

# People Electric

## Instrument and Meter

### Selection Guide





Providing Safer electrical products globally





# COMPANY PROFILE

People Ele. Appliance Group was wholly owned company of People Holding Group, one of Chinese Top 500 Enterprise, and founded in the year 1996.

Industrial electrical products as the core business of People Ele. Appliance Group, People Electric owns Zhejiang, Shanghai, Nanchang and Fuzhou four manufacturing bases, 12 wholly owned subsidiaries, 85 holding member enterprises, over 800 cooperated processing enterprises and over 3000 sales companies

The products are popularly sold to over 70 countries and regions, which are widely used in Pudong Airport, Beijing-Shanghai high-speed railway, Three Gorges Hydropower, Beijing Subway, Olympic venues, South North Water Transfer, Qinghai-Tibet Railway, Chang'e Lunar Exploration Project and Vietnam Taian hydropower project etc. major projects at home and abroad, which ranked among the World's Top 500 Machinery Enterprises.

Assess by the World's Brand Laboratory, the brand value reaches to RMB 36.708 billion Yuan.

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## Perfect industry chain and personalize solutions, Satisfying the different requirements of global customers



### Power and energy

- Power
- Petroleum and petrochemical
- Transportation



### Industry and machinery

- Mining / building materials
- Water / water treatment
- Car



### Data center

- IT
- High technology
- Internet



### Commercial network

- Bank insurance
- Public construction
- Community facility



### Building

- Official building
- Industrial building
- Basic facility



### Residence

- Residential construction
- Public construction
- Community facility

### More safety

Ensure the safety of life and property

### More reliable

Supply the power uninterruptedly

### More efficient

Reducing the consumption of energy and the cost, shorten the time of supply

### More economic

Optimize the process of the machinery and factory, improving the comfortability of use.

### More eco-friendly

Supply the energy through the renewable energy, reducing the carbon emissions

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# PANEL METER

## Installation Type Panel Meter



### Main technical parameter

Accuracy: class 1.5, class 2.5

Service condition:  $-20^{\circ}\text{C}\sim+50^{\circ}\text{C}$

Relative humidity:  $\leq 85\%$

Withstand voltage influence:  $\pm 15\%$ , cause indicating error which is not exceeding basic error.

Mechanical performance: can withstand acceleration of 30M/S, impulse frequency of 80~120 times/min, shock in transit for 2 hours.

Working location: vertical direction.

### Measuring range

		Measuring range	Notes
AC Ammeter	A	50mA~50A	Connect directly
	kA	1kA~10kA	By 5A secondary current CT
AC Voltmeter	V	5V~750V	Connect directly
	kV	1kV~450kV	By 100V secondary voltage VT
DC Ammeter	$\mu\text{A}$	50 $\mu\text{A}$ ~500 $\mu\text{A}$	Connect directly
	mA	1mA~500mA	
	A	1A~10A	External shunt
	kA	1kA~10kA	
DC Voltmeter	V	1V~750V	Connect directly
	kV	1kV~450kV	External device
Frequency Meter	Hz	45Hz~55Hz 45Hz~65Hz 55Hz~65Hz 100V 220V 380V	By 100V secondary voltage VT
Power meter	kW	100V 380V 5A 380V~380kV/100V 5A~10KA/5	By 5A secondary current CT By 100V secondary voltage VT
Power factor meter	COS $\phi$	COS $\phi=0.5-1-0.5$ 100V, 220V, 380V 5A	By 5A secondary current CT By 100V secondary voltage VT

## Installation Type Panel Meter



42 Series

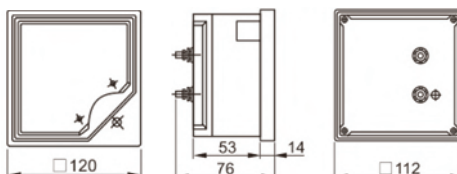
### 42 Series installation type panel meter

Installation dimension: 112×112mm

Accuracy: class 1.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 42L6-A, 42C3-A, 42L6-V, 42C3-V, 42L6-W, 42L6-Var, 42L6-Hz, 42L6-COSφ.



### 6L2 Series installation type panel meter



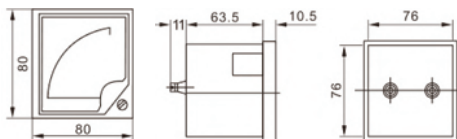
6L2 Series

Installation dimension: 77×77mm

Accuracy: class 1.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 6L2-A, 6C2-A, 6L2-V, 6C2-V, 6L2-W, 6L2-Var, 6L2-Hz, 6L2-COSφ.



### 72 Series installation type panel meter



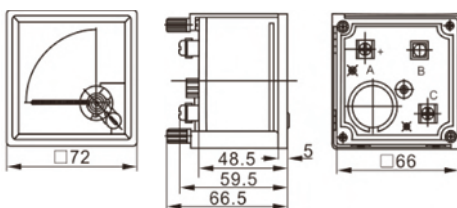
72 Series

Installation dimension: 67×67mm

Accuracy: class 1.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 72T1-A (AC Ammeter), 72C1-A (DC Ammeter), 72T1-V (AC Voltmeter), 72C1-V (DC Voltmeter), 72L1-W, 72L1-Var, 72L1-Hz, 72L1-COSφ.





# PANEL METER

## Installation Type Panel Meter



96 Series

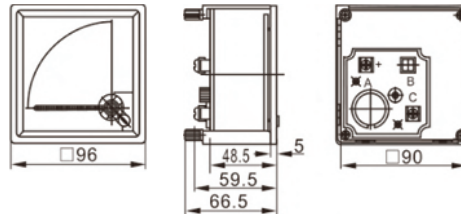
### 96 Series installation type panel meter

Installation dimension: 91×91mm

Accuracy: class 1.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 96T1-A (AC Ammeter), 96C1-A (DC Ammeter), 96T1-V (AC Voltmeter), 96C1-V (DC Voltmeter), 96L1-W, 96L1-Var, 96L1-Hz, 96L1-COSφ.



### 99 Series installation type panel meter

Installation dimension: 45×45mm

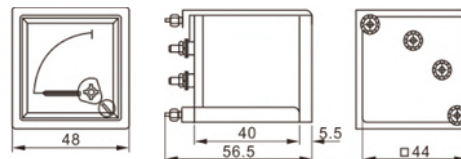
Accuracy: class 2.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 99T1-A (AC Ammeter), 99C1-A (DC Ammeter), 99T1-V (AC Voltmeter), 99C1-V (DC Voltmeter), 99L1-W, 99L1-Var, 99L1-Hz, 99L1-COSφ.



99 Series



### 85 Series installation type panel meter

Installation dimension: 56×64mm

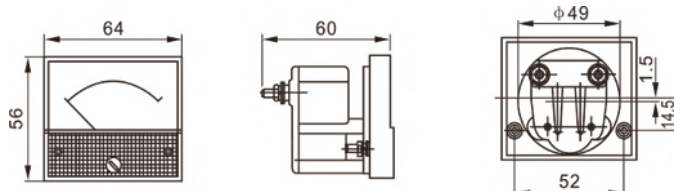
Accuracy: class 2.5

Functions: Ammeter, Voltmeter, Power meter, Frequency meter, Power factor meter.

Series: 85L1-A, 85C1-A, 85L17-A, 85C17-A, 85L1-V, 85C1-V, 85L17-V, 85C17-V, 85L1-W, 85L17-W, 85L1-Var, 85L17-Var, 85L1-Hz, 85L17-Hz, 85L1-COSφ, 85L17-COSφ.



85 Series



## Installation type marine instrument meter



### Main technical parameter

1. Rotational part uses magnetoelectric wire support, rotation without friction, reliable operation.
2. High mechanical shock resistance, the vibration works satisfactorily under the condition of 0.7 g acceleration.
3. High accuracy: class 0.5 for frequency meter, class 3.0 for power factor meter, others are class 1.5.
4. Pointer expansion angle is 240°
5. Operation environmental temperature: -25°C~+55°C
6. Protection grade of case: IP22
7. Voltage withstand: circuit and case AC2000V/1min.

### New 45 type wide angle series instrument meter (110×110)

No.	Product name	Model No.	Measuring range	Connecting mode	Note
1	DC Ammeter	45C $\frac{8}{9}$ ·2101-A	0.5mA-1A-7.5kA	Directly connect, external with shunt above 10A	It can be extended to other non-electricity indication meter such as rotation rate, rudder angle, temperature, and pressure, etc.
2	DC Voltmeter	45C $\frac{8}{9}$ ·2101-V	100mV-500V-3kV	Directly connect, external with resistor above 750V	
3	AC Ammeter	45L $\frac{8}{9}$ ·2102-A	1-10A-10kA	Directly connect, through CT above 10A	Secondary current 5A, overload 2, 3, 6 times
4	AC Voltmeter	45L $\frac{8}{9}$ ·2102-V	50-450V-42kV	Directly connect, through PT above 450V	Secondary voltage 100V
5	High resistance meter	45L $\frac{8}{9}$ ·2103-MΩ	0-5MΩ	127V, 200V, 1mA, through PT380V/100V	Integrated head, JDB,ZCB equipped with insulation monitor
6	Three phase power meter	45L $\frac{8}{9}$ ·2105-W	3kW-6MW	Through PT/100V, CT/5A	Integrated head, negative power as scale of 10-20%
7	Reactive power meter	45L $\frac{8}{9}$ ·2106-Var	2.5Kvar-5Mvar	Through PT/100V, CT/5A	Integration of head and convertor
8	Power factor meter	45L $\frac{8}{9}$ ·2107-COSφ	Capacitive 0.5-1-0.5 inductive	Through PT380V/100V CT/5A	Integration of head and convertor
9	Frequency meter	45L $\frac{8}{9}$ ·2108-Hz	45-55-65Hz 350-480Hz	100V, 220V, through PT380V/100V	Integration of head and convertor
10	Three phase synchronizer meter	45T $\frac{8}{9}$ ·2109-S	Synchronization point	100V, 220V, through PT380V/100V	Motor-driven pointer type, electronic luminous type 360°

### New 63 type wide angle series instrument meter (80×80)

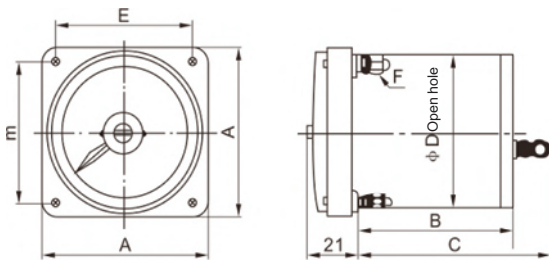
No.	Product name	Model No.	Measuring range	Connecting mode	Note
1	DC Ammeter	63C $\frac{18}{19}$ ·2181-A	0.5mA-1A-7.5kA	Directly connect, external with shunt above 10A	It can be extended to other non-electricity indication meter such as rotation rate, rudder angle, temperature, and pressure, etc.
2	DC Voltmeter	63C $\frac{18}{19}$ ·2181-V	100mV-500V-3kV	Directly connect, external with resistor above 500V	
3	AC Ammeter	63L $\frac{18}{19}$ ·2182-A	1-10A-10kA	Directly connect, through CT above 10A	Secondary current 5A, overload 2, 3, 6 times

# PANEL METER

No.	Product name	Model No.	Measuring range	Connecting mode	Note
4	AC Voltmeter	63C <sup>18</sup> / <sub>19</sub> ·2182-V	50-450V-42kV	Directly connect, through PT above 450V	Secondary voltage 100V
5	Three phase power meter	63C <sup>18</sup> / <sub>19</sub> ·2185-W	3kW-6MW	Through PT/100V, CT/5A	External with convertor, negative power as scale of 10-20%
6	Reactive power meter	63L <sup>18</sup> / <sub>19</sub> ·2186-Var	2.5Kvar-5Mvar	Through PT/100V, CT/5A	External with convertor
7	Power factor meter	63L <sup>18</sup> / <sub>19</sub> ·2187-COSφ	Capacitive 0.5-1-0.5 inductive	Through PT380V/100V CT/5A	Integration of head and convertor
8	Frequency meter	63L <sup>18</sup> / <sub>19</sub> ·2188-Hz	45-55-65Hz	220V, 380V, through PT380V/100V	Integration of head and convertor
9	DC Ammeter	63C1 <sup>18</sup> / <sub>19</sub> ·63C2-A	0.5mA-10A-750A	Directly connect, equipped with shunt	
10	DC Voltmeter	63C1·63C2-V	2-750V	Directly connect	
11	AC Ammeter	63L1·63L2-A	1-20A, 10A-7.5kA	Directly connect, equipped with VT	CT /5A
12	AC Voltmeter	63L1·63L2-V	50V-450V-7.2kV	Directly connect, equipped with CT	Secondary voltage /100V

## Dimensions (mm)

Model	A	B	C	D open hole	E	F
New 45 type	110	80	90	101	95	M5 open hole Φ6
New 63 type	80	90	105	71	64	M4 open hole Φ6



Installation dimension for New 45 type, new 63 type

Illustration: W, S tube length of New 45 type (45C, 45L, 2101-2109 Series) lengthening 40mm, others are the same.



## RM858 series

### Digital meter



### Application

RM858E series multi-function digital meter is high accuracy, high reliability, and high cost-effective intelligent distribution instrument, specially designed for power monitoring, intelligent controlling and measurement, applicable of power system, industrial and mining enterprises, public facilities, intelligent buildings and so on.

### Feature

- 2.1 Measure three-phase voltage, three-phase current, active power, reactive power, power factor, frequency, etc;
- 2.2 Measure active electric energy and reactive electric energy;
- 2.3 Pulse output of active electric energy and reactive electric energy;
- 2.4 Adopt latest microprocessor and digital signal processing technology;
- 2.5 Adopt calculation method of collecting each measurement channel separately;
- 2.6 Standard RS-485 communication interface, support Modbus-RTU protocol;
- 2.7 Big screen, blue backlight, text field LCD display;
- 2.8 Friendly man-machine operation interface;
- 2.9 Input parameter is programmable, easy to install and wire, easy maintenance.

### Model selection

Specification		Model	RM-858E-AS3	RM-858E-3S3	RM-858E-9S3	RM-858E-2S3	RM-858E-ASY3	RM-858E-3SY3	RM-858E-9SY3	RM-858E-2SY3
Real-time measurement	Three-phase voltage	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Three-phase current	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Active/reactive power	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Power factor	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Frequency	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electric energy measurement	Active electric energy	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Reactive electric energy	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Two-way measurement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electric energy pulse output			1	2	2	2	1	2	2	2
Switching value input			Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Switching value output			Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Transmitting output			Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Communication interface			1	1	1	1	1	1	1	1
Display mode			LED	LED	LED	LED	LCD	LCD	LCD	LCD
Frame size (mm)			72×72	80×80	96×96	120×120	72×72	80×80	96×96	120×120
Hole size (mm)			67×67	76×76	91×91	111×111	67×67	76×76	91×91	111×111

# PANEL METER

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## RM858 series

### Digital meter

#### Single phase AC digital ammeter

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Model: RM858AI-□K1  
Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45, 91×45.  
Display data: single phase AC current  
Display mode: LED display  
Communication mode: RS-485 (optional)  
Network: single phase

#### Single phase DC digital ammeter

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Model: RM858DI-□K1  
Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45, 91×45.  
Display data: single phase DC current  
Display mode: LED display  
Communication mode: RS-485 (optional)  
Network: single phase

#### Single phase AC digital voltmeter

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Model: RM858AV-□K1  
Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45, 91×45.  
Display data: single phase AC voltage  
Display mode: LED display  
Communication mode: RS-485 (optional)  
Network: single phase

#### Single phase DC digital voltmeter

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Model: RM858DV-□K1  
Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45, 91×45.  
Display data: single phase DC voltage  
Display mode: LED display  
Communication mode: RS-485 (optional)  
Network: single phase

## RM858 series

### Digital meter

#### Three-phase digital ammeter

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Model: RM858I-□K3  
 Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45  
 Display data: three-phase AC current  
 Display mode: LED display  
 Communication mode: RS-485 (optional)  
 Network: three-phase four-wire, three-phase three-wire

#### Three-phase digital ammeter

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Model: RM858I-□KY3  
 Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45  
 Display data: three-phase AC current  
 Display mode: LCD display  
 Communication mode: RS-485 (optional)  
 Network: three-phase four-wire, three-phase three-wire

#### Three-phase digital voltmeter

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Model: RM858U-□K3  
 Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45  
 Display data: three-phase AC voltage  
 Display mode: LED display  
 Communication mode: RS-485 (optional)  
 Network: three-phase four-wire, three-phase three-wire

#### Three-phase digital voltmeter

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Model: RM858U-□KY3  
 Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45  
 Display data: three-phase AC voltage  
 Display mode: LCD display  
 Communication mode: RS-485 (optional)  
 Network: three-phase four-wire, three-phase three-wire



# PANEL METER

## RM858 series

### Digital meter



RM858F-□K1

### Digital Frequency Meter

Model: RM858F-□K1

Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45

#### Feature:

1. Display: 4 digital LED display
2. Accuracy: 0.5%±1 digit
3. Auxiliary power: AC 110V±10% 50/60Hz, AC220V±10% 50/60Hz
4. Input signal: 0~ AC 600V
5. Measuring range: 45~55Hz
6. Consumption: <3.2VA
7. Max signal consumption: <0.3VA
8. Operating environment: -10℃~+50℃, humidity: ≤85%
9. Storage environment: -30℃~+60℃, humidity: ≤70%
10. Withstand voltage: >2kV, 1min

