

# Wasion Holdings


## Company Profile

Striving to Be A Global Expert  
in Energy Efficiency Management



\* Product specifications are subject to change without prior notice  
Headquater: No.468 Tongzipo Road, High Technology  
Industrial Development Zone, Changsha, Hunan, P.R.China  
Tel: +86-0731-88619888  
[marketing@wasion.com](mailto:marketing@wasion.com)

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A modern, multi-story building with a large glass facade reflecting the sky and clouds. Several flagpoles with flags are in the foreground. The sky is blue with scattered white clouds.

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# Striving to be A Global Expert in Energy Efficiency Management.

Clients & Partners

140+

Products exported to

50+

Countries

Investment in R&D

8% +

Meters delivered

100M+

Employees Worldwide

6000+

Manufacturing Plants

5

in 5 continents

Founded in 2000 and listed on the Main Board of the Hong Kong Stock Exchange in 2005, Wasion Holdings Limited (HK3393) is a Chinese leading provider of internationally advanced energy metering and energy efficiency management.

Headquartered in Hong Kong, Wasion Holdings serves the global energy supply industries including power, water, gas, and heat; industrial and commercial users such as large-scale public construction, petroleum and petrochemical, and transportation; and residential users. It focuses on global energy internet, smart city (including smart water, smart gas, smart heat, and smart security), and big data services to build a full chain of overseas trade.

Wasion has been exploring global markets vigorously and our products have been exported to more than 50 countries. Wasion owns and maintains multiple manufacturing plants globally to ensure the efficiency in production and on-time delivery of high-quality products and services.

## Business



ELECTRICITY/WATER/  
GAS METERS



COMMUNICATION  
PRODUCTS



SYSTEM  
SOFTWARE



RENEWABLE  
ENERGY



END TO END  
SOLUTIONS

### Manufacturing & Products:

- Smart Metering and Measuring Devices (Electricity, Water, Gas)
- Communication Modules (4G, 3G, LTE, NB-IoT, GPRS, RF, Wi-Sun, LoRaWan, Ethernet, G3-PLC, BPLC)
- Data Concentrators, Data Collectors and Gate Ways
- Smart Circuit Breakers (Vacuum, SF6)
- Ring Main Units
- Metal Clad Switch Gears
- Miniature Circuit Breaker
- Solar Panel, convertor (Total solution for Power Generation in various scales)
- Battery Storage
- EV Charging Equipments

### System Software:

- Meter Data Management (MDM)
- Head End System (HES/MDC)
- Vending System
- Billing System
- IoT
- Smart Cities
- Transformer Monitoring System



# ■ Global Presence



## 📍 Local Factories & Offices

China, Mexico, Brazil, Tanzania, Saudi Arabia, South Africa,  
Egypt, Indonesia, Bangladesh, Nigeria, USA,  
Austria, Hungary, Ecuador...



## Expertise

Dedicated in optimizing our products and solutions with experience/profession, we are devoted to R&D and to provide products and solutions featuring stable digital grid, easier cash flow, greater usability and automation, delivering outcomes that produce considerable results and ROI.



## End to End Solution

Optionally we also offer private back haul, which can be used in place or as back up to cellular and other regular back haul networks. This minimizes OPEX (Operational Cost) down to almost zero and guarantees ROI (Return on Investment) in 2-5 years.



## Globalization


With overseas subsidiaries and factories in more than 20 countries and regions in 5 continents , we ensure 24/7 multilingual services and support in technical matters, training, installation, maintenance and troubleshooting by professional teams.



## Interoperability

We have achieved interoperability on both hardware and software. Our devices and systems have already integrated with other ranked suppliers in the market. Interfaces of our products are developed based on open and well-adopted popular and International standards and protocols to make them future proof.





# Electricity Meters

## Electricity Meters

A complete range of electricity meters with comprehensive functions and outstanding features, to simplify and automate energy metering and management system.

# Libra



**Libra 3D**  
ANSI Standard Smart Meter

## Key Features

- Smart ANSI Meter with optional telecommunication module
- Optional edge computing module
- Optional local/remote-controlled disconnecter (Max. 200 A)
- Accuracy: 0.2, 0.5
- Replaceable battery outside meter cover
- Highly tamper-proof by design
- Prepaid/post-paid switch-over at runtime
- Modular architecture for both hardware and firmware
- Meets ANSI, IEC and UL Standards

## Main Functions

### Event Logs

- Tamper detection (such as meter cover open, current reverse)
- Self-diagnosis failure (such as memory error, measurement system error, battery voltage low)
- Power quality events (under-voltage / over-voltage / bad voltage quality, power failure, sag/swell and ...)
- Security events (such as parameters changed, firmware upgraded)
- Standard events (such as clock adjusted, maximum demand exceeded)

### Firmware Upgrade

- The firmware can be upgraded OTA

### Tariff

- Max. 4 tariffs and 4 seasons
- Support of different day types like weekend day, working day, holiday and so on
- Configurable DST
- Programmable calendars and schedules

### Communication

- According to ANSI C12.18/22 (Standards compliance testing for communication, User meter reading and test operations; AMI/AMR system; Maintenance; The communication port is restored at a certain time after each communication ends)
- ANSI optical port provided (type 2)
- Plug and play communication module

### Security

- Three levels of passwords for security: Master (High), Reader (Middle), Customer (Low)





**aMeter100-GT**  
Single Phase Smart Meter

Key Features

- Plug and play module for WAN communication with independent module box
- Bi-directional measurement
- Accuracy: class 1.0 for kWh, class 2.0 for kvarh
- Open standard protocol: DLMS/COSEM
- Flexible load control with internal breaker
- Anti-tamper design
- Firmware upgrade via local interface and OTA
- Support LLS and HLS, DLMS Green book suite 0, suite 1
- Wired M-BUS interface for water/gas meter

Main Functions

Event Logs
<ul style="list-style-type: none"><li>• Tamper detection (meter and terminal cover open, current reverse, magnetic field detection, etc.)</li><li>• Internal failure detection (memory error, relay error, battery low, clock invalid, etc.)</li><li>• Power quality events (over current / over load)</li><li>• Standard/fraud/alarm events</li><li>• Security events (parameters change, clock adjustment, etc.)</li></ul>
Load Control
<ul style="list-style-type: none"><li>• Remote relay control command</li><li>• Over current control</li><li>• Load/demand limiter control</li></ul>
WAN Communication (optional)
<ul style="list-style-type: none"><li>• G3-PLC, BPLC, Wi-SUN, RPMA, Trilliant OSDI, ITRON SSN</li><li>• GPRS/3G/4G</li><li>• Protocol: DLMS/COSEM</li></ul>
HAN Communication (optional)
<ul style="list-style-type: none"><li>• RS485/M-BUS</li><li>• FSK RF, FSK PLC</li><li>• Communication with in-home display</li></ul>
Security
<ul style="list-style-type: none"><li>• LLS, supporting 3-level passwords for local and remote communication</li><li>• HLS, supporting authentication and encryption for local and remote communication</li></ul>





**aMeter 351**  
High End Three Phase Smart Meter

Key Features

- Based on European Market Requirements
- Accuracy: class 1.0 for kWh, class 2.0 for kvarh
- Embedded G3-PLC module
- Optional Plug and Play Cellular (LTE) module
- On-the-Air Firmware Upgradable
- UC3 Disconnecter, P1, Load Control and S0 Output
- Certificates and Compliance: DLMS, IEC, MID, CE-RED, RoHS,
- NSA Suite B Security ECDH, ECDSA, SHA-256

