



PRODUCT MANUAL

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www.xhhi-tech.com

Integrity-Based
& Customer-Oriented

CREATING VALUE FOR CUSTOMERS
IS THE CONSTANT PURSUIT OF XINGHAO PEOPLE!

CONTENT

A

▶ Enterprise

COMPANY PROFILE 01-02

COMPANY GLIMPSE 03-04

HONOR 05-06

B

▶ Products

PRODUCT DESCRIPTION 07-56

ABOUT US

Zhejiang Xinghao Technology Co., Ltd., founded in 2009, is a power meter manufacturer and energy management solutions provider in China. The company specializes in research and development, production and sales of a full spectrum of energy management products, including: Power meters (regular and prepaid); Power monitoring systems; Intelligent transformers, and Internet of Things communication equipment, among others.

With an R&D-centric culture and strong leadership, our team has developed over 30 IPS since 2019, including patents, smart power solutions and proprietary software. As an attestation, our company has been recognized by the provincial government as a National High-Tech Small and Medium-sized Enterprise (SME) – a status awarded to SMEs with the highest innovative potentials.

We understand the importance of delivering products of consistent quality to our valued customers. To this end, we have built up our in-house engineering and testing lab, and have developed a holistic quality control and risk management system to ensure engineering excellence. In addition, our manufacturing process adheres to the ISO-9001 standards. We have maintained a long-term relationship with internationally renowned laboratories, our products have been certified by CE, MID (EU appliance measurement directive), UL, KEMA, RoHS, etc.

Since 2009, we have developed a comprehensive product line, including single-phase, three-phase AC/DC power meters, digital power analyzers, data collectors, automatic meter reading systems, energy monitoring and management systems, and other customized solutions. Over the years, we have delivered high-quality products and services to our clients and built good relationships with customers in over 50 countries and regions at home and abroad. As a provider of trusted products and solutions, Xinghao Technology offers not only the existing product line and services, but also customized solutions to meet all of your needs.



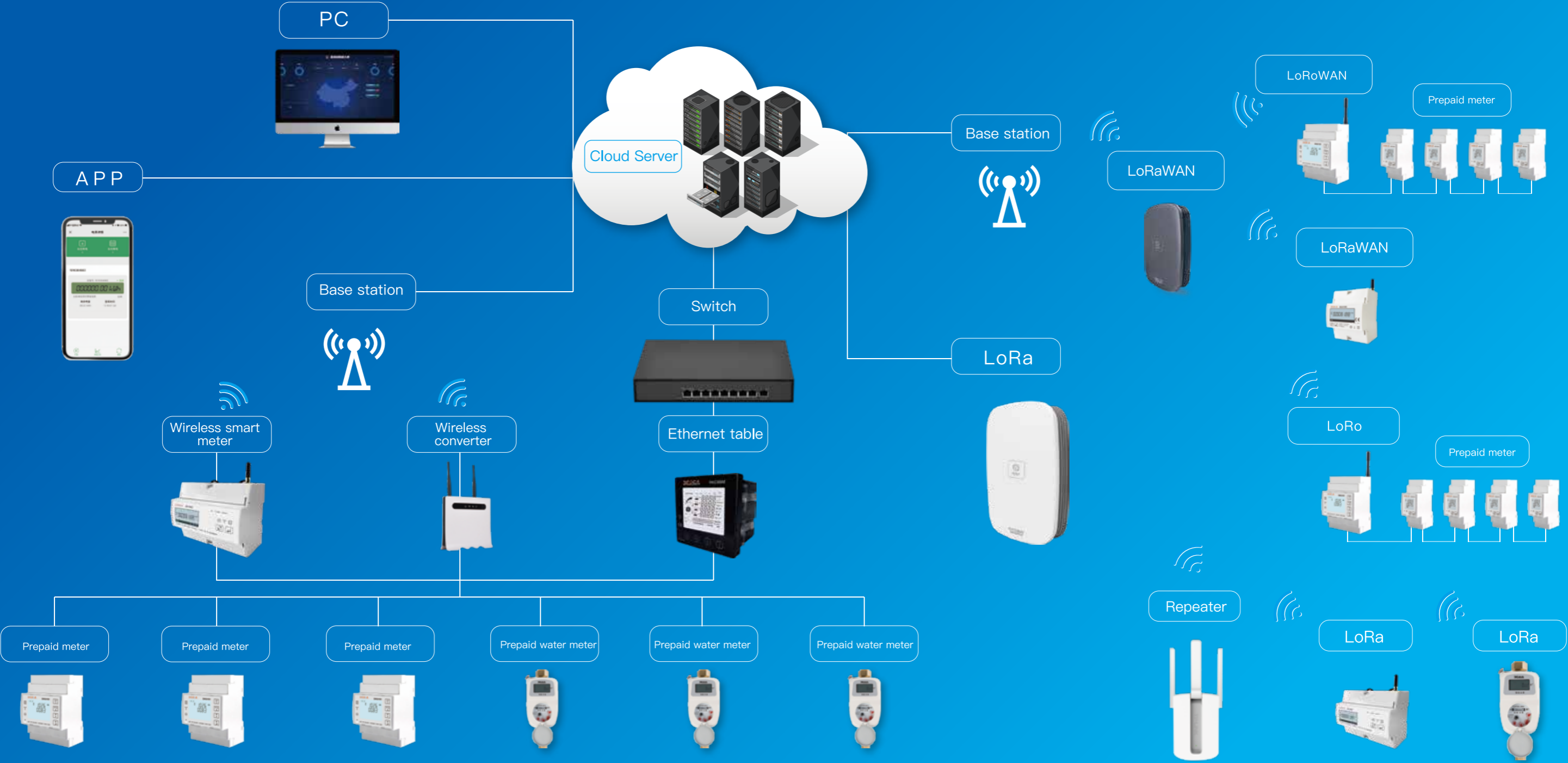
COMPANY GLIMPSE



HONOR

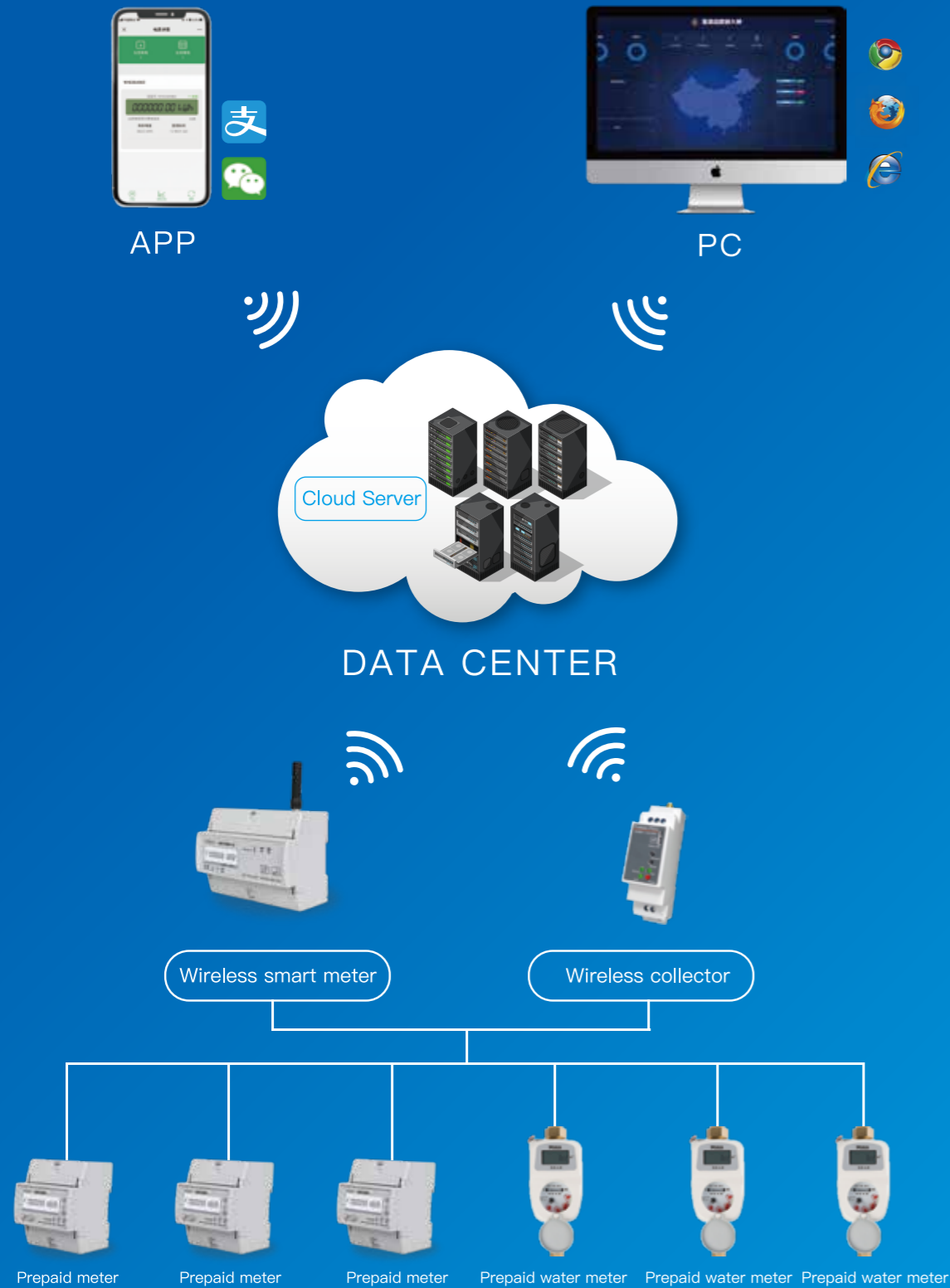


REMOTE ENERGY CONSUMPTION MONITORING SYSTEM SOLUTION





ZHEJIAN XINGHAO XINGYIJIE REMOTE PREPAID SYSTEM



SYSTEM FUNCTION INTRODUCTION



DAC1100(SERIES)

> SINGLE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC1100	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, RS485 Modbus, 1 pulse output	1 modulus
DAC1101	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, multi-rate, RS485 Modbus, 1 pulse output	1 modulus
DAC1102	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, dual rate, RS485 Modbus, 1 pulse output	1 modulus

DAC4100C(SERIES)

> SINGLE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC4100C	110/230V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, 1 pulse output	4 modulus
DAC4101C	110/230V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, Multiple rate, RS485 Modbus, 1 pulse output	4 modulus
DAC41X0C	110/230V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, Optional wireless	4 modulus
DAC41X1C	110/230V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, multi-rate, RS485 Modbus, optional wireless	4 modulus

DAC2100(SERIES)

> SINGLE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC2100	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, RS485 Modbus, 1 pulse output	2 modulus
DAC2101	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, multi-rate, RS485 Modbus, 1 pulse output	2 modulus
DAC2102	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, dual rate, RS485 Modbus, 1 pulse output	2 modulus
DAC2110	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, Mbus, 1 pulse output	2 modulus
DAC2111	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, multi-rate, Mbus, 1 pulse output	2 modulus
DAC21X0C	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, built-in relay RS485 Modbus, optional wireless	2 modulus
DAC21X1C	110/230V AC, 0.25-100A, 50/60Hz	Multi-function, multi-rate, built-in relay RS485 Modbus, optional wireless	2 modulus

DAC4300(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC4300	3*230/400V AC, 0.25-100A, 50/60Hz	Multi-function, RS485 Modbus, 1 pulse output	4 modulus
DAC4301	3*230/400V AC, 0.25-100A, 50/60Hz	Multi-function, multi-rate, RS485 Modbus, 1 pulse output	4 modulus
DAC4302	3*230/400V AC, 0.25-100A, 50/60Hz	Multi-function, dual rate, RS485 Modbus, 1 pulse output	4 modulus

DAC4300CT(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC4300CT	3*230/400V AC, 0.25-6A, 50/60Hz	Multi-function, RS485 Modbus, 1 pulse output, built-in relay	4 modulus
DAC4301CT	3*230/400V AC, 0.25-6A, 50/60Hz	Multi-function, multi-rate, built-in relay RS485 Modbus, 1 pulse output	4 modulus
DAC4302CT	3*230/400V AC, 0.25-6A, 50/60Hz	Multi-function, dual rate, built-in relay, RS485 Modbus, 1 pulse output	4 modulus

