

Smart Demand Controller

PowerLogic™ EM72xx series



Quick and easy
installation



Meter for all electrical
panels



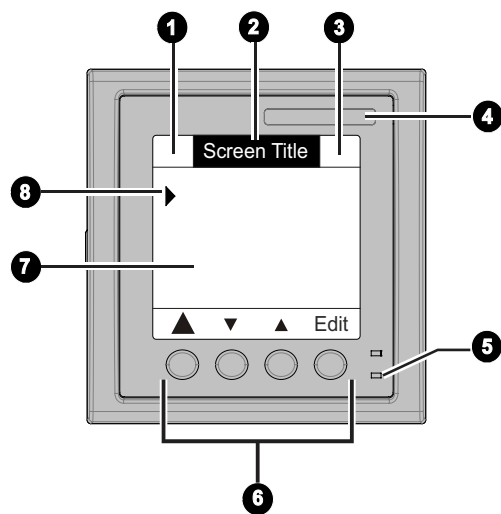
Power energy
monitoring

Schneider
Electric™

PowerLogic™ EM72xx - Smart Demand Controller

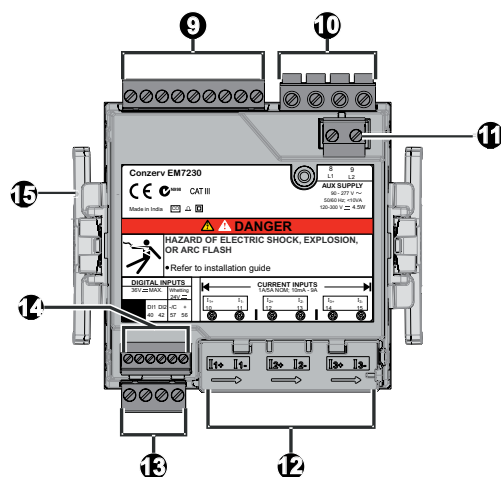
Functions and characteristics

Front View



- 1 Icon 1-MT (Meter Test Mode), Wrench Icon (Maintenance) or Heartbeat Icon
- 2 Screen
- 3 Icon 2 - Alarm Icon
- 4 Product Model Number
- 5 Comms LED (Green)
- 6 Buttons
- 7 Data Area
- 8 Cursor

Rear View



- 9 Control Outputs
- 10 Voltage Inputs
- 11 Auxiliary Power Supply
- 12 Current Inputs
- 13 RS-485 Port (COM 1)
- 14 Digital Inputs
- 15 Retainer Clips

EM7230 / EM7280 is a smart demand controller. It replaces over 20 individual transducers and meters for comprehensive load management in 3-phase commercial and industrial applications.

Model	Class	Communication
EM7230	1.0	RS-485
EM7280	0.5	RS-485

Typical Applications

- > Maximum demand control and management
- > Network management
 - > Power quality
 - > Communication
 - > Diagnostic
 - > Digital Inputs
 - > Status/ condition monitoring
- > Cost management
 - > Energy accounting & balancing
 - > Cost allocation
 - > Specific energy consumption
 - > Tenant billing
 - > Process management
- > Preventive maintenance
- > Can be used for either LV or MV circuits
- > EB meter cross check

Key Features

True RMS measurement

4Q measurement

Real time measurement of

- > V A F PF W VA VAR Wh VAh VARh Ah parameters
- > Load duration, Run Hours, On Hours, Interruption
- > Import, Export & Net values
- > Harmonics
- > THD per phase for V & A
- > Individual harmonics up to 15th for V & A, per phase

Demand measurement

- > W, VA, A parameter, 1 to 30 minutes, Prediction, Spare load, Essential load, Demand profile, Demand control through Upper Limit & Lower Limit settings, 3 Form C relays

TOU Settings

- > 6 seasons, 8 slots, Wk Days, Wk ends, Holidays
- > Separate Integrators for Demand & Energy values and Total

