

## Panel Meter Function Comparison Table

Panel Meter	No.	Model	DW8, 9	DP4	DL8A	DL8	DA8	DP3	DX	DK8A/B/C	DM	DE
	Function											
Sensor Indicator												
Temperature Controller	1	Digits	4	4 1/2	4	4	4 1/2	3 1/2	3 1/2	3 1/2	3 1/2/ 4 1/2	3 1/2
Digital Counter	2	Accuracy	0.5%F.S	0.1%F.S	0.5%F.S	0.5%F.S	0.3%F.S	0.5%F.S	0.5%F.S	0.5%F.S	0.5%F.S	0.5%F.S
Timer Relay	3	Meas Data	All 8 datas	AC/DC voltage / current	AC/DC voltage / current universal	AC/DC voltage / current universal	AC/DC voltage / current	AC/DC voltage / current	AC/DC voltage / current	AC/DC voltage / current	DC voltage / current	AC/DC voltage / current
	4	Kepping Function	No	*Yes	No	#Yes, switchable	No	No	No	No	No	No
Tacho/Speed Pulse Meter	5	Max/Min value	No	#Yes, switchable	No	#Yes, switchable	/	/	/	/	/	/
	6	Average value	/	#Yes, switchable	/	#Yes, switchable	√	√	√	√	√	√
Recorder	7	Effective value	√	#Yes, switchable	√	#Yes, switchable	/	/	/	/	/	/
	8	Display change	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Signal Isolator	9	Display Speed	1 times/s	1-9 times/switchable	2 times/s	3 times/s	2 times/s	2 times/s	2 times/s	2 times/s	2 times/s	2 times/s
	10	Sampling Rate	250us	52us	250us	18us	/	/	/	/	/	/
Rotary Encoder	11	Zero setting	No	Yes	No	Yes	No	No	No	Yes	Yes	No
	12	Decimal point setting	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No
Proximity Sensor	13	Alarm	2 channels, upper & lower limit alarm	3 channels, upper & lower limit alarm	2 channels, upper & lower limit alarm	2 channels, upper & lower limit alarm, within & out range alarm	/	/	/	/	/	/
	14	Delay alarm	No	Yes	Customized	Yes	/	/	/	/	/	/
Solid State Relay	15	DI/DO	No	No	No	#2DI, 2DO	/	/	/	/	/	/
	16	Analog	Yes	Yes	Yes	Yes	/	/	/	/	/	/
Power Meter	17	Com	Yes	Yes	Yes	Yes	/	/	/	/	/	/

Remarks: \* **DP4 series**: models with communication function, have no hold function, and models with hold function, have no communication function; Dual-function models need to be customized.

# **DL8 series**: when you need it with hold function or DI input function, pls order models that supports communication or transmission function. (Only products with transmission or communication functions support hold or DI input)

Remarks for range selection: The max DC direct input current is DC 2A, a shunt is required for over 2A, and the transformation ratio is 75mV input. The max AC direct input current is AC 5A, a transformer is required for more than 5A, and the transformation ratio is 5A input. The max DC direct voltage input is DC 600V, the voltage is divided into 100V input if it is greater than 600V. The max AC direct input voltage is AC 600V, transformers are required for voltage greater than 600V, and the transformation ratio is 100V input.