Main Functions

Measurement Behaviour
<ul style="list-style-type: none"><li>• Import/export active energy, import/export reactive energy, 4Q reactive energy, apparent energy</li><li>• Instantaneous voltage, current, active/reactive power and power factor</li></ul>
Tariff
<ul style="list-style-type: none"><li>• Up to 8 tariff, Up to 120 exception days/Holiday, Up to 14 seasons and 8-week tables, Up to 8-day tables and each table has 12 entrie</li><li>• Active and passive calendar support</li></ul>
Event Logs
<ul style="list-style-type: none"><li>• Fraud detection (Meter cover, terminal cover, current reverse, magnetic detect etc.)</li><li>• Failure detection (Memory error, relay error, battery low voltage, clock invalid etc.)</li><li>• Power quality event (Under voltage / Over voltage (Sag/Swell), Power up/down, etc.)</li><li>• Over current / current imbalance</li><li>• Security event (Parameters change, clock adjust, etc.)</li><li>• Standard event log (Power up/on, time synchronization, etc.)</li></ul>
Load Control
<ul style="list-style-type: none"><li>• Remote relay control command, Over current control, Load/demand limiter control</li></ul>
WAN Communication (optional)
<ul style="list-style-type: none"><li>• Plug and play 4G LTE module to support various communication technology</li><li>• Frequency: GSM/GPRS(900/1800MHz)/UMTS(B1/B8)/FDDLTE(B1/B3/B7/B8/B20/B28A)/TDD LTE(B38/B40/B41)</li><li>• Protocol: DLMS/COSEME</li></ul>
HAN Communication
<ul style="list-style-type: none"><li>• P1, Communicate with an in-home display; Built in G3 PLC; Protocol: DLMS/COSEM</li></ul>
Security
<ul style="list-style-type: none"><li>• Physical Security: Terminal cover removal/Main cover opening sensor, Tamper detection and logging</li><li>• Software Security: Optical port disabling after predefined times of failed login attempt, Optical port disabling/enabling by software (time-based), Automatic alarms/events push to the master station</li><li>• Protocol Security: Complies DLMS / COSEM Security Suite 1, HLS and LLS authentication modes</li></ul>

# aMeter300-KT

## Poly-phase Keypad Smart Meter



### Key Features

- Plug and play module for WAN communication with independent module box
- 4 quadrants measurement: instantaneous Vrms, Irms, frequency, PF, kW, kvar, kVA
- Accuracy: class 1.0 or class 0.5S for kWh, class 2.0 for kvarh
- Up to 50th harmonic measurement: power quality analysis, THD, sag/swell/dip support
- Open standard protocol: DLMS/COSEM
- Flexible load control with internal breaker
- Prepaid/post-paid switch
- 20 digital token input via keypad and remote transfer
- Anti-tamper design
- Firmware upgrade via local interface and OTA
- Support LLS and HLS, DLMS Green book suite 0, suite 1
- Rich set of auxiliary interface support
- Wired M-BUS interface connect with water/gas meter

### Main Functions

#### Event Logs

- Tamper detection (meter and terminal cover open, current reverse, magnetic field detection, etc.)
- Internal failure detection (memory error, relay error, battery low, clock invalid, etc.)
- Power quality events (over current / over load, current imbalance, phase rotation, etc.)
- Standard/fraud/alarm events
- Security events (parameters change, clock adjustment, etc.)

#### Load Control

- Remote relay control command
- Over current control
- Load/demand limiter control

#### WAN Communication (optional)

- G3-PLC, BPLC, Wi-SUN, RPMA, Trilliant OSDI, ITRON SSN
- GPRS/3G/4G
- Protocol: DLMS/COSEME

#### HAN Communication (optional)

- RS485/M-BUS
- FSK RF, FSK PLC
- Communication with in-home display

#### Security

- LLS, supporting 3-level passwords for local and remote communication
- HLS, supporting authentication and encryption for local and remote communication



**aMeter100-DTIN**  
Single Phase Smart Meter

Key Features

- Compact design
- Optical port, Comply with IEC62056-21 standard
- Equipped with optional local/remote-controlled disconnecter
- Flexible backup power for RTC, including internal battery, and external battery(optional)
- Prepaid/post-paid switch-over at runtime
- Highly tamper-proof by design
- Firmware upgrade via optical interface and RS485 interface
- Comply with protocol: DLMS(IEC62056-21 mode E)

Main Functions

Measurement

- 1 element, 4 quadrant
- Instantaneous Vrms, Irms, frequency, PF, kW, kvar, kVA
- Rich set of energy and demand registers (A+, A-, R+, R-, +Ri, +Rc, -Ri, -Rc)

RTC

- Clock accuracy (daily deviation): ≤ 0.5s/day
- DST

Tariff

- Up to 4 tariff rate
- Up to 50 exception days/Holiday
- Up to 6 seasons and 6-week tables
- Up to 8-day tables and each table has 14 entries
- Active and passive calendar support

Battery Backup

- Flexible backup power for RTC, including internal battery, external battery (optional)

Load Profile

- Data recorded 60 days (15 mins) with kW

Firmware upgrading

- The firmware can be upgraded via optical interface and RS485 interface

Profile

- Hourly load profiles(15min(default), up to 20 channels, up to 60 days)

- Daily load profiles (24h, up to 20 channels, up to 64 days)
- Month billing profiles, Up to 24 billing records and 20 channels
- Configurable interval and capture objects of load profile

Event Record

- Fraud detection (Meter cover, terminal cover, current reverse, magnetic detect etc.)
- Failure detection (Memory error, relay error, battery low voltage, clock invalid etc.)
- Power quality event (Under voltage /Over voltage (Sag/Swell), Power up/down, etc.)
- Over current/Over load
- Security event (Parameters change, clock adjust, etc.)
- Standard event log (Power up/on, time synchronization, etc.)

Communication

- RS485
- Optical port, Comply with IEC62056-21 standard
- Protocol: DLMS(IEC62056-21 mode E)

Security

- LLS support 3 level passwords for local and remotely communication
- HLS support authentication and encryption for local



DDS



**DDS102**  
Single Phase Meter

Key Features

- Single phase two wire static electricity meter, designed for residential consumers
- Optical port(Optional)
- Accuracy: class 1.0 for kWh, class 2.0 for kvarh
- Open standard protocol: IEC62056-21
- Highest-level information security
- Built-in battery/super capacitor (optional)
- Active energy and Reactive energy measurement
- TOU, LP, Demand, Event Log Etc. functions
- Enclosure ultrasonic welded

Main Functions

Measurement
<ul style="list-style-type: none"><li>• Instantaneous Vrms, Irma, Frequency</li><li>• Active energy</li></ul>
RTC
<ul style="list-style-type: none"><li>• Clock accuracy (daily deviation): ≤ 0.5s/day</li></ul>
Battery backup
<ul style="list-style-type: none"><li>• Support power off display and RTC clock</li></ul>
Load profile
<ul style="list-style-type: none"><li>• Data recorded 45 days (15 minutes)</li><li>• Date recorded with kW, KVAR, kWh, voltage, current</li></ul>
Demand
<ul style="list-style-type: none"><li>• Demand cycle configurable, the default is 15 minutes</li></ul>
LCD display
<ul style="list-style-type: none"><li>• Large digit LCD display, easy for reading</li><li>• Display readable when power off</li><li>• LCD backlight to increase readability in low light condition</li><li>• Wide viewing angle</li></ul>
Event record
<ul style="list-style-type: none"><li>• Bypass of main line and load line , Record 25 events</li><li>• Current reverse, Record 25 events</li><li>• External magnetic tamper, Record 25 events</li></ul>
Optical port
<ul style="list-style-type: none"><li>• Protocol: IEC62056-21 mode C</li></ul>
Security
<ul style="list-style-type: none"><li>• communication is password protected</li></ul>

# Communication Products

## Communication Products

Supplying a wide range of telecommunication devices to built-up end-to-end communication networks optimized for cost, performance and reliability.