2 Digital Inputs for status indication

- > ON: 18.5 to 36V DC, OFF: 0 to 4V DC

Whetting voltage

- > 24V DC nominal, 8mA max

Modbus RS485 com port

3 Relays for Demand control and management

4 Hi & Lo's for Instantaneous and Demand parameters with time stamp

Old registers for last cleared Integrators and Demand values

Password protected

% load

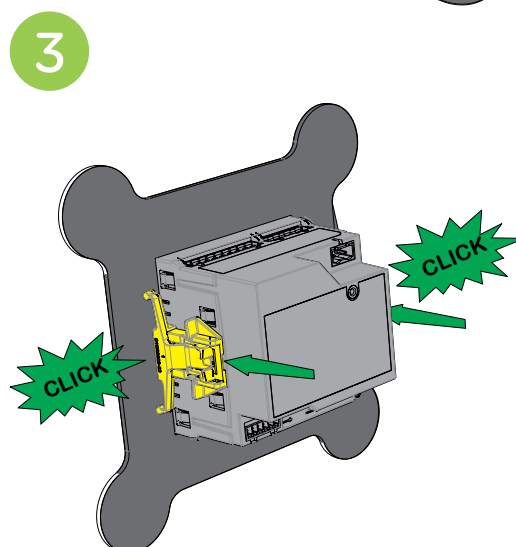
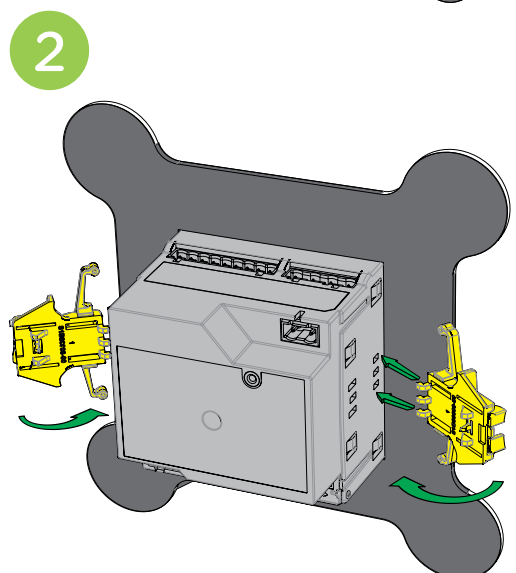
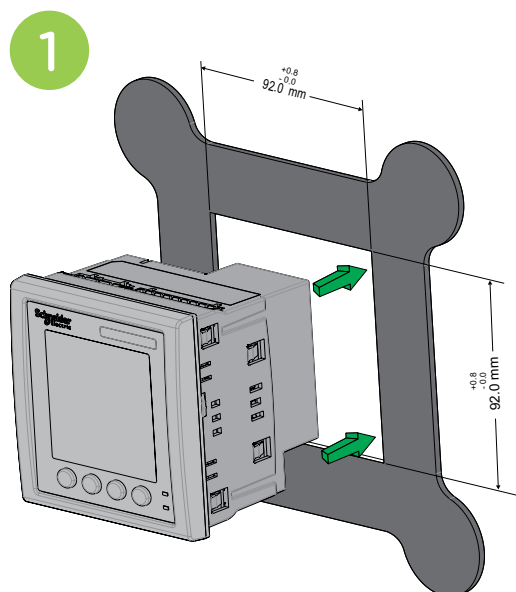
% unbalance in A & V

Phase angle

Monochrome LCD full scap display, white background, black digit, 4+1 rows, parameters names displayed against each row, 4 digits for instantaneous parameters and 6 digits for Energy & 3 digits for Harmonics

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Functions and characteristics



Technical Characteristics

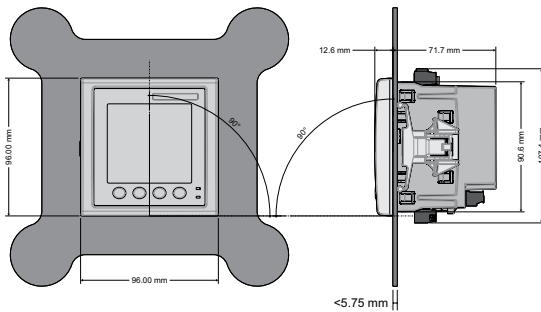
Accuracy	For EM7230 Class 1.0 as per IEC62052-11 & IEC62053-21 > 1% of reading for voltage, current, active/ apparent power & power factor > 2% of reading for reactive power & energy For EM7280 > 0.5S as per IEC 62052-11 & IEC 62053-22 > 0.5% reading for voltage, current, active/ apparent power & power factor > 1% of reading for reactive power & energy
Display	Graphical LCD Display, 128*128 pixels Monochrome LCD, full scape display, white background, black digits, 4 + 1 row display, with parameter names displayed against each row 4 digit RMS parameters and 6 digits resolution for Energy Fast in line view - 3 Parameters name and Value
Demand measurement	Parameter: W, VA, A Demand method: Auto, RTC, User Demand period: 1 to 30 minutes
Communication	Modbus RTU, RS485,
Size	96*96mm, 72mm behind the bezel, panel mounting
Data update rate	1 Sec for Instantaneous 5 Sec for Harmonics 15 Sec for Demand parameters
Input-Voltage characteristics	V1,V2,V3, VN : Four voltage inputs Voltage input: 110V or 415V LL nominal (range 90 to 480V LL ac without PT's) Permissible overload of 600V LL Burden of 0.2VA max per phase Frequency of 50/60Hz +/-5%
Input – Current characteristics	I1, I2, I3 (+S1, -S2) Current input: A nominal (10mA to 1.2A, 1mA is starting current) 5A nominal (50mA to 6A, 5mA is starting current) 10A max overload Burden of 0.2VA
Auxiliary Supply	AC: 90 to 277V, Burden of <10VA @240V ac DC: 120 to 300V