# 1. DW Series Single Phase Multi-function Panel Meter

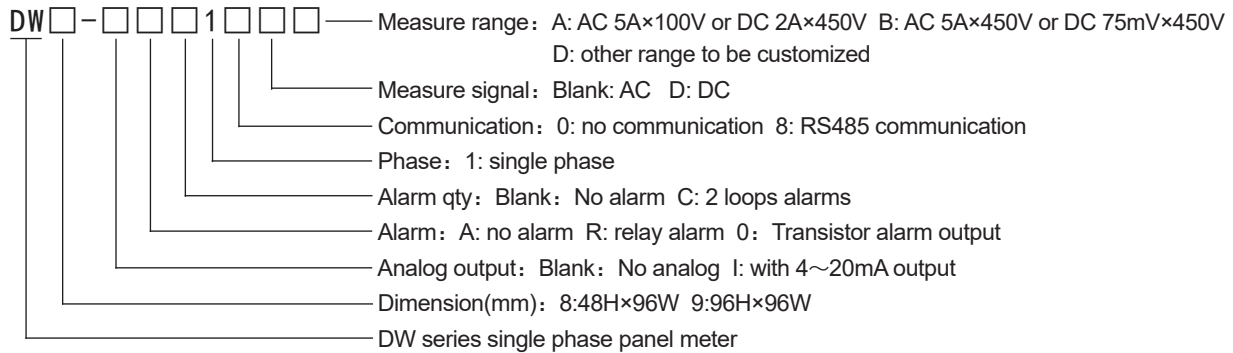
## ■ Photos and Features



### Features:

- ★ Voltage & current accuracy:  $\pm 0.5\%$  F.S, Kwh accuracy: level 1
- ★ Measure voltage, current, power factor, active power, reactive power, apparent power, and Kwh; true effective value measurement.
- ★ DC 2 loops signal measurement (DC power meter)
- ★ Optional 2 channels alarm (upper and lower limits are set arbitrarily)
- ★ Optional 4~20mA transmission output function (any can be set)
- ★ Optional RS485 communication interface, Modbus RTU protocol.
- ★ The display switching and menu setting are easy to operate, the running status and power value are protected against power failure.

## ■ Model Illustration



## ■ Ordering Information

Model	Alarm	Analog	Communication	Measure range	Measure Parameters	Code
DW8/9-A10A/B	No	No	No	AC A:5A×100V B:5A×450V	Voltage/Current/Active power/ Reactive Power/Active energy /Frequency/Power Factor	B0360DW03
DW8/9-RC10A/B	2	No	No			B0400DW03
DW8/9-RC18A/B	2	No	RS485			B0500DW03
DW8/9-IRC10A/B	2	4~20mA	No			B0460DW03
DW8/9-IRC18A/B	2	4~20mA	RS485			B0560DW03
DW8/9-A10DA/B	No	No	No	DC A:2A×450V B:75mV×450V	Voltage/Current/ Power/Energy	B0360DW03
DW8/9-RC10DA/B	2	No	No			B0400DW03
DW8/9-RC18DA/B	2	No	RS485			B0500DW03
DW8/9-IRC10DA/B	2	4~20mA	No			B0460DW03
DW8/9-IRC18DA/B	2	4~20mA	RS485			B0560DW03

## ■ Technical Specifications

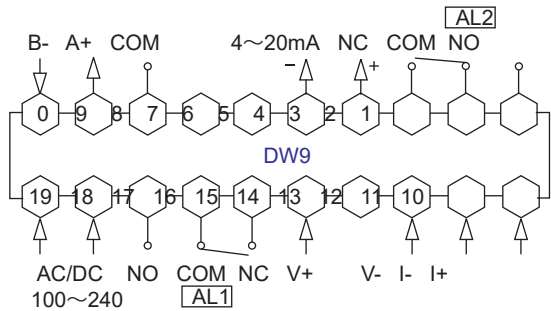
Input Signal	Input voltage	Single phase 5~450V Power consumption<1VA, DC 5~450V
	Voltage impedance	$\geq 300K\Omega$
	Input current	0.025~5A (1A customized) Power consumption<0.4VA, DC 0~2A, DC 0~75mV
	Current impedance	<20m $\Omega$
	Rated frequency	50Hz, 60Hz
	Accuracy	Active energy: 1.0S Reactive energy: 2.0S Voltage/current: 0.5%FS
	Measurement range	Current: 0.001In~1.2In Voltage: 0.01~1.1Un
Data	Relay capacity	AC 250V 5A DC24V 5A (Resistive load)
	Analog output	DC 4~20mA load<600 $\Omega$ (DC 24V)
	Display	High brightness red LED
Communication	Port	RS485 port Modbus RTU protocol
	Baud rate	4.8kbps, 9.6kbps