### Digital Power Factor Meter

Model: RM858PF-□K1

Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45

#### Feature:

1. Display: 4 digital LED display
2. Accuracy: 0.5%±3 digit
3. Auxiliary power: AC 110V±10% 50/60Hz, AC220V±10% 50/60Hz
4. Input signal: 100V 200V 380V, 0-1A or 0-5A
5. Measuring range: 0-1.00(C or L)
6. Consumption: <3.2VA
7. Max signal consumption: <0.3VA
8. Operating environment: -10℃~+50℃, humidity: ≤85%
9. Storage environment: -30℃~+60℃, humidity: ≤70%
10. Withstand voltage: >2kV, 1min



RM858PF-□K1

### Digital Power Meter

Model: RM858P-□K1

Hole size (mm): 111×111, 76×76, 91×91, 67×67, 45×45

#### Feature:

1. Display: 4 digital LED display
2. Accuracy: 1.0%±1 digit
3. Auxiliary power: AC 110V±10% 50/60Hz, AC220V±10% 50/60Hz
4. Input signal: 100V 200V 380V, 0-1A or 0-5A
5. Measuring range: all ranges
6. Consumption: <3.2VA
7. Max signal consumption: <0.3VA
8. Operating environment: -10℃~+50℃, humidity: ≤85%
9. Storage environment: -30℃~+60℃, humidity: ≤70%
10. Withstand voltage: >2kV, 1min



RM858P-□K1

## RDN series

Din type digital meter

### RDN-G2X2-UI



Measuring Range:80~300V,0~999A  
 Signal Input:AC 80~300V,5A  
 Accuracy Class:±(1%FS+1 digit)  
 Auxiliary Power:no

### RDN-G2X2-UICT



Measuring Range:80~300V,0~100A  
 Signal Input:AC 80~300V,0~100A  
 Accuracy Class:±(1%FS+1 digit)  
 Auxiliary Power:no

### RDN-G2X1-I



Measuring Range:80~300V,0~999A  
 Signal Input:AC 80~300V,5A  
 Accuracy Class:±(1%FS+1 digit)  
 Auxiliary Power:no

### RDN-G2X1-ICT



Measuring Range:0~999A  
 Signal Input:AC 5A  
 Accuracy Class:±(1%FS+1 digit)  
 Auxiliary Power:AC 80~300V

### RDN-G2X1-U



Measuring Range:80~300V  
 Signal Input:AC 80~300V  
 Accuracy Class:± (1%FS+1 digit)  
 Auxiliary Power:no

# PANEL METER

## RDN series

Din type digital meter

### RDN-G3K1-I



Measuring Range:0~9999A  
Signal Input:AC 5A  
Accuracy Class:±(0.5%FS+1 digit)  
Auxiliary Power:AC220V,50/60Hz

### RDN-G3k1-U



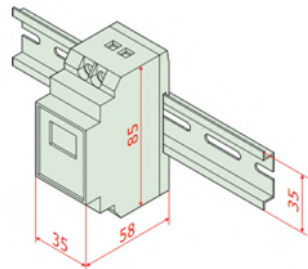
Measuring Range:0~600v  
Signal Input:AC 0~600v  
Accuracy Class:±(0.5%FS+1 digit)  
Auxiliary Power:AC220V,50/60Hz

### RDN-G3k1-F

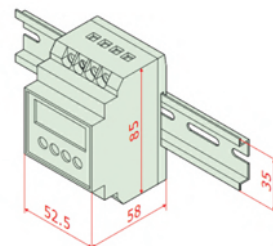


Measuring Range:30~99Hz  
Signal Input:AC 30~500v  
Accuracy Class:±(0.5%FS+1 digit)  
Auxiliary Power:AC220V,50/60Hz

## Dimension and Installment



G2 series



G3 series

## DD862 series

Single phase mechanical meter



### Application

DD862 single phase energy meter is induction meter for measuring energy in AC circuit,50/60Hz It conforms to the standard IEC62053-21. Durable and stable indoor use.

### Technical features

Degree Index	2
Reference voltage	50Hz
Current	See form. 1
Starting current	Maximum is 0.5% of basic current
Basic rotating speed	See form. 1
Basic rotating torque	About 4.5x10Nm
Voltage circuit power consumption	< 1W
Withstand impulse voltage	6KV
Mounting size	152mmx104mm
Outline size	177mmx133mmx118mm
Reliability	Over 20 years operation with free-maintenance once mounting
Net weight	1.4kg

### Form 1; overload multiples, basic current & rotating speed

Model	Rated current	Basic rotating speed
DD862	1.5(6)A	Based on spec. of nameplate
	2.5(10)A	
	5(20)A	
	10(40)A	
	15(60)A	
	20(80)A	
	30(100)A	

### Working condition

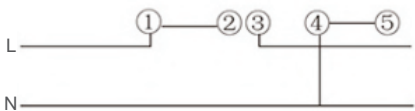
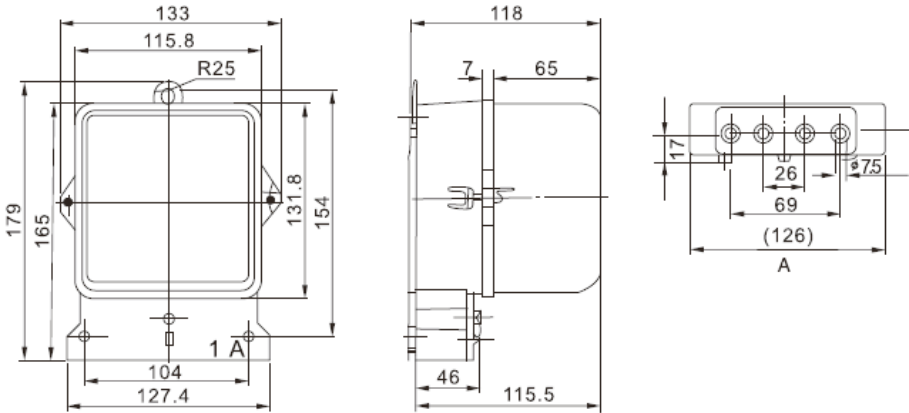
Working temperature: -20°C~+50°C  
 Extreme working temperature: -30°C~+60°C  
 Relative humidity: ≤75%

# KILOWATT HOUR METER

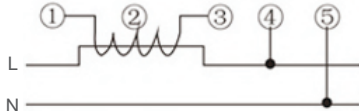
## DD862 series

### Outline & mounting size

Single phase mechanical meter



Direct connection type



CT type

## D86 series

### Three-phase mechanical meter



### Application

D86 Three-phase Energy Meter Series Including the DT862 three-phase four-wire watt-hour meter; DS862 three-phase three-wire watt-hour meter; DX862 three-phase four-wire 90° reactive power meter; Dx865 three-phase three-wire 90° reactive power meter are induction AC watt-hour meter, used for measuring rated frequency 50Hz three-phase three-wire, three-phase four-wire active or reactive energy in the power system.

It conforms to the standard IEC62053-21. Durable and stable indoor use.

### Technical features

Model	Category	Accuracy	Reference voltage	Rated current In
DS862(class 2)	Three phase three wires active energy meter	2 class	3x380V	3x1.5(6)A
				3x3(6)A
				3x5(20)A
				3x10(40)A
				3x15(60)A
				3x20(80)A
			3x30(100)A	
			3x100V	3x1.5(6)A
DT864	Three phase three wires active energy meter	3 class	3x57.7/100V	3x1.5(6)A
			3x220/380V	3x3(6)A
				3x1.5(6)A
				3x3(6)A
				3x5(20)A
				3x10(40)A
				3x15(60)A
				3x20(80)A
				3x30(100)A
			DX862	Three phase four wires reactive energy meter
3x100V	3x3(6)A			
	3x1.5(6)A			
	3x3(6)A			

### Balanced load

Load current	Power factor	Basic error range	
		2 class	3 class
0.05Ib	Cosφ=1.0	±2.5	
0.1Ib-I <sub>max</sub>		±2.0	
0.1Ib	Cosφ=0.5(inductive)	±2.5	
0.2Ib-I <sub>max</sub>		±2.0	



# KILOWATT HOUR METER

## D86 series

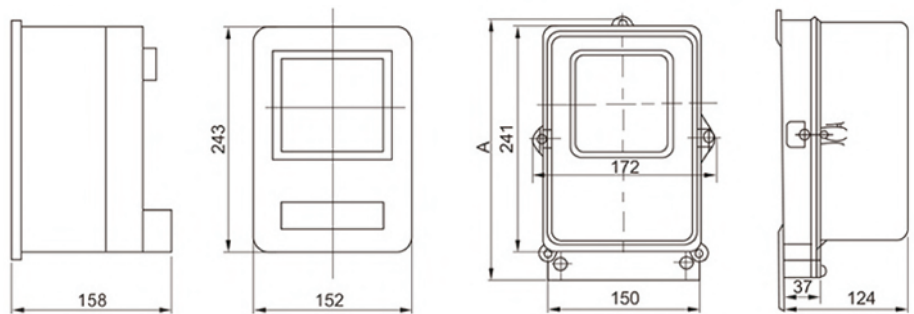
Three-phase mechanical meter

Load current	Power factor	Basic error range	
		2 class	3 class
0.1I <sub>b</sub>	Sinφ=1.0(inductive)		±3.0
0.2I <sub>b</sub> -I <sub>max</sub>			±3.0
0.5I <sub>b</sub> -I <sub>max</sub>	Sinφ=0.5(inductive)		±3.0

### Unbalanced load

Load current	Power factor	Basic error range	
		2 class	3 class
0.2I <sub>b</sub> -I <sub>b</sub>	Cosφ=1.0	±3.0	
>I <sub>b</sub> -I <sub>max</sub>	Cosφ=1.0	±3.0	
I <sub>b</sub>	Cosφ=0.5(inductive)	±3.0	
0.2I <sub>b</sub> -I <sub>b</sub>	Sinφ=1.0(inductive)		±3.0
I <sub>b</sub>	Sinφ=0.5(inductive)		±3.0

### Outline & mounting size



Embedded type

Direct connection

## DDS858 series

Single-phase electronic energy meter



### Application

DDS858 single phase electronic energy meter adopts micro-electronic, computer, SMT manufacturing technology, it can measure positive/reverse active power of each phase directly and accurately.

It conforms to the standard IEC62053-21.

### Technical features

Model	Category	Reference voltage	Rated current In	Impulse constant
DDS858	Single phase	220V	1.5(6)A (CT type)	Based on nameplate
			3(6)A (CT type)	
			1.5(6)A (Direct connection)	
			3(6)A (Direct connection)	
			2.5(10)A	
			5(20)A	
			10(40)A	
			15(60)A	
			20(80)A	
30(100)A				

### Basic Error

Basic error limit when balanced load

Load current	Power factor	Basic error range	
		1 class	2 class
$0.05I_b \leq I < 0.1I_b$	1	±1.5	±2.5
$0.1I_b \leq I \leq I_{max}$	1	±1.0	±2.0
$0.1I_b \leq I < 0.2I_b$	0.5(inductive)/0.8(capacitive)	±1.5	±2.5
$0.2I_b \leq I \leq I_{max}$	0.5(inductive)/0.8(capacitive)	±1.0	±2.0

### Workin Parameter

Data saving time after power failure	≥ 10 years
Electrical Parameter	
Norma working voltage	0.8~1.2 Rated voltage
Isolation voltage	≥ 2000V(AC)
Voltage cycle power consumption	≤ 1W
Battery consumption after power failure	≤ 10μA

# KILOWATT HOUR METER

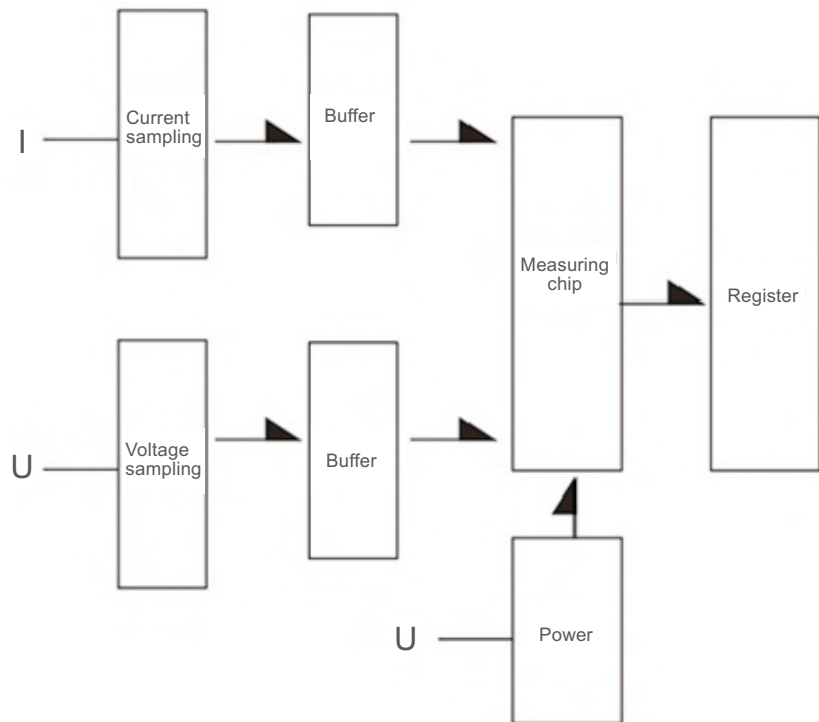
## DDS858 series

Single-phase electronic energy meter

### Working condition

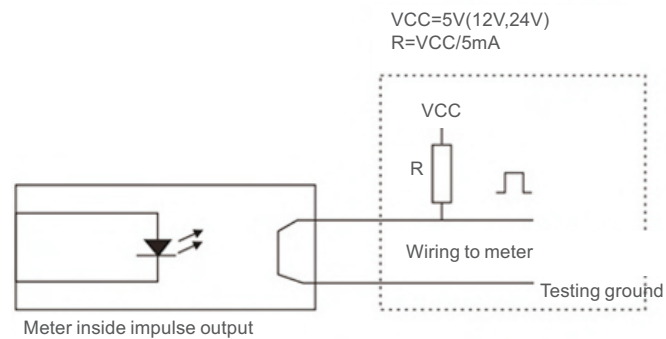
Normal working temperature:  $-20^{\circ}\text{C}\sim-50^{\circ}\text{C}$   
Extreme working temperature:  $-30^{\circ}\text{C}\sim+60^{\circ}\text{C}$

### Working theory



### Terminal wiring diagram

Active energy testing port diagram

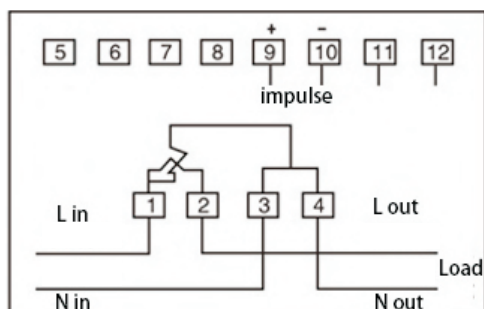


Meter impulse output diagram

## DDS858 series

Single-phase electronic energy meter

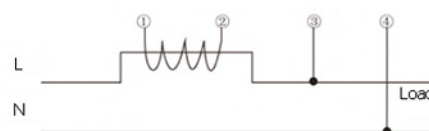
### Function wiring terminals (A type)



### Function wiring terminals (C type)

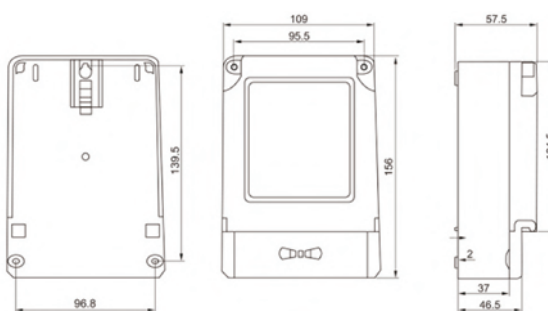


Direct connection type power terminals wiring

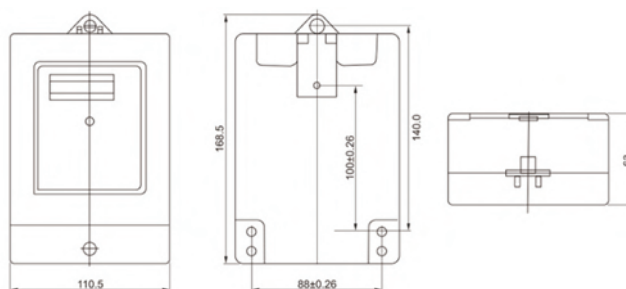


CT type power terminals wiring

### Outline & mounting size



A type



C type

# KILOWATT HOUR METER

## DSS858/DTS858

Three-phase electronic energy meter



### Application

DSS858/DTS858 three-phase electronic energy meter adopts large scale integrated circuit, 16-bit A/D conversion, digital multiplier, digital sampling and SMT technology, can measure positive/reverse active power of 3-phase directly and accurately and indicate by LCD. With extra additional infrared and Rs485 communication function.

