




DIN 70mm

## Features :

- 3Ø True RMS (Voltage, Current)
- 3Ø Power (Active, Reactive, Apparent)
- Energy (Active, Reactive)
- Plug-n-Wire, RJ45 Connector Current Input
- Programmable CT Primary, PT Primary / Secondary
- Modbus RTU Communication (RS485)
- 2 Pulse Outputs
- Max Demand of Power
- Self Powered

Certification : 

### Display Specifications

|                 |  |
|-----------------|--|
| Display         | 3 rows, LCD with Backlight               |
| Digits          | 1 row of 4 digits and 2 rows of 7 digits |
| LED Indications | Integration of Energy                    |

### Input Specifications

|                       |   |
|-----------------------|---|
| Electrical Connection | 3Ø - 4 wire, 1Ø - 2 wire  |
| Input Voltage Range   | 60 to 300V AC (L - N)<br>104 to 520V AC (L - L)   |
| Frequency             | 45 to 65Hz  |
| Display Scrolling     | Automatic / Manual  |
| Power Consumption     | 8VA max   |
| Display Reset         | Programmable (For energy)   |
| Resolution            | For energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M<br>(depending upon CT ratio x PT ratio)<br>For Power, Voltage,<br>Current : Auto Resolution<br>For Power Factor : 0.01  |
| Accuracy              | Voltage (L - N / L - L) : $\pm 0.5\%$ of FS.<br>Current : $\pm 0.5\%$ of FS.<br>Power Factor : $\pm 0.01$<br>Frequency : $\pm 0.1\%$ For L - N Voltage >20V<br>For L - L Voltage >35V<br>Power (Active, Reactive, Apparent) : $\pm 1$<br>Energy (Active, Reactive) : $\pm 1$  |
| Memory Retention      | 10 years (For energy)   |
| Measuring Parameters  | Voltage (L - L / L - N) (Individual / Average),<br>Current (Individual), Frequency<br>Power Factor (Individual / Average), Active,<br>Reactive & Apparent Power (Individual /<br>Total), Active and Reactive Energy (Total),<br>Active and Reactive Energy (Current Input -<br>1 Plus, Current Input - 2), Demand (Max<br>Active Power, Max Apparent Power) |

### Output Specifications

|   |   |
|---|---|
| Pulse Output                            | Voltage Range : 24V DC max<br>Current Capacity : 100mA max<br>Pulse Duration : Selectable between<br>0.1 to 2.0 sec.<br>Pulse Weight : Selectable between<br>0.01 to 9.99 kWh |
| Communication Interface<br>and Protocol | RS485 and MODBUS RTU  |
| Communication Address                   | 1 to 255  |
| Transmission Mode                       | Half duplex   |
| Transmission Distance                   | 500 meter maximum   |
| Transmission Speed                      | 300, 600, 1200, 2400, 4800, 9600,<br>19200 (in bps)   |
| Parity                                  | None, Odd, Even   |
| Stop Bits                               | 1 or 2  |
| Response Time                           | 100ms (max and independent of baud<br>rate)   |

### Auxiliary Supply Specifications

|                |  |
|----------------|--|
| Supply Voltage | 60 to 300V AC, 50 / 60Hz ( $\pm 5\%$ ),<br>Self Supplied (V1, N) |
|----------------|--|

### Settable Parameters

|                |   |
|----------------|---|
| CT Primary - 1 | 5A to 10kA (Programmable for any value)                 |
| CT Primary - 2 | 5A to 10kA (Programmable for any value)                 |
| CT Secondary   | 330mV   |
| PT Primary     | 100V to 10kV (Programmable for any value)               |
| PT Secondary   | 100V to 500V AC (L - L) (Programmable for<br>any value) |

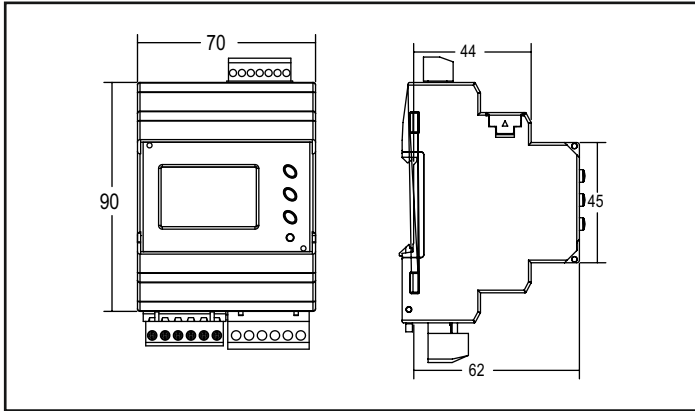
### Environmental Specifications

|                             |  |
|-----------------------------|--|
| Temperature                 | Operating Temperature : $-10^{\circ}$ to $55^{\circ}$ C<br>Storage Temperature : $-20^{\circ}$ to $75^{\circ}$ C |
| Humidity (non - condensing) | Upto 85% RH  |

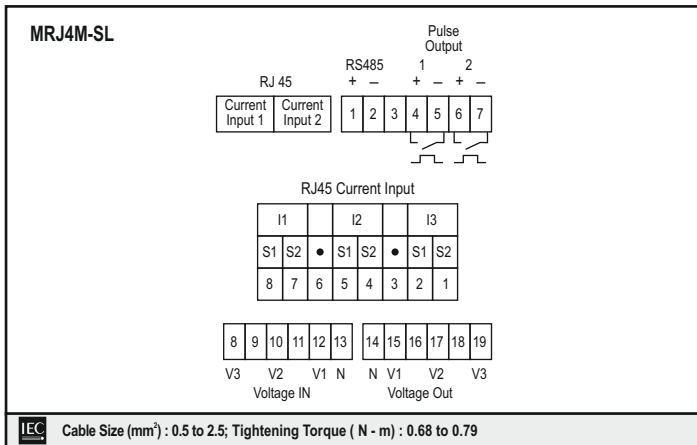
### Mechanical Specifications

|          |          |
|----------|----------|
| Mounting | Din Rail |
| Weight   | 200gms   |

### Dimensions (All dimensions 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),<br>(Contact Discharge : -8kV)   |
| Surge Immunity                   | IEC 61000 - 4 - 5  | + / - 2kV Common Mode, (Line to Ground)<br>+ / - 1kV Differential Mode, (Line to Line)   |
| Radiated Susceptibility          | IEC 61000 - 4 - 3  | Level III, 80 to 1000MHz (10V / m)<br>Level II, 1.4GHz to 2GHz (3V / m)<br>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 | <b>Dips</b> : 0% residual voltage /<br>1 cycle (Criteria B), 40% residual voltage /<br>10 cycles 50Hz / 12 cycles 60Hz (Criteria C)<br>70% residual voltage / 25 cycles<br>50Hz / 30 cycles 60Hz (Criteria C)<br><b>Interruptions</b> : 0% residual voltage /<br>250 cycles 50Hz / 300 cycles 60Hz<br>(Criteria C) |
| Conducted Emission               | CISPR - 11         |  |
| Radiated Emission                | CISPR - 11         |  |
| Electrical Fast Transient        | IEC 61000 - 4 - 4  | Level III (2kV)  |

### Ordering Information

| Product Code    | Supply                                 | Output       |               | Certification |
|-----------------|--|--------------|---------------|---------------|
| <b>MRJ4M-SL</b> | Self Supplied (V1, N)<br>60 to 300V AC | Pulse Output | Comm. (RS485) | <b>CE</b>     |