DAC7300C(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC7300C	3*230/400V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, 1 pulse output	7 modulus
DAC7301C	3*230/400V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, Multiple rate, RS485 Modbus, 1 pulse output	7 modulus
DAC73X0C	3*230/400V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, Optional wireless	7 modulus
DAC73X1C	3*230/400V AC, 0.25-80A, 50/60Hz	Built-in relay, multi-function, multi-rate, RS485 Modbus, optional wireless	7 modulus

DAC7300C-CT(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
DAC7300C-CT	3*230/400V AC, 0.25-5(6)A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, 1 pulse output	7 modulus
DAC7301C-CT	3*230/400V AC, 0.25-5(6)A, 50/60Hz	Built-in relay, multi-function, Multiple rate, RS485 Modbus, 1 pulse output	7 modulus
DAC73X0C-CT	3*230/400V AC, 0.25-5(6)A, 50/60Hz	Built-in relay, multi-function, RS485 Modbus, Optional wireless	7 modulus
DAC73X1C-CT	3*230/400V AC, 0.25-5(6)A, 50/60Hz	Built-in relay, multi-function, multi-rate, RS485 Modbus, optional wireless	7 modulus

PAC5000(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
PAC5000	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	87 power parameter measurement, 2-63rd THD, RS485 Modbus, CT&PT can be set	96*96
PAC5100	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	87 power parameter measurement, 2-63rd THD, 4DI2DO, RS485 Modbus, CT&PT can be set	96*96
PAC5010	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	87 power parameter measurement, 2-63rd THD, multiple rate & SOE record, RS485 Modbus, CT&PT can be set	96*96
PAC5110	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	87 power parameter measurement, 2-63rd THD, multiple rate & SOERecording, 4DI2DO, RS485 Modbus, CT&PT can be set	96*96

PAC2000(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
PAC2000	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	85 power parameter measurement, 2-63rd THD, RS485 Modbus, CT&PT can be set	72*72
PAC2100	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	85 power parameter measurement, 2-63rd THD, 4DI2DO, RS485 Modbus, CT&PT can be set	72*72
PAC2010	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	85 power parameter measurement, 2-63rd THD, multiple rate & SOE record, RS485 Modbus, CT&PT can be set	72*72
PAC2110	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	85 power parameter measurement, 2-63rd THD, multiple rate & SOERecording, 4DI2DO, RS485 Modbus, CT&PT can be set	72*72

PAC3000(SERIES)

> THREE-PHASE



MODEL	FORMAT	INTRODUCTION	SIZE
PAC3000	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	70 electrical parameter measurements, RS485 Modbus, CT&PT can be set	96*96
PAC3100	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	70 electrical parameter measurements, 4DI2DO, RS485 Modbus, CT&PT can be set	96*96
PAC3010	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	70 power parameter measurement, multiple rate & SOE record, RS485 Modbus, CT&PT can be set	96*96
PAC3110	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	70 power parameter measurement, multiple rate & SOE Recording, 4DI2DO, RS485 Modbus, CT&PT can be set	96*96

PAC1000(SERIES)

> THREE-PHASE



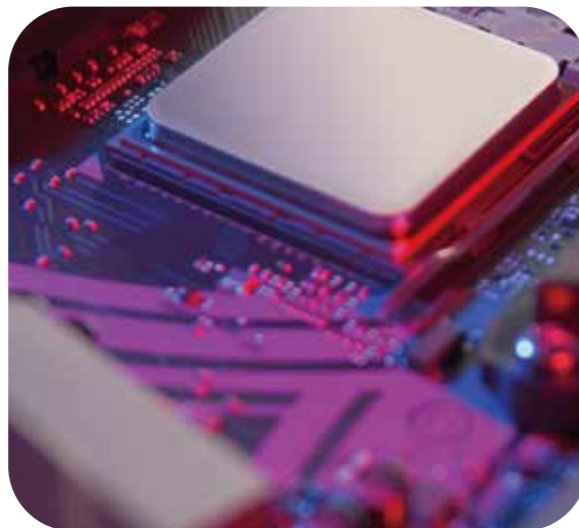
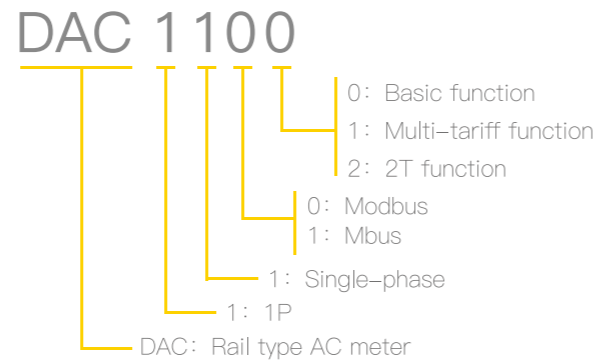
MODEL	FORMAT	INTRODUCTION	SIZE
PAC1000	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	65 electrical parameter measurements, RS485 Modbus, CT&PT can be set	72*72
PAC1100	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	65 electrical parameter measurements, 4DI2DO, RS485 Modbus, CT&PT can be set	72*72
PAC1010	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	65 power parameter measurement, multiple rate & SOE record, RS485 Modbus, CT&PT can be set	72*72
PAC1110	3*230/400V AC, 1/5A, 100mA, Rogowski coil, 50/60Hz	65 power parameter measurement, multiple rate & SOE Recording, 4DI2DO, RS485 Modbus, CT&PT can be set	72*72

DAC1100



DAC1100 series energy meter supports single phase two wires direct connect 100A load, measuring two-way power, voltage, current, active power, reactive power, apparent power, phase factor, and providing various measurement parameters for power monitoring, with multi-function, multi-purpose, high stability and long life.

This series products with RS485 communication interface, supporting Modbus, DLT645 protocols. It can read the data remotely, and the design of large-screen LCD, touch-sensitive key, can easily check the local view and set operation of various parameters. The password protection function ensures the data security of the product.



FEATURES

- 1 Max 100A DC.
- 2 Standard 1-modulus width, TH35-7.5 type rail installation
- 3 Touch key design improves the operation of the keys and reduces the key failure rate.
- 4 Multi-function parameter measurement for voltage, current, active power, reactive power, apparent power, power factor, and phase angle
- 5 Support two-way energy metering, providing monthly electricity consumption statistics for the last 12 months, and daily electricity consumption statistics for the last 31 days
- 6 Support access of two rate switching signals and realize power metering of two rates
- 7 Support 1 passive pulse output, 1 RS485 communication, Baud rate up to 38400bps, support Modbus RTU, DL/T645-2007 protocol

Electrical Characteristics

Rate voltage (Un)	110V or 230V AC
Operational voltage	85 – 275V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(I _{max})	100A
Operational current	0.1%I _b – I _{max}
Overload capacity of current	30*I _{max} for 0.01 second
Operational frequency range	45 – 65Hz
Power consumption	<2W/10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Single phase two wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±1.0% / 0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	±1.0% / 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV – 1.2/50μS waveform
Protective Class	II, according IEC61010-1

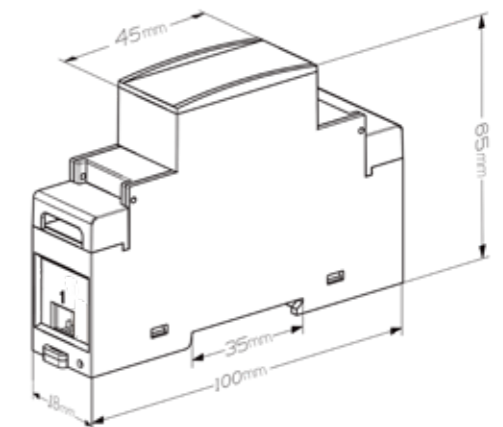
Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	32 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/ 1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/ export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

Product size chart

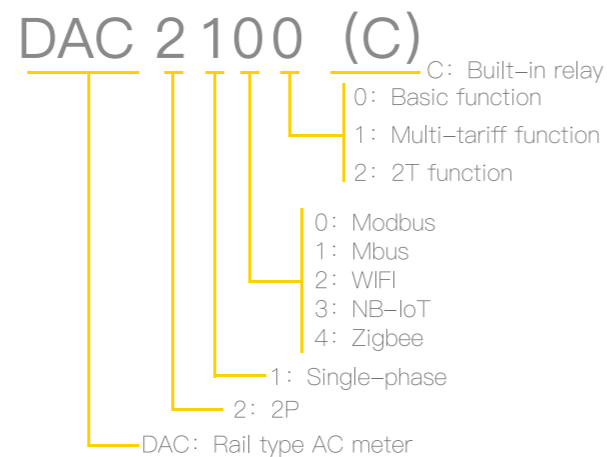


DAC2100



DAC2100 series energy meter supports single phase two wires direct connect 100A load, measuring two-way power, voltage, current, active power, reactive power, apparent power, phase factor, and providing various measurement parameters for power monitoring, with multi-function, multi-purpose, high stability and long life.

This series products with RS485 communication interface, supporting Modbus, DLT645 protocols. It can read the data remotely, and the design of large-screen LCD, touch-sensitive key, can easily check the local view and set operation of various parameters. The password protection function ensures the data security of the product.



FEATURES

- 1 Max 100A DC.
- 2 Standard 2-modulus width, TH35-7.5 type rail installation
- 3 Touch key design improves the operation of the keys and reduces the key failure rate.
- 4 Multi-function parameter measurement for voltage, current, active power, reactive power, apparent power, power factor, and phase angle
- 5 Support two-way energy metering, providing monthly electricity consumption statistics for the last 12 months, and daily electricity consumption statistics for the last 31 days
- 6 Support access of two rate switching signals and realize power metering of two rates
- 7 Support 1 passive pulse output, 1 RS485 communication, Baud rate up to 38400bps, support Modbus RTU, DL/T645-2007 protocol

Electrical Characteristics

Rate voltage (Un)	110V or 230V AC
Operational voltage	85 – 275V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	100A
Operational current	0.1%Ib – Imax
Overload capacity of current	30*Imax for 0.01 second
Operational frequency range	45 – 65Hz
Power consumption	<2W/10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Single phase two wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±1.0% / 0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	±1.0% / 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV – 1.2/50µs waveform
Protective Class	II, according IEC61010-1

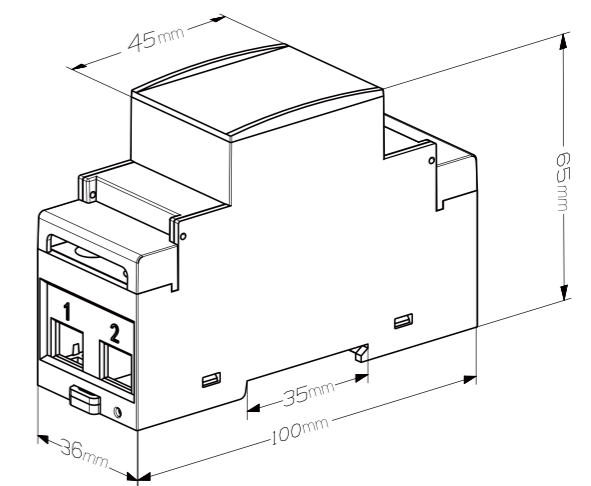
Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/ 1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/ export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

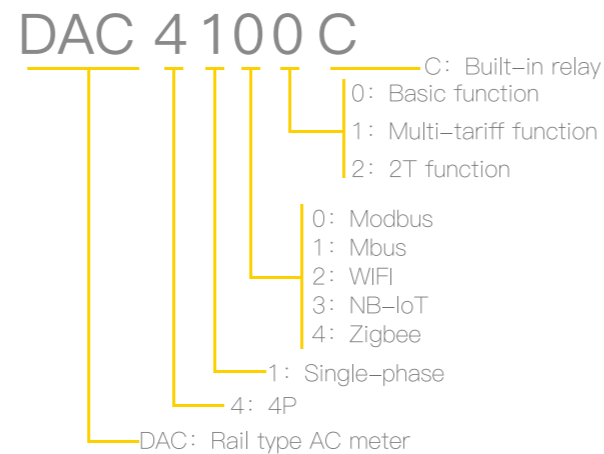
Product size chart



DAC4100C



DAC4100C series energy meter supports single phase two wires direct connect 80A load, can measure active / reactive bidirectional energy, voltage, current, active power, reactive power, apparent power, power factor, phase angle, built-in relay, can realise power control remotely, prepaid management and other functions, providing operation record of relay and event recording, suitable for campus electricity management, mall electricity charge management, with multi-function, multipurpose, high stability and long life character. The series of products can support LoRa, WIFI, NB-IoT, 4G and other mainstream wireless communication methods, realizing the wireless networking function, along with a one-way RS485 communication interface