Part Numbers

Description/ Specification	Mater Data reference number
PowerLogic LCD Power & Energy Meter and Smart Demand Controller Model ref No. EM7230, RS485, Class 1.0 Accuracy	METSEEM7230
PowerLogic LCD Power & Energy Meter and Smart Demand Controller Model ref No. EM7280, RS485, Class 0.5 Accuracy	METSEEM7280

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Technical Specifications		
Specification	Description	
Sensing/Measurement	True RMS, one second update time, four quadrant power and energy	
Accuracy	For EM7230 : Class 1.0 as per IEC 62052-11 and IEC 62053-21; 1.0 % of reading for voltage and current; 1.0 % of reading for active/apparent power; 2.0 % of reading for reactive power & energy For EM7280: Class 0.5 as per IEC 62052-11 and IEC 62053-22; 0.5 % of reading for voltage, current, and active/apparent power; 1.0 % of reading for reactive power & energy	
Auxiliary supply (control power)	90-277 Vac / 120-300 Vdc	
Burden	Voltage and current input < 0.2 VA per phase; Auxiliary supply (control power) < 10 VA at 240 V	
Display	Graphical LCD	
Resolution	128x128 pixels	
Input Voltage	Four voltage inputs (V1, V2, V3, VN) 110 or 415 Vac LL nominal (range 90 to 480 Vac LL)	
Input current (energy measurement)	Current Inputs (I1, I2, I3), 5mA is the starting current 150mA to 1.2A for 1A CT sec 150mA to 6A for 5A CT sec	
Frequency	50 /60 Hz ± 5%	
Overload	10 A max continuous	
Environmental	Operating temp: -10 C to 60 C (14 F to 140 F) Storage temp: -25 C to 70 C (13 F to 158 F) Humidity 95 % non-condensing	
Safety	CAT III Measurement category III Pollution Degree 2 Double insulation at user-accessible area	
Communication	RS 485 serial channel connection. Industry standard Modbus RTU protocol.	
IP Degree of Protection	Front - IP 51; Rear - IP 30;	
Status Digital Inputs	Voltage Ratings: ON 18.5 to 36 Vdc ; OFF 0 to 4 Vdc	
Whetting Output	Nominal Voltage: 22-26 Vdc Allowable Load: 8 mA	
EMI/EMC compliance	Test Description	Standard compliance
	Electrostatic discharge	as per IEC61000-4-2*
	Immunity to Radiated Fields	as per IEC61000-4-3*
	Immunity to Fast Transient	as per IEC61000-4-4*
	Immunity to Surge	as per IEC61000-4-5*
	Conducted Immunity	as per IEC61000-4-6*
	Immunity to Magnetic Fields	as per IEC61000-4-8*
	Immunity to Voltage dips & Interruption	as per IEC61000-4-11*
	Radiated & Conducted emissions	as per FC Part 15 Class A CISPR11
* as per IEC61326-1		
Certification	CE &	

Time of Use or Time of Day Features

By using advanced TOU structure, energy and demand parameters can be measured and controlled at different user programmable time intervals at various seasons/ week days, weekends & holidays. Measured values get stored in separate registers that can be seen through the meter display or retrieved through communication. EM72xx does have the intelligence to control & optimize your loads in most advanced TOU settings sought by utility companies. Maximum demand charges can be optimized in each and every tariff slots falls under various seasons

SI No	Description of the set up configuration availability	Count
1	Max number of seasons	6
2	Max number of Tariff slots	8
3	Days in a week for configuring Week days, Weekends	7
4	Max number of sub integrators	8
5	Max number of Holidays	16

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Figure 1: 3-Ph 4-W (WYE) 3 CT 3 PT

