



HXE310-KP

Three Phase
Network Prepayment
Keypad Meter

Focus on creating value for clients



HXE310-KP is a new generation of smart prepayment meter which integrates STS with AMI functionalities. With a keypad in the front of the meter cover, it supports multi-vending feasibilities for both remote and local credit charging.

■ Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS/COSEM (E mode)
- Internal switch relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable for users' convenience
- A plug-and-play communication module (GPRS/ PLC/RF/ZIGBEE)

■ Main Functionalities

➤ Measurement

- Unidirectional or Bi-directional Measurement
- Record active energy in tariffs
- Instantaneous value measurement
- 12-month billing data and other frozen data for inquiry
- Prepayment is made via a numeric token with extended ways of recharging

➤ LCD Display

- Balance display configurable
- Large digit LCD display, easy for reading
- LCD backlights to increase readability in low light conditions(optional)
- Scrolling display configurable for instant information enquiry
- Display readable without main power (RWP)
- LCD backlights to increase readability in

low light conditions

- 6-month billing data (active energy) displayable

➤ RTC

- Clock accuracy (daily deviation): $\leq 0.5s$ ($23^\circ C$)
- Day light saving configurable

➤ Event Record

- Fraud protection function. The relay will be disconnected for fraud protection once detects the cover open and terminal cover open events
- Multiple event detections and records with categories of operation, power grid and tampering
- RS485 Communication with interface in accordance to DLMS standard (optional)
- Emergency Credit for a certain sum of energy

- supply depending on User's credit level
- User-friendly mode for energy supply for low credit during weekends or holidays (optional)
- **Tampering Proof**
 - Meter Cover open detection and record
 - Meter terminal detection and record
 - Bypass (optional)
 - Large magnetic event(optional)
- Auxiliary Terminal for Energy Pulse Output(optional)
- **Demand**
 - Demand Interval configurable
 - Block or slide mode configurable
- Forward and reverse active MD with time stamp
- **Tariff**
 - TOU
 - Step configurable.
- **Load profile**
 - Channel quantity customized before leaving the factory; Up to 8 channels
 - Data for load profile record configuration

■ Specifications

Description	Value
Accuracy	Class 1 or 2 (IEC), Class A or B (MID)
Voltage	<p>Reference voltage</p> <p>3×220/380V-3×240/415V</p> <p>Operating voltage range</p> <p>70%-120%Un</p>
Current	<p>Basic current</p> <p>5A,10A</p> <p>Maximum current</p> <p>40A, 60A, 80A, 100A</p> <p>Starting current</p> <p>< 0.4%lb</p>
Frequency	50Hz or 60Hz
Temperature	<p>Operation range</p> <p>-25°C to +60°C</p> <p>Limit range for storage and transport</p> <p>-40°C to +75°C</p>
Humidity	Up to 95%
Power Consumption	<p>Power consumption in voltage circuit (active)</p> <p>≤2 W</p> <p>Power consumption in voltage circuit (apparent)</p> <p>≤10 VA</p> <p>Power consumption in current circuit</p> <p>≤1 VA</p>
Insulation Strength	<p>AC voltage test</p> <p>4kV during 1min</p> <p>Impulse voltage test</p> <p>1.2/50μs mains connections 6kV</p>
EMC	<p>Electrostatic discharges(Contact discharges)</p> <p>8kV</p> <p>Electrostatic discharges(Air discharges)</p> <p>15kV</p> <p>Surge immunity test</p> <p>4kV</p> <p>Fast transient burst test</p> <p>4kV</p> <p>Electromagnetic RF fields (80MHz to 2000MHz)</p> <p>10V/m(with current), 30V/m(without current)</p>
Connection Terminals	∅ 8mm