FEATURES

- 1 max current:80A DC.
- 2 Standard 4-modulus width, TH35-7.5 type rail installation
- 3 Multi-function parameter measurement, providing voltage, current, active power, reactive power, apparent power, power factor, phase Angle, etc
- 4 Support two-way electric energy metering, provide monthly electricity consumption statistics for the last 12 months, and daily electricity consumption statistics for the last 31days
- 5 In-built relay, support remote control and prepaid management control, providing latest 50 times operation records, 10 SOE event records
- 6 Support the power consumption parameter monitoring and alarm function
- 7 Support WIFI, LoRa, NB-IoT, 4G etc. wireless communication way
- 8 Support 1 pulse output, 1 RS485 communication

Electrical Characteristics

Rate voltage (Un)	110V or 230V AC
Operational voltage	85 – 275V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	100A
Operational current	0.1%Ib – Imax
Overload capacity of current	30*Imax for 0.01 second
Operational frequency range	45 – 65Hz
Power consumption	<2W/10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh

Measurement accuracy

Voltage, Current	±0.5%
Active power	±1.0% / 0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	±1.0% / 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute Impulse Voltage Test: 6kV – 1.2/50µs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	32 pcs

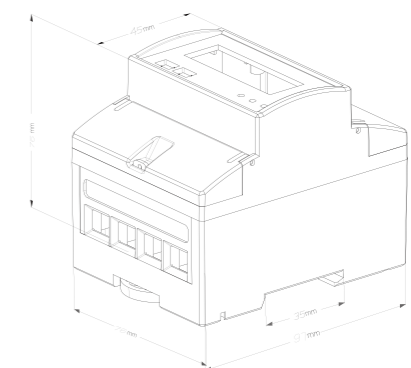
Wireless communications

Types that can be supported	WIFI, LoRa, NB-IoT, 4G
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Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

Product size chart

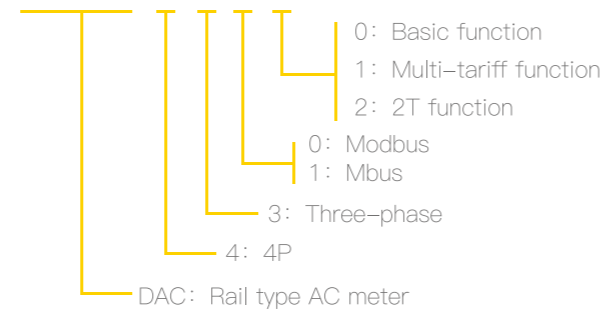


DAC4300



The DAC4300 series products support three phase and single phase direct connct type 100A load, measuring active / reactive bidirectional electric energy, voltage, current, active power, reactive power, apparent power, power factor, phase angle and other parameters, providing various measurement parameters for electric power monitoring, with multi-function, multipurpose, high stability and long life character. This series of products have RS485 communication interface, supporting Modbus, DLT645 and other protocols, which can meet the needs of data reading remotely of the power monitoring system. The large LCD and touch key, can be easily viewed and set. The password protection function ensures the data security of the product.

DAC 4300



FEATURES

- 1 Max 100A DC.
- 2 Standard 2-modulus width, TH35-7.5 type rail installation
- 3 Touch key design
- 4 Multi-function parameter measurement for voltage, current, active power, reactive power, apparent power, power factor, and phase angle
- 5 Provide total harmonic content analysis data of voltage and current
- 6 Support two-way energy metering, providing monthly and daily electricity consumption statistics.
- 7 Support access of two rate switching signals and realize power metering of two rates
- 8 Support 1 passive pulse output, 1 RS485 communication, Baud rate up to 38400bps, support Modbus RTU, DL/T645-2007 protocol

Electrical Characteristics

Rate voltage (Un)	3*110/190V or 230/400V AC
Operational voltage	L-N: 85 to 275V AC; L-L: 85 to 480V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	100A
Operational current	0.1%Ib to Imax
Overload capacity of current	30*Imax for 0.01 second
Operational frequency range	45 - 65Hz
Power consumption	<2W/10VA
Pulse constant	400 imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Three phase four wire,
	Three phase three wire,
	Single phase two wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±1.0% / 0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	±1.0% / 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 - +55°C
Storage Temperature	-40 - +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 - 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 - 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV - 1.2/50µs waveform
Protective Class	II, according IEC61010-1

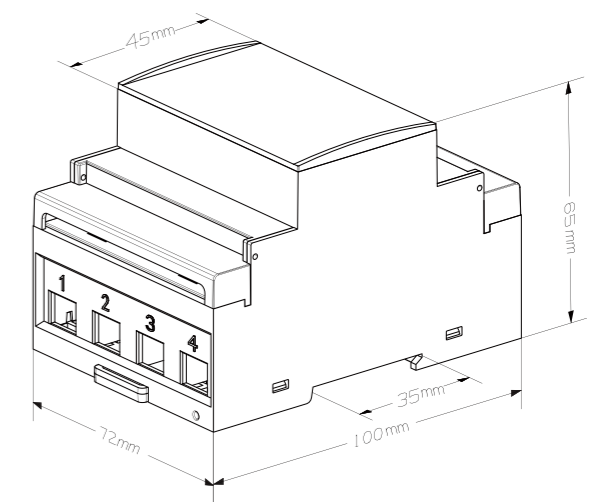
Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

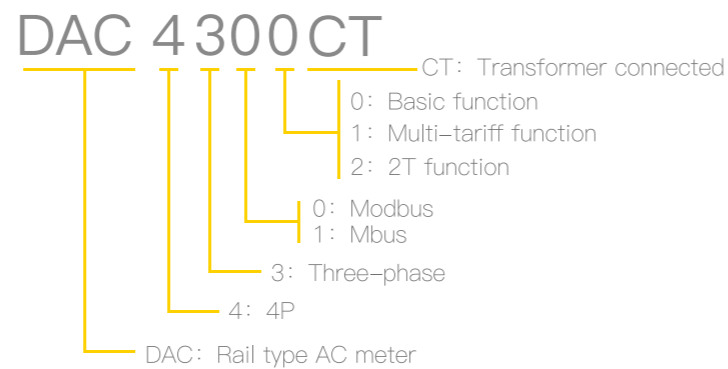
Product size chart



DAC4300CT



DAC4300CT series product is a three-phase transformer connected din rail multifunctional electric energy meter, which can measure active / reactive two-way electric energy, voltage, current, active power, reactive power, apparent power, power factor and phase angle, and provide various measurement parameters for electric power monitoring, with multi-function, multipurpose, high stability and long life character. This series of products have RS485 communication interface, supporting Modbus, DLT645 and other communication protocols, which can meet the reading remotely of the power monitoring system, and adopt large LCD and touch button design, which can be easily viewed and set. The product has the password protection function to ensure the data security of the product.



FEATURES

- 1 Current transformer access, supporting 5A/1A, or mA/mV output current transformer
- 2 Support for direct access of Rogowski coil, with current transformer reverse connection correction function
- 3 Standard 4-modulus width, TH35-7.5 type rail installation
- 4 Touch key design
- 5 Multi-function parameter measurement for voltage, current, active power, reactive power, apparent power, power factor, and phase angle
- 6 Provide total harmonic content analysis data of voltage and current
- 7 Support two-way energy metering, providing monthly and daily electricity consumption statistics
- 8 Support access of two rate switching signals and realize power metering of two rates
- 9 Support 1 passive pulse output, 1 RS485 communication, Baud rate up to 38400bps

Electrical Characteristics

Supply voltage	85 to 300 V AC or 120 to 420 V DC
Power consumption	< 4VA/0.5W
Rate voltage (Un)	3*110/190V or 3*230/400V AC
Operational voltage	L-N: 30 – 350V AC; L-L: 30 – 500V AC
PT1 (Primary)	30 – 500000V
Impedance of voltage measures circuit	1MΩ
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	6A
Operational current	0.1%Ib to Imax
CT1 (Primary)	1 to 9999 A
Impedance of current measures circuit	<0.01 ohm
Overload capacity of current	20*Imax for 0.5 second
Operational frequency range	45 – 65Hz
Pulse constant	5000imp/kWh
Display	LCD with backlight
Maximum reading of energy	99999999 MWh/MVarh
Measure type	Three phase four wire,
	Three phase three wire,
	Single phase two wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±0.5%
Active energy	±0.5%
Reactive energy	±2.0%
Power factor	±0.5%
Frequency	±0.1%
Harmonic distortion	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV – 1.2/50μs waveform
Protective Class	II, according IEC61010-1

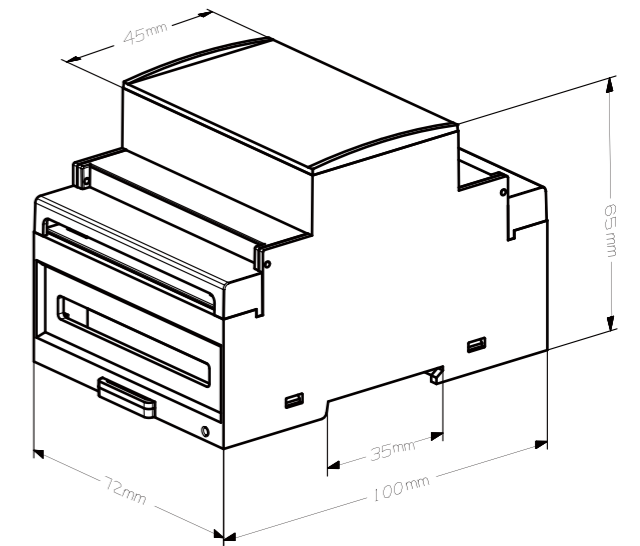
Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

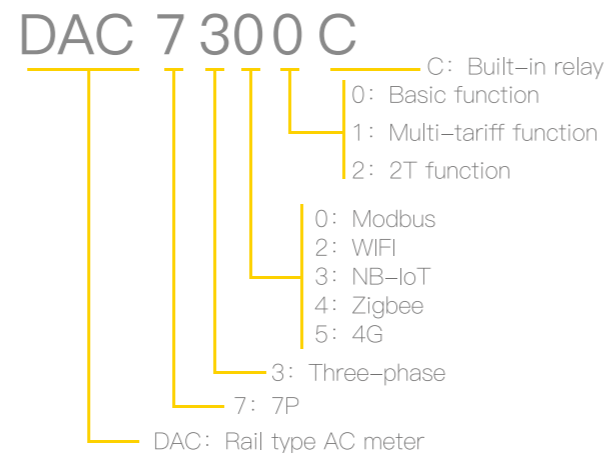
Product size chart



DAC7300C



DAC7300C series products support three phase four wires direct connect 80A load, can measure active / reactive bidirectional energy, voltage, current, active power, reactive power, apparent power, power factor, phase angle, built-in relay, can realise power control remotely, prepaid management and other functions, providing operation records of relay and event recording, suitable for campus electricity management, mall electricity charge management, with multi-function, multipurpose, high stability and long life character. The series of products can support LoRa, WIFI, NB-IoT, 4G and other mainstream wireless communication methods, which can realize the wireless networking function, along with a one-way RS485 communication interface.