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

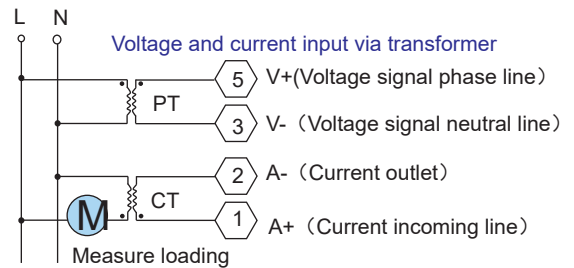
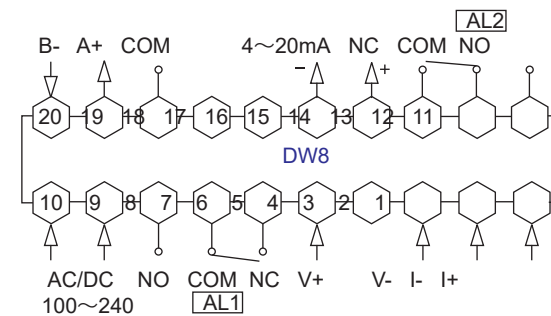
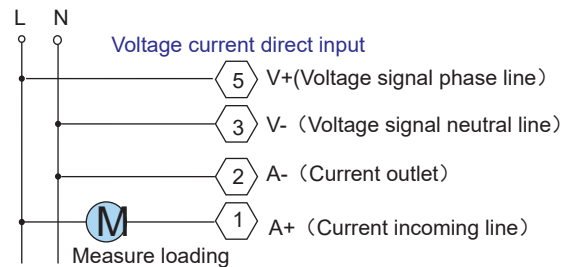
■ Technical Specifications

Panel Meter	Electromagnetic Compatibility	Static electricity	Level 3 Contact discharge ±6000V Air discharge ±8000V
		Burst	Level 4 each model ±4000VP-P
		Frequency drop	Level 3
		Lightning surge	Level 4 Line to ground ±4000V Line to line ±2000V
Sensor Indicator	Environment	Environment	Temperature: -10°C~50°C Humidity: 5~90%R.H (No condensation)
		Limit condition	-20°C~55°C
		Storage Temperature	-40°C~65°C
		Participation conditions	Temperature: 23°C±2°C Humidity:40%~60%RH
Temperature Controller	Casing	Anti-vibration level	10~57Hz (XYZ direction 2G/30minutes)
		Casing materials	VO grade flame retardant PC+ABS, PC mirrored panel
		Protective level	IP65 (front panel)
Digital Counter	Power	Power supply	AC/DC 100~240V 50/60Hz
		Power consumption	<5W
Timer Relay	Safety	Compressive strength	2000VAC 50Hz
		Insulation resistance	100MΩ DC 500V
Weight			about 0.3kg

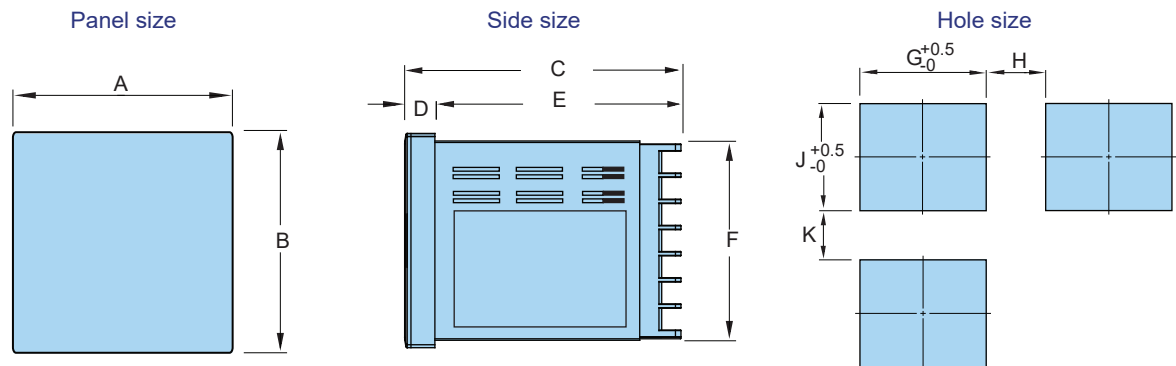
■ Wiring Diagram



DW8 wiring example:



■ Installation And Hole Size (Unit: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
DW8	96	48	97.5	9	88.5	44	92	30	45	25
DW9	96	96	97.5	9	88.5	91.5	92	25	92	25