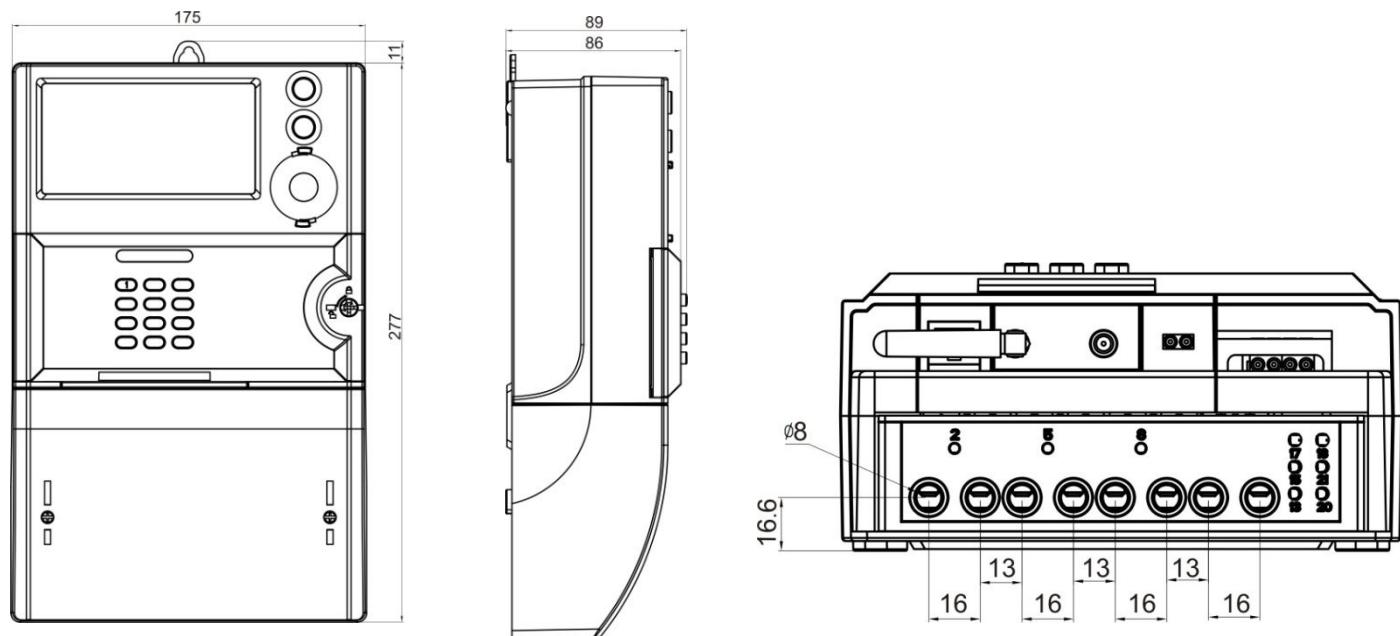
Housing		
Protection degree	IP54 (with long terminal cover)	
Meter cove	Opaque PC+ fiber glass with a transparent window	
Meter base	Opaque PC+ fiber glass	
Terminal cover	Opaque PC+ fiber glass	
Display		
Digit size	8.8mm x 4.5mm	
Number of digits	8	
Communication Interface		
Optical communication	DLMS/COSEM	
RS485	DLMS/COSEM	
PLC/GPRS communication module		
Weight		
Net weight	Extended terminal cover: Approx.1.50kg (without communication module) Approx.1.59kg(+PLC communication module) Approx.1.62kg(+GPRS communication module) Short terminal cover: Approx.1.45kg (without communication module) Approx.1.54kg(+PLC communication module) Approx.1.57kg(+GPRS communication module) Approx.0.6kg	
Package		
Dimension		277mm×175mm×89mm (Extended terminal cover) 234mm×175mm×89mm (Short terminal cover)

■ Standard

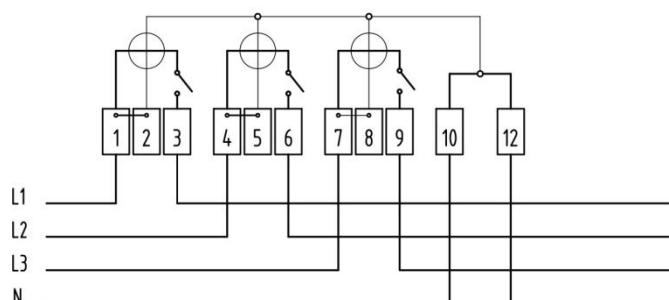
IEC62052-11	Electricity metering equipment (a.c.) General requirements, tests and test conditions – Part 11: Metering equipment
IEC62053-21	Electricity metering equipment (a.c.) Particular requirements –Part 21:Static meters for active energy(classes 1 and 2)
IEC62053-23	Electricity metering equipment (a.c.) – Particular requirements –Part 23: Static meters for reactive energy (classes 2 and 3)
IEC62055-41	Electricity metering - Payment systems - Part 41: Standard transfer specification (STS) - Application layer protocol for one-way token carrier systems
IEC62055-51	Electricity metering - Payment systems - Part 51: Standard transfer specification (STS) - Physical layer protocol for one-way numeric and magnetic card token carriers
IEC62056-46	Electricity metering – Data exchange for meter reading, tariff and load control – Part 46: Data link layer using HDLC protocol
IEC62056-47	Electricity metering – Data exchange for meter reading, tariff and load control – Part 47:COSEM transport layer for IP networks
IEC62056-53	Electricity metering – Data exchange for meter reading, tariff and load control – Part 53:COSEM Application layer
IEC62056-61	Electricity metering – Data exchange for meter reading, tariff and load control – Part 61:OBIS Object identification system
IEC62056-62	Electricity metering – Data exchange for meter reading, tariff and load control – Part 62:Interface classes

EN50470-1	Electricity metering equipment (a.c.) —Part 1: General requirements, tests and test conditions — Metering equipment(class indexes A, B and C)
EN50470-3	Electricity metering equipment (a.c.) —Part 3: Particular requirements —Static meters for active energy (class indexes A, B and C)

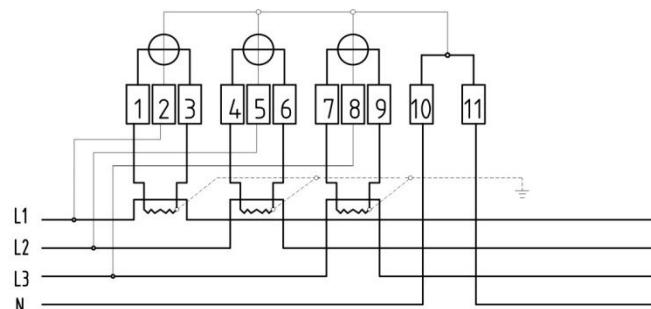
Dimensions



Connection Diagram



Direct Connection Type



Transformer Operated Type

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