Stable and reliable, with excellent anti-electromagnetic interference performance, low consumption, high accuracy, anti electric -stealing.

It conforms to the standard IEC61036.

### Technical features

Model	Category	Reference voltage	Rated current In	Impulse constant
DSS858	3 phases 3 wires	3x100V	3x1.5(6)A	Based on nameplate
			3x3(6)A	
		3x380V	3x1.5(6)A	
			3x3(6)A	
			3x2.5(10)A	
			3x5(20)A	
			3x10(40)A	
			3x15(60)A	
DTS858	3 phases 4 wires	3x57.5/100V	3x1.5(6)A	
			3x3(6)A	
			3x1.5(6)A	
			3x3(6)A	
			3x2.5(10)A	
			3x5(20)A	
			3x10(40)A	
			3x15(60)A	
3x20(80)A				
3x30(100)A				

Normal working voltage	0.8~1.2 rated voltage
Isolation voltage	≥2000V(AC)
Voltage cycle power consumption	≤2W, 10VA
Accuracy	1.0 class; 2.0 class
Outline size	230x145x90mm
Weight	About 3Kg

## DSS858/DTS858

### Three-phase electronic energy meter

#### Actuation

$\cos \varphi = 1.0$  ( $\sin \varphi = 1.0$ ), load current is  $0.004I_b$  (1.0 class),  $0.005I_b$  (2.0 class), meter can continuously measure energy.

#### False actuation

115% of rated voltage on loop, energy impulse shouldn't output when current loop break

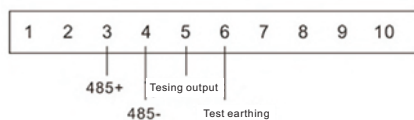
#### Working condition

Normal working temperature:  $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$

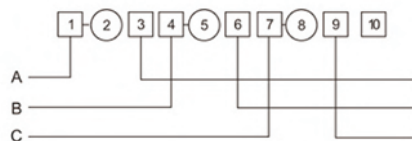
Extreme working temperature:  $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$

#### Terminal wiring diagram

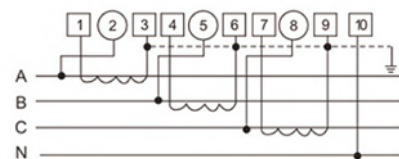
##### Function terminals wiring



##### Meter impulse signal terminal wiring

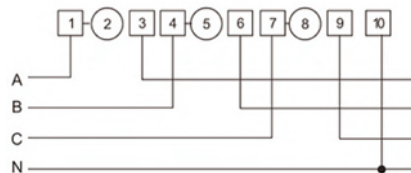


3-phase 3 wires direct connection type wiring

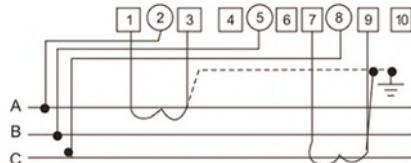


3 phase 4 wires CT connection type wiring

##### Power terminals wiring



3-phase 4 wires direct connection type wiring



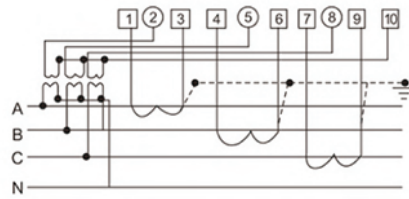
3-phase 3 wires CT connection type wiring



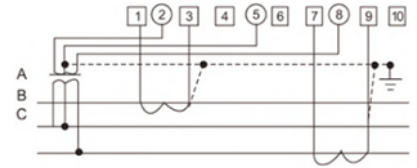
# KILOWATT HOUR METER

## DSS858/DTS858

Three-phase electronic energy meter

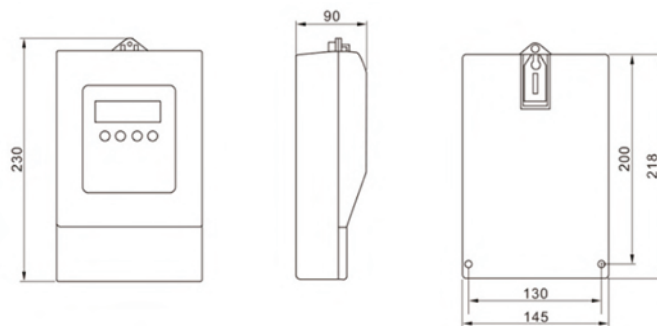


3 phase 4 wires CT, voltage transformer connection type wiring

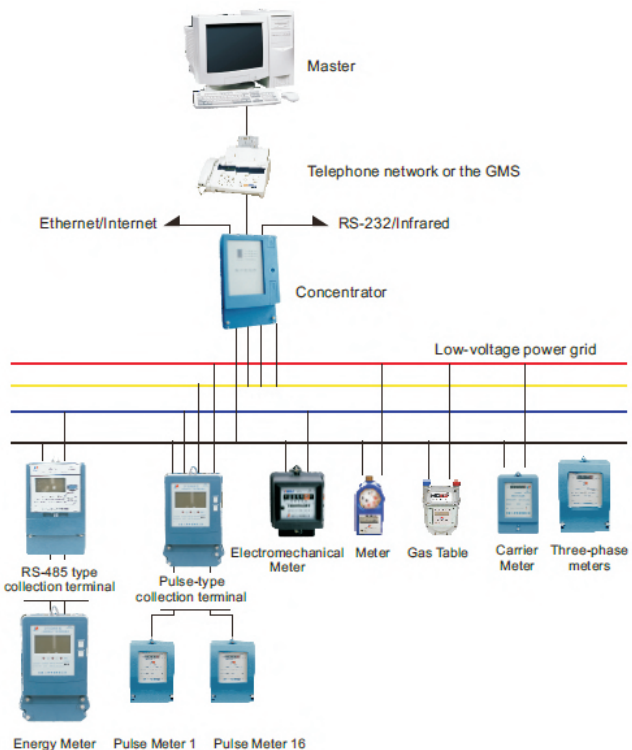


3 phase 3 wires CT, voltage transformer connection type wiring

### Outline & mounting size



### Communication diagram



## DDSY858 series

Single-phase electronic prepaid energy meter



### Application

DDSY858 single phase electronic prepaid energy meter(hereinafter referred to as the meter)Uses microelectronic technology to measure the electric energy.It conforms to the standard of IEC 62053-21:2003.Using fully shielded,sealed structure,and advanced single-chip microcomputer processing systems for data collection,processing and preservation.With the future of good anti-electromagnetic interference, low consumption and power saving, high-precision without calibration,prevention of electricity stealing, high overload, and long life.

### Technical features

Form 1; overload multiples,basic current & rotating speed

Model	Rated current In	Basic rotating speed
DDSY858	1.5(6)A	Based on spec. of nameplate
	2.5(10)A	
	5(20)A	
	10(40)A	
	15(60)A	
	20(80)A	
	30(100)A	

Load current	Power factor COS	Basic error %	
		Class 1.0	Class 2.0
0.15Ib	1	±1.5	±2.5
0.1Ib-I <sub>max</sub>	1	±1.0	±2.0
0.1Ib	0.5 L/0.8 C	±1.5	±2.5
0.2Ib	0.5 L/0.8 C	±1.0	±2.0

Note: Ib is rated current,I<sub>max</sub> is maximum current.

### Working condition

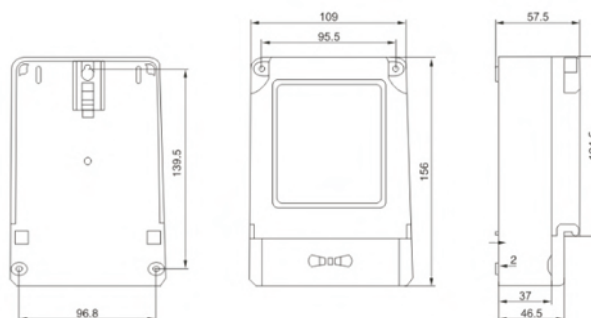
Frequency: 50/60Hz

Ambient temperature: -20°C~+50°C

Relative humidity: not more than 85%

The surrounding air shall not contain corrosive gas,and avoid the influence of dust,salt fog, condensation,etc.

### Demension



# KILOWATT HOUR METER

## DTSY858 series

Three-phase electronic prepaid energy meter



### Application

DSSY858/DTSY858 Series three-phase electronic prepaid energy meter(hereinafter referred to as the meter)Uses microelectronic technology to measure the electric energy.It conforms to the standard of IEC 62053-21:2003.Using fully shielded,sealed structure,and advanced single-chip microcomputer processing systems for data collection,processing and preservation.With the future of good anti-electromagnetic interference, low consumption and power saving, high-precision without calibration,prevention of electricity stealing, high overload, and long life.

### Technical features

Form 1; overload multiples,basic current & rotating speed

Model	Category	Reference voltage	Rated current I <sub>n</sub>	Impulse constant	
DSSY858	3 phases 3 wires	3x100V	3X 1.5(6)A	External with AC contactor or shunt tripping	
			3X 3(6)A		
		3x380V	3X 1.5(6)A		Built-in switch control
			3X 3(6)A		
			3X 2.5(10)A		
			3X 5(20)A		
			3X 10(40)A		
			3X 15(60)A		
DTSY858	3 phases 4 wires	3X 57.7/100V	3X 1.5(6)A	External with AC contactor or shunt tripping	
			3X 3(6)A		
		3x380V	3X 1.5(6)A		Built-in switch control
			3X 3(6)A		
			3X 2.5(10)A		
			3X 5(20)A		
			3X 10(40)A		
			3X 15(60)A		
			3X 20(80)A	External with AC contactor or shunt tripping	
			3X 30(100)A		

### Basic Error

Current value		Power factor(COSφ)	Basic error range	
Direct connection meter	Instrument transformer		1 class	2 class
0.05I <sub>b</sub> ≤ I < 0.1I <sub>b</sub>	0.02I <sub>b</sub> ≤ I < 0.5I <sub>b</sub>	1	±1.5	±2.5
0.1I <sub>b</sub> ≤ I ≤ I <sub>max</sub>	0.05I <sub>b</sub> ≤ I ≤ I <sub>max</sub>	1	±1.0	±2.0
0.1I <sub>b</sub> ≤ I < 0.2I <sub>b</sub>	0.05I <sub>b</sub> ≤ I < 0.1I <sub>b</sub>	0.5(sensibility)/0.8(capacitive)	±1.5	±2.5
0.2I <sub>b</sub> ≤ I ≤ I <sub>max</sub>	0.1I <sub>b</sub> ≤ I ≤ I <sub>max</sub>	0.5(sensibility)/0.8(capacitive)	±1.0	±2.0

Not:I<sub>b</sub>=Rated current; max=Maximum current

## DTSY858 series

Three-phase electronic prepaid energy meter

### Voltage range

Normal working voltage	0.9Un~1.1Un
Limit working voltage	0.8Un~1.15Un

### Power consumption

Power consumption of voltage circuit	≤2W and 10VA
Power consumption of current circuit	≤4.0VA

### Starting current

Under the condition of the rated voltage, rated frequency, and  $\text{COS}\Phi=1$ , meter with load current of 0.004Ib(Class 1) and 0.005Ib(Class 2) can measure electric energy continuously.

### Creeping

When the meter line without current, but voltage loop circuit with 115% rated voltage, the output pulse is not more than one.

### Working condition

Frequency: 50/60Hz

Ambient temperature:  $-20^{\circ}\text{C}\sim+50^{\circ}\text{C}$

Relative humidity: not more than 85%

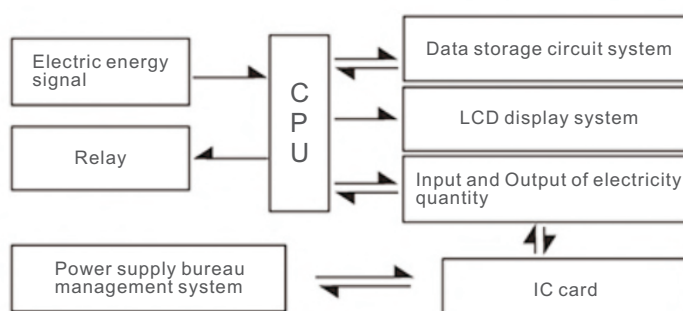
The surrounding air shall not contain corrosive gas, and avoid the influence of dust, salt fog, condensation, etc.

### Working principles

DSSY858/DTSY858 three phase electronic type prepaid meter adopts the imported special large scale integrated circuit, 16 bit A/D conversion, digital multiplier, application of digital sampling processing technology and SMT manufacturing technology.

### Working principle diagram

The meter obtains voltage sampling signal by voltage divider, obtains current sampling signal by current transformer, obtains voltage and current product signal by multiplier, and through the frequency conversion to generate a counting pulse that frequency is proportional to the product of voltage and current.

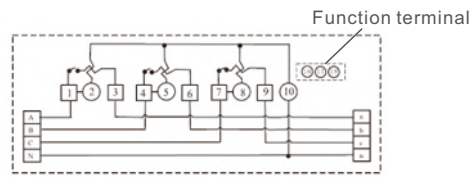
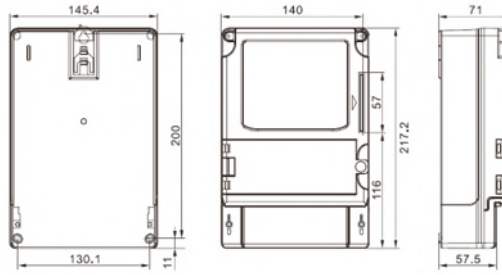


# KILOWATT HOUR METER

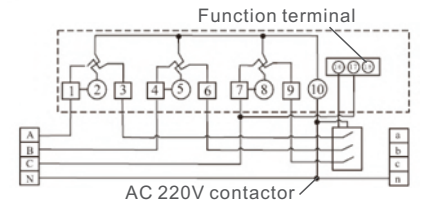
## DTSY858 series

Three-phase electronic prepaid energy meter

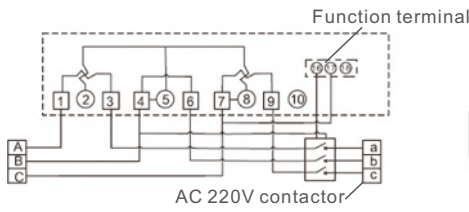
### Demension



Wiring diagram of 3-phase 4-wire direct-type (with controller inside)



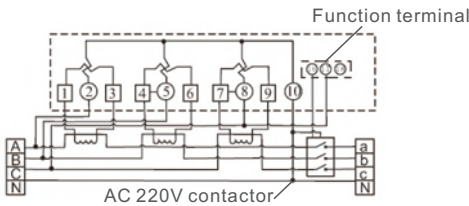
Wiring diagram of 3-phase 4-wire direct-type



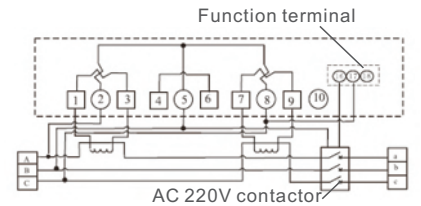
Wiring diagram of 3-phase 3-wire direct-type



Wiring diagram of function terminal



Wiring diagram of 3-phase 4-wire transformer-type



Wiring diagram of 3-phase 3-wire transformer-type

## DDZY858 series

Single-phase tariff control intelligent watt-hour meter



### Application

DDZY858 single-phase tariff control intelligent watt-hour meter is used for measuring the AC single-phase active energy with a rated frequency of 50 Hz, and realizes the management function of paying electricity after paying first. This product is manufactured by international advanced special large-scale integrated circuit and SMT process. The key components are low-power and long-life devices of international famous brands. The whole machine design adopts various anti-interference technologies to improve the reliability of the products. Sex and service life, the data display uses a large screen Chinese LCD, convenient for meter reading. This rate measurement can store the total energy of 12 settlement days and the energy data of each rate. Has an event recording function. Support 6 annual time zones, 2 daily timetables, 12 daily time slots, and 4 rates. At the same time, it also has infrared and RS485 communication functions, which can realize remote meter reading, and the communication protocol follows DL/T 645-2007. Its conforms to GB/T 17215.321-2008 and GB/T18460.3-2001 standards. The product can directly measure the positive and negative active power directly, and carry out multi-time measurement according to the corresponding rate setting.

### Technical features

Form 1; overload multiples, basic current & rotating speed

Access method	Accuracy level	Rated voltage V	Maximum current A	Constant
Single phase straight through	2.0 class	220	20	3200
		220	30	2400
		220	40	1600
		220	50	1600
		220	60	1200
		220	80	800
Single phase straight through	2.0 class	220	100	800
		220	120	600
Single phase transformer	2.0 class	220	6	12000

Basic error

Load current	Power factor	Power factor
		2.0 class
0.05I <sub>b</sub> ~0.1I <sub>b</sub>	1.0	±1.5
0.1I <sub>b</sub> ~I <sub>max</sub>	1.0	±1.0
0.1I <sub>b</sub> ~0.2I <sub>b</sub>	0.5L 0.8C	±1.5
0.2~I <sub>max</sub>	0.5L 0.8C	±1.0

### Working condition

Frequency: 50/60Hz

Ambient temperature: -25℃~+60℃

Relative humidity: not more than 75%

The surrounding air shall not contain corrosive gas, and avoid the influence of dust, salt fog, condensation, etc.

