltage Input:

Nominal input

1. Direct connection voltage : 57.8V to 550V
2. Standard Voltage offered : 63.5(L-N), 110(L-N) & 240(L-N)
Configurable 3ph 3w & 3ph 4w application

Measurement method	: True RMS
Accuracy range	: 50%-115% of nominal voltage
Accuracy	: Class 0.5
Burden	: <0.5VA per phase
Wire gauge	: 16 AWG
PT Ratio	: 1 to 9999.999 programmable
Overload	: 1.2 x Nominal Continuous

Current Input:

Nominal input	: 1/5Amp AC
Measurement method	: True RMS
Accuracy range	: 5%-120% Nominal
Accuracy	: Class 0.5
Burden	: <0.5VA per phase
Wire gauge	: 16 AWG
CT ratio	: 1 to 9999.999 programmable
Overload	: 4.0 x Nominal Continuous 20.0 x Nominal for 1sec

Starting current

0.1% of Nominal Current (class 0.5)

Frequency

50Hz/60Hz range \pm 5.0Hz

Measured Parameters

Voltage

L1-L2, L2-L3, L1-L3 & average (3p3w & 3p4w)
L1-N, L2-N, L3-N & average (1p & 3p4w)

Amps

All phase currents & their average (3p3w & 3p4w)
& Neutral Current. (3p4w)

Frequency

System Frequency

Power Factor

Per Phase P. F & Average P. F

Active Power

Per Phase Watt & Total Watt (W, KW & MW)

Reactive Power

Per Phase VAR & Total VAR (VAR, KVAR, MVAR)

Apparent Power

Per Phase VA & Total VA (VA, KVA & MVA)

Active Energy

Per Phase & Total Active Energy for Import &
Export (Separate) (WH, kWh, MWH & GWH)

Reactive Energy

Per Phase & Total Reactive Energy
For lagging & leading (Separately) (VARH, KVARH, MVARH & GVARH)

Apparent Energy

Per Phase & Total Apparent Energy
(VAH, KVAH, MVAH & GVAH)

System type:

Three phase four wire (3 ϕ -4w)
Three phase three wire (3 ϕ -3w)
Single phase two wire (1 ϕ -2w)

Accuracy : (Class 0.5)

[Given Accuracy is for PF	: 0.5 Lag-1.0 - 0.8 Lead]
Volt	: 1% rdg \pm 1 dgt.
Current	: 1% rdg \pm 2 dgts.
Frequency	: 0.1Hz \pm 1 dgt.
Power Factor	: 1%rdg \pm 2 dgts. (For 0.5 Lag - 1.0 - 0.8 Lead)
Active Power	: 0.5 % rdg \pm 2 dgts.
Reactive Power	: 0.5 % rdg \pm 2 dgts.
Apparent Power	: 0.5% rdg \pm 2 dgts.
Active Energy	: Class 0.5 (IS 14697/IEC60687)
Reactive Energy	: Class 0.5 (IS 14697:1999)
Apparent Energy	: Class 0.5

	Pulse output
TYPE	WH/VARH/VH-SPNO
AC Rating	200V, 100mA, Resistive
DC Rating	\pm 200V, 100mA, Resistive
Pulse rate	Programmable from 1 to 9999 pulse per KVAh/MWh(I)MWh(E)/MVARh/MVARCh/ MVAh of total
Pulse Duration	80m sec \pm 10%

Burden

Less than 2 VA

Update Rate

320ms

Communication Output

Serial port	: RS485
Baud rate	: Selectable. 4800/9600/19200
Start bit	: 1
Stop bit	: 1
Protocol	: MODBUS - RTU
Isolation	: 2KV

Environmental

Working temperature	: 0 to 55°C
Storage temperature	: -10 to 70°C
Relative humidity	: 30-95% non-condensing
Warm up time	: 5 minutes

Display

4x16 Backlight LCD module with 4.75mm character height	
Auxiliary Power	: 90-270VAC, 50/60Hz, 120-380VDC
Enclosure (IP51)	
Mounting	: Panel mounting
Cut-Out	: 92 mm x 92 mm
Enclosure	: 96 x 96 x 110 mm
Accessory	: 2 Panel mount clamps
Weight	: 0.5Kg

ORDERING CODE

Model	CT Secondary	PT Secondary	Auxiliary Output	RS-485 Communication				
2160	X	X	X	X				
	1	1A	1	63.5V(L-N)	N	None	Y	Yes
	2	5A	2	110V(L-N)	N	Pulse O/P	N	No
			3	240V(L-N)				
Specify X from table								

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