

NDM30 Lora Rail Type Single Phase Electricity Meter



NDM-30 Lora

Rail Type Single Phase Electricity Meter

NDM-30-LoRa measures and displays the characteristics of single phase two wires(1p2w) supplies, including kWh, kVArh, kW, kVA, kVAR, PF, Frequency, Voltage, Current, dmd, THD etc. It support Max. 100A direct connection, saving the cost to install external CTs. Maximum demand current can be measured over preset periods of up to 60 minutes.

This unit has a built-in LoRaWAN module which allows long range wireless communication.

Two pulse outputs are available for real time energy measurement.

Application Areas

- Shopping Malls
- Industrial Zones
- Electric Distribution Companies
- Marinas
- Residences
- Airports
- Factories
- Holiday Villages

Standarts and Protocols

- **International standard:** IEC 62053-21/ EN50470-1/3
- **Interface standard and protocol:** LoRaWAN Specification 1.0.2
- **Electromagnetic HF fields:** IEC 6100-4-3
- **Radiated & conducted emissions:** EN55022
- **Electromagnetic Compatibility:** EN61326-1:2013 & EN61326-2-3:2013
- **Low Voltage Directive:** EN 61010_1:2010+ A1:2019 & EN 61010-2-30-2010

Advantages

- Single phase 100A direct connection
- Wireless data transfer thanks to Lorawan communication,
- No cable and labor costs,
- Fewer failure points compared to wired systems due to wireless feature,
- Suitability for rail-type application solutions,
- Class 0.5 and class 1 application,
- Competitive prices,
- Compatibility with all software with Modbus RTU protocol communication,
- Wide solution capability with direct and current transformer models,



- Measurement capability up to 100 Amperes with direct type meters,
- Two-way measurement capability,
- Takes up less space compared to competitors,
- Proven reliability with unique design,
- Billing option for high-cost liquid fuels with generator tariff types,
- Easy payment collection from subscribers and the advantage of pre-collected amounts with prepaid types,
- Higher measurement accuracy classes compared to analyzers,
- Wide measurement range.

Features

- Rated voltage (Un): 120V or 230V AC
- Operational voltage: 80-120% of Un
- AC voltage withstand: 4KV for 1 minute
- Impulse voltage withstand: 6KV-1.2μS
- Base current (Ib): 10A
- Maximum rated current (Imax): 100A
- Operational current range: 0.4% Ib-Imax
- Overcurrent withstand: 0.01s for 30 Imax
- Operational frequency range: 50 or 60Hz
- Internal power consumption: ≤ 2W/10VA
- Pulse output 1: 1000imp/kWh (configurable)
- Pulse output 2: 1000imp/kWh
- Maximum reading: 99999.99kWh

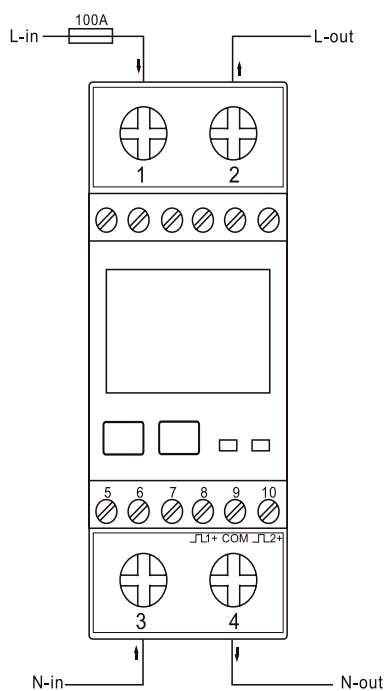
Performance Criteria

- Operating humidity: $\leq 90\%$, non-condensing
- Storage humidity: $\leq 95\%$, non-condensing
- Operating temperature: -25 to 55°C
- Storage temperature: -40 to 70°C
- Reference temperature: $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$
- International standard: IEC 62053-21/ EN50470-1/3
- Accuracy class: Class 1/Class B
- Installation category: CAT III
- Mechanical environment: M1
- Electromagnetic environment: E2
- Pollution degree: 2
- Protection against dust and water ingress: IP51 (indoor)
- Meter with protective insulation: class II
- Electrostatic discharges: 8kV contact / 15kV air gap
- Electromagnetic HF fields: IEC 61000-4-3
- Electrical fast transients: 4kV
- Surge: 4kV
- Radiated and conducted emissions: EN55022

Accuracy

- Voltage, Current: 0.5%
- Frequency: 0.2% of medium frequency
- Power factor: 1% of unity (0.01)

Wiring Diagram



- Active power, Apparent power: $\pm 1\%$ of range maximum
- Reactive power: $\pm 1\%$ of range maximum
- Reactive energy (VArh): Class 2
- Active energy (Wh): Class 1

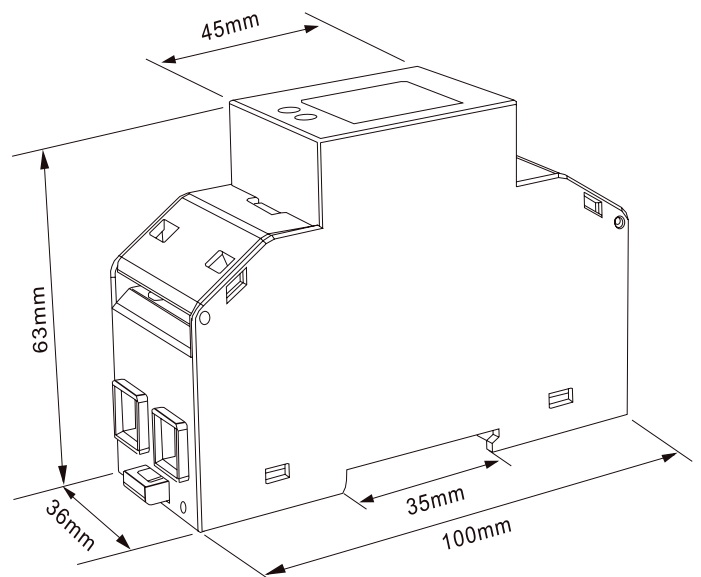
Communication

- Interface Standard and Protocol: LoRaWAN Specification 1.0.2
- Frequency: EU868/AS923/AU915/US902/CN470/ CN433
- LoRaWAN Classes: Class C
- Automatic Installation: Supported
- Auto Upload Interval: Configurable
- Activation Method: OTAA or ABP
- Output Power: 13dBm in Transmission
- LoRaWAN Specification: 1.0.2
- Maximum Number of Parameters: 19
- Encoding Format: ASCII
- Communication Distance: 1500M in open area

Pulse Output

- Pulse output: 2
- Pulse output type: Passive
- Pulse output 1: Configurable
- Pulse width: 200 / 100 (default) / 60ms
- Pulse output 2: 1000imp/kWh

Dimensions





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