## 2. DP4/DP4H Series Panel Meter

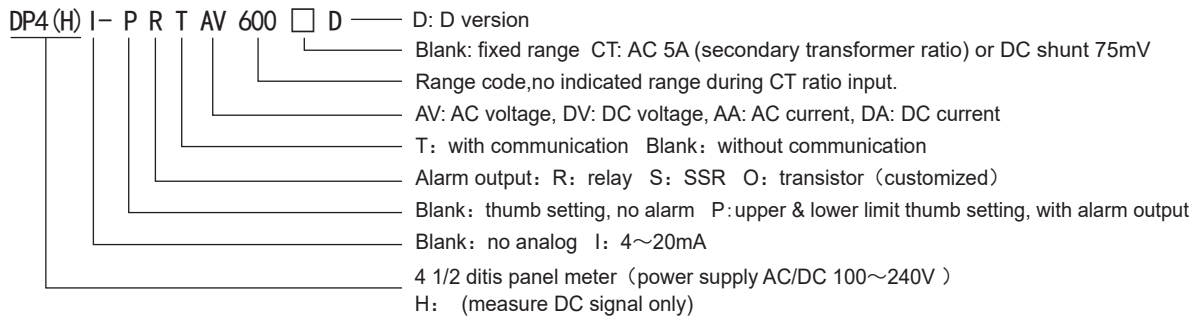
### Photos and Features



### Photos and Features

- ★ 4 1/2 digits, high resolution, high precision display.
- ★ High/low limit alarm of 2 groups of thumb switch.
- ★ Optional 1 loop insulated analog 4~20mA output.
- ★ Optional RS485 communication, Modbus RTU protocol.
- ★ D version has virtual value and average value measurement.
- ★ D version high-speed data acquisition 51.2us/time, 400Hz MF can be ordered.
- ★ With effective value, average value, hold value, maximum value, minimum value display function.
- ★ It can be set from 1 time/s to 9 times/s, display refresh rate.
- ★ Zero setting, alarm delay setting, display change setting and other special functions.

### Model Illustration



### Ordering Information (DP4H series measure DC signal only)

Model	Type	Alarm	Analog	Communication	Measurement range	Code	
DP4-AV/DV/DA/AA□ (D)	Regular	No	No	No	AV (AC Voltage) / DV (DC Voltage): 0.2/2/20(10)/200(100)/600V	A0800DP03	
DP4I-AV/DV/DA/AA□ (D)		No	No	No		A0970DP03	
DP4-TAV/DV/DA/AA□ (D)		No	4-20mA	RS485		A1100DP03	
DP4I-TAV/DV/DA/AA□ (D)		No	4-20mA	RS485		A1300DP03	
DP4-PRAV/DV/DA/AA□ (D)		High/Low limit, middle value		No	No	DA(DC Current)/ AA(AC Current): 2mA/20mA/200mA/2A	A1200DP03
DP4I-PRAV/DV/DA/AA□ (D)				No	No		A1400DP03
DP4-PRTAV/DV/DA/AA□ (D)				4-20mA	RS485		A1500DP04
DP4I-PRTAV/DV/DA/AA□ (D)				4-20mA	RS485		A1800DP04
DP4-DA/AACT (D)	Regular	No	No	No	AACT: AC 5A (secondary transformer ratio) DACT: DC shunt 75mV	A0800DP03	
DP4I-DA/AACT (D)		No	No	No		A0970DP03	
DP4-TDA/AACT (D)		No	4-20mA	RS485		A1100DP03	
DP4I-TDA/AACT (D)		No	4-20mA	RS485		A1300DP03	
DP4-PRDA/AACT (D)		High/Low limit, middle value		No	No		A1200DP03
DP4I-PRDA/AACT (D)				No	No		A1400DP03
DP4-PRTDA/AACT (D)				4-20mA	RS485		A1500DP04
DP4I-PRTDA/AACT (D)				4-20mA	RS485		A1800DP04
DP4H-DV/DA□ (D)	High impedance	No	No	No	DV(DC Voltage): 0.02/0.2/2/6/20V	A1100DP03	
DP4HI-DV/DA□ (D)		No	No	No		A1270DP03	
DP4H-TDV/DA□ (D)		No	4-20mA	RS485		A1400DP03	
DP4HI-TDV/DA□ (D)		No	4-20mA	RS485		A1600DP03	
DP4H-PRDV/DA□ (D)		High/Low limit, middle value		No	No	DA (DC Current) : 200uA/2mA/20mA	A1500DP03
DP4HI-PRDV/DA□ (D)				No	No		A1700DP03
DP4H-PRTDV/DA□ (D)				4-20mA	RS485		A1800DP04
DP4HI-PRTDV/DA□ (D)				4-20mA	RS485		A2100DP04