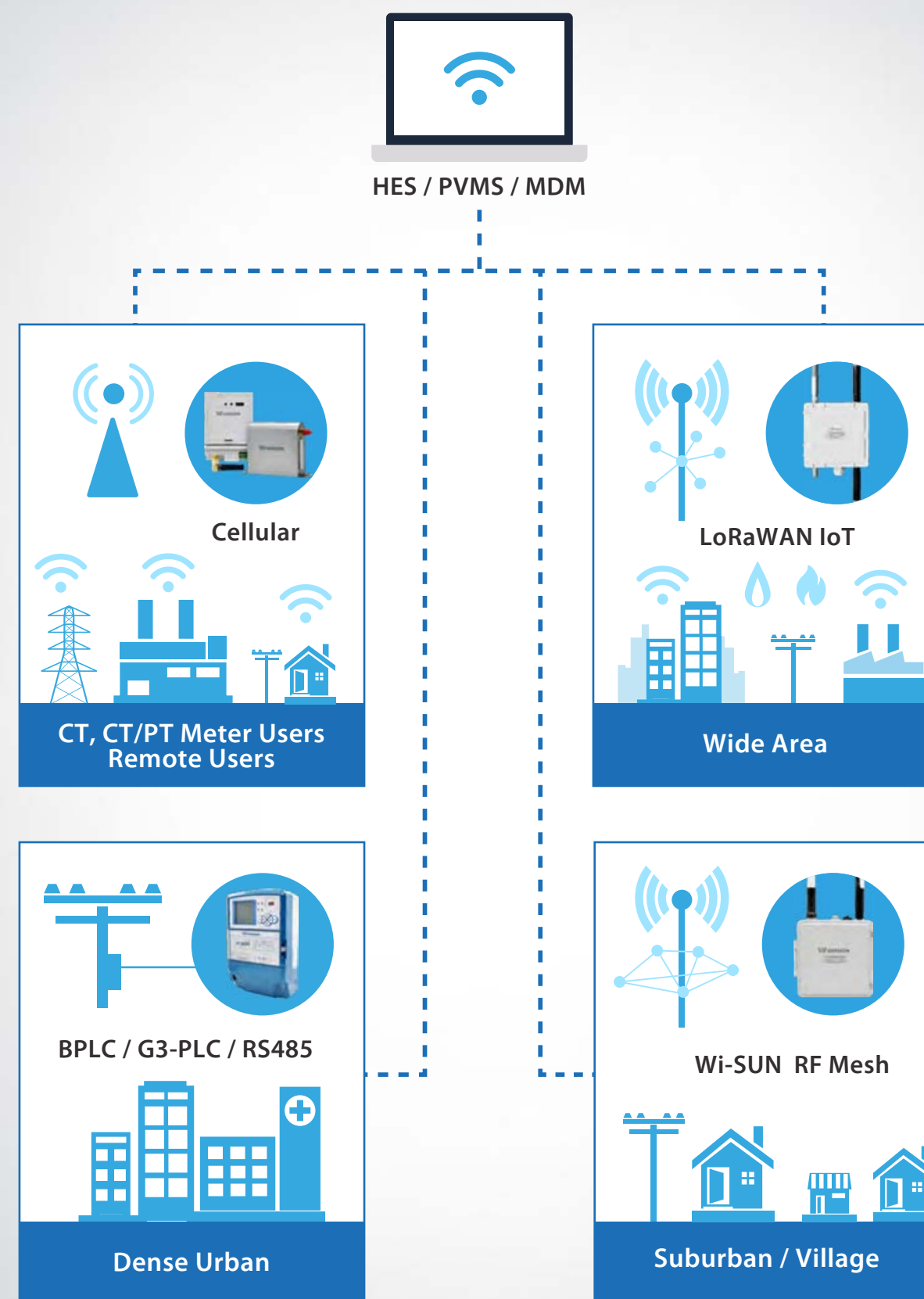
## ■ Wasion products integrated in AMI

**Wasion AMI** is a series of smart metering system solutions comprise of hardware (including smart meters, communication modules, gateways / DCUs, etc.) and enterprise software systems (including Head End System (HES) and Meter Data Management (MDM) software).

On the hardware level, we offer single-phase and polyphase smart meters that are capable of measuring parameters comprehensively. Featuring real-time monitoring, illegal manipulation detection, data collection, temper resistance, etc., these meters are designed to fit in different environments: residential, commercial and industrial. Communication modules make these smart meters even smarter. We offer both wired NICs (e.g. G3-PLC, BPLC, FSK-PLC, etc.) and wireless (e.g. WI-SUN, LoRaWAN, GPRS/3G/LTE, etc.) covering local and remote communication, which guarantees fast and reliable transmission of data and signals between the central system and smart meters.

As for the software, HES is the heart. It is usually installed in the head-quarter or head-office of the utility. It enables communication to all meters and field devices, reads them as well as sends commands to them as per request of utility operators. We offer MDR (Meter Data Reading) which is able to manage metered data, static data and all collected or imported data, and to interchange data with other systems through standard interfaces, generating variety of management-level and engineering-level reports to help customers optimize grid maintenance and operation.

With the enterprise hardware and software, Wasion AMI can be counted on to meet the various operations, customer satisfaction, conservation, and risk mitigation for challenges faced by utilities worldwide.







# G3-PLC

## Network Interface Card / Module

### G3-PLC

G3-PLC communication module/card is designed for middle-high density user NAN communication with strong anti-interference ability, low maintenance cost, high interoperability, and bundled commissioning & troubleshooting tool kits.

### Main Features

- OFDM-based PHY (BPSK, QPSK, 8PSK) makes efficient use of the spectrum
- Comply with regulations of world regulatory bodies such as CENELEC, ARIB, and FCC (10 kHz - 490 kHz)
- Based on standards: IEEE, ITU, IEC/CENELEC and IEC/SAE
- Security (AES-128 cryptographic engine for optimum data security)
- Mesh routing protocol to determine the best path between remote network nodes (maximum nodes 1024 & maximum hops 14)
- Over the powerline update firmware (OTP)
- DLMS interface with meter
- G3-PLC alliance certified

### Technical Specification

Nominal voltage	110 to 240 V L-N , 70% to 120% Un
Nominal line frequency	47.5 to 63 Hz
Modulation	OFDM (ROBO, DBPSK, DQPSK, D8PSK)
Communication frequency range	CENELEC A (32 to 95 kHz), FCC (154 to 487 kHz)
Data rate	Max. 142 Kbps
Standards	ITU G9903, IEEE 802.15.4, 6LoWPAN, IPv6, DLMS/COSEM
Receive sensitivity	-78 dBm (FCC) / -85 dBm (CENELEC-A)
Nodes management capacity	Max. 1024 nodes in one network
Maximum hops	14
Limit operating temperature	- 40°C to +85°C
Relative humidity	≤ 95%, non-condensing

# BPLC



## BPLC

### Network Interface Card / Module

## BPLC

BPLC is an OFDM-based PLC module/card with great throughput. It is immune to electrical noise and interference owing to its sensitive signal detection and sophisticated digital filtering technique.

### Main Features

- High communication speed up to 10 Mbps, real-time data collection
- 2 to 30 MHz bandwidth, multi-subcarrier communication with strong anti-interference ability
- Mature IP routing technology and fast networking speed
- Two-way communication, active reporting of alarms
- Large node capacity and wide application range
- Online communication network management and device firmware upgrade
- Open standard based, DLMS interface with meter
- Suitable for applications like line loss analysis, meter reading, billing, demand side management, etc.

### Technical Specification

Nominal voltage	110 to 240 V L-N
Nominal line frequency	47.5 to 63 Hz
Modulation	OFDM
Communication frequency range	0.7 to 12 MHz, 4 working bands can be configured
Standards	Home Plug Green PHY (HPGP), DLMS/COSEM
Data rate	10 Mbps (PHY layer), > 1 Mbps (Application layer)
Nodes management capacity	Max. 1015 slave nodes in one network
Maximum hops	15
Limit operating temperature	-40 °C to +85 °C
Relative humidity	≤ 95%, non-condensing



# WTZ13

## HPLC Communication Chip

### HPLC Chip

WTZ13 high-speed power line communication chip is a dedicated SoC communication chip for the new generation of smart meters, distribution network automation, power inspection, and other business of the IoT(Internet of Things). This chip has technologies of excellent power line noise suppression and original intelligent perceptual adaptation, It can guarantee reliable communication in harsh environments.

