



96 x 96mm

## Features:

- ▶ Single pulse output
- ▶ 3Ø Power (kW, kVAR, kVA), PF
- ▶ 3Ø Energy (kWh, kVARh, kVAh)
- ▶ RS485 Communication MODBUS RTU protocol
- ▶ Import / Export energy

Certifications: 

## Technical specifications

| Display specifications           |                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------|
| Display                          | 7 segments LED display                                                            |
| Digits                           | 1 row of 9 digits                                                                 |
| Digit height                     | 0.39"                                                                             |
| Resolution                       | For energy: 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (depending upon CT ratio X PT ratio) |
|                                  | For power: Auto resolution                                                        |
|                                  | For power factor: 0.001                                                           |
|                                  | For frequency: 0.01 Hz                                                            |
| Input specifications             |                                                                                   |
| Type of measurement              | True RMS                                                                          |
| Sampling rate                    | 64 Samples / Cycle                                                                |
| Electrical connections           | 3Ø - 3 wire (Delta), 3Ø - 4 wire (wye), 2Ø - 3 wire, 1Ø - 2 wire (L-N)            |
| Data update rate                 | 1 sec                                                                             |
| Input - Voltage                  |                                                                                   |
| PT primary                       | 100V to 500kV (programmable for any value)                                        |
| PT secondary                     | 100V to 500V (programmable for any value)                                         |
| Voltage nominal                  | 240V AC L-N / 415V AC L-L                                                         |
| Measured V with full range       | 19V to 480V AC L-L (277V AC L-N) (CAT III), 520V AC L-L (300V AC L-N) (CAT II)    |
| Impedance                        | ≥0.8MΩ                                                                            |
| Frequency range                  | 45-65Hz                                                                           |
| VA burden                        | <0.5VA at 300V AC L-N / Phase                                                     |
| Input current                    |                                                                                   |
| CT ratings primary               | 1/5A to 10kA (programmable for any value)                                         |
| CT ratings secondary             | 1/5A (programmable for any value)                                                 |
| Current nominal                  | 5A AC                                                                             |
| Measured current with over range | 11mA to 6A AC                                                                     |
| Short circuit withstand capacity | 120A for 1sec                                                                     |
| Frequency range                  | 45-65Hz                                                                           |
| VA burden                        | 0.5VA at 5A / Phase                                                               |
| Measurement accuracy             |                                                                                   |
| Accuracy                         | Voltage (L-N / L-L): ±0.5% of full scale                                          |
|                                  | Current: ±0.5% of full scale                                                      |
|                                  | Power factor: ±0.01                                                               |
|                                  | Frequency: ±0.1%, For L-N voltage >20V, For L-L voltage >35V                      |
|                                  | Power (Active - ±1%, Reactive - ±2%, Apparent - ±1%)                              |
|                                  | Energy (Active - Class 1, Reactive - Class 2, Apparent - Class 1)                 |

## Output specifications

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Pulse output          | Voltage range: External 24V DC max               |
|                       | Current capacity: 100mA max                      |
|                       | Configurable pulse width from 0.1s to 2.0s       |
|                       | Configurable pulse weight from 0.01 to 99.99 kWh |
| Device ID & Parity    | 1 to 255 & None, Odd, Even                       |
| Protocol & Interface  | RS485 and MODBUS RTU                             |
| Transmission mode     | Half duplex                                      |
| Data types            | Float and Integer                                |
| Transmission distance | 500 meter maximum                                |
| Transmission speed    | 300, 600, 1200, 2400, 4800, 9600, 19200 (in bps) |
| Stop bits             | 1 or 2                                           |
| Isolation             | 2kV RMS                                          |

## Mechanical specifications

|                         |                         |
|-------------------------|-------------------------|
| Weight                  | 216 gm approx           |
| Material                | Polycarbonate           |
| IP degree of protection | Front: IP65, Back: IP20 |
| Torque at terminals     | 0.68 N-m to 0.79 N-m    |
| Wire gauge at terminals | 20 to 14 AWG; 75 °C     |
| Mounting position       | Panel mount             |

