EM4M-3P-C-100A

Energy Meter



DIN 70mm

Features :

- 3Ø True RMS (Voltage, Current)
- 3Ø Power (Active, Reactive, Apparent)
- Self powered, 100A direct connection
- Bi - Directional measurement IMP & EXP
- Max demand power
- Modbus RTU communication (RS485)
- Two pulse outputs

Certification : CE

Display specifications

Display	3 rows, LCD with backlight
Digits	1 row of 4 digits and 2 rows of 7 digits
LED indications	Pulse indication
Display scrolling	Automatic / Manual (Programmable)
Display reset	Programmable (For energy)

Input specifications

Electrical connection	1Ø - 2W (P1, P2, P3), 3Ø - 3W, 3Ø - 4W
Input voltage range	85-285V AC (L - N), 150-494V AC (L - L)
Input current range	Ib: 10 A (Min - 0.5A, Max - 100A)
Frequency	45 to 65Hz
Power consumption	1.6VA
Resolution	For energy : 0.01k For Power, Voltage, Current : Auto resolution For Power Factor : 0.01
Accuracy	Voltage (L - N) : ±0.5% of F.S. Current : ±0.5% of Nominal Power factor : ±0.01 of F.S. Frequency : ±0.2% of Nominal Power (Active, Reactive, Apparent) : Class 1 Energy (Active : Class 1, Reactive : Class 2)
Memory retention	10 years (For energy)
Measuring parameters	Voltage, Current, Frequency, Power factor, Power (Active, Reactive & Apparent), Energy (Active, Reactive & Apparent) Active, Reactive (Import / Export) & Max demand power

Output specifications

2 Pulse outputs	Voltage range : 5 to 24V DC@100mA Pulse duration : 0.05 to 2.0 Sec. settable Pulse width : 1 / 10 / 100 / 1000 for kVARh (**First pulse output is fixed 1000 pulses per kWh**)
Communication interface and protocol	RS485 and MODBUS RTU
Communication address	1 to 255 (Programmable)
Transmission mode	Half duplex
Transmission distance	500 meter maximum
Transmission speed (bps)	2400 / 4800 / 9600 / 19200 / 38400
Parity	None, Odd, Even
Stop bits	1 or 2
Response time	100ms (max and independent of baud rate)

Auxiliary supply specifications

Supply voltage	85 - 285V AC (L - N) & 150 - 494V AC (L - L) (Self - Powered)

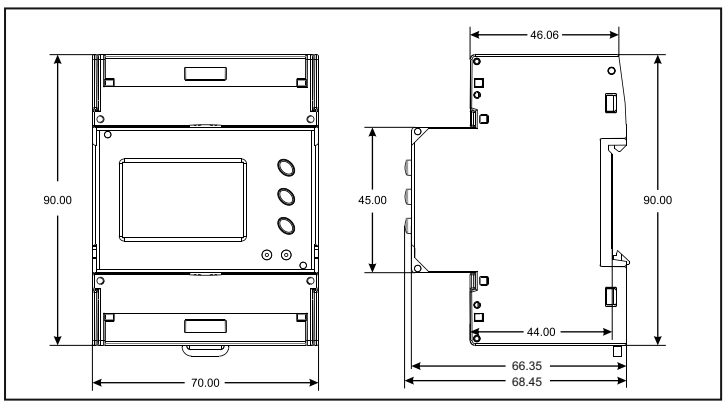
Environmental specifications

Temperature	Operating temperature: -10°C to 55°C Storage temperature: -20°C to 75°C
Humidity (non - condensing)	Up to 85% RH
Pollution degree	II
Installation category	III

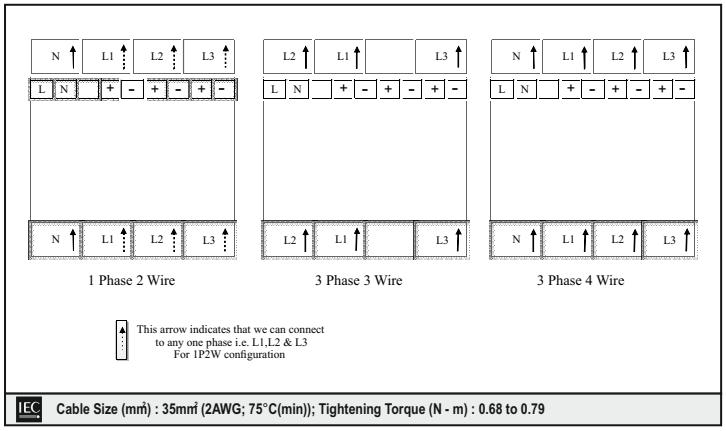
Mechanical specifications

Mounting	Din rail
Weight	400 gms

Dimensions (All are in mm)



Terminal connection



Compliance

Applicable EMI / EMC standards		
Product standard : IEC 61326 - 1		
Category		**Standards Compliance**
ESD immunity	IEC 61000 - 4 - 2	Level IV (Air Discharge : 15kV), (Contact Discharge : -8kV)
Surge immunity	IEC 61000 - 4 - 5	+ / - 4kV Common Mode, (Line to Ground)
Radiated susceptibility	IEC 61000 - 4 - 3	Level III, 80 to 1000MHz (10V / m) Level II, 1.4GHz to 2GHz (3V / m) Level I, 2GHz to 2.7GHz (1V / m)
Conducted susceptibility	IEC 61000 - 4 - 6	Level II (3V / m)
Voltage dips and interruptions	IEC 61000 - 4 - 11	**Dips** : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) **Interruptions** : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted emission	CISPR - 11	
Radiated emission	CISPR - 11	
Electrical fast transient	IEC 61000 - 4 - 4	Level IV (4kV)

Ordering information

Product code	Supply voltage	Output		Certification
EM4M-3P-C-100A	85 - 285V AC (L - N) 150 - 494V AC (L - L)	2 Pulse Outputs	Comm. (RS485)	CE