### Main Features

- Excellent power line noise suppression, original perceptual adaptation technology, higher-speed data communication
- Advanced security encryption engine, implement AES decryption algorithm and anti-tampering algorithm with hardware
- The embedded flexible and streamlined system, powerful protocol support and extensions
- Built-in high-speed MCU, large storage space and multiple ports for external devices to meet the needs of various application scenarios

### Technical Specification

Operating Frequency	Band 0 : 1.953~11.96 MHz; Band 1: 2.441~5.615 MHz Band 2 : 0.781~2.930 MHz; Band 3: 1.758~2.930 MHz Support the use of sub-carrier mapping, support optimal frequency bands evaluation and automatic switching
Modulation	OFDM modulation, sub-carrier supports BPSK, QPSK, 16QAM modulation
Communication rate	≥1Mbps
Anti-fading performance	≥ 109 dB
Anti-white noise performance	≥ 74 dB
Anti-impulse noise performance	≥ 96 dB
Anti-narrowband noise performance	≥ 108 dB
Anti-frequency offset performance	±300 ppm
Operating temperature	- 45°C to +80°





# WTZ30

## HPLC/HRF Dual-mode Communication Chip

### HPLC/HRF Dual-mode Chip

WTZ30 HPLC/HRF dual-mode communication chip is a dedicated SoC chip for smart meters, distribution network automation, and power inspection. With excellent power line anti-attenuation and noise suppression performance and strong anti-frequency offset capability, it defines a converged ad-hoc network mechanism that adapt to the transmission of two communication media, and effectively supports reliable communication in various power distribution and harsh environments.

### Main Features

- Avoid large line noise and serious signal attenuation inherent in power line carrier communication, which cause fluctuations in communication effects
- Avoid problems such as wireless communication being easily blocked by obstacles and mutual interference in shared frequency bands
- High-speed carrier and wireless communication modes can be switched independently to ensure deep communication coverage of ad hoc network
- Support reporting of power outage and recovery events, with a success rate of 100%

### Technical Specification

HPLC Communication Index		HRF Communication Index	
Operating Frequency	Band 0 : 1.953~11.96MHz, Band 1: 2.441~5.615MHz, Band 2 : 0.781~2.930MHz , Band 3: 1.758~2.930MHz; Support the use of sub-carrier mapping, support optimal frequency bands evaluation and automatic switching	Operating Frequency	470 MHz-510 MHz
Modulation	OFDM modulation, sub-carrier supports BPSK, QPSK, 16QAM modulation	Modulation	OFDM modulation, sub-carrier supports BPSK, QPSK, 16QAM modulation
Maximum Communication rate	≥1Mbps	Maximum Communication rate	2 Mbps (Option1) 1 Mbps (Option2) 375 Kbps (Option3)
Anti-fading performance	≥ 109dB	Maximum output power	20 dBm
Anti-white noise performance	≥ 74dB	Out-of-band suppression	> 40 dB (200KHz)
Anti-impulse noise performance	≥ 96dB	Receiver sensitivity	>-109 dBm
Anti-narrowband noise performance	≥ 108dB	Anti-frequency bias limit	≥ 60 ppm
Anti-frequency offset performance	±300ppm		
Operating temperature	- 45°C to +80°		

WFCT



**WFCT-980**  
Data Concentrator Unit

**WFCT-980 PLC**

WFCT-980 is a small-sized smart DCU based on embedded Linux. It is designed to deliver high performance while minimizing TCO in AMI networks. It supports standalone scheduled meter reading and preserves end-to-end security.

**Main Features**

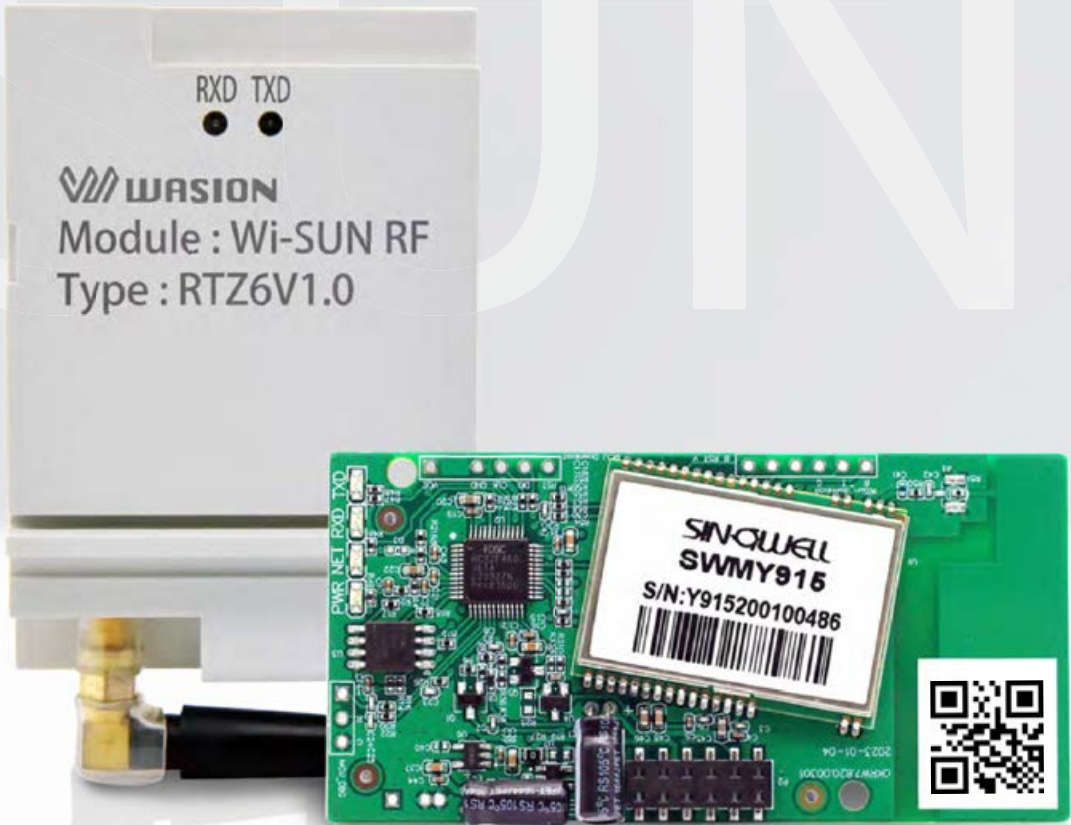
- IP54 protection
- Supports both DIN rail and hook mounting
- Supports both concentrator and gateway functionality
- Preserves interoperability by supporting DLMS/COSEM protocol both in uplink and downlink channels
- Considers multi-layer security in both PLC- MAC layer and in DLMS application layer

**Technical Specification**

Nominal voltage	3 × 220 / 380 V AC , 70% to 130% Un
Line frequency	47.5 to 63 Hz
Data communication interface	Uplink: Ethernet/2G/3G/4G (PnP) Downlink: RS-485/G3-PLC (PnP)
Local communication interface	1 x RS-485 interfaces; 1 x Ethernet interface 1 x Wi-Fi modem (optional) Internal web server for maintenance
Capacity	Manages up to 500 PLC meters On-demand & scheduled reading
Data storage	1 GB non-volatile flash for data storage Stores 60 days of data of 500 meters for daily billing
Protocols	DLMS/COSEM, DLMS Gateway, DSMR, ANSI
Ingress protection	IP54
Dimension (W × H × D)	160 × 180 × 89 mm
Weight	1 kg
Limit operating temperature	-40°C to +85°C
Relative humidity	≤ 95%, non-condensing

# Wi-SUN

## RF Mesh



## Wi-SUN RF Mesh

Network Interface Card/Module

### Wi-SUN RF Mesh

Wi-SUN RF Mesh module/card provides interoperable, open standards-based communication with adjustable and high transmission power and receiving sensitivity, enabling IoT devices for a wide range of applications and from different vendors to connect onto a secure and resilient network.

### Main Features

- Programmable frequency band (902~928MHz US/BZ) and PHY operational mode
- Highly secure (certificate-based authentication), long service life (open standard based, upgradeable), and long-range communication (sub GHz, mesh)
- Easy to install and maintain (self-forming/healing mesh network, upgradeable)
- Ability to scale up easily to thousands of nodes (optimal use of frequency band)
- Reliable and resilient (mesh, multiple channels, demonstrated interference tolerance)
- Low latency, low cost, and high energy efficiency
- Multi-vendor interoperability

### Technical Specification

Supply voltage	DC+5V
Consumption (transmission)	480mA
Modulation	FSK, GFSK
Frequency range	902 to 928 MHz
Data rate	50 to 300 kbps
Standards	IEEE 802.15.4, 6LoWPAN, IPv6, DLMS/COSEM, ANSI
Transmission power	24dBm
Receiving sensitivity	-110 dBm @ 50 kbps
Security	DLMS Suit0, AES256, SHA-256, RSA-1024 or ECC-256
Nodes management capacity	1024 nodes
Maximum hopst	16
Limit operating temperature	-40 °C to +85 °C
Relative humidity	≤ 95%, non-condensing



# Wi-SUN

# SOM



## Wi-SUN SOM

System on Module

### Wi-SUN SOM

The Wi-SUN SOM is an independently developed and designed wireless communication module that complies with the Wi-SUN FAN standard. It has a standard punch hole(stamp hole) form factor with great performance which makes it suitable for a wide range of applications. The module implements the core functions of Wi-SUN communication, including wireless data modulation and demodulation, Wi-SUN protocol information transmission, etc. It can be used in meters, repeaters, and concentrators, and is also widely used in smart cities, intelligent public facilities, industrial applications, sensor networks, and many other fields.