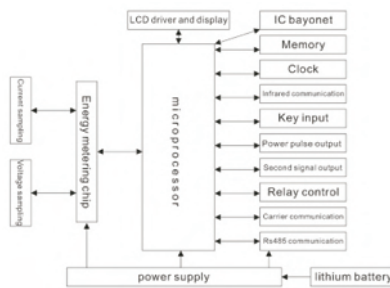
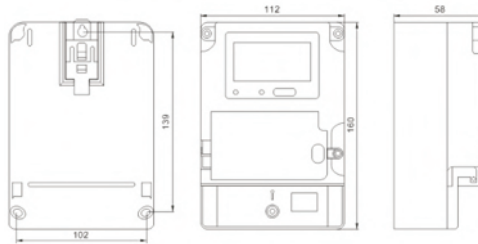


# KILOWATT HOUR METER

## DDZY858 series

Single-phase tariff control intelligent watt-hour meter

### Dimension

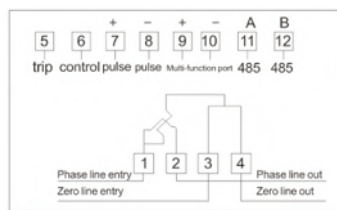


Working principle diagram

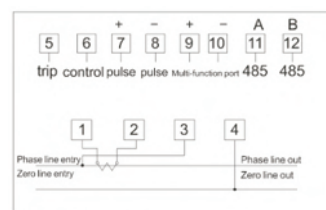
The electric energy meter is composed of two main functions: one is the electric energy metering part, the other is the microprocessor control part, and the electric energy metering part uses the shunt multiplication circuit to generate a pulse sequence indicating how much electricity is used, and sends it to the microprocessor for energy metering, micro The processor transfers data through the electrical card interface to implement various control functions.

### Wiring

The energy meter should be wired according to the wiring diagram on the terminal box, preferably with a copper wire or copper terminal.



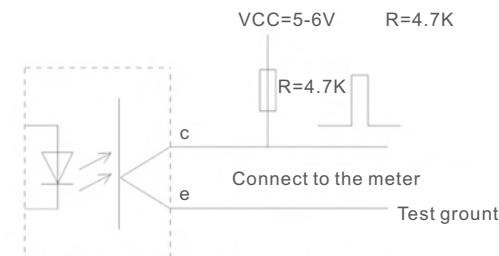
Direct access wiring diagram



Transformer access wiring diagram

### Test

This series of electric energy meters are equipped with opto-coupled test output ports, which are located at the terminals, as indicated by c and e in the figure. The wiring is as follows:



Energy meter internal optocoupler output

## DTZY858 series

### Three-phase tariff control intelligent watt-hour meter



### Application

DTZY858 three-phase four-wire tariff control intelligent watt-hour meter is a new generation of intelligent electric energy metering product developed by our company. It is composed of measuring unit, data processing unit, communication unit and so on. It has electric energy metering, information storage and processing, real-time monitoring, etc. Watt-hour meter with automatic control, information exchange and other functions; developed by using modern microelectronic technology, computer technology, electric measurement technology and data communication technology; can accurately measure electrical data in power grid, All kinds of events occurred in the power supply and power supply process can be traced back correctly and the disease has the function of load control. The user can request the internal relay or the external relay to control the load in advance. It has RS-485 communication interface of pulse output, wireless remote communication mode, optional remote or local cost control mode, simple and convenient maintenance, and is an ideal measuring instrument for power department in the construction of smart grid.

### Technical features

Accuracy class 1.0 active power class 2.0, reactive power class 0.0 rated power 50Hz  
 shape dimensions 290mm (high) × 170mm (width) × 85mm (thick) weight about 3kg  
 basic specification type and pulse constant comparison table

Type	classification	Parameter voltage	Rated Current	Pulse constant
				(Imp/kWh or imp/kvarh)
DTZY858	Three-phase four-wire	3×220/380V	3×1.5(6)A	800
			3×5(60)A	400
			3×20(80)A	200
			3×30(100)A	200

### Electrical parameters

normal working voltage	0.8Un~1.2Un(Single Phase)0.70Un~1.2Un (Combined element)
Limit working voltage	0.60Un~1.3Un
Voltage line power consumption (per phase)	≤1.5W,1.3Un
Power consumption of voltage line in remote communication	≤8W
Current line power (each phase)	<0.2VA
Clock cell	3.6VDC≥1200mAh
Blackout meter reading battery	6VDC≥1400mAh

### Electrical parameters

Clock accuracy	≤0.5s/d (23℃)
Counting range	0.999999.99kWh,0.999999.99kxarh
Remote communication mode	485 communication.Wireless communication
Cost control mode	Local, remote
Communication baud rate	RS:1200bps~9600bps,acquiescent 2400bps Infrared communication:1200bps,2400bps
Communication protocol	《DL/T645-2007 Communication Protocol of Multi-Function Watt-hour Meter and filing document

# KILOWATT HOUR METER

## DTZY858 series

Three-phase tariff control intelligent watt-hour meter

Climatic conditions

normal working temperature	-25℃~+60℃
Limit working voltage	-40℃~+70℃
Storage and transport temperature	-40℃~+70℃
Storage and working humidity	Annual average<75%

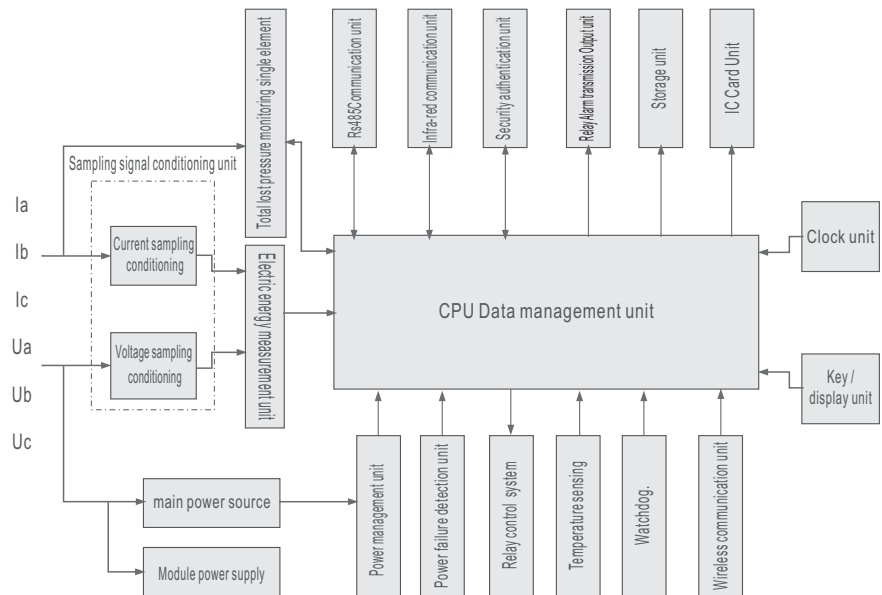
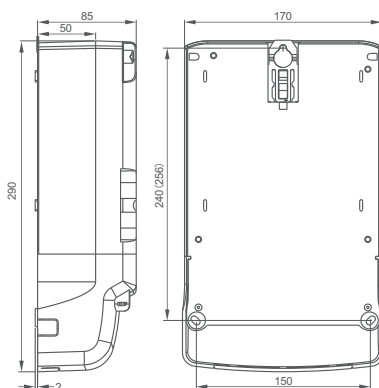


Table1 Working schematic diagram

The power measurement unit processes the sampling value of the measurement signal, obtains the voltage and current value by the integral of the sampling value and the software filtering operation, obtains the corresponding instantaneous power by the product operation of the sampling value, and obtains the integral of the instantaneous power by the integral of the instantaneous power. After obtaining the energy for a period of time, the fundamental electric energy and the 221st harmonic content data of voltage and current are calculated by Fourier transform. The CPU data management unit is the core of the system. It synthesizes the data returned by each unit and generates the electric energy data needed by the user. The functions of time-sharing accounting management, power consumption event management, user data display management, historical data management, user data communication management, ammeter data security management, control management and so on are completed.



Installation size

Drawing2 Installation dimensions of watt-hour meters

## Installation method

Installation method

1. Select suitable installation environment for watt-hour meters, such as ammeter cabinets, ventilated and dry rooms, etc.
2. Remove the watt-hour meter and remove the bottom cover of the meter;
3. Find a suitable base on the installed meter cabinet to drill 3 installation holes according to the installation size.

Note: The base shall be fixed to a solid, refractory, There are no hook screw holes in the watt-hour meter and two fixing holes in the lower part of the meter, which are fixed with PA4 × 10 or PA4 × 12 self-tapping screws.

## DTZY858 series

### Three-phase tariff control intelligent watt-hour meter

#### Wiring method

Strictly follow the following wiring diagram to ensure that the input voltage and current is less than the limit parameters of the meter more than a dozen, so as to avoid the watt-hour meter working differently.

Regular or damaged. In the areas where thunderstorms are more frequent, the necessary lightning protection measures should be adopted.

#### Figure description



No.	Explanation
1	Parameters such as rated current, rated voltage, meter constant and so on. It is expressed as the accuracy grade; it indicates that the electric energy meter is a class II protective insulation sealing instrument.
2	Location of indicator lights and infrared communication ports (by function)
3	Indicating the name information of the watt-hour meter
4	Liquid crystal region: LCD screen visible size of 85mm (long) × 50mm (wide)
5	Communication protocol
6	Up and down buttons to query the settings display items

# KILOWATT HOUR METER

## Din Rail Type

Electronic watt-hour meter



## Applications

Din rail type electronic watt-hour meter, completely accords with relevant technical requirements of class 1 and class 2 accuracy. It can accurately and directly measure active energy consumption. It also can display total energy consumption by step type impulse register or LCD display. This watt-hour meter conforms.

EN62053-21 standard.

	Single phase	Three phase
Accuracy(EN62053-21)	class 1,2	class 1,2
Frequency	50/60Hz	50/60Hz
Rated voltage	120V/230V	230V/400V
Rated impulse voltage	Uimp 6KV-1.2/50S	Uimp 10KV-1.2/50S
Power consumption	≤1.5W/6VA per phase	≤2W/10VA per phase
Temperature range	-10℃ ~ +50℃	-10℃ ~ +50℃

## Specification

Mounting: DIN rail EN 50022

Type	Rating	Voltage	Class	Designation
DS977-25S DS977-25SC (LCD)	2.5(10)A	AC120V/230V	1.0/2.0	Single Phase 1 module
	3(15)A			
	5(25)A			
	5(30)A			
DS977-65S	2.5(10)A	AC120V/230V	1.0/2.0	Single Phase 2 module
	3(15)A			
	5(30)A	AC230V		
	10(40)A			
15(60)A				
DS977-100S	2.5(10)A	AC120V/230V	1.0/2.0	Single Phase 4 module
	5(30)A			
	10(50)A	230V		
	15(60)A			
20(100)A				
DS977-100S (LCD)	5(30)A	230V	1.0	Single Phase 4 module
	10(60)A			
	15(90)A			
	20(100)A			
DS977-100T	1.5(6)A CT	230/400V	1.0	Three Phase 7 module
	3(6)A CT			
	5(30)A	230/400V	1.0	
	10(60)A			
	15(90)A			
20(100)A				

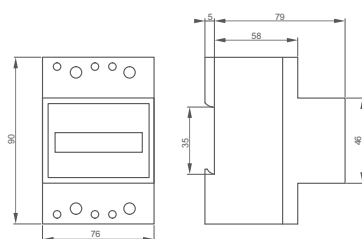
## Din Rail Type

Electronic watt-hour meter

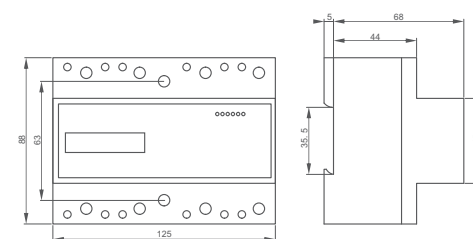


Type	Rating	Voltage	Class	Designation
DS977-100TC (LCD)	1.5(6)A CT	230/400V	1.0	Three Phase 7 module
	3(6)A CT			
	5(30)A			
	10(60)A			
	15(90)A			
	20(100)A			

### Dimension



Single Phase



Three Phase



# TEMPERATURE CONTROLLER

## XMT-8000 series

Intelligent digital temperature controller



XMTA-8000



XMTD-8000

Type

XMT  -  8     \*

### 8. The second alarm type(ALM2)

- N: not set alarm
- A: upper limit deviation alarm
- B: lower limit deviation alarm
- C: upper and lower limit deviation alarm
- D: within range alarm
- E: upper limit deviation alarm with standby
- F: lower limit deviation alarm with standby
- G: upper and lower limit deviation alarm with standby
- H: upper limit input value alarm
- J: lower limit input value alarm
- K: upper limit input value alarm with standby
- L: upper limit input value alarm with standby

### 7. The first alarm type(ALM1)

### 6. Input type

- 1: Thermocouple input(TC)
- 2: Thermal resistance input(RTD)
- 3: Voltage signal input(mV,V)
- 4: Resistance signal input(oM)
- 5: Current signal input(mA)

### 5. Alarm

- 1: the first channel alarm output
- 2: the second channel alarm output

### 4. The second control mode and output type

- 0: ON/OFF relay contact output
- 4: PID relay contact output
- 5: PID voltage pulse output
- 7: PID single-phase SCR zero-crossing trigger signal output

### 3. The first control mode and output type

- 0: ON / OFF relay contact output
- 4: PID relay contact output
- 5: PID voltage pulse output

### 2. Intelligent level: 8000 series is all-purpose input

### 1. Meter size

## XMT-8000 series

Intelligent digital temperature controller



XMTE-8000

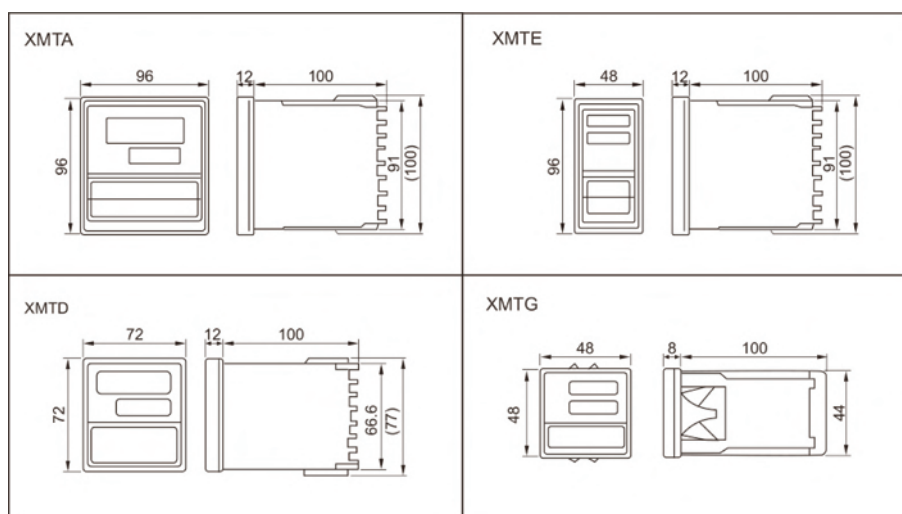


XMTG-8000

Outline and hole size unit:mm

Type	Face frame	Outline	Hole size
XMTG	48×48	45×45×100	(44+0.5)×(45+0.5)
XMTE	48×96	43×91×100	(43+1)×(91+1)
XMTD	72×72	67×67×100	(67+1)×(67+1)
XMTA	96×96	91×91×100	(91+1)×(91+1)

Dimension



Technical index

### Input

Thermocouple (TC), thermal resistor (RTD), standard Current and voltage signals.