FEATURES

- 1 Max current: 80A DC.
- 2 Standard 7-modulus width, TH35-7.5 type rail installation
- 3 Multi-function parameter measurement, providing voltage, current, active power, reactive power, apparent power, power factor, phase Angle, etc
- 4 Support two-way electric energy metering, provide monthly and daily electricity consumption statistics.
- 5 In-built relay, support remote control, providing operation records
- 6 Support the power consumption parameter monitoring and alarm function
- 7 Support WIFI, LoRa, NB-IoT, 4G etc. wireless communication way
- 8 Support 1 pulse output, 1 RS485 communication

Electrical Characteristics

Rate voltage (Un)	3*110/190V or 230/400V AC
Operational voltage	L-N: 85 to 275V AC; L-L: 85 to 480V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(I _{max})	100A
Operational current	0.1%I _b – I _{max}
Overload capacity of current	30*I _{max} for 0.01 second
Operational frequency range	45 – 65Hz
Power consumption	<2W/10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Three phase four wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±1.0% / 0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	±1.0% / 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV – 1.2/50µs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	32 pcs

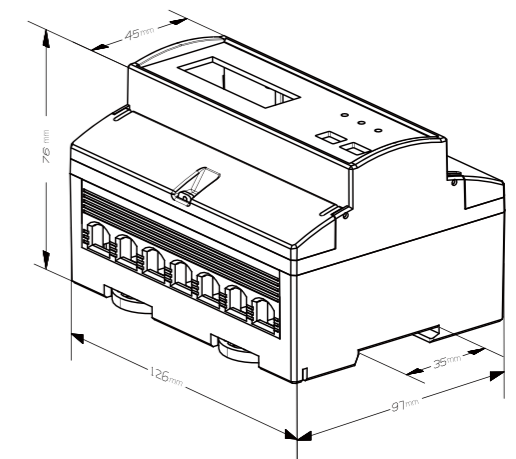
Wireless communications

Types that can be supported	WIFI, LoRa, NB-IoT, 4G
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Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

Product size chart

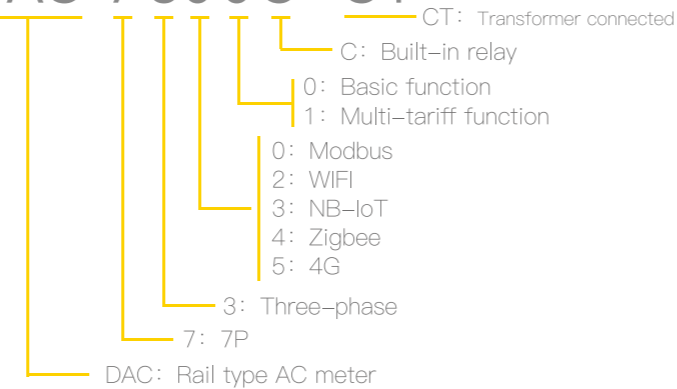


DAC7300C-CT



DAC7300C-CT series products are transformer connected three phase din rail multi-function energy meter, measuring active / reactive two-way electric energy, voltage, current, active power, reactive power, apparent power, power factor, phase angle, etc. In-built small relay can control external circuit breaker, power control remotely, prepaid management and other control functions, providing operation record of relay and event recording, suitable for campus electricity management, mall electricity charge management, with multi-function, multipurpose, high stability and long life character. The series of products can support LoRa, WIFI, NB-IoT, 4G and other mainstream wireless communication methods, which can realize the wireless networking function, along with a one-way RS485 communication interface.

DAC 7 300C-CT



FEATURES

- 1 Current transformer access type, support 5A/1A output current transformer
- 2 Standard 7-modulus width, TH35-7.5 type rail installation
- 3 Multi-function parameter measurement, providing voltage, current, active power, reactive power, apparent power, power factor, phase Angle, etc
- 4 Support two-way electric energy metering, provide monthly electricity consumption statistics for the last 12 months, and daily electricity consumption statistics for the last 31 days
- 5 In-built relay, support remote control and prepaid management control, providing latest 50 times operation records, 10 SOE event records
- 6 Support the power consumption parameter monitoring and alarm function
- 7 Support WIFI, LoRa, NB-IoT, 4G etc. wireless communication way
- 8 Support 1 passive pulse output, 1 RS485 communication

Electrical Characteristics

Rate voltage (Un)	3*110/190V or 230/400V AC
Operational voltage	L-N: 85 to 275V AC; L-L: 85 to 480V AC
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(I _{max})	100A
Operational current	0.1%I _b - I _{max}
Overload capacity of current	20*I _{max} for 0.5 second
Operational frequency range	45 - 65Hz
Power consumption	<2W/10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Three phase four wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 - +55°C
Storage Temperature	-40 - +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 - 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 - 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute Impulse Voltage Test: 6kV - 1.2/50µs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	32 pcs

Wireless communications

Types that can be supported	WIFI, LoRa, NB-IoT, 4G
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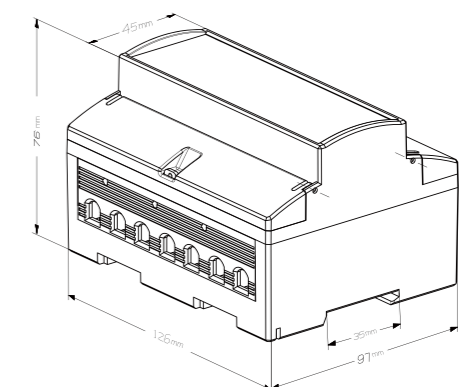
Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

Relay output

Type	electromagnetic relay
Output frequency	10Hz maximum
Switching current	250 V AC at 3.0 Amps, 100k cycles

Product size chart

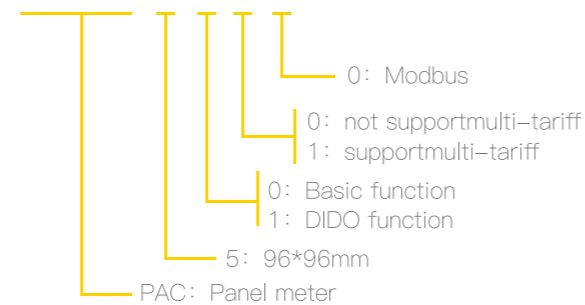


PAC5000



PAC5000 series products are panel-mounted multifunctional power analysis instruments, which can support the measurement and analysis of various power parameters, such as voltage, current, four quadrant power parameters, power factor, total harmonic and subharmonic content, unbalance, wave peak factor, etc and can provide the measurement of multiple electric energy parameters, monthly and daily electricity consumption statistics. This series of products can provide multi-channel digital input and output interface and event recording function, suitable for real-time power monitoring system, energy consumption management system, industrial monitoring site and other application environmental, with multi-function, multipurpose, high stability and long life character.

PAC 5000



FEATURES

- 1 Embedded panel installation, product panel size 96 * 96mm, adopts touch button design
- 2 Support direct access of Roche coil and with reverse connection correction function of current transformer
- 3 Multi-function parameter measurement to provide measurement datas of voltage, current, active power, reactive power, apparent power, power factor, and phase angle, etc.
- 4 Provide analysis parameters such as unbalance, voltage peak factor and current K coefficient, support subharmonic up to 63 times
- 5 Provide four quadrant power, demand, maximum / minimum and other statistics.
- 6 Support bidirectional energy and multi-tariff measuring, provide monthly and daily electricity consumption statistics
- 7 Support for multi-channel digital input and output interface
- 8 Support 2-way passive pulse output, 1 RS485 Communications, baud rate max support of 38,400 bps

Electrical Characteristics

Supply voltage	80 to 300 V AC or 100 to 420 V DC
Power consumption	< 4VA/0.5W
Rate voltage (Un)	3*110/190V or 3*230/400V AC
Operational voltage	L-N: 30 – 350V AC; L-L: 30 – 660V AC
PT1 (Primary)	30 – 600000V
Impedance of voltage measures circuit	1MΩ
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	6A
Operational current	0.1%Ib to Imax
CT1 (Primary)	1 to 9999 A
Impedance of current measures circuit	<0.01 ohm
Overload capacity of current	20*Imax for 0.5 second
Operational frequency range	45 – 65Hz
Pulse constant	5000imp/kWh
Display	LCD with backlight
Maximum reading of energy	99999999 MWh/MVarh
Measure type	Three phase four wire, Three phase three wire, Single phase two wire, Two phase three wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute Impulse Voltage Test: 6kV – 1.2/50μs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/ 1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/ export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

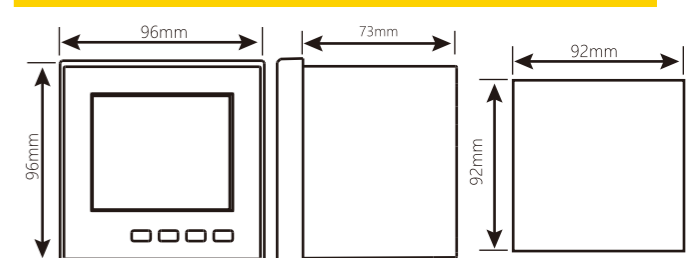
Digital input (DI)

Number, Type	4, Support dry contact input (built-in power supply: 20 to 24VDC)
Input Resistance	10kΩ
Maximum frequency	250Hz
Response time	2 milliseconds
Isolation	2.5 kVrms

Digital output(DO)

Number, Type	2 – electromagnetic relay
Output frequency	10Hz maximum
Switching current	250 V AC at 3.0 Amps, 100k cycles
Isolation	2.5 kVrms

Product size chart

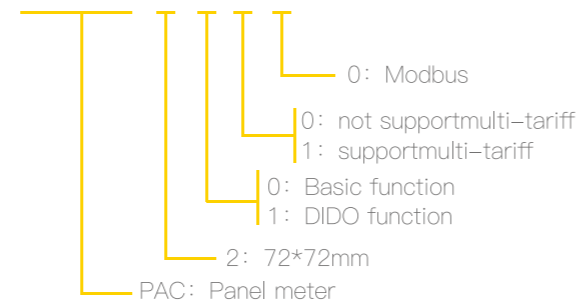


PAC2000



PAC2000 series products are panel-mounted multifunctional power analysis instruments, which can support the measurement and analysis of various power parameters, such as voltage, current, four quadrant power parameters, power factor, total harmonic and subharmonic content, and can provide the measurement of multiple electric energy parameters, monthly and daily electricity consumption statistics. This series of products can provide multi-channel digital input and output interface and event recording function, suitable for real-time power monitoring system, energy consumption management system, industrial monitoring site and other application environmental, with multi-function, multipurpose, high stability and long life character.

PAC 2000



FEATURES

- 1 Embedded panel installation, product panel size 72 * 72mm, adopts touch button design
- 2 Support direct access of Roche coil and with reverse connection correction function of current transformer
- 3 Multi-function parameter measurement to provide measurement datas of voltage, current, active power, reactive power, apparent power, power factor, and phase angle, etc.
- 4 Provide voltage / current total harmonic and subharmonics, supporting up to 31 subharmonics
- 5 Provide four quadrant power, demand, maximum / minimum and other statistics.
- 6 Support bidirectional energy and multi-tariff measuring, provide monthly and daily electricity consumption statistics
- 7 Support for multi-channel digital input and output interface
- 8 Support 2-way passive pulse output, 1 RS485 Communications, baud rate max support of 38,400 bps

Electrical Characteristics

Supply voltage	80 to 300 V AC or 100 to 420 V DC
Power consumption	< 4VA/0.5W
Rate voltage (Un)	3*110/190V or 3*230/400V AC
Operational voltage	L-N: 30 – 350V AC; L-L: 30 – 660V AC
PT1 (Primary)	30 to 500000V
Impedance of voltage measures circuit	1MΩ
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(Imax)	6A
Operational current	0.1%Ib to Imax
CT1 (Primary)	1 to 9999 A
Impedance of current measures circuit	<0.01 ohm
Overload capacity of current	20*Imax for 0.5 second
Operational frequency range	45 – 65Hz
Pulse constant	5000imp/kWh
Display	LCD with backlight
Maximum reading of energy	99999999 MWh/MVarh
Measure type	Three phase four wire, Three phase three wire, Single phase two wire, Two phase three wire

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55℃
Storage Temperature	-40 – +80℃
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV – 1.2/50μs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 38400 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

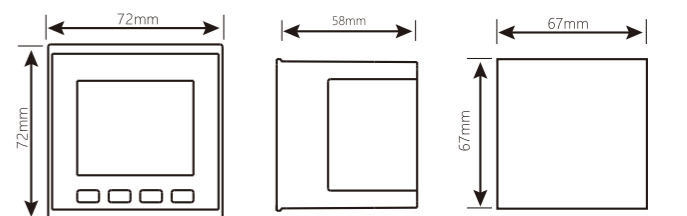
Digital input (DI)

Number, Type	4, Support dry contact input (built-in power supply: 20 to 24VDC)
Input Resistance	10kΩ
Maximum frequency	250Hz
Response time	2 milliseconds
Isolation	2.5 kVrms

Digital output(DO)

Number, Type	2 – electromagnetic relay
Output frequency	10Hz maximum
Switching current	250 V AC at 3.0 Amps, 100k cycles
Isolation	2.5 kVrms

Product size chart

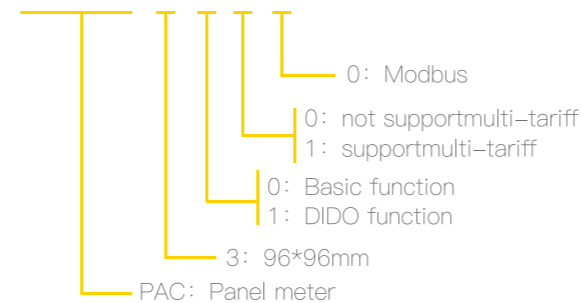


PAC3000



This series of multi-function power meter is an ideal equipment for power monitoring. The meter has the function of simultaneously measuring the current, voltage, frequency, active power, reactive power, apparent power, positive and reverse active energy, positive and reverse reactive energy and power factor in the power grid. It is suitable for distributed detection of transformer, generator set, capacitor set and motor, and field monitoring display of power grid and automatic control system. This series of multi-functional power meter can replace many traditional analog or digital measuring meter (such as ammeter, voltage meter, power meter, power factor meter, frequency meter, etc.), which can greatly reduce the system cost, facilitate site wiring and improve the reliability of the system. multifunctional power monitor is equipped with serial port to connect open structure computer network; apply Modbus communication regulations to facilitate computer programming or read data.