### Main Features

- Complies with the FAN standard of Wi-SUN Alliance
- Based on Cortex M3 architecture MCU with built-in 1M Flash+128K SRAM
- Equipped with PA+LNA, the maximum link budget can reach 140 dB
- Strong anti-interference capability and high reception sensitivity
- Configurable communication rates between 50Kbps and 300Kbps to meet various application requirements
- The operating frequency band can be configured according to local regulations, suitable for different countries
- Punched hole SMD package, small size, one module can be used for multiple products

### Technical Specification

Supply voltage	5V & 3.3 V
Modulation	FSK
Frequency range	902 to 928 MHz (Programmable)
RF output power	30dBm maximum
Receiving sensitivity	-110dBm @50Kbbs 10%PER
Data rate	50 to 300 Kbps
Standards	IEEE802.15.4g/e, 6LoWPAN, IPV6
Communication interface	UART/SPI
Limit operating temperature	-40C to +85C
Dimensions	23.6 X 32.8 X 3 mm



# WFCT-960

Wi-SUN RF Gateway

## WFCT-960

WFCT-960 is a Wi-SUN border router to connect Wi-SUN FAN and field devices to backhaul network. Its die-cast aluminum enclosure makes it suitable for outdoor installation, and it can be mounted on pole-top or on wall.

## Key Features

- IP65 protection and up to 1000 pcs smart meters support
- Backup battery supports 8 hours work after power failure
- SNMP for great network visibility
- RADIUS for excellent security
- Certified by Wi-SUN and national labs

## Technical Specification

Supply voltage	DC 12 V, external AC/DC adapter included
Battery	Adapter battery backup > 8 hours
Frequency range	902 to 928 MHz
RF antenna connectors	1 x Wi-SUN, omnidirectional antenna 1 x GPRS/3G/4G, omnidirectional antenna
Receiver sensitivity	Up to -110 dBm @ 50 kbps
Data rate	50 to 300 kbps
Conducted output power	Up to 500 mW (27 dBm) / 1000 mW (30 dBm)
Connectivity	WAN backhaul: GPRS/3G/4G LTE/Ethernet FAN: Wi-SUN RF Mesh Port 1: 10/100 Base-T port to WAN client devices Port 2: Wi-Fi/USB/RS232 for local maintenance
Standards	Application: DLMS/COSEM Network: Ipv6, SNMP v2, IPsec VPN, Telnet
Security	SHA-256, RSA-1024 or ECC-256, AES-256; DLMS GB8 Suite 0
Ingress protection	IP65
Installation	Outdoor / Indoor on-wall and on-pole Installation
Limit operating temperature	-10 to +85°C, normal temperature version -40 to +85°C, wide temperature version
Relative humidity	10 to 90%, non-condensing

# LoRaWAN



## LoRaWAN Network Interface Card/Module

### LoRaWAN Module

LoRaWAN module/card offers long range, low power wireless data communication with excellent interference immunity even in harsh industrial conditions, and is capable of bi-directional communication, end-to-end security, mobility, and localization services.

### Main Features

- Full, two-way 900-928 MHz LoRa™ communication
- Max100mW transmitter on meter, 500mW transmitter on data collectors
- Long Range = high sensi, -137 dBm, 3 to 5 km coverage range
- Robust security and encryption (Advanced Encryption Standard)
- Dynamic network discovery and self-healing operations
- Scheduled and on-demand meter reading
- Time synchronization and management
- Over-the-air meter programming
- Power outage and restoration notification

### Technical Specification

Supply voltage	5 V DC
Consumption (transmission)	< 140 mA @ 22 dBm
Modulation	LoRa
Frequency range	902 to 928 MHz
Data rate	0.018 to 62.5 Kbps
Standards	LoRaWAN®, IPv6 stack with SCHC, DLMS/COSEM, ANSI, MQTT
Transmission power	1 to 22 dBm (adjustable)
Receiving sensitivity	-148 dbm @ BER = 0.1%
Limit operating temperature	-40 °C to +85 °C
Relative humidity	≤ 95%, non-condensing



# CEL- LULAR



## Cellular Module

GPRS/3G/4G

### Cellular Module(GPRS/3G/4G)

Featuring high speed, low latency, and wide coverage, our cellular modules support global mainstream network standards and frequency bands to meet various harsh operating environments on site, and are ideal for high profile applications.

#### Main Features

- Complying DLMS/COSEM and ANSI standards
- Supporting IPv4 and IPv6
- Supporting both TCP Client and TCP Server
- Always online with TCP Client
- Meter alarm auto triggering and reporting
- Bi-directional communication
- Multiple maintenance channels: SMS, AT commands, remote HES and local USB
- Last gasp: indicating power outage in real time (optional)
- Advanced security
- FOTA (Firmware Update over the Air)
- CE certified

#### Technical Specification

	GPRS	3G	4G
Supply voltage	12 V DC	5 to 12 V DC	
Consumption (idle)	1 mA @ 12 V	13 mA @ 5 V	
Consumption (communication)	< 62.5 mA @ 12 V	< 210 mA @ 5 V	
Receiving sensitivity	< -108.5 dBm		
SIM interface	1.8 V / 3 V		
Operating temperature	-25 °C to +75 °C		
Relative humidity	≤ 95%, non-condensing		



# Tools & Software

## Tools & Software

Offering Interoperable system software to run on-premises as well as on the public and private cloud. Scalable from small-scale to national level networks with ease of managing the whole network.

# ■ Meter Data Reading (MDR)

Head End System (HES) of Wasion



## Key Features

- An efficient, user-friendly version of HES (Head End System)
- Has various features including Collection of Data from Field devices, Sending Configuration, Firmware upgrade Capability, etc.
- Provides full Flexibility and options for Utilities to integrate their other existing software
- Provides users with a Single Point of Management for all their AMI network activities

## Main Functions

### Basic Information Management

- Grid information management, such as organization, transformer, feeder, measurement point, tariff, etc.
- Device management: DCU/gateway, meter, etc.
- User and customer management

### Device Configuration

- Meter list of DCU
- Active calendar
- Load profile configuration
- Scheduled reading configuration
- NTP settings
- Time synchronization schedule

### AMI Functions

- On-demand reading / re-reading
- Remote connect / disconnect
- Task management
- Firmware upgrade
- NMS (Network Management)
- Alarm monitoring

### Reporting

- Static and basic information
- Load profile, frozen data, etc.
- Meter / DCU alarm / event
- Analytical reports
- Reading success rate, power quality, etc.
- Firmware upgrade, connect / disconnect

### Protocol & Security

- DLMS-47(HLS/LLS)
- DLMS-Gateway
- DSMR
- IEC61968 (CIM), Web service +XML
- Key data encryption, anti-injection in system
- SSL/TLS



## ■ Prepayment Vending Management System (PVMS)



### Key Features

- STS6 certified
- High-security system with intrusion prevention
- High-performance system
- Online/offline vending
- Third-party application integration via IEC61968, XML Web service
- Comprehensive, flexible tariffs and deduction management
- Customized report to meet client's demand

### Main Functions

#### Archive Management

- Archive management for the organization, transformer, feeder etc.
- Device management, DCU / meter etc.
- Operator / Role / Customer management

#### Parameters Management

- System parameters
- Prepayment-related parameters
- General meter parameters etc.