Display	P E J r S b E n r										P r		C U		o n		m V		m A		V	
Input type	(TC)										(RTD)		CURRENT VOLTAGE									
	K	J	R	S	B	E	N	T	PT 100	CU 50	oM	mV	mA	V								

### Accuracy

Measuring accuracy:±0.5%FS

Error of cold junction compensation: ±2°C(can be amend by software within 0~50°C)

Resolution: 14 Bit

Sampling period: 0.5 Sec

### Display

(PV), (SV): -1999~+9999

Output, alarm, auto tuning status display: LED

### Control Modes:

- 1.PID control (including ON/OFF, position PID and continuous PID)
2. Auto tuning control

# TEMPERATURE CONTROLLER

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## XMT-8000 series

Intelligent digital  
temperature controller

### Control output:

1. Current output: DC 0~10mA, 4~20mA(RL<500Ω)
2. Voltage output: DC 0~5V, 1~5V(RL>10K)
3. Relay output: contact capacity 250VAC 3A (resistive loads)
4. Voltage pulse output :0~12V(apply to SSR)
5. SCR output: zero-cross trigger or phase shift trigger (resistive load)
6. Alarm output: One alarm or two alarms, 12 modes  
Output contact capacity: 250VAC 3A (resistive load)

### Setting range

Setting value (SV): Measured Present Value (PV)

Proportional band (P):0~whole measured range (When set P to 0, it will be ON/OFF control)

Integral time (I):0~3600Sec(when the time is 0,without integral action)

Derivative time (D):0~3600Sec(when the time is 0,without derivative action)

Proportional term:1~100Sec

### Other:

1. Insulation resistance :> 50MΩ (500VDC)
2. Insulation strength: 1500VAC/1min
3. Power consumption: <10VA
4. Ambient: 0~50°C, 30~85%RH, non- corrosive gas

## XMT-7000 series

Intelligent digital temperature controller

Type

XMT □ -7 □ □ □

**Input signal:**

- 1-thermocouple(mv)K,E,J,S, etc.
- 2-thermal resistor( $\Omega$ ): Cu50,Pt100, etc.
- 3-Hall transmitter, CP type differential manometer or voltage
- 4-Remote transmitting pressure gage  $\Omega$
- 5-Standard current 0~10mA, 4~20mA

**Alarm function: 0-No alarming function**

- 1-With upper limit contact output alarm function
- 2-With lower limit contact output alarm function
- 3-With upper and lower limit contact output alarm function

**Adjusting way: 0-Two states type adjustment**

- 1-DC1-5V voltage signal continuous output
- 2-Three states type adjustment
- 3-DC0-5V voltage signal continuous output
- 4-Contact on-off type PID adjustment
- 5-Driving solid state relay PID adjustment
- 6-Output single-phase SCR phase-shift trigger signal PID adjustment
- 7-Output single -phase zero-crossing trigger signal PID adjustment
- 8-Output three-phase zero-crossing trigger signal PID adjustment
- 9-Output DC0~10mA; 4~20mA and other current PID adjustment

**Panel dimension: (width× height): A.96×96(92×92)**

- D.72×72(68×68)
- E.48×96(45×92)
- F.96×48(92×45)
- G.48×48(45×45)
- Empty.160×80(152×76)

Note: Values in brackets are hole dimension

# TEMPERATURE CONTROLLER

## XMT-7000 series

Intelligent digital temperature controller


### Performance index

	Tindex
Display	High brightness green and red double row nixie tube to display PV and SV
Input signal	Sensing signal specify an input
	Transducer self-correcting
	Sampling period: 3 times /s
Function	Secondary parameter lock protective function
	Alarm range: deviation value of upper and lower limit absolute value, full measuring range can be set freely
Accuracy class	$\pm 1\%FS\pm 1$
	$\pm 0.5\%FS\pm 1$
Power supply	Switching power supply: 85-264VAC 50/60Hz power consumption $\leq 3W$
	transformer supply: AC220V $\pm 10\%$ 50/60Hz power consumption $\leq 3W$
Insulating strength	2KV/50Hz/1min
Output	Relay contact capacity AC220V3A(resistive), 1A(inductive)
	Solid state relay DC 0-12V
	Optocoupler silicon controlled 1A/600V
Resolution	1%FS,0.1%FS
Operating conditions	Environment temperature: 0 $^{\circ}C$ -50 $^{\circ}C$ , humidity 45%-85%,non-corrosiveness and without strong electromagnetic interference
	Altitude: $\leq 2500m$ atmospheric pressure: 80-106kpa

### Boundary dimension and hole dimension


7000	Boundary code	Panel size	Meter length	Hole dimension	Installation distance
XMT	1	160×80	80	153×77	30mm
XMTA	2	96×96	110	93×93	
XMTD	3	72×72	110	69×69	
XMTE	4	48×96	110	45×93	
XMTG	6	48×48	110	45×45	

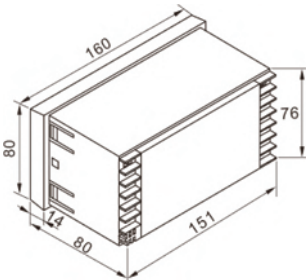

### Product


Type	Product code	Main function	Diagram
XMT	7001 7002	Two position adjustment	
	7201 7202	Three position adjustment	
	7411 7412	Contact on-off type PID adjustment (with alarm)	
	7511 7512	Driving solid state relay PID adjustment (with alarm)	
	7611 7612	Single-phase phaseshift trigger signal PID adjustment (with alarm)	

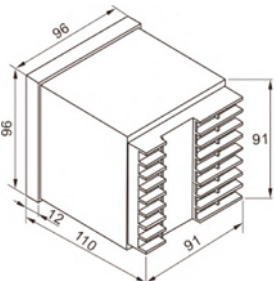
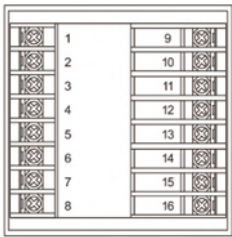
## XMT-7000 series

Intelligent digital temperature controller

Type	Product code	Main function	Diagram
XMT	7711 7712	Single-phase passing zero trigger signal PID adjustment (with alarm)	
	7801 7802	Three-phase passing zero trigger signal PID adjustment	
	7911 7912	DC0-10mA; 4-20mA and other current PID adjustment	

Appearance	Back-end wiring diagram
	


Type	Product code	Main function	Diagram
XMTA	7001 7002	Two position adjustment	
	7201 7202	Three position adjustment	
	7411 7412	Contact on-off type PID adjustment (with alarm)	
	7511 7512	Driving solid state relay PID adjustment (with alarm)	
	7611 7612	Single-phase phaseshift trigger signal PID adjustment (with alarm)	
	7711 7712	Single-phase passing zero trigger signal PID adjustment (with alarm)	
	7801 7802	Three-phase passing zero trigger signal PID adjustment	
	7911 7912	D C0-10mA; 4-20mA and other current PID adjustment	

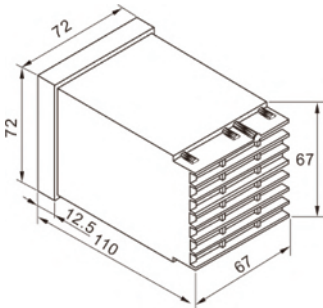
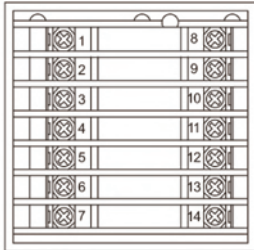
Appearance	Back-end wiring diagram
	


# TEMPERATURE CONTROLLER

## XMT-7000 series

Intelligent digital temperature controller

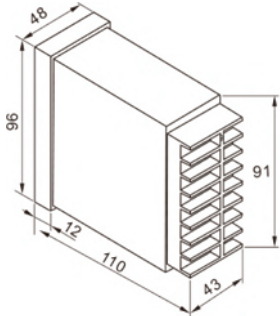
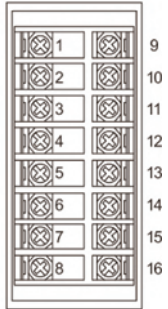
Type	Product code	Main function	Diagram
XMTD	7001 7002	Two position adjustment	
	7201 7202	Three position adjustment	
	7411 7412	Contact on-off type PID adjustment (with alarm)	
	7511 7512	Driving solid state relay PID adjustment (with alarm)	
	7611 7612	Single-phase phaseshift trigger signal PID adjustment (with alarm)	
	7711 7712	Single-phase passing zero trigger signal PID adjustment (with alarm)	
	7801 7802	Three-phase passing zero trigger signal PID adjustment	
	7911 7912	D C0-10mA; 4-20mA and other current PID adjustment	


Appearance	Back-end wiring diagram
	

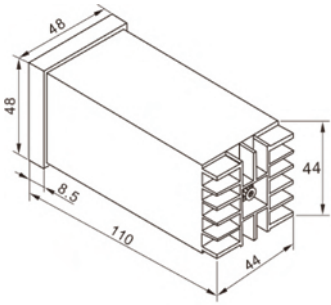
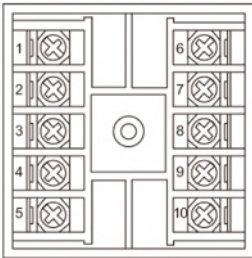
Type	Product code	Main function	Diagram
XMTE	7001 7002	Two position adjustment	
	7201 7202	Three position adjustment	
	7411 7412	Contact on-off type PID adjustment (with alarm)	
	7511 7512	Driving solid state relay PID adjustment (with alarm)	
	7611 7612	Single-phase phaseshift trigger signal PID adjustment (with alarm)	
	7711 7712	Single-phase passing zero trigger signal PID adjustment (with alarm)	
	7801 7802	Three-phase passing zero trigger signal PID adjustment	
	7911 7912	D C0-10mA; 4-20mA and other current PID adjustment	

## XMT-7000 series

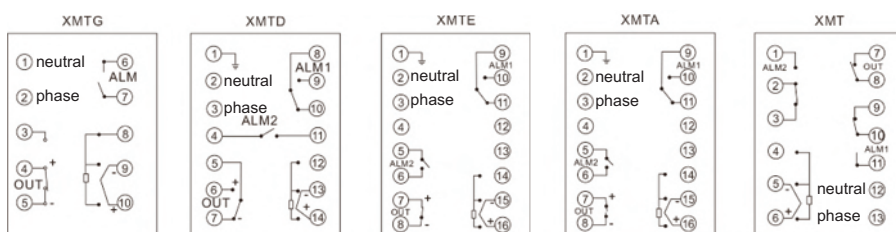
Intelligent digital temperature controller

Appearance	Back-end wiring diagram
	

Type	Product code	Main function	Diagram
XMTG	7001 7002	Two position adjustment	
	7201 7202	Three position adjustment	
	7411 7412	Contact on-off type PID adjustment (with alarm)	
	7511 7512	Driving solid state relay PID adjustment (with alarm)	
	7611 7612	Single-phase phaseshift trigger signal PID adjustment (with alarm)	
	7911 7912	D C0-10mA; 4-20mA and other current PID adjustment	

Appearance	Back-end wiring diagram
	

### Terminal wiring diagram





# TEMPERATURE CONTROLLER



## XM series

Digital display temperature controller

### Boundary dimension and hole dimension





Type	Code	Panel size	Meter length	Hole size	Installation distance
XMT	1	160×80	150	152 74	30mm
XMZ	1	160×80	150	152×74	
XMTA	2	96×96	140	92×92	
XMZA	2	96×96	140	92×92	
XMZD	4	72×72	140	68×68	
XMTD	4	72×72	140	68×68	
XMTE	5	48×96	140	44×92	
XMTG	6	48×48	140	44×44	

### Product

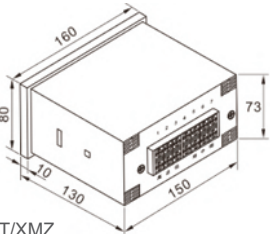

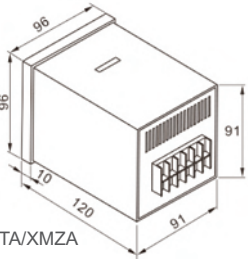

Type	Product code	Main function	Diagram
XMT	101 102	Two position adjustment	
	121 122	Three position adjustment	
	131 132	Time proportional control	
	161 162	Single phase bidirectional SCR phase shifting output	
	171 172	Single phase bidirectional SCR cross zero output	
	181 182	Three phase bidirectional SCR cross zero output	
	191 192	DC0-10mA; 4-20mA continuous PID adjust	
XMTA	2001 2002	Two position adjustment	
	2201 2202	Three position adjustment	
	2301 2302	Time proportional control	
	2601 2602	Single phase bidirectional SCR phase shifting output	
	2701 2702	Single phase bidirectional SCR cross zero output	
	2901 2902	DC0-10mA; 4-20mA continuous PID adjust	
XMTD	3001 3002	Dial setup two position adjustment	
	2201 2202	Potentiometer setup three position adjustment	
	3301 3302	Time proportional control	
	3701 3702	Single phase bidirectional SCR phase shifting output	
	3901 3902	Single phase bidirectional SCR cross zero output	
	3601 3602	DC0-10mA; 4-20mA continuous PID adjust	

## XM series

Digital display temperature controller

Type	Product code	Main function	Diagram
XMTE	2001 2002	Dial setup two position adjustment	
	2011 2012	Two position adjustment(with alarm)	
	2301 2302	Time proportional control	
	2701 2702	Single phase bidirectional SCR phase shifting output	
XMTG	3001 3002	Dial setup two position adjustment	
	3301 3302	Time proportional control	
	3701 3702	Single phase bidirectional SCR phase shifting output	
XMZ	101 102	Thermocouple, thermal resistor	
XMZA	2001 2002	Thermocouple, thermal resistor	
XMZD	2001 2002	Thermocouple, thermal resistor	

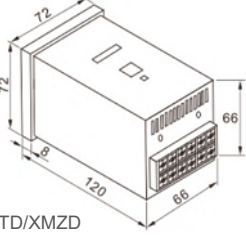
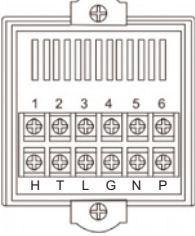
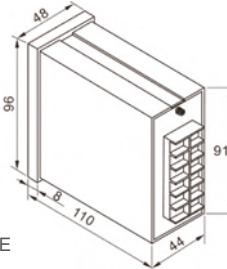
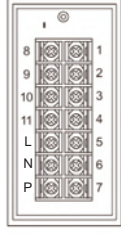
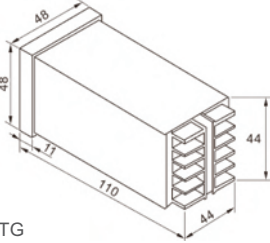
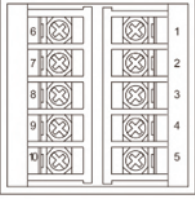
### Appearance and back-end wiring diagram

Appearance	Back-end wiring diagram
 <p>XMT/XMZ</p>	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive.</p>
 <p>XMTA/XMZA</p>	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive</p>

# TEMPERATURE CONTROLLER

## XM series

Digital display temperature controller

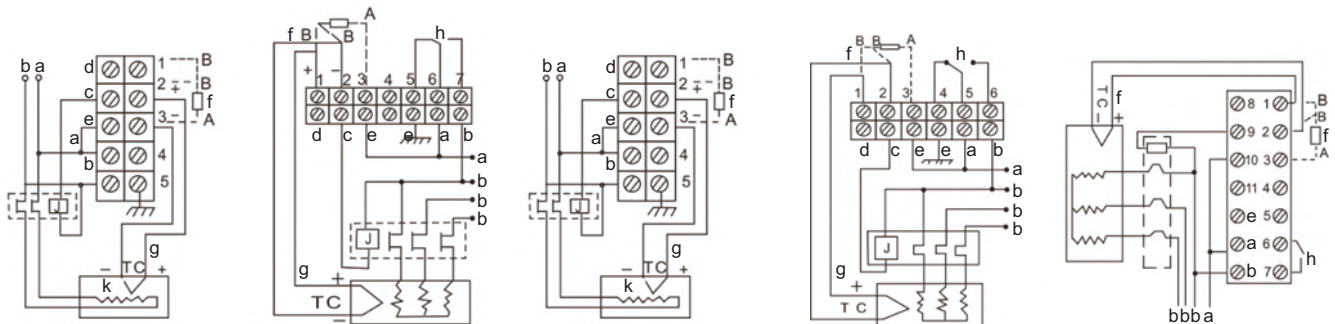
Appearance	Back-end wiring diagram
 <p>XMTD/XMZD</p>	 <p>Note : with thermocouple meter, 1 connected positive,2connected negative. with thermal resistance meter, 1,2 connected negative, 3 connected positive.</p>
 <p>XMTE</p>	 <p>Note : with thermocouple meter, 1 connected positive,2connected negative. with thermal resistance meter, 1,2 connected negative, 3 connected positive.</p>
 <p>XMTG</p>	 <p>Note : with thermocouple meter, 1 connected positive,2connected negative. with thermal resistance meter, 1,2 connected negative, 3 connected positive.</p>

## Wiring attention

Thermocouple input, the corresponding compensation wire should be used.

The thermal resistance input, three wires with low resistance and cross-sectional area and the same material length should be used.

The input signal line should be away from the power line load of the instrument power cord to avoid noise interference.