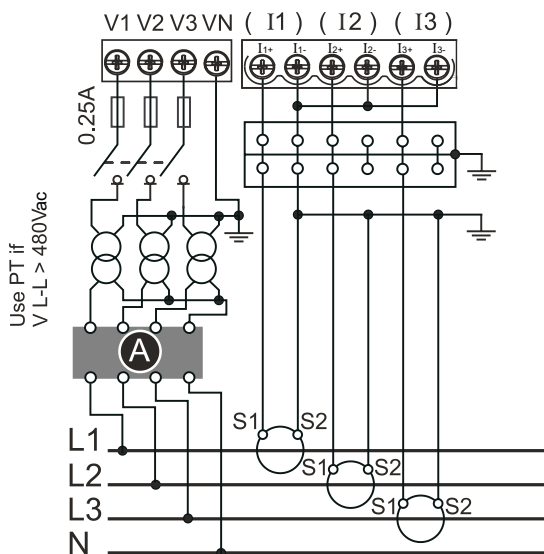


Figure 2: 3-Ph 3-W (Delta) 2 CT 3 PT

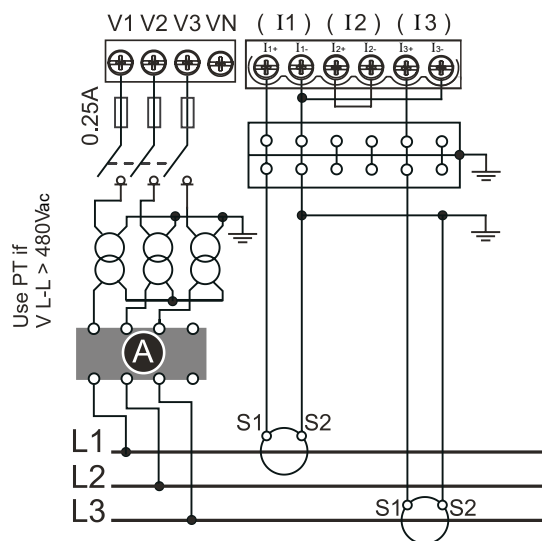


Figure 3: 3-Ph 3-W (Open Delta) 2 CT 2 PT

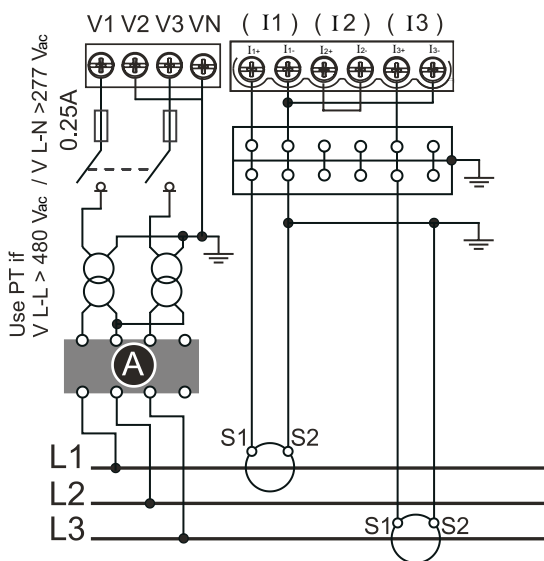


Figure 4: 2-Ph 3-W 2 CT 2 PT

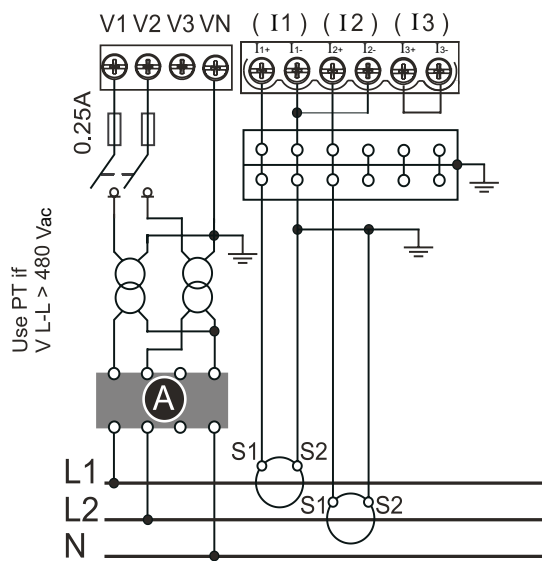
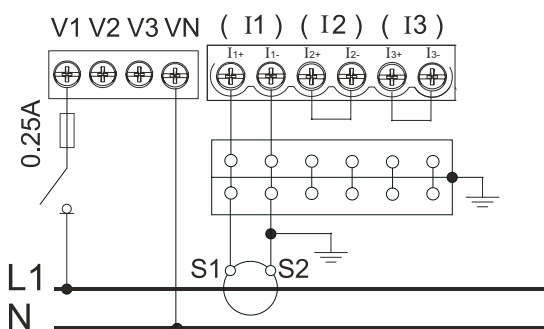


Figure 5: Ph 1-W 1-CT



Notice:



Protection (to be adapted to suit the short-circuit current at the connection point)



Make the most of your energy SM

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