#### Tariff /Deduction Management

- Single tariff / Step tariff / TOU tariff
- Active calendar/ Friendly period, Holiday
- Debt /Fixed Charge
- Deduction-Scheme

#### Reporting

- Flexible format/graphics/data list, query filters
- Accurate, timely and detailed
- Archive / charge / consumption data reports
- Composite analysis reports
- Reports flexibly customizable per customer demands

#### Vending Related Management

- Vendor & Vendor credit management
- SGC/ CM/ KLF etc.
- Maintain Token/Card
- Batch Token/Free Token
- Security

#### System Performance & Security

- STS 3DES encryption for charge Token
- Key data encryption, anti-injection in the system
- Secure key and password, system logs
- GUI Performance: <3 Seconds to display next page
- Concurrent users: >50
- Scalability: Supports up to 500,000 points
- Mean Time to Failure (MTTF) >= 100 days

#### Prepayment Functions

- Match meter for customer
- Offline /online vending, invoice, refund etc.
- Replace, Block, Unblock meter/user etc.
- Remote operation in online prepaid mode
- Support multiple types of prepaid meter

A black and white photograph of a wall with several water and gas meters and pipes. The meters are mounted on the wall, and pipes run vertically and horizontally. The image is slightly out of focus, emphasizing the text overlays.

# Water & Gas Meters

## Water & Gas Meters

Above accurate measurement of Water and Gas usage, we provide customized solutions that deliver long-term benefits to End-customers, Utilities and our sustainable future.





# I-110 Series

Smart Water Meter

## Key Features

- DN15~DN40, Multi-jet, Super dry
- ISO 4064/EN14154/OIML R49 Standard
- Class B/Class C or R80/R100/R160, MAP16,  $\Delta P$ 63, T50
- Touch key, Large size LCD and backlight
- Non-contact RF card prepaid or STS4/6 prepaid (IEC62055-41)
- Wired or wireless communication
- Prepayment, AMR/AMI, Prepayment + AMR/AMI
- IP68 protection of the whole meter

## Main Functions

### Prepaid Functions

- Support prepaid/postpaid mode, and it can be switched
- RF card prepaid (Optional)
- STS prepaid(Token Carrier: RF card or UIU) (Optional)
- Max.16 steps of water tariff
- Anti-storage , Insufficient water warning, Self-defined overdraft

### Communication

- Wired M-BUS/RS485
- LoRaWAN
- Wireless M-BUS (EN13757.4), Walk-by/Driver-by
- Protocol: EN13757.3, DLMS/COSEM,MODBUS-RTU

### Advanced Functions

- Emergency water, Holidays Management, Non switch-off during off-duty
- Monthly free consumption of water
- Collect taxes and fees by water charges

### Alarm and Event logs

- Anti-magnetic detection & log , Low-Battery detection & log
- Water return, meter reversal and meter stop detection & log
- Leakage (continuous water use, valve failure, etc.) detection & log
- Anti-tamper (open case, open battery cover, tilt, etc.) detection & log
- History data, such as hourly data, daily data, monthly data, etc.
- Event log, such as top-up, valve open/close, etc.

### Security

- Data encryption, AES-128, STS
- Communication security





**D-100 Series**  
Ultrasonic Water Meter

Key Features

- DN15~DN25, ultrasonic measure
- ISO 4064/EN14154/OIML R49 Standard
- Low starting flow rate, Class C/Class D or R160/R400,MAP16,ΔP63, T50
- Integrated design of water meter and valve
- Touch key, Large size dot-matrix LCD and backlight
- Non-contact RF card prepaid or STS4/6 prepaid(IEC62055-41)
- Optical (IEC62056-21),Wired or wireless communication
- Prepayment, AMR/AMI, Prepayment +AMR/AMI
- Ultra-low power design, battery separation for metering and communication
- Installation in any position, IP68 protection, suitable for outdoor installation

Main Functions

Prepaid Functions
<ul style="list-style-type: none"><li>• Support prepaid/postpaid mode, and it can be switched</li><li>• RF(M1 or NFC CPU) card prepaid</li><li>• STS prepaid(TokenCarrier: RF card or UIU)</li><li>• Max.8 steps of water tariff</li><li>• Anti-storage, Insufficient water warning, Self-defined overdraft</li></ul>
Communication
<ul style="list-style-type: none"><li>• Optical(IEC62056-21)</li><li>• RS485/Wired M-Bus</li><li>• Wireless M-BUS (EN13757- 4), Walk-by/Driver-by</li><li>• LoRaWAN , LoRaWAN and Wireless M-Bus(Optional)</li><li>• NB-IoT, NB-IoT and Wireless M-Bus</li><li>• Protocol: EN13757-3, DLMS/COSEM,MODBUS-RTU</li></ul>
Advanced Functions
<ul style="list-style-type: none"><li>• Emergency water, Holidays Management, Non-switch-off during off-duty</li><li>• Monthly free consumption of water</li><li>• Collect taxes and fees by water charges</li></ul>
Alarm and Event logs
<ul style="list-style-type: none"><li>• Low-Battery detection &amp; log</li><li>• Water return, meter reversal and meter stop detection &amp; log</li><li>• Leakage (continuous water use, valve failure, etc.) detection &amp; log</li><li>• Anti-tamper(open case, open battery cover, remove meter, etc.) detection &amp; log</li><li>• History data, such as hourly data, daily data, monthly data, etc.</li><li>• Event log, such as top-up, valve open/close, etc.</li></ul>
Security
<ul style="list-style-type: none"><li>• Data encryption, AES-128, STS</li><li>• Communication security, EN13757-7</li></ul>

ZG-D



# ZG-D-1.6~4

Residential Gas Meter

## Key Features

- G1.6~G4, diaphragm gas meter
- EN1359, OIML R31/137 Standard
- Class 1.5,  $V_c=1.2\text{dm}^3$ ,  $P_{\text{max}}: 50\text{KPa}$ ,  $-25^\circ\text{C}\sim 55^\circ\text{C}$
- Steel shell, Pressure measuring point(Optional)
- With devices to prevent reverse flow and prevent the registration of reverse flow
- Integrated design of gas meter and valve
- Touch button, LCD and backlight
- Non-contact RF card prepaid
- Wired or wireless communication
- IP65 protection

## Main Functions

### Prepaid Functions

- Support prepaid/postpaid mode, and it can be switched
- RF card prepaid
- Max.8 steps of gas tariff
- Anti-storage (purchase limitation)
- Insufficient gas warning
- Self-defined overdraft

### Communication

- Wired M-BUS/RS485
- LoRaWAN/NB-IoT
- Protocol: EN13757.3, DLMS/COSEM, MODBUS-RTU

### Alarm and Event logs

- Low-Battery detection & log
- Over flow, continuous small flow and meter stop detection & log
- Leakage (continuous gas use, valve failure, etc.) detection & log
- Anti-tamper (open case, magnetic interference etc.) detection & log
- History data, such as hourly data, daily data, monthly data, etc.
- Event log, such as top-up, valve open/close, etc.

### Security

- Data encryption, AES-128, STS
- Communication security



# Renewable Energy

## Renewable Energy

All-scenario renewable energy storage application products and full life cycle new energy services enable green energy to be better used.



2500kW



**2500kW**  
1000V Integrated Boost Converter

Key Features

- **Efficient conversion:**  
Three-level topology, maximum efficiency 99%,  
Intelligent air cooling, 45°CEnvironment temperature without derating,  
Wide DC working voltage range,1500V, full load operation;
- **Flexible application:**  
Four quadrant operation, with battery charge and discharge management function,  
Has VSG, VF, PQ and other operation modes,  
100 MW off-grid parallel connection, independent participation in power grid black start;
- **Safe and reliable:**  
High protection level (IP54, C5 optional),  
DC side 250kA short-circuit current breaking capacity,  
Linkage with BMS and EMS to support multiple protection of the system;
- **Supporting power grid:**  
Has the functions of primary frequency modulation & fast dispatching of source network load,  
Stable grid operation, SCR = 1.02,  
Supports IEC61850 protocol and fast power response(<30ms).