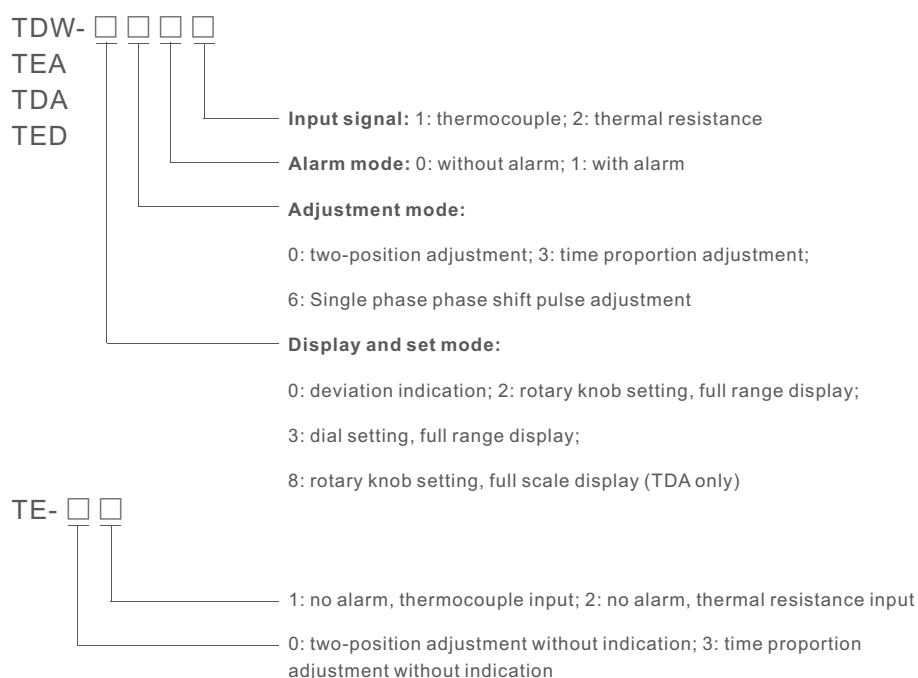
a:neutral    c:total    e:low    g:thermocouple    k:furnace  
b:phase    d:high    f:thermal resistance    h:alarm output    n:toplimit

# Pointer type Temperature controller

## Application

TDA, TDW, TEA, TED, TE, TDB series pointer type temperature controller is the new automatic instrument produced by our company. The temperature controller has feature of small volume, low weight, good-looking appearance, good reliability, anti-shake and anti-interference performance. The temperature controller equipped with thermocouple has cold-junction compensation function.

## Type



## Performance

	Index
Display	Pointer type
Input signal	the sensor signal specifies the input
Function	Alarm range: alarm point is that the measured signal exceeds the set value of 2-10% (full range)
Accuracy	≤ ±2.5% ≤ ±1.5%
Power supply	Transformer supply power: AC220V±10% 50/60Hz
Insulation strength	2KV/50Hz/1min
Output	Relay contact capacity AC220V3A solid-state relay DC 0-12V Optocoupler silicon controlled 1A/600V
Operating condition	Ambient temperature: 0℃-50℃, humidity 45%-85%, without corrosivity and without strong electromagnetic interference. Altitude: ≤2500m Atmospheric pressure: 80-106kpa

# TEMPERATURE CONTROLLER

## Pointer type

### Temperature controller

#### Dimension and hole size


Type	Code	Panel size	Meter length	Hole size	Installation distance
TDW	1	160×80	150	152 74	30mm
TEA	2	96×96	140	92×92	
TDA	3	60×120	140	55×115	
TED	4	72×72	140	68×68	
TE	6	48×48	140	45×45	

#### Product

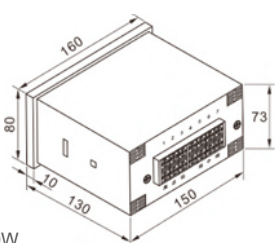

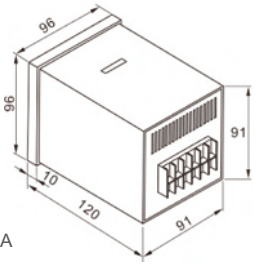

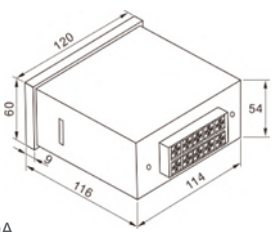
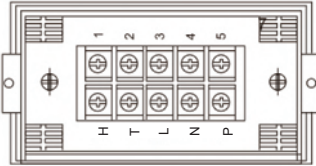
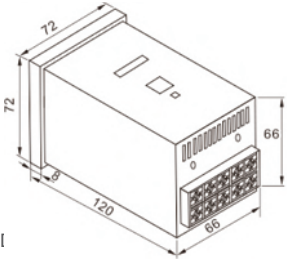
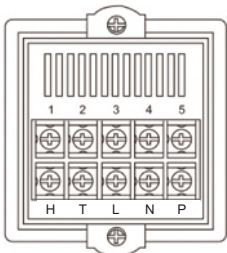
Type	Product code	Main function	Diagram
TDW	2001 2002	Two position adjustment	
	2301 2302	Time proportional adjustment	
	2601 2602	Single phase bidirectional SCR phase shifting output	
	2701 2702	Single phase bidirectional SCR cross zero output	
	2901 2902	DC0-10mA; 4-20mA continuous PID output	
TEA	2001 2002	Two position adjustment	
	2301 2302	Time proportional adjustment	
	2601 2602	Single phase bidirectional SCR phase shifting output	
	2701 2702	Single phase bidirectional SCR cross zero output	
	2901 2902	DC0-10mA; 4-20mA continuous PID output	
TDA	8001 8002	Two position adjustment	
	8301 8302	Time proportional adjustment	
	8601 8602	Single phase bidirectional SCR phase shifting output	
	8701 8702	Single phase bidirectional SCR cross zero output	
	8901 8902	DC0-10mA; 4-20mA continuous PID output	
TED	2001 2002	Two position adjustment	
	2301 2302	Time proportional adjustment	
	2601 2602	Single phase bidirectional SCR phase shifting output	
	2701 2702	Single phase bidirectional SCR cross zero output	
	2901 2902	DC0-10mA; 4-20mA continuous PID output	

# Pointer type

## Temperature controller

Type	Product code	Main function	Diagram
TE	01 02	Two position adjustment	
	31 32	Time proportional adjustment	

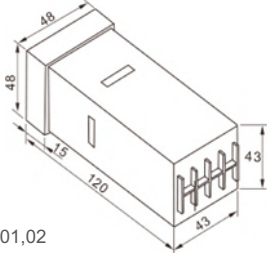
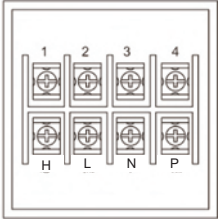
### Appearance and back-end wiring diagram

Appearance	Back-end wiring diagram
<p>TDW</p> 	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive.</p>
<p>TEA</p> 	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive.</p>
<p>TDA</p> 	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive.</p>
<p>TEI</p> 	 <p>Note : with thermocouple meter, 1 connected positive, 2 connected negative. with thermal resistance meter, 1, 2 connected negative, 3 connected positive.</p>

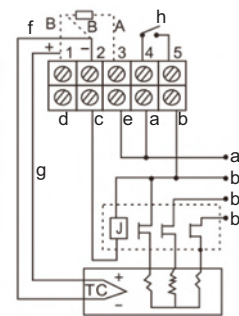
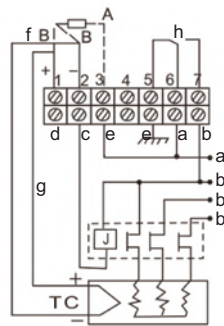
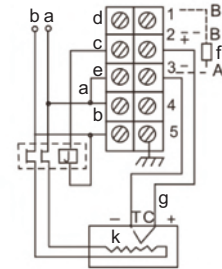
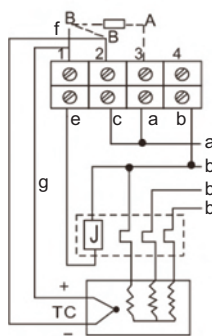
# TEMPERATURE CONTROLLER

## Pointer type

Temperature controller

Appearance	Back-end wiring diagram
 <p>TE-01,02</p>	 <p>Note : with thermocouple meter, 1 connected positive,2connected negative. with thermal resistance meter, 1,2 connected negative, 3 connected positive.</p>

### Wiring attention

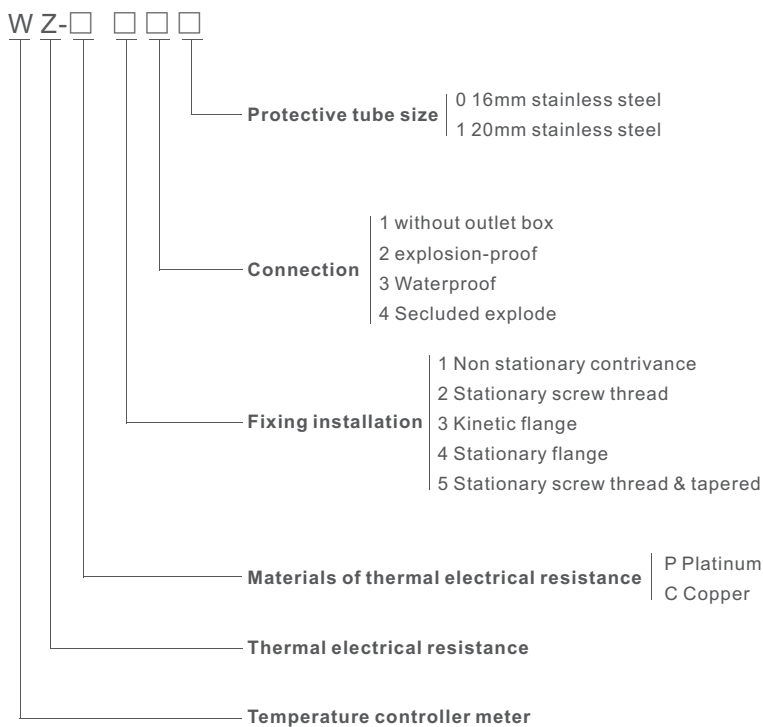
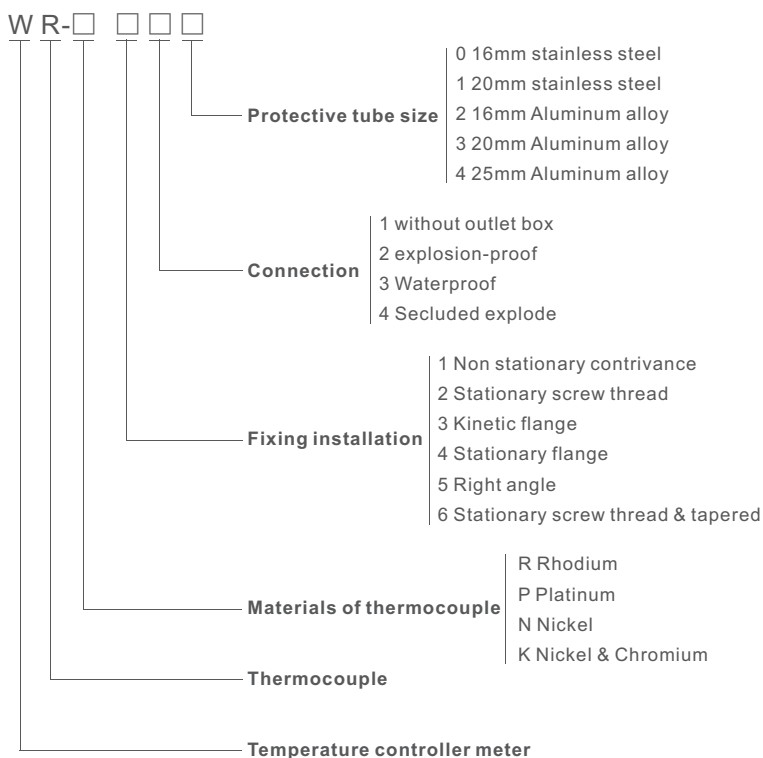


- a:neutral
- b:phase
- c:total
- d:high
- e:low
- f:thermal resistance
- g:thermocouple
- h:alarm output
- k:furnace

## WR/WZ series

Thermocouple series and Thermal Resistance series

### Type illustration





# TEMPERATURE CONTROLLER

## WR/WZ series

Thermocouple series and Thermal Resistance series



### Performance

Spring, Mini pin, Probe, thermocouple series

Name	Type	Calibration	Structure characteristic
Spring	WRKT-01	E(EA-2)	Fixed screw:M12X1.5 , M10X1.5 , M8X1 Head length:30X35 , 60X70
	WRNT-01	K(Eu-2)	
Mini.Pin	WRKX-31	E(EA-2)	Fixed screw: M6X1 , M8X1
	WRNX-31	K	
Probe	WRKT-13	E	Fixed Screw:M12X1 , M12X1.5 Copper tube:Φ7 Stainless steel:Φ6 Φ8
	WRNT-13	K	
	WZCT-13	Cu50	
	WZPT-13	Pt100	
Ring	WRKT-04	E	The diameter of the ring and the length of the wire according to the customer's requirement
	WRNT-04	K	

Platinum-rhodium fabricated thermocouple series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Platinum-rhodium10-platinum	WRP-120-130	No fixed mounting	S(LB-3)	High alumina (ceramic)	Φ16	0-1600°C
	WRP-121-131				Φ25	
	WRP-320-330	Movable flange mounting			Φ16	
	WRP-321-331				Φ25	
Platinum-rhodium30-platinum6	WRR-120-130	No fixed mounting	B(LL-2)	Adamantine	Φ16	0-1800°C
	WRR-121-131				Φ25	
	WRR-320-330	Movable flange mounting			Φ16	
	WRR-321-331				Φ25	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Nickel hromiumnikel silicom	WRN-120-130	No fixed mounting	K(Eu-2)	1Cr18Ni9Ti	Φ16	0-1100°C
	WRN-121-131			Stainless Steel	Φ20	
	WRN-122			High alumina	Φ16	0-1300°C
	WRN-123				Φ20	
Nickel chromium constantan	WRK-120-130	No fixed mounting	E(EA-2)	1Cr18Ni9Ti	Φ16	0-800°C
	WRK-121-131			Stainless Steel	Φ20	
	WRK-122			High alumina	Φ16	
	WRK-123				Φ20	

## WR/WZ series

### Thermocouple series and Thermal Resistance series



Fabricated thermal resistance series

Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Nickel hromiumnikel silicom	WRN-220-230	Fixed thread M27X2 G3/4 M33X2	K(Eu-2)	1Cr18Ni9Ti Stainless Steel 1Cr18Ni9Ti	Φ16	0-1100°C
	WRN-221-231				Φ20	
Nickel chromium constantan	WRK-220-230		E(EA-2)		Φ16	0-800°C
	WRK-221-231				Φ20	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Nickel hromiumnikel silicom	WRN-320-330	Movable flange mounting	K(Eu-2)	1Cr18Ni9Ti Stainless Steel 1Cr18Ni9Ti	Φ16	0-1100°C
	WRN-321-331				Φ20	
Nickel chromium constantan	WRK-320-330		E(EA-2)		Φ16	0-800°C
	WRK-321-331				Φ20	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Nickel hromiumnikel silicom	WRN-420-430	Movable flange mounting	K(Eu-2)	1Cr18Ni9Ti Stainless Steel 1Cr18Ni9Ti	Φ16	0-1100°C
	WRN-421-431				Φ20	
Nickel chromium constantan	WRK-420-430		E(EA-2)		Φ16	0-800°C
	WRK-421-431				Φ20	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Platinum	WZP-120-130	No fixed mounting	Pt100 BA1 BA2 Pt10	1Cr18Ni9Ti Stainless Steel 1Cr18Ni9Ti	Φ16	-200-500°C
	WZP-121-131				Φ12	
Copper resistance	WZC-120-130		Cu50 Cu100 G		Φ16	-50-150°C
	WZC-121-131				Φ12	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Platinum	WZP-220-230	Fixed thread M27X2 G3/4 G1/2 M33X2	Pt100 BA1 BA2 Pt10	1Cr18Ni9Ti Stainless Steel 1Cr18Ni9Ti	Φ16	-200-500°C
	WZP-221-231				Φ12	
Copper resistance	WZC-220-230		Cu50 Cu100 G		Φ16	-50-150°C
	WZC-221-231				Φ12	

# TEMPERATURE CONTROLLER

## WR/WZ series

Thermocouple series and Thermal Resistance series



Fabricated thermal resistance series

Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Platinum	WZP-320-330	Movable flange mounting	Pt100 BA1	1Cr18Ni9Ti Stainless Steel	Φ16	-200-500°C
	WZP-321-331		BA2 Pt10		Φ12	
Copper resistance	WZC-320-330		Cu50 Cu100		Φ16	
	WZC-321-331		G		Φ12	

Fabricated thermal resistance series



Name	Type	Insulation	Calibration	Protected pipe material	Diameter of pipe	Measure range °C
Platinum	WZP-320-330	Fixed flange	Pt100 BA1	1Cr18Ni9Ti Stainless Steel	Φ16	-200-500°C
	WZP-321-331		BA2 Pt10		Φ12	
Copper resistance	WZC-320-330		Cu50 Cu100		Φ16	
	WZC-321-331		G		Φ12	

Components of thermocouple and thermal resistance



Name	Type	Insulation	Protected pipe material	Diameter of pipe	Measure range °C
Nickel hromiumnikel silicon	WRN-010	K(Eu-2)	Slime	Φ8 Φ11	0-1100°C
Nickel chromium constantan	WRK-010	E(EA-2)	Slime	Φ8 Φ11	0-800°C

Components of thermocouple and thermal resistance



Name	Type	Insulation	Protected pipe material	Diameter of pipe	Measure range °C
Platinum	WZP-010	Pt100 BA1 BA2 Pt10	Mica	Φ12	-200-500°C
	WZP-011			Φ8	
				Φ6	
	WZP-012		Ceramic, glass metal (two/three lines)	Φ1.6	-200-300°C
	WZP-001			Φ2.2	
				Φ3	
WZP-035S	Φ4				
Copper resistance	WZC-010	Cu50 Cu100 G	Metal	Φ5	-50-150°C
	WZC-001			Φ6	
				Φ4	
				Φ8	

## MSQ series

### Current transformer



MSQ-30B

### Application

This series of CT can be applied to test, control, display and record the running of the electrical equipment, and to protect the equipment against the damage. In the AC circuit with the rated voltage value below 720V and the frequency of 50-60Hz. The product can be also applied to form a complete set of main transformer.