PAC 3000



FEATURES

- 1 Embedded panel installation, product panel size 96 * 96mm
- 2 Multi-function parameter measurement to provide measurement data of voltage, current, active power, reactive power, apparent power, power factor, and phase angle, etc.
- 3 Provide four quadrant power, demand, maximum / minimum and other statistics.
- 4 Support bidirectional energy measuring
- 5 Support for multi-channel digital input and output interface
- 6 Support 2-way passive pulse output, 1 RS485 Communications, baud rate max support of 19200 bps

Electrical Characteristics

Supply voltage	80 to 265 V AC
Power consumption	< 5VA
Rate voltage (Un)	3*110/190V or 3*230/400V AC
Operational voltage	L-N: 30 – 350V AC; L-L: 30 – 660V AC
PT ratio multiple range	1 to 5000
Impedance of voltage measures circuit	> 200kΩ
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(I _{max})	6A
Operational current	0.1%I _b to I _{max}
CT ratio multiple range	1 to 5000
Impedance of current measures circuit	< 0.01 ohm
Overload capacity of current	10*I _{max} for 10 second
Operational frequency range	45 – 65Hz
Display	LCD with backlight
Maximum reading of energy	99999999 MWh/MVarh
Measure type	Three phase four wire, Three phase three wire,

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute Impulse Voltage Test: 6kV – 1.2/50μS waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 19200bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	< 100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/ 1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100 milliseconds
Pulse output type	Import/export/total active energy, Import/ export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

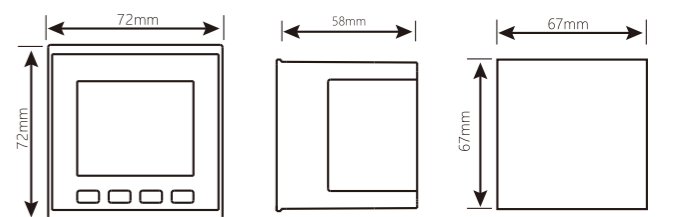
Digital input (DI)

Number, Type	4, Support dry contact input (built-in power supply: 20 to 24VDC)
Input Resistance	10kΩ
Maximum frequency	250Hz
Response time	2 milliseconds
Isolation	2.5 kVrms

Digital output(DO)

Number, Type	2 – electromagnetic relay
Output frequency	10Hz maximum
Switching current	250 V AC at 3.0 Amps, 100k cycles
Isolation	2.5 kVrms

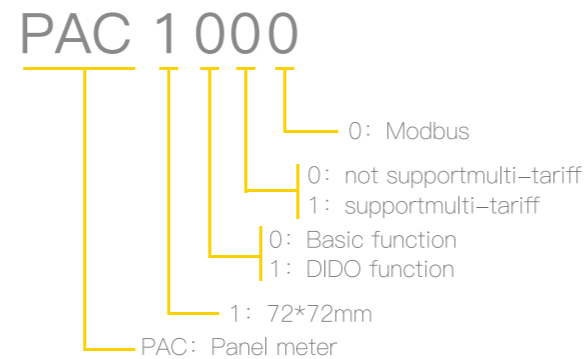
Product size chart



PAC1000



This series of multi-function power meter is an ideal equipment for power monitoring. The meter has the function of simultaneously measuring the current, voltage, frequency, active power, reactive power, apparent power, positive and reverse active energy, positive and reverse reactive energy and power factor in the power grid. It is suitable for distributed detection of transformer, generator set, capacitor set and motor, and field monitoring display of power grid and automatic control system. This series of multi-functional power meter can replace many traditional analog or digital measuring meter (such as ammeter, voltage meter, power meter, power factor meter, frequency meter, etc.), which can greatly reduce the system cost, facilitate site wiring and improve the reliability of the system. multifunctional power monitor is equipped with serial port to connect open structure computer network; apply Modbus communication regulations to facilitate computer programming or read data.



FEATURES

- 1 Embedded panel installation, product panel size 72 * 72mm
- 2 Multi-function parameter measurement to provide measurement data of voltage, current, active power, reactive power, apparent power, power factor, and phase angle, etc.
- 3 Provide four quadrant power, demand, maximum / minimum and other statistics.
- 4 Support bidirectional energy measuring
- 5 Support for multi-channel digital input and output interface.
- 6 Support 2-way passive pulse output, 1 RS485 Communications, baud rate max support of 19200 bps

Electrical Characteristics

Supply voltage	80 to 265 V AC
Power consumption	< 5VA
Rate voltage (Un)	3*110/190V or 3*230/400V AC
Operational voltage	L-N: 30 – 350V AC; L-L: 30 – 660V AC
PT ratio multiple range	1 to 5000
Impedance of voltage measures circuit	> 200kΩ
Overload capacity of voltage	2*Un for 1 second
Rate current(Ib)	5A
Maximum current(I _{max})	6A
Operational current	0.1%I _b to I _{max}
CT ratio multiple range	1 to 5000
Impedance of current measures circuit	< 0.01 ohm
Overload capacity of current	10*I _{max} for 10 second
Operational frequency range	45 – 65Hz
Display	LCD with backlight
Maximum reading of energy	99999999 MWh/MVarh
Measure type	Three phase four wire, Three phase three wire,

Measurement accuracy

Voltage, Current	±0.5%
Active power	±0.5%
Reactive power	±2.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±2.0%
Power factor	±1.0%
Frequency	±0.2%

Environmental Characteristics

Operating Temperature	-25 – +55°C
Storage Temperature	-40 – +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	Designed to IP51 front display, IP30 meter body

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge), ±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 – 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 – 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute Impulse Voltage Test: 6kV – 1.2/50μs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	2-wire RS485, Modbus RTU Optional: Mbus
Baud rate	1200 to 19200bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	< 100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse constant	Per pulse equal 0.001/0.01/0.1/ 1 kWh/kvarh (Configurable)
Pulse width	60/100/200 milliseconds (Configurable), default is 100milliseconds
Pulse output type	Import/export/total active energy, Import/ export/total reactive energy (Configurable)
Class	Class A, according IEC 62053-31
Input voltage	5 to 27 VDC

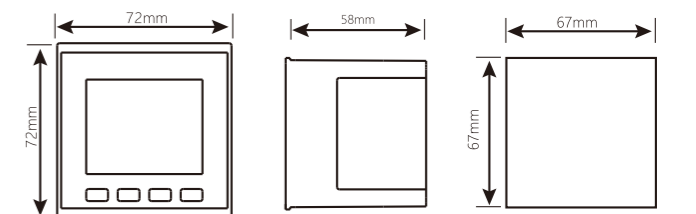
Digital input (DI)

Number, Type	4, Support dry contact input (built-in power supply: 20 to 24VDC)
Input Resistance	10kΩ
Maximum frequency	250Hz
Response time	2 milliseconds
Isolation	2.5 kVrms

Digital output(DO)

Number, Type	2 – electromagnetic relay
Output frequency	10Hz maximum
Switching current	250 V AC at 3.0 Amps, 100k cycles
Isolation	2.5 kVrms

Product size chart



MES121



MES121 series single-phase intelligent prepaid meters support direct access 80A load, which can measure absolute value active power, forward active power, reverse active power, forward apparent, reverse apparent, voltage, current, active power, and reactive power, Apparent power, power factor, voltage and current angle, grid frequency, and other parameters, provide various measurement parameters for power monitoring, and have the characteristics of multi-function, multi-purpose, high stability and long life. This series of products have 1 Optical communication port, 1 RS485 communication port, 1 built-in PLC module, 1 external communication module (GPRS) interface, the interface supports Optical, RS485, GPRS, PLC and other communication protocols, which can meet the power requirements. The remote monitoring system requires large-screen LCD design, which can be easily viewed and set up. The product has a password protection function to ensure the data security of the product.



FEATURES

- 1 Maximum 80A direct access
- 2 The design of the meter size and installation complies with the BS7856 standard
- 3 Adopt high-precision metering unit and high-speed MCU data processing unit to realize accurate measurement of electricity and rapid data processing;
- 4 With relay, bypass and cover opening detection functions, it can effectively prevent electricity theft;
- 5 Split structure, can communicate with external meters by PLC;
- 6 Provide a convenient input keyboard and a rich liquid crystal display, which is simple and easy to use;
- 7 STS prepaid model, pay first and then use electricity, to solve the problem of charging difficulties that may exist in post-paid meters;
- 8 Recharge and manage the meter through the token code encrypted by the STS standard, with high security;
- 9 Basic query and operation of the table through the short code, which is convenient for users to use.

Electrical Characteristics

Rated voltage	Un: 230V
Operating Voltage	0.8Un~1.2Un
Rated frequency	50Hz
Current specifications	5(80)A
Starting current	0.004Ib
Pulse constant	1000 imp/kWh; 1000 imp/kVarh
Apparent power consumption of current line	<0.4VA
Active power consumption of voltage line	<1.5W
Apparent power consumption	<6VA
Display	LCD with backlight
Maximum reading of energy	999999.99 KWh/Kvarh

Measurement accuracy

Voltage, Current	±0.3%
Active power	±0.5%
Reactive power	±1.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±1.0%
Power factor	±1.0%
Frequency	±0.3%

Environmental Characteristics

Rated working temperature	-25 ~ +70°C
Maximum working temperature	-40 ~ +70°C
Storage Temperature	-40 ~ +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	IP54

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge),±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 ~ 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 ~ 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV - 1.2/50μs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	Optical: IEC62056-21 mode E RS485: HDLC GPRS: DLMS TCP/IP PLC: DLMS HDLC、DLT645/97
Baud rate	300 to 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

Interface type	Open collector optocoupler
Pulse width	80 ms±16ms
Pulse output type	Can be set as: active/reactive/second pulse

Product size chart



MET321



MET321 series three-phase intelligent prepayment meters have functions such as electric energy measurement, communication, TOU, daily freezing, load curve, event recording, prepayment, UIU keyboard query, sound and light alarm and so on. The three-phase smart prepayment meter supports direct access 100A load, which can measure the absolute value of active power, forward active power, reverse active power, forward apparent, reverse apparent, voltage, current, active power, reactive power, and visual In terms of power, power factor, voltage and current angle, grid frequency, and other parameters, it provides various measurement parameters for power monitoring. It has the characteristics of multi-function, multi-purpose, high stability and long life. This series of products has 1 Optical communication port, 1 RS485 communication port, 1 GPRS communication port or 1 G3 carrier, supports Optical, RS485, GPRS and other communication protocols, and can meet the remote over-standard requirements of the power monitoring system. The LCD screen is designed for easy viewing and setting. The product has a password protection function to ensure the data security of the product.



FEATURES

- 1 Maximum 100A direct access
- 2 The design of the meter size and installation complies with the BS7856 standard
- 3 Adopt high-precision metering unit and high-speed MCU data processing unit to realize accurate measurement of electricity and rapid data processing;
- 4 With relay, bypass and cover opening detection functions, it can effectively prevent electricity theft;
- 5 Split structure, can communicate with external meters by PLC;
- 6 Provide a convenient input keyboard and a rich liquid crystal display, which is simple and easy to use;
- 7 STS prepaid model, pay first and then use electricity, to solve the problem of charging difficulties that may exist in post-paid meters;
- 8 Recharge and manage the meter through the token code encrypted by the STS standard, with high security;
- 9 Basic query and operation of the table through the short code, which is convenient for users to use.

