# Energy Meter

# EM306-C-D-CE




96 x 96mm

## Features:

- 3Ø Power (kW, kVAr, kVA), PF
- 3Ø Energy (kWh, kVArh, kVAh)
- RS485 Communication MODBUS RTU protocol
- Import / Export energy

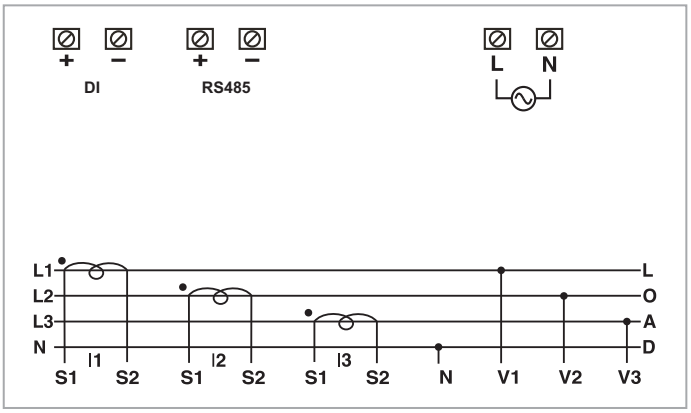
Certifications: CE

## Technical specifications

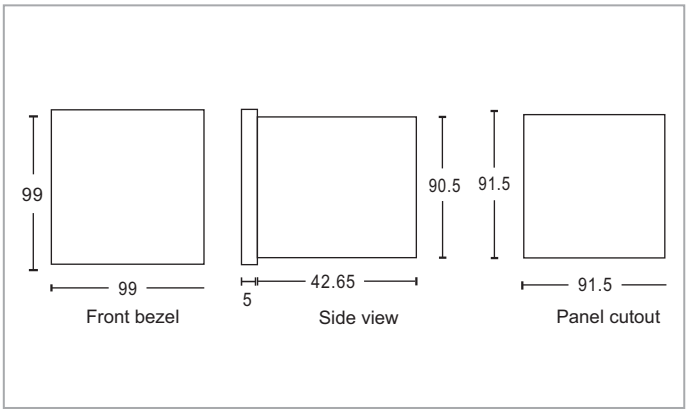
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|---|---|
| **Display specifications** | |
| Display | 7 segments LED display |
| Digits | 1 row of 9 digits |
| Digit height | 0.39" |
| Resolution | For energy: 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (depending upon CT ratio X PT ratio) |
| | For power: 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) |

| | |
|---|---|
| **Input specifications** | |
| Digital input | 24V DC (±10%) |
| **Output specifications** | |
| 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 | Input | Output | Certification |
|---|---|---|---|---|
| | | Digital input | Comm. (RS485) | |
| **EM306-C-D-CE** | 40-300V AC/DC 50/60 Hz | Yes | Yes | CE |