The products comply with VDE 0414, BS7626 and IEC61869-2 standard.

### Technical characteristics of current transformers

With busbar

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-30B	5/5	5-10	5-10	0.60
	10/5	5-10	5-10	0.60
	15/5	5-10	5-10	0.60
	20/5	5-10	5-10	0.60
	25/5	5-10	5-10	0.60
	30/5	5-10	5-10	0.60
	40/5	5-10	5-10	0.60
	50/5	5-10	5-10	0.60
	60/5	5-10	5-10	0.60
	75/5	5-10	5-10	0.60
	80/5	5-10	5-10	0.60
	100/5	5-10	5-10	0.60
	120/5	5-10	5-10	0.60
	125/5	5-10	5-10	0.60
	150/5	5-10	5-10	0.60
	200/5	5-10	5-10	0.60
250/5	5-10	5-10	0.60	



MSQ-30T

Windows type

Bar:30×10mm. Conductor: φ20mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-30T	100/5	2.5-5	5	0.62
	125/5	3-5	5-10	0.62
	150/5	5-10	5-10	0.62
	160/5	5-10	5-10	0.62
	200/5	5-10	5-10	0.62
	250/5	5-10	5-10	0.62

# CURRENT TRANSFORMER

## MSQ series

### Current transformer



MSQ-30

Windows type

Bar:30×10mm. Conductor:  $\phi$ 20mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-30	30/5	-	1.0	0.4
	40/5	-	1.0	0.4
	50/5	-	1.0	0.4
	60/5	-	1.0	0.4
	75/5	1	1.5	0.4
	80/5	1.5	2.5	0.4
	100/5	2.5	5.0	0.4
	150/5	5-10	5-10	0.4
	200/5	5-10	5-10	0.4
	250/5	5-10	5-10	0.4
	300/5	5-10	5-10	0.4



MSQ-40

Windows type

Bar:40×10mm. Conductor:  $\phi$ 30mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-40	100/5	2.5	2.5	0.38
	150/5	3.0	5.0	0.38
	200/5	5.0	5-10	0.38
	250/5	5-10	5-10	0.38
	300/5	5-10	5-10	0.38
	400/5	5-10	5-10	0.38
	500/5	5-10	5-10	0.38



MSQ-60

Windows type

Bar:60×20mm. Conductor:  $\phi$ 40mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-60	250/5	5.0	5.0	0.60
	300/5	5.0	5.0	0.60
	400/5	5-10	5-10	0.60
	500/5	5-10	5-15	0.60
	600/5	10-15	10-15	0.60
	750/5	10-15	10-15	0.60
	800/5	10-15	10-15	0.60
	1000/5	15.0	15.0	0.60



MSQ-100

Windows type

Bar:80×30mm.or 100×10mm. Conductor:  $\phi$ 60mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-100	1500/5	15	15	0.80
	1600/5	15	15	0.80
	2000/5	15	15	0.94
	2250/5	15	15	0.98
	2500/5	15	15	1.10
	3000/5	15	15	1.16

## MSQ series

### Current transformer



MSQ-85



MSQ-125



PX-125

Windows type

Bar:82×30mm. Conductor:  $\phi$  80mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-85	750/5	15	15	0.75
	800/5	15	15	0.82
	1000/5	15	15	0.89
	1200/5	15	15	0.99
	1500/5	15	15	1.02

Windows type

Bar:125×57mm.or 125×10mm. Conductor:  $\phi$  60mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
MSQ-125	1500/5	15	15	1.0
	2000/5	15	15	1.15
	2500/5	15	15	1.45
	3000/5	15	15	1.60
	4000/5	15	15	1.90
	5000/5	15	15	2.20

Windows type

Bar:125×38mm. Conductor:  $\phi$  60mm.

Type	Rated Current(A)	Rated Power(VA)		Weight(kg)
		Class 0.5	Class 1.0	
PX-125	800/5	7.5	15	1.0
	1000/5	10	20	1.0
	1200/5	10	20	1.0
	1250/5	12.5	25	1.0
	1500/5	15	30	1.0
	1600/5	15	30	1.05
	2000/5	15	30	1.15
	2250/5	15	30	1.20
	2500/5	15	30	1.45
	3000/5	15	30	1.60
	4000/5	15	30	1.90
	5000/5	15	30	2.20

# CURRENT TRANSFORMER

## MES series

### Current transformer



MES-62/20B



MES-62/20



MES-62/30



MES-62/40

### Application

The MES series of current transformer are convenient for mounting in many ways. The most current transformer need the special mounting and the MES series used the mounting of DIN typing without a lot of times. The protective cover for the terminal block used the switching device with safety and quick.

### Mes guide rail type CT

Primary current: 5A-3000A  
 Secondary current: 5A, 1A  
 Standard approval: VDE0414, BS7626, IEC61869-2  
 Maximum voltage: 0.72/3KV  
 Frequency: 50-60Hz  
 Rated load: 2.5VA, 5VA, 10VA, 15VA  
 Class: 0.5, 1.0  
 Short-time thermal current:  $I_{th}=60 \times 1h$   
 Rated security efficient:  $F_s < 5$

### Technical characteristics of current transformers

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MES-62/20B	5/5	2.5	5
	10/5	2.5	5
	15/5	2.5	5
	20/5	2.5	5
	25/5	2.5	5
	30/5	2.5	5
	40/5	2.5	5
	50/5	2.5	5
	60/5	2.5	5
	75/5	2.5	5
	100/5	2.5	5
MES-62/20	150/5	2.5	5
	30/5	-	1
	40/5	-	1
	50/5	1.0	2
	60/5	1.0	2
	75/5	1.5	3
	80/5	1.5	3
	100/5	2.0	3.75
	150/5	2.5	5
200/5	3.0	5	

## MES series

Current transformer



MES-80/30



MES-80/40



MES-100/60



MES-145/100

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MES-62/30	30/5	-	1
	40/5	-	1
	50/5	-	1
	60/5	-	1.5
	75/5	-	1.5
	100/5	1.5	2.5
	150/5	2	3
MES-62/40	200/5	2.5	5
	60/5	-	1
	75/5	1	1
	100/5	1.5	2
	150/5	2.5	2.5
	200/5	3	5
MES-80/30	250/5	5	5
	300/5	-	7.5
	30/5	-	1
	50/5	-	1
	60/5	1.5	2
	75/5	2.5	2.5
	100/5	5	5
MES-80/40	150/5	1.5	5
	200/5	2.5	7.5
	100/5	5	2.5
	150/5	10	5
	200/5	10	5
	250/5	10	5
	300/5	15	15
MES-100/60	400/5	15	15
	500/5	15	15
	600/5	15	20
	800/5	15	20
	1000/5	15	20
MES-145/100	1200/5	15	20
	1000/5	15	30
	1200/5	15	30
	1500/5	15	30
	1600/5		30
	2000/5		30
	2500/5		30
3000/5		30	



# CURRENT TRANSFORMER

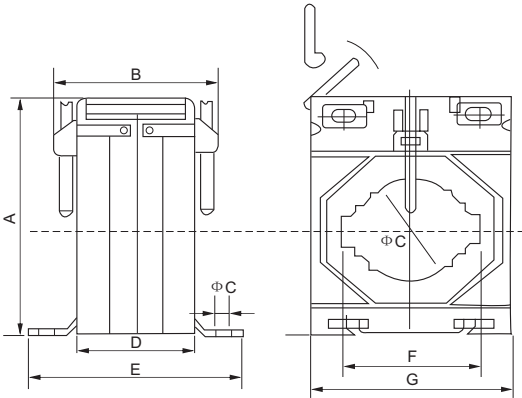
## MES series

Current transformer

Dimension of case(mm)

Model	A	B	C	D	E	F	G
MES-62/20B	81	47	20B	35	71	20B	62
MES-30/20	81	47	20	35	71	20	62
MES-62/30	81	47	30	35	71	31	62
MES-62/40	81	47	30	35	71	41	62
MES-89/30	88	52	30	41	77	31	80
MES-89/40	88	52	30	41	77	41	80
MES-100/60	117	57	50	184	77	61	101
MES-145/100	115	53	86	38	74	101	145

Outline drawing



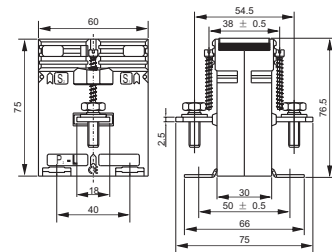
## MBO series

### Current transformer



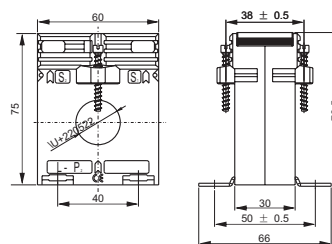
MBO-62/B

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-62/B	5/5	2.5	5
	10/5	2.5	5
	15/5	2.5	5
	20/5	2.5	5
	25/5	2.5	5
	30/5	2.5	5
	40/5	2.5	5
	50/5	2.5	5
	60/5	2.5	5
	75/5	2.5	5
	100/5	2.5	5
	150/5		5



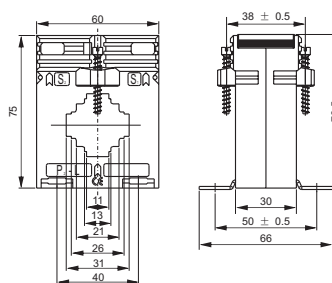
MBO-62/20

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-62/20	30/5	-	1
	40/5	-	1
	50/5	1	2
	60/5	1	2
	75/5	1.5	3
	80/5	1.5	3
	100/5	2.5	3.75
	150/5	3	5
	200/5		5



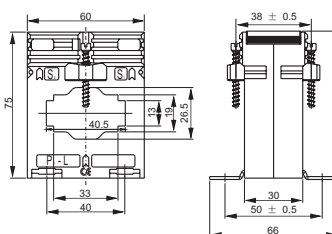
MBO-62/30

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-62/30	30/5	-	1
	40/5	-	1
	50/5	-	1
	60/5	-	1.5
	75/5	1.5	1.5
	100/5	2	2.5
	150/5	2.5	3
	200/5		5



MBO-62/40

Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-62/40	60/5	-	1
	75/5	-	1
	100/5	1	2
	150/5	1.5	2.5
	200/5	2.5	5
	250/5	3	5
	300/5	5	7.5



# CURRENT TRANSFORMER

## MBO series

Current transformer



MBO-60

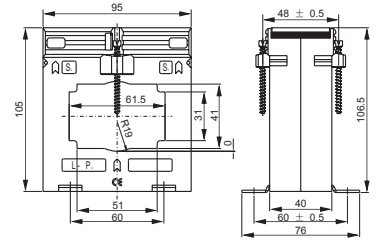


MBO-70

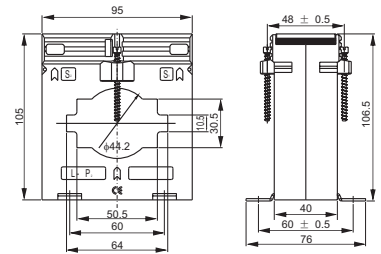


MBO-100

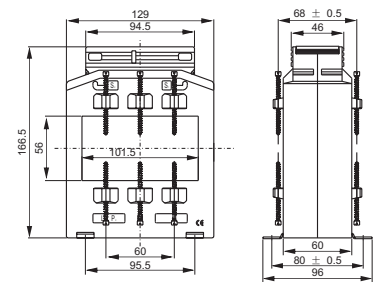
Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-60	300/5	10	15
	400/5	10	15
	500/5	10	15
	600/5	15	20
	750/5	15	20
	800/5	15	20
	1200/5	20	25



Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-70	400/5	10	15
	500/5	10	15
	600/5	10	15
	750/5	15	20
	800/5	15	20
	1000/5	20	25
	1200/5	30	30
	1500/5	30	40
	2000/5	40	40



Type	Rated Current(A)	Rated Power(VA)	
		Class 0.5	Class 1.0
MBO-100	750/5	15	20
	800/5	15	20
	1000/5	15	20
	1200/5	15	20
	1500/5	15	20
	1600/5	20	20
	2000/5	20	40
	2250/5	20	40
	2500/5	20	50



## NSQ series

### Current transformer



NSQ-30



NSQ-35



NSQ-40



NSQ-60



NSQ-100

### Application

Primary current: 30A-3000A  
 Secondary current: 5A, 10A  
 Standard approval: BS7626, IEC61869-2  
 Maximum voltage: 0.66KV  
 Frequency: 50-60Hz  
 Rated load: 2.5VA, 15VA  
 Class: 0.5, 1.0, 3.0  
 Short-time thermal current:  $I_{th}=60 \times I_h$   
 Rated security efficient:  $F_s < 5$

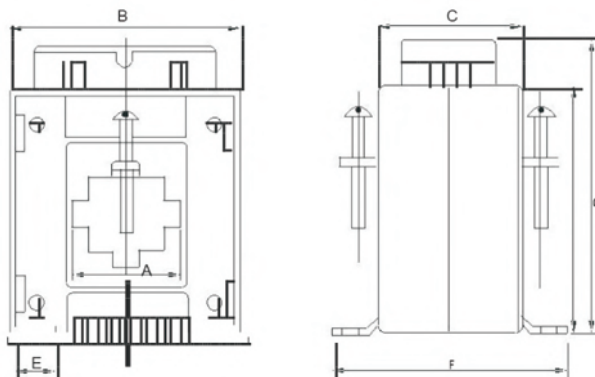
### Technical characteristics of current transformers

Mode	Primary/Secondary	Busbar Hole Dimension	Rated Burden(VA)	Class	Rated Voltage	Rated Frequency
NSQ-30	30/5A-300/5A	30×10mm	2.5-5	0.5/1.0	0.72	50/60Hz
NSQ-35	50/5A-400/5A	35×10mm	5	0.5/1.0	0.72	50/60Hz
NSQ-40	100/5A-600/5A	40×10mm	10	0.5/1.0	0.72	50/60Hz
NSQ-60	600/5A-1600/5A	60×10mm	15	0.5/1.0	0.72	50/60Hz
NSQ-100	800/5A-3000/5A	100×10mm	15	0.5/1.0	0.72	50/60Hz

### Dimension of case(mm)

Mode	A	B	C	D	E	F
NSQ-30	30	78	46	95	112	70
NSQ-35	40	70	46	84	100	70
NSQ-40	45	80	46	87	104	70
NSQ-60	60	110	53	130	148	80
NSQ-100	100	155	53	174	191	80

### Outline drawing



# CURRENT TRANSFORMER

## TP series

### Current transformer



TP-88



TP-812

### Application

The TP series split core current transformer has been specially designed to facilitate their installation in new or already existing net works. They may be installed without opening any cable or bus-bar circuit. The connection of conventional CTs usually requires the interruption of the primary side current to pass cables or bus-bar through the transformer core to connect such cables to the primary terminals.

Standard: IEC61869-2.

### Feature

- Two built in fixing methods: panel/bus-bar
- Very easy to install
- Wide inner window, allowing clamping of big cables or bus-bars
- Wide range of sizes to accommodate all the existing installation
- Primary current from 5A to 5000A

### Specifications

Rated Frequency	50/60Hz
Rated Test Voltage	3Kv AC (1min)
Rated short-time thermal current (I <sub>th</sub> )	60I <sub>n</sub>
Rated dynamic current (I <sub>dyn</sub> )	2.5I <sub>th</sub>
Rated voltage(U <sub>m</sub> )	0.72Kv AC
Continuous overload(I <sub>d</sub> )	1.2I <sub>n</sub>
Operating temperature	-10°C~65°C
Housing self-extinguishing class	E
Safety factor	Fs5
Secondary current	5A/1A

### Technical characteristics of current transformers

Type	Rated Current(A)	Rated Power(VA)		Outline Drawing
		Class 0.5	Class 1.0	
TP-23	100/5	-	1.5	
	150/5	-	1.5	
	200/5	-	1.5	
	250/5	-	1.5	
	300/5	1.5	2.5	
	400/5	2.5	3.75	
TP-58	250/5	-	1.5	
	300/5	1.5	2.5	
	400/5	2.5	2.5	
	500/5	2.5	5	
	600/5	5	5	
	750/5	5	5	
	800/5	5	5	
	1000/5	5	10	

Type	Rated Current(A)	Rated Power(VA)		Outline Drawing
		Class 0.5	Class 1.0	
TP-88	250/5	-	1.5	
	300/5	-	1.5	
	400/5	-	2.5	
	500/5	1.5	2.5	
	600/5	1.5	2.5	
	750/5	2.5	5	
	800/5	3.75	5	
	1000/5	5	7.5	
TP-812	500/5	-	2.5	
	600/5	-	2.5	
	750/5	2.5	5	
	800/5	2.5	5	
	1000/5	5	10	
	1200/5	5	10	
	1250/5	5	10	
TP-816	1000/5	5	10	
	1500/5	7.5	10	
	2000/5	10	15	
	2500/5	15	20	
	3000/5	20	25	
	4000/5	20	25	
	5000/5	20	25	
6000/5	20	25		

# CURRENT TRANSFORMER

## PX1 series

### Current transformer



PX1-20



PX1-30



PX1-40



PX1-20L



PX1-30L

### Application

Model PX1-20, PX1-30, PX1-40 are available for connecting with cable, and also available for connecting with bus bar.