Electrical Characteristics

Rated voltage	3x 230/400 V
Operating Voltage	0.8Un~1.2Un
Rated frequency	50Hz
Current specifications	10(100)A
Starting current	0.004Ib
Pulse constant	1000 imp/kWh; 1000 imp/kVarh
Apparent power consumption of current line	<0.4VA
Active power consumption of voltage line	<1.5W
Apparent power consumption	<6VA
Display	LCD with backlight
Maximum reading of energy	999999.99 KWh/Kvarh

Measurement accuracy

Voltage, Current	±0.3%
Active power	±0.5%
Reactive power	±1.0%
Apparent power	±1.0%
Active energy	± 0.5%
Reactive energy	±1.0%
Power factor	±1.0%
Frequency	±0.3%

Environmental Characteristics

Rated working temperature	-10 ~ +70°C
Maximum working temperature	-10 ~ +80°C
Storage Temperature	-10 ~ +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 4700m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP Degree of Protection	IP54

Electromagnetic Characteristics

Electrostatic Discharge	±8kV(contact discharge),±15kV(air discharge)
Immunity to Radiated Fields	10V/m, 80 ~ 2000MHz
Immunity to Electrical Fast Transients	±4kV
Immunity to Surges	±4kV
Immunity to Conducted Disturbances	10V, 0.15 ~ 80MHz
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	Class B, according EN55011
Conducted Emissions	Class B, according EN55011
Harmonics Emissions	IEC 61000-3-2

Safety

Overvoltage Category	CAT III, according IEC 61010-1
Measurement Category	CAT III, according IEC 61010-1
Insulation	AC Voltage Test: 4kV for 1 minute
	Impulse Voltage Test: 6kV - 1.2/50µs waveform
Protective Class	II, according IEC61010-1

Communications

Interfaces standard and protocols	Optical: IEC62056-21 mode E
	485: HDLC GPRS: DLMS TCP/IP
Baud rate	1200 to 9600 bps, default is 9600 bps
Parity bit	None, Even, Odd, default is None
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m
Max. Bus loading	64 pcs

Pulse output

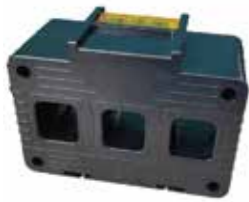
Interface type	Open collector optocoupler
Pulse width	80 ms±16ms
Pulse output type	Can be set as: active/reactive/second pulse

Product size chart



CT5(SERIES)

> TRANSFORMER



MODEL	FORMAT	INTRODUCTION
CT5-100	<700V 50-60Hz -20°C~+85°C Class0.5,1,3	Current measurement, monitoring and protection of electrical circuits and equipment
CT5-250	<700V 50-60Hz -20°C~+85°C Class0.5,1,3	
CT5-400	<700V 50-60Hz -20°C~+85°C Class0.5,1,3	

CT251(SERIES)

> TRANSFORMER



MODEL	FORMAT	INTRODUCTION
CT251103	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	Current measurement, monitoring and protection of electrical circuits and equipment
CT251203	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT251303	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT251403	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT251503	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT251603	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	

CTBHI(SERIES)

> TRANSFORMER



MODEL	FORMAT	INTRODUCTION
CTBHI-30	≤660V 50-60Hz -20°C~+55°C Class0.5,1	Current measurement, monitoring and protection of electrical circuits and equipment
CTBHI-40	≤660V 50-60Hz -20°C~+55°C Class0.5,1	
CTBHI-50	≤660V 50-60Hz -20°C~+55°C Class0.5,1	
CTBHI-60	≤660V 50-60Hz -20°C~+55°C Class0.5,1	
CTBHI-80	≤660V 50-60Hz -20°C~+55°C Class0.5,1	
CTBHI-100	≤660V 50-60Hz -20°C~+55°C Class0.5,1	

CT256(SERIES)

> TRANSFORMER



MODEL	FORMAT	INTRODUCTION
CT256192	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	Current measurement, monitoring and protection of electrical circuits and equipment
CT256292	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT256392	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT256402	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT256502	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	
CT256602	<720V 50-60Hz -20°C~+50°C Class0.5,1,3	

517/A(SERIES)

> TRANSFORMER



MODEL	FORMAT	INTRODUCTION
CT517(A)103-30	≤660V 50-60Hz -20°C~+55°C Class0.5	Current measurement, monitoring and protection of electrical circuits and equipment
CT517(A)203-46	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)303-65	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)403-80	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)503-100	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)603-120	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)703-150	≤660V 50-60Hz -20°C~+55°C Class0.5	
CT517(A)803-200	≤660V 50-60Hz -20°C~+55°C Class0.5	

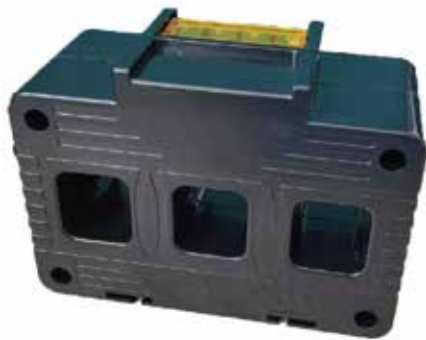
513(SERIES)

> TRANSFORMER

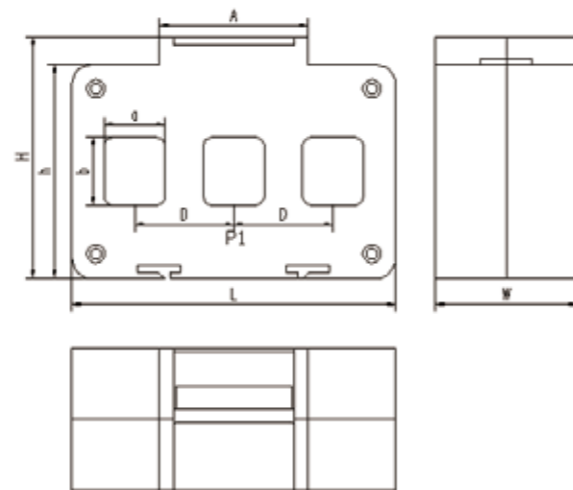


MODEL	FORMAT	INTRODUCTION
CT513603	≤660V 50-60Hz -10°C~+40°C Class0.5	Current measurement, monitoring and protection of electrical circuits and equipment
CT513703	≤660V 50-60Hz -10°C~+40°C Class0.5	
CT513803	≤660V 50-60Hz -10°C~+40°C Class0.5	
CT513903	≤660V 50-60Hz -10°C~+40°C Class0.5	
CT513003	≤660V 50-60Hz -10°C~+40°C Class0.5	

CT5



This series of three-phase current transformers is mainly used in the copper row circuits but also in the cable circuit to transform the current of the circuit under test. The perforation size, perforation spacing and circuit breaker size can be installed in the loop at the lower end of the circuit breaker. The secondary signal output of the transformer may be a level 5A,1A, mA current signal or a voltage signal. It can be flexible for transformation according to the design. The output mode is the compression line terminal. With weak current or voltage signal output, overload can reach 10 times and 20 times maximum.



Product size correspondence table

MODEL	A	D	L	h	H	W	a	b
CT5-100	45	35	98	64.5	73	43	18.5	20.5
CT5-250	45	35	111	72	80.5	43	20.5	25.5
CT5-400	45	48	150	94.5	103	43	30.5	35.5

General technical indicators

Technical index	Electrical parameters
Operating Voltage	< 700V
Test voltage	3kV/1min
Working frequency	50~60Hz
Rated instantaneous thermal current	60 times rated primary current (Ith): 1s
Overload tolerance	Continuous 1.2 times of rated current
Rated continuous thermal current	=2.55×Ith
Terminals	M4 screw terminal
Aperture Center Distance	25,35,45mm
Operating temperature	-20°C~+85°C
Accuracy class	Class0.5,1,3
A fixed way	Plug-in metal feet
Executive standard	IEC/EN60044-1

Basic characteristic parameters

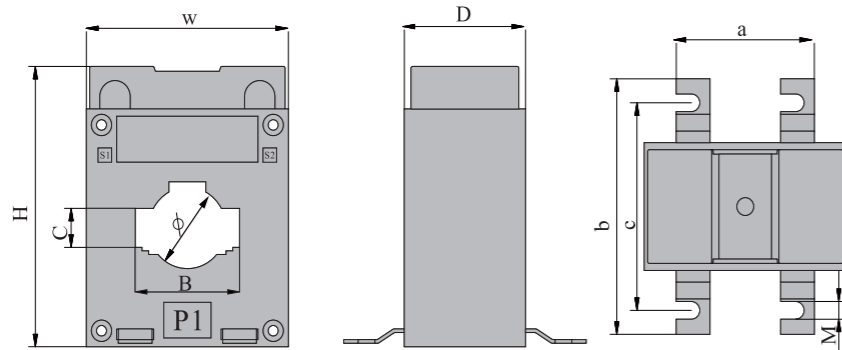
MODEL	Specified load (VA)			
	Ratio rule	Class0.5	Class1	Class3
CT5-100	60/5	-	1	2
	100/5	-	1.5	2.5
	125/5	-	1.5	2.5
	150/5	1.5	1.5	2.5
	160/5	1.5	1.5	2.5
CT5-250	100/5	-	1.5	2
	125/5	-	1.5	2.5
	150/5	-	1.5	2.5
	160/5	1.5	1.5	2.5
	200/5	1.5	1.5	2.5
CT5-400	250/5	1.5	1.5	2.5
	300/5	2.5	2.5	3.75
	400/5	2.5	2.5	3.75
	500/5	2.5	2.5	3.75
	600/5	2.5	2.5	3.75
	630/5	2.5	2.5	3.75

CTBHI



CTBHI series low voltage current transformer is mainly used in low voltage distribution cabinet to transform the current of cable or copper row. The general BHI series products are both cable and copper row, round holes can be suitable on the cable, and rectangular casement windows can also be installed on the copper row. This series of products is basically based on the cable diameter and the width of the copper row, made into a standard heart perforation diameter, in the substitutability of the product to do very well. Many manufacturers on the market produce models are similar, users choose more flexible. In product selection: one is the product can meet the national standard requirements, the relative price will be relatively high but the product quality is reliable; one is unable to meet the national standard requirements, such a product price is relatively low, but the winding load flow can not meet the product requirements, when the rated current, the secondary winding fever is more severe, even due to fever caused to the transformer damage, some also accompanied by combustion accidents, causing very bad impact. When choosing a product, you still need to choose a product that meets the standard. With the progress of magnetic materials, the accuracy of this series has also improved, reaching 0.2 or 0.2S with higher magnetic conductive materials.

Product size correspondence table



MODEL	DIMENSIONS						INSTALLATION SIZE			
	W	H	D	Ø	B	C	a	b	c	M
CTBHI-30	60	79	36	23	31	11	41	72	58.5	5
CTBHI-40	75	98	44	31.5	42.5	12	54	72	58.5	5
CTBHI-50	84	98	44	37	37	17	53	72	58.5	5
CTBHI-60	101	126	45	45	62	21	60	72	58.5	5
CTBHI-80	117	148	45	52	81	11	70	72	58.5	5
CTBHI-100	143	153	44	62	100	32	87	72	58.5	5

Technical parameter comparison table

MODEL	CTBH30I		CTBH40I		CTBH50I		CTBH60I		CTBH80I		CTBH100I		
Cable diameter busbar specification and number	23mm 30*10mm-1		31.5mm 40*10mm-1		37mm 50*10mm-1		45mm 60*10mm-1 60*6mm-2		52mm 80*10mm-1 60*6mm-2		62mm 100*10mm-2		
Accuracy	0.5	1.0	0.5	1.0	0.5	1.0	0.2	0.5	0.2	0.5	0.2	0.5	
15/5													
20/5													
25/5													
30/5				2.5				2.5					
40/5				2.5				2.5					
50/5				2.5				2.5					
75/5				2.5				2.5					
100/5		2.5		2.5				2.5					
150/5	2.5	2.5	2.5	5	2.5	5	2.5	2.5					
200/5	5	5	5	5	5	5	5	5	2.5				
250/5	5	5	5	5	5	5	5	5	5	2.5		2.5	
300/5	5	5	5	5	5	5	5	5	5	5	2.5	5	
400/5	5	5	5	5	5	5	5	5	5	5	2.5	5	
500/5			10	10	10	10	10	10	10	10	5	10	
600/5			10	10	10	10	10	10	10	10	5	10	
750/5					10	10	10	10	10	10	5	10	
800/5					10	10	10	10	10	10	5	10	
1000/5							15	40	15	40	10	20	
1250/5							20	40	20	40	20	40	
1500/5							20	40	20	40	20	40	
2000/5									40		40		
2500/5									40		40		
3000/5											40		
3200/5											40		
15/1													
20/1													
25/1													
30/1			0.1	0.1	0.2	0.1		0.1	0.2	0.1	0.2	0.2	
40/1			0.1	0.1	0.2	0.1		0.1	0.2	0.1	0.2	0.2	
50/1			0.2	0.4	0.2	0.4	0.2	0.2	0.4	0.2	0.4	0.4	
75/1			0.2	0.4	0.2	0.4	0.2	0.2	0.4	0.2	0.4	0.4	
100/1			0.2	0.4	0.2	0.4	0.2	0.2	0.4	0.2	0.4	0.4	
150/1	2.5	5	2.5	5	2.5	5	2.5	5	2.5	5	2.5	5	
200/1	5	10	5	10	5	10	5	10	5	10	5	10	
250/1	5	10	5	10	5	10	5	10	5	10	5	10	
300/1	5	10	5	10	5	10	5	10	5	10	5	10	
400/1				10	20	10	20	5	10	5	10	10	
500/1				10	20	10	20	10	20	10	20	20	
600/1				10	20	10	20	10	20	10	20	20	
750/1					10	20	10	20	10	20	10	20	
800/1					10	20	10	20	10	20	10	20	
1000/1								10	20	10	20	20	
1250/1								10	20	10	20	10	20
1500/1								20	40	20	40	20	40
2000/1										20	40	20	40
2500/1										20	40	20	40
3000/1												20	40
3200/1												20	40