Technical Parameters

DC Parameters	
Maximum DC Voltage	1000V/1500V
Maximum DC Power(kW)	693kW*4/1375kW*2/1897kW*2
Maximum DC Current	1195A/1744A/2010A/1953A
DC Voltage Range	580V~850V/800V~1500V
DC Voltage Ripple Coefficient(%)	3.00%
AC Parameters (PCS)	
Rated Output Power	630kW*4/1250kW*2/1575kW*2/1725kW*2
Maximum Output Power	693kW*4/1375kW*2/1732kW*2/1897kW*2
Rated Voltage	400V AC/550V AC/600V AC/690V AC
Rated Frequency	50Hz/60Hz
Power Control Accuracy	≤5%
Harmonic Current (THD)	≤3%
Power Factor	-1~+1 Adjustable
Overload Capacity	110%, long-term operation ; 120%, 1min
Charge and Discharge Switching Time	<20ms/30ms
General Parameters	
IP Class	IP54
Operating Environmental Temperature	-25℃~+60℃
Relative Humidity Range	0~95%(without condensation)
Type of Cooling	Intelligent forced aie cooling
Maximum Conversion Efficiency	≥98%
Maximum Operating Altitude	5000m(Derating greater than 2000m)

Key Features

- **High degree of integration:**  
Higher integration, more compact structure, higher energy density of battery pack and battery compartment, help customers effectively save floor space and improve system management and control efficiency;
- **High security:**  
Controllable and highly efficient heat dissipation, and more accurate temperature control can help customers significantly reduce the risk of temperature runaway, fire and explosion
- **High adaptability:**  
Liquid cooling system is more suitable for large-scale and long-term energy storage to meet customers' multi-scenario application requirements;
- **Effective cost-saving:**  
Liquid-cooling energy storage can save 30% - 50% of energy consumption and help customers reduce operating costs.

Technical Parameters

Unit Parameters	
Rated AC Power	1MW-500+MW
Discharge Time	1~8 hours
Grid Frequency	50Hz or 60Hz
Voltage Class	10kV~36kV
Power Factor	-1.0~+1.0 adjustable
Availability	≥97%
Altitude Allowed	4,000m
Class of Seismic Measure Class	8 GB/T 50260
Charge and Discharge Switching Time	<30ms
Battery Operating Temperature Range	-20℃~50℃
Cooling Type	Liquid cooling
Designed Lifetime	30 years
Battery Type	LFP-280Ah (Customized supported)
IP Class	IP54
Rated Discharge Power	≥1375kW
Rated Charge Power	≥1375kW
Energy Conversion Efficiency	≥95.5%
Voltage Range (DC)	1036.8V~1401.6V
Operating Environmental Temperature	-20℃~45℃
System Power Consumption	35kW
Maximum Temperature Difference	<5℃
Warranty	3 years ( extension to10 years (optional) )
Certificate	EC62619,UL1973,UL9540A,IEC62477-1,CE ,TUV,IEC/UL60730



1.375MW/2.75MWh

20 ft Liquid Cooling Energy Storage System

Key Features

- **High degree of integration:**  
The container-type battery compartment with integrated design integrates the energy storage battery pack, combiner cabinet (if any), control cabinet and other equipment as well as the power distribution, temperature control, fire alarm, safe escape, emergency, fire protection and other automatic control and safety systems to help customers build scalable power station level energy storage application solutions;
- **High security:**  
The safer three-level fire protection structure design, the application of advanced fire protection technology in the industry, and the rapid and accurate positioning and early warning of thermal runaway risk help customers reduce safety risks and avoid property losses;
- **All-round thermal management design optimization:**  
The unique temperature-controlled air supply system and the patented PACK battery partition and container air duct design ensure the effective heat dissipation of the battery, continuous optimal operation, help customers reduce safety risks, and obtain better economic value.

Technical Parameters

Unit Parameters	
Rated AC Power	1MW-500+MW
Discharge Time	1~8 hours
Grid Frequency	50Hz or 60Hz
Voltage Class	10kV~36kV
Power Factor	-1.0~+1.0 adjustable
Availability	≥97%
Altitude Allowed	4,000m
Class of Seismic Measure Class	8 GB/T 50260
Charge and Discharge Switching Time	<30ms
Battery Operating Temperature Range	-20°C~50°C
Cooling Type	Air cooling
Designed Lifetime	30 years
Battery Type	LFP-280Ah (Customized supported)
IP Class	IP65
Rated Discharge Power	≥2500kW
Rated Charge Power	≥2500kW
Energy Conversion Efficiency	≥95%
Voltage Range (DC)	1080V~1460V
Operating Environmental Temperature	-20°C~45°C
System Power Consumption	50kW
Maximum Temperature Difference	<7°C
Warranty	3 years ( extension to10 years (optional) )
Certificate	IEC62619,UL1973,UL9540A,IEC62477-1,CE ,TUV, IEC/UL60730



**2.5MW/5MWh**  
45 ft Air Cooling Energy Storage System





# 200kW/320kWh

## 1500V Liquid Cooling Energy Storage System

### Key Features

- **High Performance PCS:**  
Multilevel topology, minimum loss vector algorithm, and PCS efficiency up to 99.3%;  
Help customers build more efficient energy storage system solutions;
- **Active Balance BMS:**  
Adopt 5A high-efficiency two-way active equalization technology to eliminate series loss;  
Help customers to further improve the efficiency of energy storage system;
- **Long Lifetime Battery:**  
Integrated high-quality and high-cycle LFP Battery, Cycles>6000;  
Help customers obtain a better economic value of project life cycle;
- **Active Safety Technology:**  
Partition safety isolation, 9 levels of active safety for a single cabinet to ensure controllable fire protection; Help customers build safer energy storage system solutions.
- **Intelligent Power Distribution System:**  
Integrated AC and DC power distribution, 4-level passive protection and AC and DC metering; Help customers build more flexible energy storage system solutions.

### Technical Parameters

Unit Parameters	
Rated AC Power	200kW ~ 500+MW
Discharge Time	1~8 hours (Optional)
Grid Frequency	50Hz or 60Hz
Voltage Class	0.69kV ~ ,34.5kV (Optional)
Power Factor	-1.0~+1.0 adjustable
Availability	≥97%
Altitude Allowed	4,000m
Class of Seismic Measure Class	8 GB/T 50260
Charge and Discharge Switching Time	<30ms
Battery Operating Temperature Range	0~+50℃ (charge)℃-20~+55℃ (discharge)
Cooling Type	Liquid cooling
Designed Lifetime	30 years
Round Trip	Varies by configuration
Battery Type	LFP-280Ah (Customized supported)
IP Class	IP54
Relative humidity allowed	0~95% non-condensing
Altitude Allowed	4,000m
Communication Interface	RS485, Ethernet
Dimentions(WxHxD)	300x2350x1300mm
Weight	≤3.5 tons
Warranty	3 years ( extension to10 years (optional) )
Certificate	IEC62619,UL1973,UL9540A,IEC62477-1,CE ,TUV, IEC/UL60730



# WPVI TPH 6000~12000 BH-US

Smart Inverter Solution

## Key Features

- Up to 2 MPPTs
- NEMA 4X & Natural Convection
- 16A PV input current to support ultra-high power PV modules
- Fast battery charging with up to 50A battery charging current
- Peak power capability of 1.5 times rated power to better handle motor-type loads
- Seamless transition to battery power when the grid is down
- Support multiple communication: Wi-Fi/Ethernet/4G/5G(Optional)

## Technical Parameters

Model Name	TPH6000 BH-US	TPH8000 BH-US	TPH10000H-US	TPH12000BH-US
PV String Input Data				
Max. PV Array Power @STC	9000W	12000W	15000W	18000W
Max. DC Voltage	1100V			
MPPT Voltage Range	180-1000V			
Nominal DC Voltage	600V			
Start Voltage	125V			
Min. DC Voltage	80V			
Max. DC Input Current	13A/13A or 16A/16A			
Max. DC Short Current	16A/16A or 25A/25A			
Number of MPPT	2			
PV Strings per MPPT	1/1			
PV Switch	Integrated			
Battery Input Data				
Battery Type	Lithium/Lead-acid			
Battery Voltage Range	125-600V			
Max. Charging/Discharging Current	40A			
AC Output Data (On-grid)				
AC Nominal Power	6000W	8000W	10000W	12000W
Max. Apparent Power	6600VA	8800VA	11000VA	13200VA
Rated AC Current	8.7A	11.5 A	14.4 A	17.3A
Nominal AC Voltage/ Range	3 80/400V,3W+N+PE			
Grid Frequency/ Range [Hz]	50/60			
Power Factor [cos φ]	0.8 leading~0.8 lagging			
Total Harmonic Distortion [THDi]	< 3% (at nominal power)			
Efficiency				
Max. Efficiency	97.9% / 98.2%			
CEC Efficiency	97.2% / 97.5%			
Protection				
AC Short-circuit Protection	Integrated			
Overload Protection	Integrated			
General Data				
Consumption at Standby	<1W			
Cooling Method	Natural Convection			
Ambient Humidity	0%~95% Non-condensing			
Ingress Protection	NEMA 4X (IP65)			
Standard Warranty	5 Years			