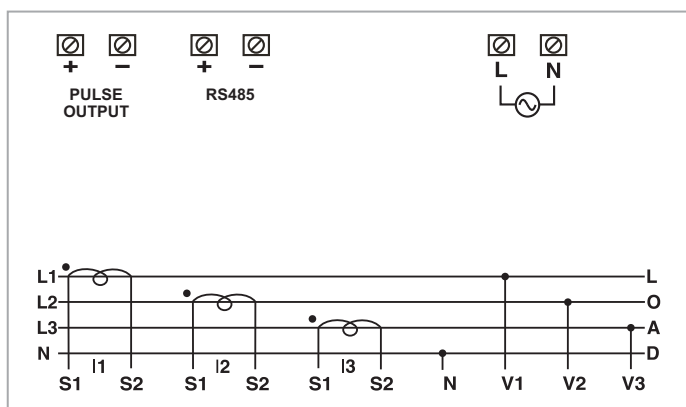
## Auxiliary supply specifications

|                   |                              |
|-------------------|------------------------------|
| Supply voltage    | 40 to 300V AC/DC, 50 / 60 Hz |
| Power consumption | <6VA/2W                      |

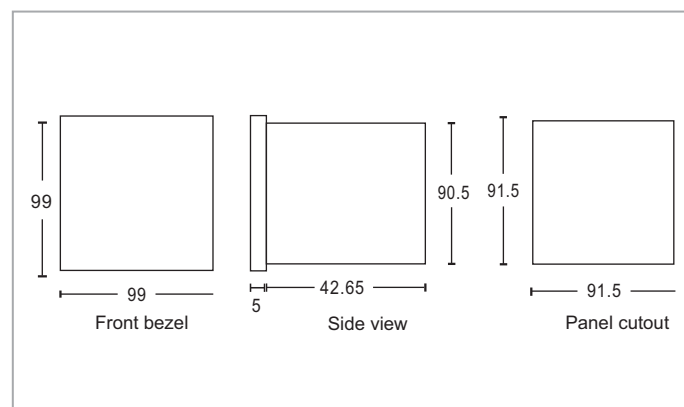
## Environmental specifications

|                       |                                   |
|-----------------------|-----------------------------------|
| Operating temperature | -10 °C to 55 °C (14 °F to 131 °F) |
| Storage temperature   | -20 °C to 75 °C (-4 °F to 167 °F) |
| Humidity              | Up to 85% RH (non - condensing)   |
| Altitude              | Up to 2000 meters (6561 ft.)      |
| Measurement category  | CAT III                           |
| Pollution degree      | 2                                 |

## Terminal connections



## Dimensions (All are in mm)



## Compliance

| Applicable EMI / EMC Standards                    |                      |
|---------------------------------------------------|----------------------|
| Product standard : IEC 61326-1 Edition 3.0        |                      |
| Category                                          | Standards compliance |
| Electrostatic discharge                           | IEC 61000 - 4 - 2    |
| Immunity to electromagnetic RF fields             | IEC 61000 - 4 - 3    |
| Conducted immunity                                | IEC 61000 - 4 - 6    |
| Immunity to magnetic fields                       | IEC 61000 - 4 - 8    |
| Immunity to voltage dips and interruptions        | IEC 61000 - 4 - 11   |
| Fast transient                                    | IEC 61000 - 4 - 4    |
| Immunity to surge waves                           | IEC 61000 - 4 - 5    |
| Conducted and radiated emissions                  | CISPR-11             |
| Safety standards                                  |                      |
| IEC61010 Edition 3.0 CAT III, Protection class II |                      |

## Ordering information

| Product code | Supply voltage         | Output       |               | Certification |
|--------------|------------------------|--------------|---------------|---------------|
|              |                        | Pulse output | Comm. (RS485) |               |
| EM306-C-CE   | 40-300V AC/DC 50/60 Hz | Yes          | Yes           | CE            |