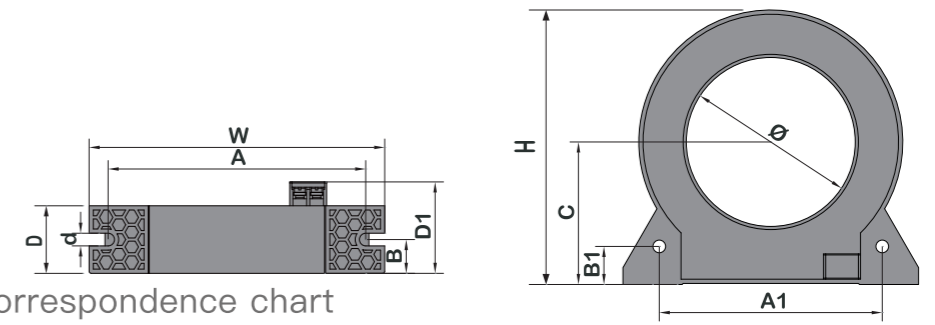
517/517A



The 517 / 517A circular heart piercing current transformer is mainly used in cable circuit environment, with simple structure and flexible application. According to the cable specifications of 8 core perforation diameter corresponding for the main circuit, with a diameter of 30mm–200mm, for 100A--1500A main circuit. The detection leakage current value can reach less than 5mA, the accuracy reaches and is better than the GB14287.2 national standard requirements. Balance characteristics can be designed according to the usage requirements. The shell of this series is made of environmental protection flame retardant ABS plastic or flame retardant PC/ABS alloy material, using high conductive magnetic nanocrystal soft magnetic material, combined with reasonable structural design and rigorous production process, with high precision, good balance characteristics, small volume, high insulation strength, strong impact resistance, convenient installation, can be reliable and stable work in harsh environment. The product is produced by epoxy resin full pouring process, and completely seals the secondary winding and shielding structure, with excellent waterproof and moisture-proof resistance. Using the direct wire output or waterproof plug connection method, it can work reliably in a wet environment. Special materials can also be used to work outdoors. The products of 517 and 517A are basically the same in shape, and the electrical parameters can be fully consistent. The 517A series improves the output mode based on the 517, adopts the top terminal output mode, during installation, more convenient wiring, its beautiful appearance and generous. According to the needs, different products can be selected respectively to achieve the purpose of convenient application. Product color can be produced according to customer specified, which can meet different color needs.

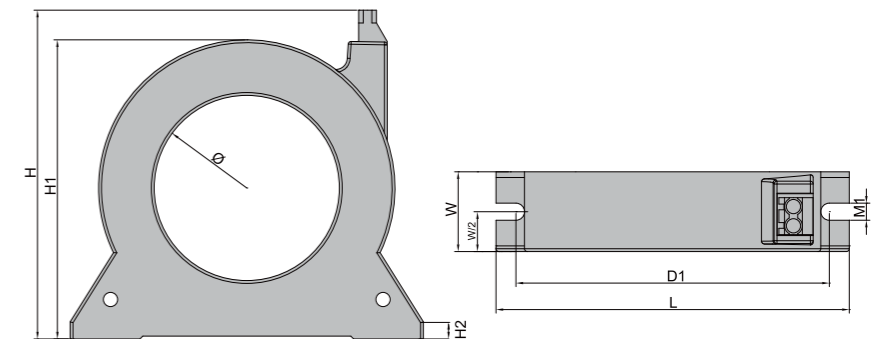
General technical indicators

Technical index	Electrical parameters				
Rated primary current	1000mA	5A	5A	10A	10A
Rated secondary current	0.5mA	2.5mA	5mA	5mA	10mA
Rated continuous thermal current	2000mA	10A	10A	50A	50A
Working frequency	50~60Hz				
Rated accuracy class	Equal to or better than 0.5 grade				
Operating Voltage	≤660V				
Product flame retardant grade	UL94-V0				
Insulation resistance	≥1M ohms@500Vdc				
Power frequency withstand voltage	3KV@2mA\1min\50Hz				
Insulation heat resistance class	Class E				



517 series size correspondence chart

MODEL	Main loop current (A)	Aperture (mm)	Dimensions(mm)			Size(mm)						
			H	D	W	A	A1	B	B1	C	D1	d
CT517103-30	≤100A	30	67	25	76	69	58	12.5	11.5	35	36	5
CT517203-46	≤315A	46	86	28	98	87	72	14	13	45	39	5
CT517303-65	≤315A	65	105	28	124	110	97.5	14	14	53	39	6
CT517403-80	≤630A	80	130	32	140	122	106	16	18	67.5	43	6
CT517503-100	≤630A	100	148	32	167	153	129	16	21	74.5	43	6
CT517603-120	≤1000A	120	172	32	188	170	142	16	20	88	43	6
CT517703-150	≤1000A	150	206	32	225	205	178	16	34	103.5	43	6
CT517803-200	≤2000A	200	274	40	296	278	226	20	44	138	51	6



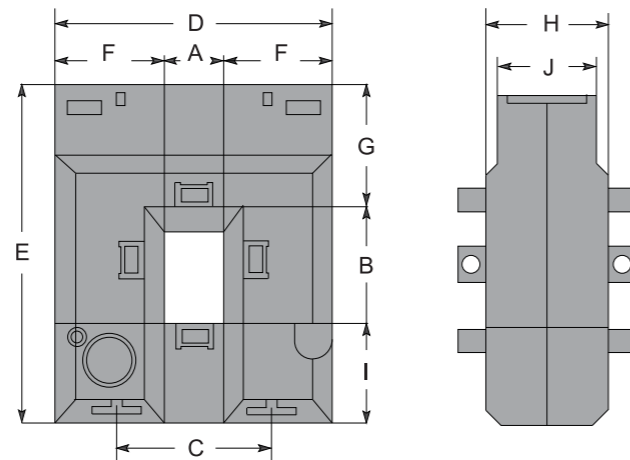
517A series size correspondence chart

MODEL	Main loop current (A)	Aperture (mm)	Dimensions(mm)			Size(mm)						
			H	D	W	A	A1	B	B1	C	D1	d
CT517A103-30	≤100A	30	67	25	76	69	58	12.5	11.5	35	36	5
CT517A203-46	≤315A	46	86	28	98	87	72	14	13	45	39	5
CT517A303-65	≤315A	65	105	28	124	110	97.5	14	14	53	39	6
CT517A403-80	≤630A	80	130	32	140	122	106	16	18	67.5	43	6
CT517A503-100	≤630A	100	148	32	167	153	129	16	21	74.5	43	6
CT517A603-120	≤1000A	120	172	32	188	170	142	16	20	88	43	6
CT517A703-150	≤1000A	150	206	32	225	205	178	16	34	103.5	43	6
CT517A803-200	≤2000A	200	274	40	296	278	226	20	44	138	51	6

CT251



CT series open current transformer, mainly used on the parent row, to transform the circuit current and isolate the strong current. The product structure design is reasonable, the magnetic road is rectangular design, the secondary winding is neat, and open at one end way, installation, the transformer winding part is covered on the main row, and then the auxiliary part is installed in place, so that the product can be installed in a relatively narrow environment. The product adopts high-magnetic silicon steel core, and after precision processing, the winding adopts high quality coating wire, the product performance is perfectly reflected. This range has 5 sizes to measure cables in the 100A-2000A current range. According to the demand accuracy can be 0.5,1.0, and a secondary output signal of 5A/1A. When installing the product, the secondary circuit needs to be well connected before the installation work. During the installation process and after the installation, the transformer secondary output does not allow to open the circuit. The open circuit protection can be added within the product as required. Product housing color can be produced according to customer specified and can meet different color needs.



Product size correspondence table

MODEL	A	B	C	D	E	F	G	H	I	J
CT251103	20	30	50	89	110	34	48	40	32	32
CT251203	50	80	79	115	146	32	33	33	32	33
CT251303	80	80	108	145	145	32	33	33	32	33
CT251403	80	120	108	144	185	32	32	32	33	32
CT251503	42	132	70	146	215	48	42	55	37	35
CT251603	80	160	120	184	244	52	47	54	38	33

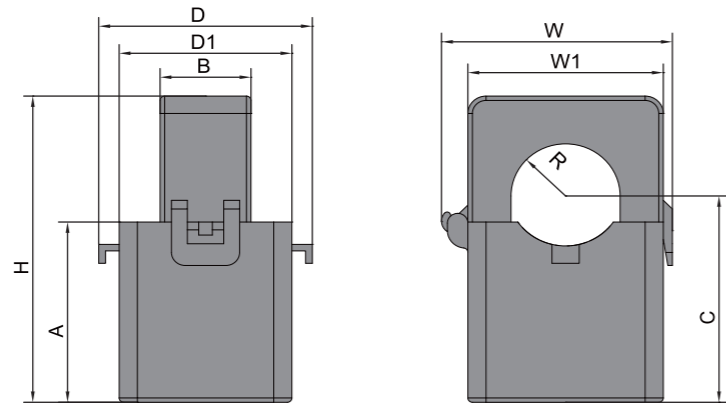
Product parameter selection table

MODEL	Typical transformation ratio	Accuracy class and load			Window size
		0.5 level	1.0 level	3 level	
CT251143	100A/5A	0	1.5VA	3.5VA	20*30
	200A/5A	0	1.75VA	3.75VA	
	400A/5A	2.5VA	3.75VA	5VA	
	200A/1A	0	1.5VA	2.5VA	
CT251243	400A/1A	1.75VA	2.5VA	3.75VA	50*80
	400A/5A	2.5VA	3.75VA	3.75VA	
	600A/5A	3.75VA	5VA	7.5VA	
	1000A/5A	10VA	15VA	20VA	
CT251343	1600A/5A	10VA	15VA	20VA	80*80
	600A/1A	2.5VA	3.75VA	5VA	
	1000A/1A	3.75VA	5VA	7.5VA	
	1600A/1A	5VA	7.5VA	10VA	
CT251443	400A/5A	2.5VA	3.75VA	5VA	80*120
	800A/5A	3.75VA	7.5VA	10VA	
	1000A/5A	10VA	10VA	15VA	
	1600A/5A	10VA	15VA	20VA	
CT251543	800A/1A	2.5VA	3.75VA	5VA	42*132
	1200A/1A	3.75VA	5VA	7.5VA	
	1600A/1A	5VA	7.5VA	10VA	
	800A/5A	7.5VA	7.5VA	10VA	
CT251643	1600A/5A	10VA	10VA	15VA	80*160
	2000A/5A	15VA	20VA	30VA	
	2500A/5A	25VA	30VA	40VA	
	3200A/5A	25VA	30VA	40VA	
CT251643	4000A/5A	30VA	35VA	40VA	80*160
	2000A/1A	5VA	7.5VA	10VA	
	3200A/1A	7.5VA	10VA	15VA	
	4000A/1A	10VA	15VA	20VA	
CT251643	2000A/5A	10VA	15VA	20VA	80*160
	2500A/5A	15VA	20VA	30VA	
	3000A/5A	25VA	30VA	40VA	
	5000A/5A	30VA	30VA	40VA	
CT251643	6000A/5A	35VA	35VA	40VA	80*160
	2000A/1A	7.5VA	10VA	15VA	
	5000A/1A	10VA	15VA	20VA	
	6000A/1A	10VA	15VA	20VA	

CT256



CT256 series open current transformer, is a series of miniature open type products designed according to the improvement of the current instrument and equipment software processing capacity. At present, due to the increase of current monitoring equipment, a convenient to install and small open current transformer is needed. CT256 series products are born and become more and more widely used. Many instruments also adopt such products. Combined with the correction of transformer output curve of instrument software, more accurate results are obtained, which is a low-cost solution. The general use of small current signal output or voltage signal output, to improve the product accuracy as far as possible, and reduce the hardware cost. Standard products with 5A or 1A current output with poor load capacity, conductors with cross section area of not less than 2.5mm² is recommended. When output the current signal, the secondary circuit of the transformer should be connected before installation to avoid electric shock due to high pressure of open secondary circuit during installation. After installation, the transformer shall be well fixed to the tested wire with nylon tape. This series of product design has 6 specifications, can use silicon steel core, nanocrystalline alloy core and ferrcore, etc., to reduce the cost as far as possible under the premise of ensuring the application.