Maximum voltage: 0.66KV

Frequency: 50-60Hz

Class: 1.0

Short-time thermal current:  $I_{th}=60 \times I_n$

Mounting methods: either by din rail (35mm) or by screws

Window dimensions: diameter 22mm (PX1-20, PX1-20L)

31 × 10mm (PX1-30, PX1-30L)

41 × 10mm (PX1-40)

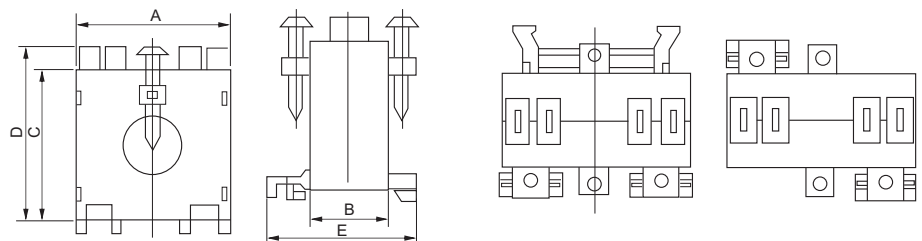
### Technical characteristics of current transformers

Mode	Primary/Secondary	Busbar Hole Dimension	Rated Burden(VA)	Class	Rated Voltage
PX1-20	50/5A-150/5A	$\phi$ : 20mm	1.5-2.5	1.0	660V
PX1-30	100/5A-500/5A	30×10mm	1.5-2.5	1.0	660V
PX1-40	150/5A-1000/5A	40×10mm	3-10	1.0	660V
PX1-20L	50/5A-150/5A	$\phi$ : 20mm	1.5-2.5	1.0	660V
PX1-30L	100/5A-500/5A	30×10mm	1.5-5	1.0	660V

### Dimension of case(mm)

Mode	A	B	C	D	E
PX1-20	53	28	57	66	54
PX1-30	53	28	57	66	54
PX1-40	71	45	73	81	65
PX1-20L	53	28	57	66	54
PX1-30L	53	28	57	66	54

### Outline drawing



## PS series

Current transformer



PSM-20B



PS-30



PS-60



PS-100

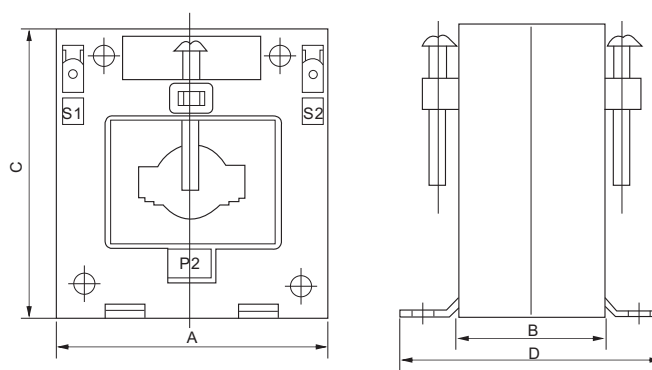
### Technical characteristics of current transformers

Mode	Primary/Secondary	Busbar Hole Dimension	Rated Burden(VA)	Class	Rated Voltage	Rated Frequency
PSM-20B	50/5A-200/5A	-	1.5-3	1.0	660V	50/60Hz
PSM-20	50/5A-200/5A	20×10mm	1.5-3	1.0	660V	50/60Hz
PSM-30	50/5A-200/5A	20×10mm	1.5-3	1.0	660V	50/60Hz
PS-30	50/5A-300/5A	30×10mm	2.5-5	1.0	660V	50/60Hz
PS-40	150/5A-800/5A	40×10mm	5-10	1.0	660V	50/60Hz
PS-60	400/5A-1000/5A	60×10mm	10	1.0	660V	50/60Hz
PS-100	800/5A-3000/5A	100×10mm	15	1.0	660V	50/60Hz

### Dimension of case(mm)

Mode	A	B	C	D
PS-20A	56	30	63	80
PS-20	56	30	63	50
PS-30	56	30	63	50
PS-30	79	42	87	66
PS-40	79	42	87	66
PS-60	103	42	113	66
PS-100	151	42	166	69

### Outline drawing





# CURRENT TRANSFORMER

## CPS series

Current transformer



CPS-40



CPS-60



CPS-80



CPS-100



CPS-120

### Application

Primary current: 100A-5000A  
 Secondary approval: 5A, 1A  
 Standard current: BS7626, IEC61869-2  
 Maximum voltage: 0.72KV  
 Frequency: 50-60Hz  
 Rated load: 2.5VA-60VA  
 Class: 0.5, 1.0, 3.0  
 Short-time thermal current:  $I_{th}=100 \times I_h$   
 Rated security coefficient:  $F_s < 5$   
 -High fire retardancy and security.  
 -Wide range of sizes to accommodate all the existing installations.

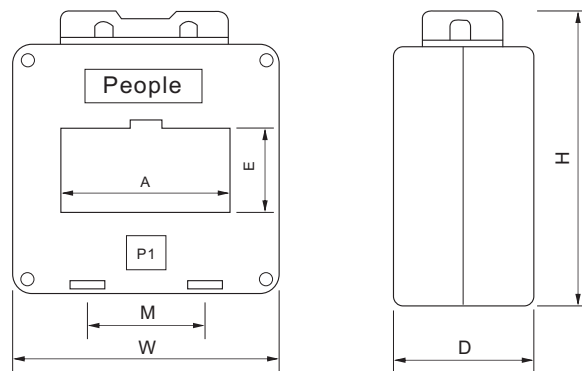
### Specification

Mode	Primary/secondary(A)
CPS-40	100/5, 150/5, 200/5, 250/5, 300/5, 400/5, 500/5, 600/5A
CPS-60	300/5, 400/5, 500/5, 600/5, 750/5, 800/5, 1000/5, 1200/5A
CPS-80	500/5, 600/5, 750/5, 800/5, 1000/5, 1200/5, 1500/5, 1600/5A
CPS-100	600/5, 750/5, 800/5, 1000/5, 1200/5, 1500/5, 1600/5, 2000/5A, 2500/5, 3000/5A
CPS-120	1000/5, 1200/5, 1500/5, 1600/5, 2000/5, 2500/5, 3000/5, 4000/5A, 5000/5

### Dimension of case(mm)

Mode	Dimensions			Busbar hole dimension		Installation dimension
	W	H	D	A	E	M
CPS-40	75	105	45	42	32	45
CPS-60	98	116	45	62	32	42
CPS-80	118	120	45	82	32	60
CPS-100	140	130	49	102	32	80
CPS-120	165	152	49	102	53	80

### Outline drawing



## RCT series

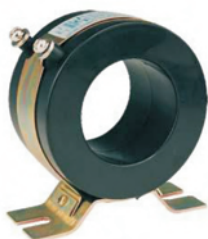
### Current transformer



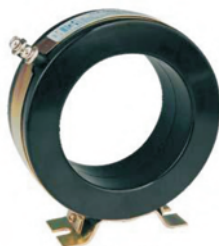
RCT-25



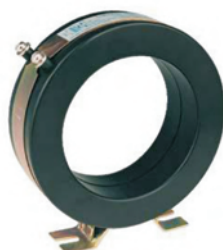
RCT-35



RCT-60



RCT-90



RCT-110

### Application

Primary current: 30A-3000A  
 Secondary current: 5A, 1A  
 Standard approval: IEC61869-2  
 Maximum voltage: 0.66KV  
 Frequency: 50-60Hz  
 Rated load: 15VA  
 Class: 1.0  
 Short-time thermal current:  $1t_h=60 \times 1h$   
 Rated security efficient:  $F_s < 5$

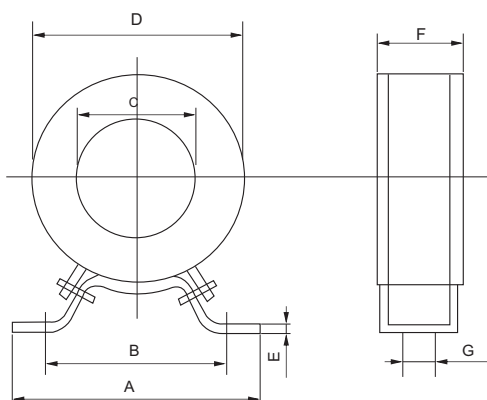
### Specification

Mode	Primary/secondary(A)
RCT-25	15/5,200/5,30/5,40/5,50/5,60/5,75/5,100/5A
RCT-35	30/5,50/5,60/5,80/5,100/5,120/5,150/5,200/5A,250/5,300/5
RCT-60	300/5,400/5,500/5,600/5,800/5,1000/5,1200/5
RCT-90	800/5,1000/5,1200/5,1500/5,1600/5
RCT-110	1000/5,1200/5,1500/5,1600/5,2000/5,2500/5,3000/5

### Dimension of case(mm)

Mode	RCT-25	RCT-35	RCT-60	RCT-90	RCT-110
A	93	93	93	93	102
B	78	78	78	78	86
C	25	25	60	90	111
D	78	78	104	136	157
E	2	2	2	2	2
F	55	55	41	41	52
G	9	9	9	9	9

### Outline drawing



# CURRENT TRANSFORMER

## MR series

Current transformer



### Application

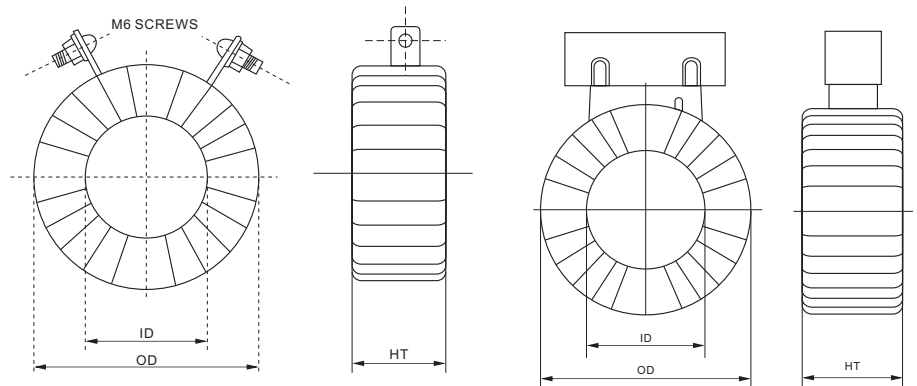
Primary current: 30A-5000A  
 Secondary current: 5A, 1A  
 Standard approval: IEC61869-2  
 Maximum voltage: 0.72KV  
 Frequency: 50-60Hz  
 Rated load: 5VA-15VA  
 Class: 1.0, 3.0  
 Short-time thermal current:  $I_{th}=60 \times I_n$   
 Rated security efficient:  $F_s < 5$

### Specification

Mode	Specification	ID	CD	HT
MR-28(L)	30/5A-60/5A	28	70	40
MR-42(L)	100/5A-250/5A	42	80	30
MR-45(L)	300/5A	45	80	30
MR-60(L)	400/5A	60	100	30
MR-60(L)	500/5A 600/5A	60	100	30
MR-85(L)	800/5A-1600/5A	85	120	20
MR-125(L)	2000/A-5000/5	125	165	20

Noted: For measuring current transformers, the accuracy class is designated by the highest permissible percentage current(ratio)error at the rated current prescribed for the accuracy class concerned.

### Outline drawing



## PR series

### Current transformer



### Application

Protective current transformers are required to operate over a range of current many times the circuit rating and is frequently subjected to conditions greatly exceeding those which it would be subjected to as a measuring current transformer. When a current transformer is used to energise a protective relay, it must maintain its characteristic ratio up to some multiple of its rated current. This multiple, may be 5, 10,20 or some even higher value and is know as Accuracy Limit Factor (ALF). Therefore,the selection of Protective Current Transformers in relation to accuracy class and ALF require a close examination of relay characteristic and circuit condi-tions which includes the relay burden and the pilot wire lead burden.

### Dimensions(mm)

CI:10P5 15VA

Spec.	60/5A	100/5A	150/5A	200/5A	250/5A	300/5A	400/5A	500/5A	600/5A
OD	100	100	100	100	96	96	100	100	100
ID	34	34	34	34	34	34	60	60	65
HT	148	98	68	58	68	68	68	48	58

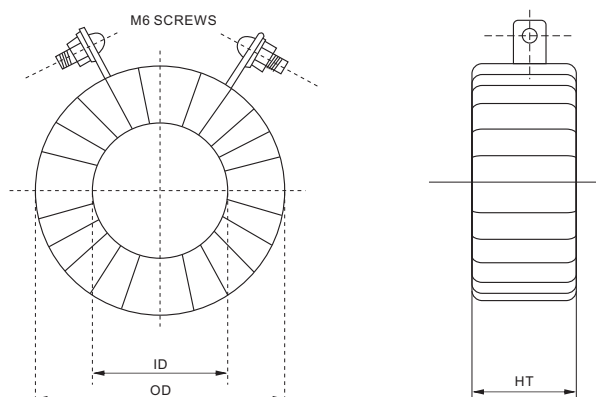
CI:5P10 15VA

Spec.	100/5A	150/5A	200/5A	250/5A	300/5A	400/5A	500/5A	600/5A	800/5A	1000/5A	1200/5A	1600/5A	2000/5A	2500/5A	3000/5A	3500/5A	4000/5A	5000/5A
OD	100	100	100	96	96	96	102	110	120	120	123	123	123	178	178	182	182	184
ID	34	34	34	45	45	45	62	68	85	85	82	82	125	125	125	120	120	118
HT	180	130	110	110	110	90	110	88	88	68	68	60	40	40	40	35	35	38

CI:10P10 15VA

Spec.	100/5A	150/5A	200/5A	300/5A	400/5A	500/5A	600/5A	800/5A	1000/5A	1200/5A	1600/5A	2000/5A	2500/5A	3000/5A
OD	100	100	100	96	96	102	110	120	120	123	123	178	178	178
ID	34	34	34	45	60	60	70	85	85	82	82	125	125	125
HT	168	108	88	108	108	88	68	68	58	60	50	38	38	38

### Outline drawing



# CAPACITORS

## BSMJ series

### Capacitors



### Description

Self-healing type low voltage shunt capacitor, made of advanced metallized film, is produced strictly in accordance with the National Standard and IEC Standard by the introduced advanced foreign techniques and equipment. The device is mainly suitable for low voltage electric network to improve power factor, reduce reactive loss, and better the voltage quality.

### Characteristics

#### 1.Small volume and light weight

It is only 1/4 and 1/5 of the weight and the volume of the outdated products respectively.

#### 2.Low loss

With the actual less than 0.1%,the capacitor, itself, has low consumption of energy, little radiation, low temperature rise, long service life, and good energy conservation effect.

#### 3.Excellent self-healing performance

When a part of the isolation is fed through due to overvoltage, it is capable of self-healing so as to continue the normal operation, therefore the reliability is improved greatly.

#### 4.Safety

Equipped with self-discharging resistant and safety devices inside, it is safe and reliable.

#### 5.Without oil leakage

In order to avoid oil leakage during operation so as to protect the environment, it employs the microcrystalline wax as the impregnant, which remains solid at ordinary temperature and has a drip melting point higher than 70°C.

## CBB series

### Capacitors



### Description

Brand of CBB60 and CBB65 self-healing type AC capacitors, Which made of the advanced metallized film, are widely applied to household electric appliances such as fan, washing machine, refrigerator, air conditioner, oil vapor exhausting machine, etc. Each technic target of the device complies with GB/T3667-93 Standard.

### Specifications

Voltage		Capacitance(μf)															
Dimension		4.7	5	6	8	8.5	9	10	12	15	16	20	25	30	40	50	60
230~300VAC	D	30			34			42			50			60			
	H	60						80			100			120			
	A	11			12			15			18						
350~500VAC	D	42						50			60						
	H	80						100			150						
	A	12(15)			15(18)			18									

# Motor Run

## Capacitors



### Application

Motor run capacitor has features of small size, light weight and small tangent in waste angle. Applicable to start and operate with 50/60Hz A.C single motor, the items are specially suitable for micro pump, baric pump, micro motor and all kinds of domestic electric appliance.

### Specifications

Rated voltage	Nominal Capacity(μf)
AC250V	4,5,6,8,10,12,14,16,18,20,22,25,30,31.5,35,40,45,50,60,70,80,85,90,95,100
AC450V	

Ambient Temperature	-40~+70°C
Rated Voltage	250V AC 400V AC
Test Voltage	T-T:1.5Un T: 10S T-C:2000V AC T:10
Capacitance Tolerance	±5% ±10%
Insulation Resistance	T-T≥3000MΩ μF T-C≥100MΩ
Dissipation Factor	tg δ ≤0.004(50Hz)
Standard	SJ2600. 1-85



P-1

P-2



P-29

P-28

P-111-C

P-75

P-76