WBT



WBT LiF-HV  
(200~400)/50

Modular Battery System (High Voltage)

Key Features

- Flexible capacity options, 12kWh to 24kWh
- Lithium iron phosphate battery cell, safe and reliable
- Easy installation with a modular and stacked design
- Remote firmware upgrade
- 90% deep discharge

Technical Parameters

Model Name	WBT LiF-HV-200/50	WBT LiF-HV-300/50	WBT LiF-HV-400/50
Battery Module	WBT LiF-HV-50		
Number of Modules	4	6	8
Energy Capacity	10.24kWh	15.36kWh	20.48kWh
Usable Capacity	9.22 kWh	13.82kWh	18.43kWh
Dimension (H*W*D)	600*210*1140mm	600*210*1300mm	600*210*1620 mm
Weigh	155.5 kg	182 kg	235kg
Nominal Voltage	204.8V	307.2 V	409.6 V
Operating voltage Range	172.8~224.64 V	259.2~345.6 V	345.6~460.8V
Battery Type	Lithium Iron Phosphate		
Maximum Charge Current	50A		
Maximum Discharge Current	50A		
General Data			
IP Protection	IP21		
Installation	Floor installation		
Operation Temperature	-20-55℃		
Ambient Humidity	5%~95% Non-condensing		
Cooling Method	Natural Convection		
Communication Port	CAN/RS485		
Warranty [ years]	5		



# Intelligent Power Distribution

## Intelligent Power Distribution

The key components and complete sets of equipment for the primary and secondary integration of the distribution network make the power grid smarter and stronger.



WE-CHZ



# WE-CHZ-27/630

High Voltage AC Automatic Recloser

## Key Features

- Remote signaling function: Accurately collect switch status information;
- Telemetry function: collect switch AC analog data information;
- Remote control function: support the remote control function of the remote master station;
- Overcurrent protection: with a definite time limit and inverse time limit overcurrent protection function;
- Grounding protection: It has the function of researching and judging small current grounding protection of different neutral point grounding systems;
- Reclosing function: parameters such as reclosing times and interval time can be set according to the user's needs to realize the reclosing function.

## Technical Parameters

Item	Unit	Data
Rated voltage	kV	27
Rated current	A	630
Rated frequency	Hz	50/60
Rated short-circuit breaking current	kA	12.5
Rated short-circuit making current (peak value)	kA	32.5
Rated short-time withstand current	kA	12.5
Rated power frequency withstand voltage (phase-to-phase/to-ground)	kV	60
Rated lightning impulse withstand voltage (phase-to-phase/to-ground)	kV	125
Nominal operating sequence		O-0.5 s-CO- 2s- CO- 5 s-CO -Latch
Rated short circuit duration	s	3
Mechanical life	Second-rate	10000 _
degree of protection		IP65

Key Features

- **High safety and reliability:** Fully insulated sealed structure, all live parts are sealed in the air box, inaccessible and protected from the operating environment;
- **Flexible application configuration:** Each inlet and outlet switch unit can be installed in a common gas box or an independent gas box, and all functional units can be flexibly configured;
- **Compact structure:** The width of each functional unit is 350 mm;
- **Maintenance-free:** The main part of the switchgear can be maintenance-free;
- **Intelligence:** The switchgear integrates a variety of digital applications, which can realize the precise perception of the operating status of the ring main unit.

Technical Parameters

Item		Unit	Data
Rated Voltage		kV	12
Insulating Medium			SF 6
Interrupter Type			SF6 arc extinguishing , vacuum
Rated Frequency		Hz	50 ( 60 )
Rated Current		A	630
Temperature rise test current			1.1 Ir _
Rated power frequency 1min withstand voltage (relative to ground)		kV	42
Rated lightning impulse withstand voltage peak (1.2/50s) (relative to ground)		kV	75
Rated short-circuit making current		kA	50 ( 63)
Rated short-circuit breaking current		kA	20 ( 25)
Rated short-time withstand current and duration		kA/s	20 ( 25) /4
Rated peak withstand current		kA	50 (63)
Arc Duration		the s	≥0.5
Breaking times under rated active load conditions		Second-rate	100
Auxiliary and control circuit short-time power frequency withstand voltage		kV	2
Power supply	Control loop	V	DC24, 48, AC/DC110, 220
	Auxiliary circuit	V	AC220
Service life		Year	≥ 3 0
Degree of protection	Control loop		IP4X
	Auxiliary circuit		IP2XC
SF6 gas (gauge pressure at 20°C) (applicable to inflatable cabinets)		MPa	0.040
Annual leakage rate of SF 6 gas			≤0.0 1 %

WS-FL-12  
SF6 Gas Insulated Ring Main Unit



# ZKG250P

High-Voltage DC Relay



### Key Features

- **Security:** With ceramic brazing sealing technology, no risk of arc leakage, ensuring that no fire and burst occurred
- **Reliability:** The use of alloy contacts, breaking capacity is higher and more reliable, installation/wiring convenient and reliable; Filling and sealing hydrogen-based gas, effectively prevent contact oxidation burn, low and stable contact resistance, contact parts can meet the protection level of Ip67;
- **Environmental Protection:**All parts are in line with the latest EU RoHS environmental requirements;
- **Ability:** 85 °C long-time current carrying capacity; Meet the requirements under abnormal operating conditions, can break 5 times the overcurrent; Insulation resistance up to 1000mw (1000VDC) , dielectric withstand voltage in line with IEC 60664-1 requirements.

### Technical Parameters

Basic Parameters	Maximum breaking current	1500A		
	Rated load current	250A		
	Rated load voltage	1500VDC		
	Maximum switching power	375KW		
	Main contact form	1H		
	External dimensions	108mm×67mm×101.6mm		
	Installation hole	94mm*48mm--4×φ6.2mm		
	Weight	1.142kg		
Environmental Characteristics	Impact resistant	Stability Test	196m/s <sup>2</sup> (20G)	
		Strength test	490m/s <sup>2</sup> (20G)	
	Anti-vibration	10~500Hz, 5G		
	Operating temperature	-40℃~+85℃		
	Working humidity	5%~85% RH		
Contact Parameters -Primary Contacted	Current(A)	250		
	Maximum rated voltage	1500		
	Contact resistance(@100A)	≤0.3mΩ		
	Auxiliary contact load capacity	2A@30VDC/3A125VAC		
Note: For products without auxiliary contact, the parameter is blank at the auxiliary contact.				
Coil Parameters	Rated voltage(VDC)	1500A12 (V)	24 (V)	
	Action Voltage(VDC)	≤9	≤18	
	Release voltage(VDC)	≥1	≥2	
	Maximum allowable voltage(VDC)	18	36	
	Coil power consumption(W)	10	10	
	Action time(ms)	≤50ms		
	Release time	≤30ms		
Lead-Out Plate	Mechanical life	2×105 times		
	Electric Life(Resistive load)	1000V/1200V/1500V three kinds of voltage life times 6×103/1×103/5×102		
	Current tolerance	250A: Continue		
		320A: 600s		
		500A: 120s		
		1000A: 15s		
		2000A: 0.6s		
Electrical Characteristics	Insulation resistance	≥ 1000MΩ@1000VDC		
	Dielectric withstand voltage	Between the contact and the coil	4000VAC 1min Leakage current1mA	
		Disconnect between contacts	4000VAC 1min Leakage current1mA	



## Our Commitment

Each city, each community, each enterprise and each household will enjoy the lasting benefits from utilizing Wasion's products, technologies and services.