Product size correspondence table

MODEL	Current (A)	Aperture (mm)	Dimensions (mm)								
			H	W	D	A	B	C	D1	R	W1
CT256192	5A-32A	5	31.5	/	/	/	/	/	21	2.5	19.5
CT256292	5A-75A	10	40.5	29.3	26	23	14	26.8	/	5	23
CT256392	50A-150A	16	53	36.6	39	32	18	37	31	8	30
CT256402	100A-250A	24	70.5	50.8	47	41.5	20	47.5	38	12	43
CT256502	200A-500A	35	83.5	66	51	48	23	53.5	41	17.5	56.5
CT256602	200A-500A	45	97.2	/	/	55	21.5	77.5	47	22.8	67

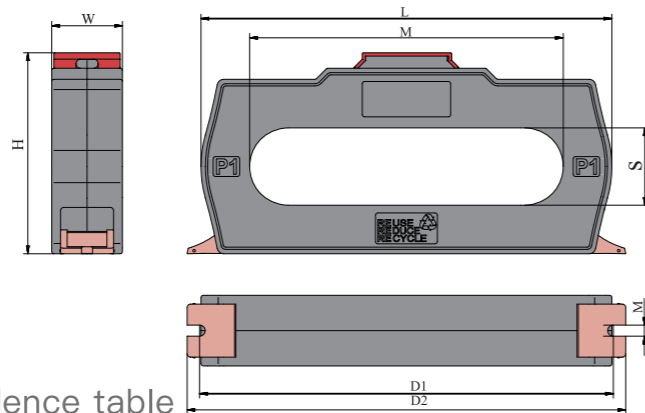
Product parameter selection table

MODEL	Weak signal output parameters				Standard current output load parameters			
	Typical transformation	Specified load	Accuracy class	Overload current	Typical transformation	0.5 level	1.0 level	3 level
CT256192	5A/2.5mA	50Ω	0.5/1.0	1.2times				
	5A/5mA	50Ω	0.5/1.0	1.2times				
	10A/5mA	100Ω	0.5/1.0	1.2times				
	5A/0.333V	/	0.5/1.0	2times				
	10A/0.333V	/	0.5/1.0	2times				
CT256292	15A/0.333V	/	0.5/1.0	2times				
	5A/2.5mA	100Ω	0.5/1.0	1.2times				
	10A/5mA	100Ω	0.5/1.0	1.2times				
	20A/10mA	100Ω	0.2/0.5	2times				
	30A/0.333A	/	0.2/0.5	2times				
CT256392	50A/0.333A	/	0.2/0.5	2times				
	75A/0.333A	/	0.2/0.5	1.2times				
	50A/25mA	50Ω	0.2/0.5	1.2times				
	75A/25mA	50Ω	0.2/0.5	1.2times				
	100A/50mA	100Ω	0.2/0.5	1.2times				
CT256402	150A/50mA	100Ω	0.2/0.5	2times				
	100A/0.333V	/	0.2/0.5	2times				
	150A/0.333V	/	0.2/0.5	2times				
	50A/25mA	50Ω	0.2/0.5	2times	100A/5A		0.25VA	0.5VA
	100A/50mA	50Ω	0.2/0.5	2times	200A/5A	0.5VA	0.5VA	1VA
CT256502	150A/50mA	100Ω	0.2/0.5	2times	320A/5A	1VA	1VA	1VA
	200A/0.333V	/	0.2/0.5	2times	400A/5A	1VA	1VA	1VA
	250A/0.333V	/	0.2/0.5	2times	250A/1A	0.5VA	1VA	1VA
	250A/100mA	100Ω	0.2/0.5	2times	400A/1A	2VA	2VA	2VA
	5A/2.5mA	50Ω	0.2/0.5	2times	200A/5A	1.5VA	1.5VA	2VA
CT256602	5A/5mA	50Ω	0.2/0.5	2times	300A/5A	1.5VA	1.5VA	2VA
	10A/5mA	100Ω	0.2/0.5	2times	400A/5A	2.5VA	2.5VA	3VA
	5A/0.333V	/	0.2/0.5	2times	500A/5A	3VA	3VA	5VA
	10A/0.333V	/	0.2/0.5	2times	600A/5A	3.75VA	3.75VA	5VA
	15A/0.333V	/	0.2/0.5	2times	600A/1A	2VA	2VA	3VA
CT256602	200A/100mA	50Ω	0.2/0.5	2times	300A/5A	1.5VA	2VA	3VA
	300A/100mA	50Ω	0.2/0.5	2times	400A/5A	2VA	3VA	3.75VA
	400A/200mA	100Ω	0.2/0.5	2times	500A/5A	2VA	2.5VA	3.75VA
	500A/200mA	100Ω	0.2/0.5	2times	600A/5A	3VA	3.75VA	5VA
	600A/200mA	100Ω	0.2/0.5	2times	750A/5A	3.75VA	5VA	7.5VA
600A/0.333V	/	0.2/0.5	2times	800A/5A	3.75VA	5VA	7.5VA	

513



The residual current transformer of rectangular series is mainly used in low voltage distribution cabinet such as 380V,660V or drawer cabinet with large density, for continuous detection and monitoring of the residual current at the installation node of the corresponding circuit. The shell of this series adopts environmentally friendly flame retardant ABS plastic, high conductive magnetic nano crystalline soft magnetic materials, high precision, good balance characteristics, small volume, high insulation strength, strong impact resistance, convenient installation, and can have reliable and stable work in the indoor environment. The 513 rectangular series contains 5 specifications for circuits with total width within 300mm and basically meet all detection of remaining current in distribution circuits below 1000A. This series adopts the optimized magnetic circuit design, sets the coil winding process according to the magnetic circuit characteristics, and combines the compact shielding structure, so the product meets the requirements of precision, sensitivity and balance characteristics. And the product fixed foot adopts rotating structure design, in the packaging and transportation process can not only reduce the cost possible, but also plays a good role in protecting the fixed structure.



Product size correspondence table

MODEL	Main loop current (A)	Aperture (mm)	Dimensions (mm)			Fixed size (mm)	
			L	W	H	D1-D2	M
CT513603	≤100A	112-25	152	32	77	153.5-163.5	6
CT513703	≤250A	142-35	186	32	91	181-98.5	6
CT513803	≤400A	192-40	240	32	100	245.5-257	6
CT513903	≤630A	232-45	282	32	107	284.5-298	6
CT513003	≤1000A	300-60	368	45	140	388-368	6

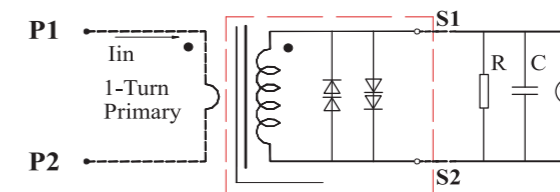
General technical indicators

Technical index	Electrical parameters				
Rated primary current	1000mA	5A	5A	10A	10A
Rated secondary current	0.5mA	2.5mA	5mA	5mA	10mA
Rated continuous thermal current	2000mA	10A	10A	50A	50A
Working frequency	50-60Hz				
Rated accuracy class	Equal to or better than 0.5 grade				
Operating Voltage	≤660V				
Product flame retardant grade	UL94-V0				
Insulation resistance	≥1M ohms@500Vdc				
Power frequency withstand voltage	3KV@2mA\1min\50Hz				
Insulation heat resistance class	Class E				

Balance characteristic parameter

MODEL	Rated working current of main circuit	Test current	Conductor diameter	Conductor insulation thickness	Residual current characteristics
CT513603	0≤In≤100A	100A	6mm	0.5mm	≤5mA@100A
CT513703	0≤In≤250A	250A	10mm	1.5mm	≤10mA@315A
CT513803	0≤In≤400A	400A	14mm	2.0mm	≤20mA@630A
CT513903	0≤In≤630A	630A	14mm	2.0mm	≤20mA@630A
CT513003	0≤In≤1000A	1000A	20mm	2.0mm	≤30mA@1000A

When the residual current transformer passes the corresponding sinusoidal AC current, its output sampling value voltage should meet the requirements in the table below.

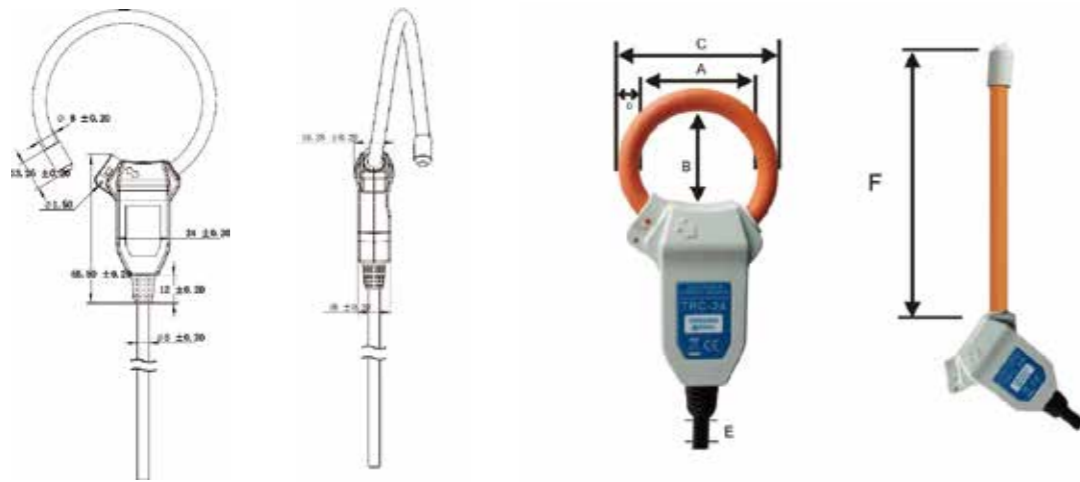


R=1000Ω C=0.022uF Current source frequency: 50-60Hz; accuracy is better than 0.1%; voltmeter AC mV range sampling accuracy is better than 0.1%.

Rogowski coil



Rogowski coils (Rogowski coil), also called a current measurement coil, a differential current transformer, is a circular coil uniformly wrapped around a non-ferromagnetic material. The output signal is a differential fraction of the current to the time. The output current can be truly restored by a circuit integrating the output voltage signal. Compared to the conventional transformer with iron core, Rogowski coil has the characteristics of real-time current measurement, fast response speed, no saturation, and little phase error. Usually, Rogowski coil output signal is very weak and easy to interference. After more than ten years of unremitting technological innovation, major achievements have been made, allowing the Rogowski coil to be used in a large scale.



Tolerance size:

A,B,C,F:±5mm,D±0.2mm,E:±10mm

Size(mm)	TRC-24-2M	TRC-36-2M	TRC-50-2M
A.Window size	27.5	36	50
B.Window size	24	36	50
C.Coil outer diameter	39.5	48	62
D.Coil section	6		
E.Signal line length	Default 2M		
F:Coil length	97	130	180

Specification table (length can be customized)

MODEL	TRC-24	TRC-36	TRC-50	TRC-36D
Perimeter	97mm	130mm	180mm	300mm
Inside diameter	24mm	36mm	50mm	36mm
Reference current	≤ 500kA			
Weight	80-100g			
Coil resistance	50-300 Ω			
Maximum current	500kA			
Section	6mm			
Signal line length	Default 2M			
Transformation ratio	Calibration	50±0.2% $mV/kA@50Hz$		
	Not calibrated	60±5% $mV/kA@50Hz$		
Internal resistance temperature drift coefficient	Not calibrated		200ppm/C	
	Calibration		50ppm/C	
Position error	±1%			
OA Output (zero drift)	≤1mV			
Angle difference	≤0.5°			
Linearity	±0.2%			
Bandwidth	1Hz-20kHz(-3dB)			
Operating temperature	-40°C-80°C			
Storage temperature	-50°C-90°C			

For other requirements, please contact us to customize