



LR301

Three Phase Four Wire Smart Meter

Designed for commercial and industrial energy management

Providing a strong foundation for your Smart Grid initiatives



Key Feature

- ◆ Accuracy: Class 1.0 for KWH, Class2.0 for KVARH
- ◆ Flexible load control with internal breaker.
- ◆ Anti-tamper design. Include terminal and base cover detection.
- ◆ Support neutral current measurement and imbalance detection.
- ◆ Support optical probe data fast reading.
- ◆ Plug and play internal model support. Such as PLC/RF/GSM module.
- ◆ Abundant content display on LCD includes power outage condition.
- ◆ Support IEC62055-41(STS) and IEC62056(DLMS) standard.

Technical Point

Description	Value
Voltage	
Reference voltage	3*230/400v
operating voltage range	70%-120%Un
Current	
Basic current	5A/10A
Maximum current	60 ,80 ,100 A
Starting current	0.4%Ib
Accuracy	
	Class 1.0 for kWh Class 2.0 for Kvarh
Frequency	
Rated frequency	50Hz
Frequency range	±2%
Pulse constant	
	800 imp/kWh
Temperature	
Normal Operation range	-25°C to +55°C
Limit operation range	-40°C to +70°C
Limit range for storage and transport	-40°C to +85°C
Humidity	
	Up to 95% non-condensing

Power Consumption

Power consumption in voltage circuit (active)	≤ 2 W
Power consumption in voltage circuit (apparent)	≤ 10 VA
Power consumption in current circuit	≤ 1 VA

Insulation Strength

AC voltage test	4kV
Surge Withstand	6kV
Protection class	Class II

Electromagnetic Compatibility

Electrostatic discharges	Contact 8kV, air 15kV
Fast transient burst	4kV
Immunity to Impulse voltage (IEC62052-11)	6 kV
Immunity to electromagnetic RF fields	6V/m at reference current, 30V/m without current

Protection Degree

IP54

Breaker

Single or Double channel relay

Lifetime

Bi-stable relay
10000 cycles at $I_{\max}$ PF=1 and PF=0.5L

Maximum switching Voltage

250VAC

Maximum switching current

120A

Maximum switching power

300000VA

Lifetime

≥ 15 years

■ Main Functionalities

➤ Measurement

- 4 quadrant measurement
- Instantaneous Vrms, Irma, Frequency,
- Import/export active energy, import/export reactive energy, 4Q reactive energy, apparent energy
- Lots of energy and demand registers (A+, A-, R+, R-, S+, S-)
- THD

➤ RTC

- Clock accuracy (daily deviation): $\leq 0.5s$
- Gregorian calendar
- Automatic leap year switch

➤ Battery backup

- Supper capacitor as backup power for RTC, Lcd display and anti-tamper detection under power outage state.
- Support recharge able battery

➤ Load control

- Relay operation test support
- Over current control support

➤ Time of use

- Support Multi tariff function
- 4 season table ,4 week table and 8 day table support .

➤ Billing data record

- One daily profiles record, up to 30 days
- Month billing record, up to 12 months
- Load profile data record ,up to 90 days with 15 mins interval

➤ Event record

- Tamper detect (Meter cover open, terminal cover open, current reverse, magnetic detect etc.)
- Failure detect (Memory error, relay error, measurement error,etc.)
- Power quality event (Under voltage / Over voltage / Current imbalance, Power failure, etc.)

➤ Relay Control

- Relay automatic disconnect after power outage
- Tamper disconnect(open meter cover, open terminal cover include power off tamper detection)
- Over active power limitation

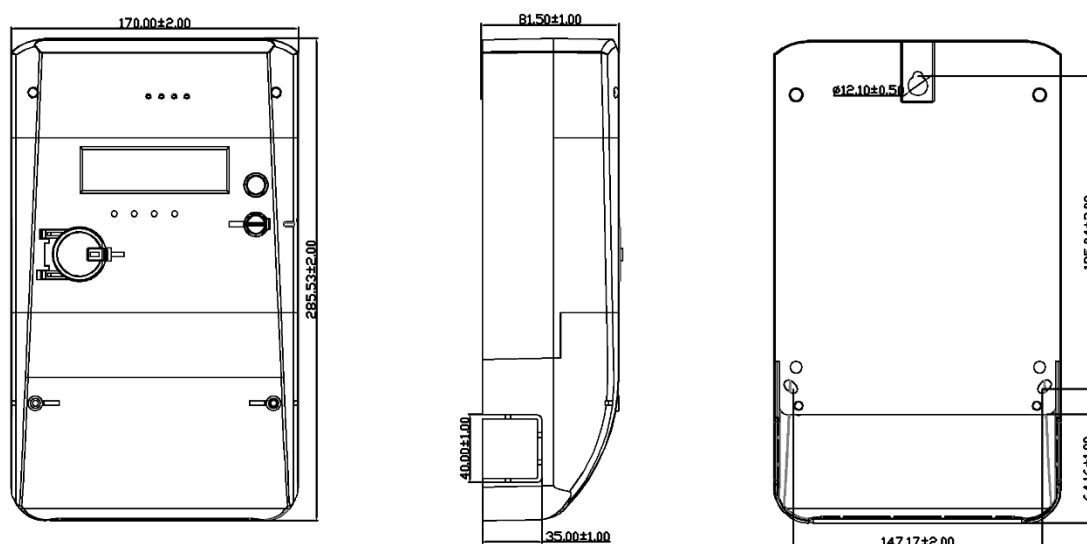
➤ **Communication**

- Optical port comply with IEC62056-21 E mode. Support local communication
- Plug-play Slot support connect RF/PLC/GSM module for remote communication
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➤ **Security**

- Low level security: Password protect parameter configuration.
- High level security: Support authentication and encryption with AES128 and GMAC algorithm for local and remotely communication.

➤ Meter Installation Dimensions



➤ Connection

