HEXING

HXE110-KP

Single Phase

Network Prepayment

Keypad Meter

Focus on creating value for clients

HXE110-KP

Communication Module, PLC

Communication Module, GPRS

HXE110-KP is a new generation of single phase smart prepayment meter which migrating AMI with STS prepayment functions. With a plug-and-play communication module and keypad in the front of the meter cover, it provides multi-vending feasibilities for both remote and local credit charging. The meter is supported by Hexing's sophisticated vending system software and AMI system software.

■ 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)

  • 6-month billing data (active energy) displayable
➢ **RTC**
  • Clock accuracy (daily deviation): ≤ 0.5s (23℃)
  • Day light saving configurable
➢ 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	
Reference voltage	110-127V,220-240V
Operating voltage range	70%-120%Un
Current	
Basic current	5A,10A
Maximum current	40A, 60A, 80A, 100A
Starting current	< 0.4%Ib
Frequency	50Hz or 60Hz
Temperature	
Operation range	-25℃ to +60℃
Limit range for storage and transport	-40℃ to +75℃
Humidity	Up to 95%
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 during 1min
Impulse voltage test	1.2/50μs mains connections 6kV
EMC	
Electrostatic discharges(Contact discharges)	8kV
Electrostatic discharges(Air discharges)	15kV
Surge immunity test	4kV
Fast transient burst test	4kV
Electromagnetic RF fields (80MHz to 2000MHz)	10V/m(with current), 30V/m(without current)
Connection Terminals	9mmx9mm
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	Approx. 0.81kg (without communication module)
	Approx. 0.87kg (+PLC communication module)
	Approx. 0.87kg(+GPRS communication module)
Dimension	204mm×132mm×85mm (Extended terminal cover)

■ Standard

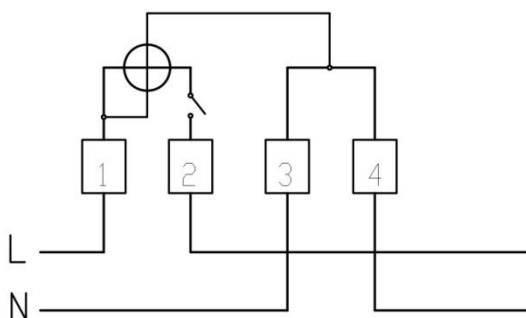|	
IEC62052-11	Electricity metering equipment (a.c.) General requirements, tests and test conditions – Part 11: Metering equipment
IEC62053-21	Electricity metering equipment (a.c.) Particular requirements –Part 21:Static meters for active energy(classes 1 and 2)
IEC62053-23	Electricity metering equipment (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
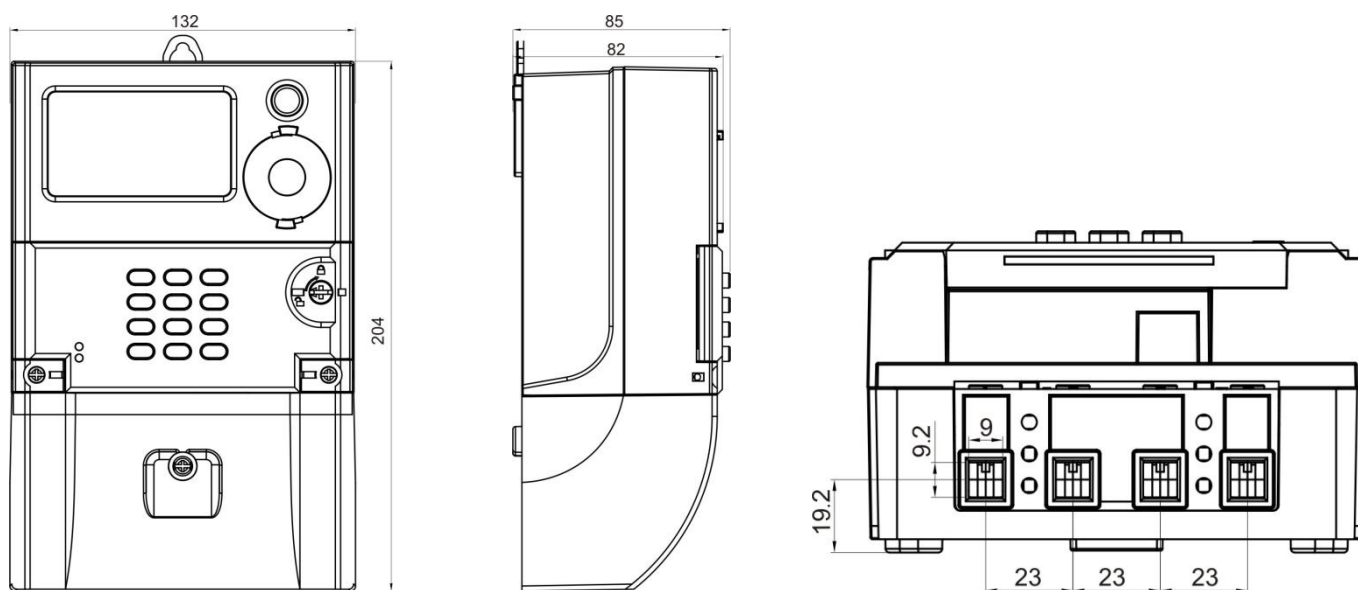
■ Connection Diagram
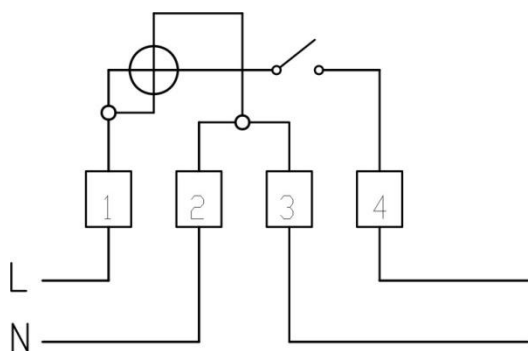
Symmetric Connection

Asymmetric Connection