Electricity meter three-phase indirect LoRaWAN®

Nordic Propeye's Electricity meter three-phase indirect LoRaWAN® is an advanced multi-function three phase energy monitoring solution with built-in LoRaWAN® module.

It measures and displays the characteristics of single phase two wire (1p2w), single phase three wire (1p3w), three phase three wire (3p3w) and three phase four wire (3p4w) supplies, including KWh, kVArh, kW, kVAr, kVA, PF, Frequency, Voltage, Current, dmd. THD etc. Energy is measured in terms of kWh, kVArh. Maximum demand current can be measured over preset periods of up to 60 minutes.

The requisite current input(s) are obtained via current transformers (CT). This meter can be configured to work with a wide range of CT's, giving the unit a wide range of operation. Configuration is password protected. The meter was ETL approved by Intertek and MID approved by SGS.

- Three phase 1/5A current transformer operated
- ETL, MID certified
- High accuracy, Class 1 / Class 0.5s
- Confirmations/ Offline detection available
- Multi-parameters measurement
- Bi-directional measurement for kW and kWh
- Configurable pulsed output
- Support auto-upload mode for uploading data to back server actively.
- Download/ Upload time interval can be set or adjusted.
- Support auto-resume mode for suddenly power off of the gateway when resume.

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Electrical characteristics	
Type of measurement	RMS including harmonics on three phase AC system (3P, 3P+N)
Measurement accuracy	
Active Energy	IEC 62053-21 Class 1
Reactive Energy	IEC 62053-23 Class 2
Frequency	± 0.2%
Current	± 0.5%
Voltage	± 0.5%
Power	± 0.01
Power Factor	± 0.01
Data Update Rate	1 second nominal
Input-Voltage	
VT Primary	
Un	230 V L-N
Measured Voltage with Over-range	173 to 480 V AC L-L / 100 to 276 V AC L-N
Impedance	1MΩ
Frequency Range	45~65Hz
Input- Current	
CT Rating primary	1~9999A
CT Rating secondary	1A / 5A
Measured current with Over-range	6A
Withstand	Continuous 120A for 0.5 Seconds
Impedance	<1MΩ
Frequency Range	45~65Hz
Burden	<0.036VA at 6A
Auxiliary Power Supply	
Operating Range	85~275V AC / 120~380V DC
Power Consumption	< 7VA/3.5W
Frequency	45 to 65 Hz
Max. reading	9999999.9 kWh/ kVArh
Mechanical characteristics	
Weight	330g
IP Degree of Protection (IEC 60529)	IP51 (indoor)
Dimensions (WxHxD)	72x94.5x65mm
Mounting	
Material of meter case	Self-extinguishing UL 94 V-0
Mechanical environment	M1
Environmental Characteristics	
Operating Temperature	-40 to 70 °C
Storage Temperature	-40 to 70 °C
Humidity Rating	99% RH (non-condensing)
Pollution Degree	2
Altitude	2000m
Vibration	10Hz to 50Hz, IEC 60068-2-6
Safety	
Measurement Category	Per IEC61010-1 CAT III
Current Inputs	Require external Current Transformer for Insulation
Over voltage Category	CAT III

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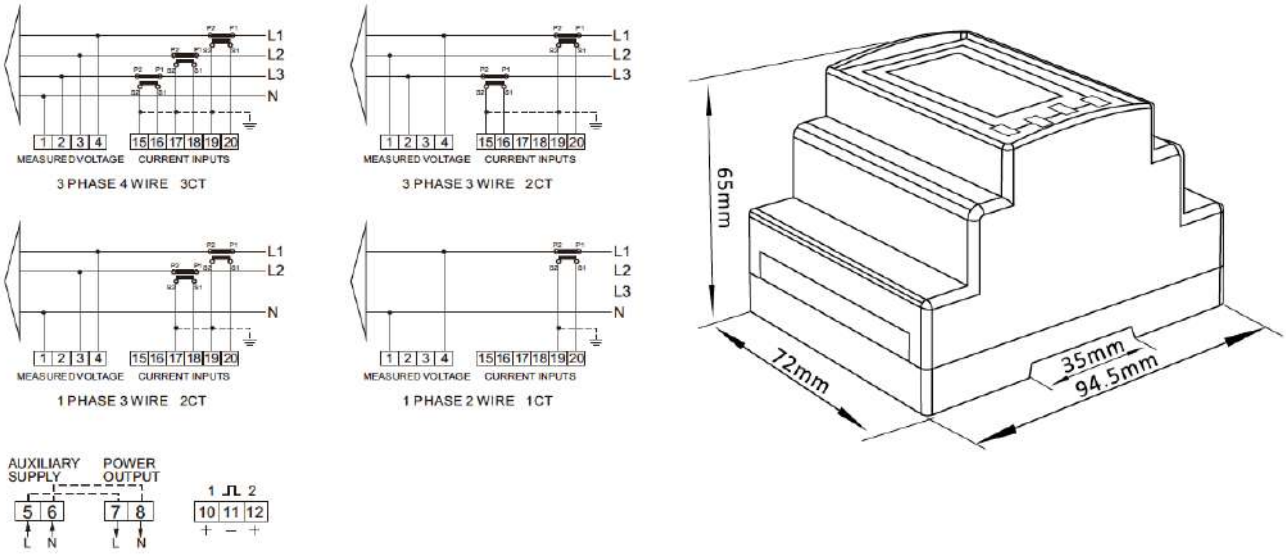
Dielectric Withstand	As per IEC 61010-1 Double Insulated front panel display
Protective Class	II
Communications	
Interface standard and protocol	LoRaWAN Specification 1.0.2
Frequency	EU868
LoRaWAN Class	Class C
Auto-upload	Max. 30 parameters
Auto-upload Interval	Configurable
Activation Way	OTAA or ABP
Output Power	13dBm in transmission
Coding Format	ASCII
Communication Distance	1500M in an open area
Certifications	
Electromagnetic Compatibility	EN61326-1:2013 & EN61326-2-3:2013
Low Voltage Directive	EN61010-1:2010 & EN61010-2-30:2010
MID Directive	2014/32/EU
Climatic design (EN 60076-11)	3k7

Wiring configuration (left) & Dimension drawing (right)