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

■ Technical Specifications

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
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Proximity Sensor
Solid State Relay
Power Meter

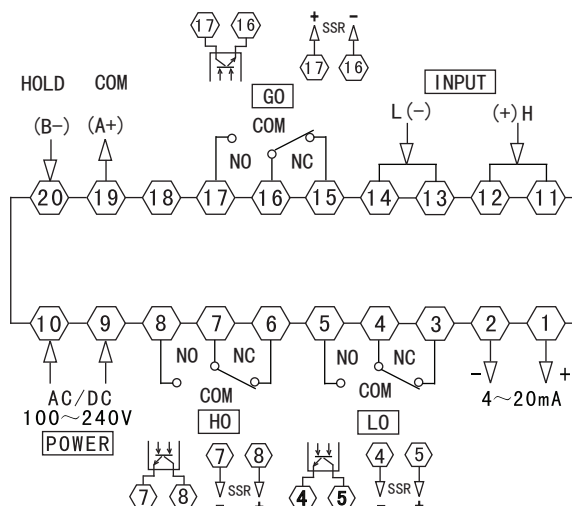
Input signal	Input impedance	Ref to range details	Power supply	Voltage	100~240V AC/DC 50/60Hz
	Overload capacity	1.2 times rated range max		Power consumption	≤5W
	Measurement accuracy	200V/A below: 0.1%FS 200V/A above: 0.2%FS	Protection level	Panel	IP54
	Refresh rate	2.5~10 times/sor51.2us/times		Body	-
Analog output	Output type	4~20mA	Environment	Work environment	0~50°C <85%RH
	Load capacity	600Ω max		Storage environment	-20~60°C <85%RH
	Output accuracy	0.5%FSor0.2%FS	Structure	Vibration,stack	10~55Hz X\Y\Z 0.75mm
	Resolution	0.01mA 12 digits DA		Screw torque	0.74n.m~0.9n.m
Relay output	Load capacity	3A/250V AC	Safety	Dielectric strength	2000V AC 50/60Hz 1 minute
	Electrical life	100,000 times		Insulation resistance	100MΩ DC 500V
Communication	Communication protocol	RS-485 ModBUS-RTU	EMC	ESD	Level 3
	Baud rate	4800bps,9600bps		Pulse train anti-interference	Level 4 each mode±4000V <sub>P-P</sub>
				Lightning surge	Level 3 N-L ±2000V
				Periodic waveform drop	Level 3

■ Measurement Range Specifications (\* For high impedance type, and measure DC signal only)

Type	Range	Resolution	Input Impedance	H high impedance type	Accuracy Level
Voltage signal	* 20mV	0.001mV	1MΩ	10MΩ	±0.1%F.S ±3Digits
	* 200mV	0.01mV	1MΩ	10MΩ	±0.1%F.S ±3Digits
	* 2V	0.1mV	1.2MΩ	10MΩ	±0.1%F.S ±3Digits
	* 6V	0.1mV	/	10MΩ	±0.1%F.S ±3Digits
	* 20V	1mV	AV1.2MΩ/DV2MΩ	10MΩ	±0.1%F.S ±3Digits
	200V	10mV	12MΩ	/	±0.1%F.S ±3Digits
	600V	100mV	12MΩ	/	±0.2%F.S ±3Digits
Current signal	* 200uA	10nA	/	100Ω	±0.1%F.S ±3Digits
	* 2mA	10nA	200Ω	10Ω	±0.1%F.S ±3Digits
	* 20mA	1uA	20Ω	1.2Ω	±0.1%F.S ±3Digits
	200mA	10uA	2Ω	/	±0.1%F.S ±3Digits
	2A	100uA	0.1mΩ	/	±0.2%F.S ±3Digits
	Above AC 5A	1mA	> 1MΩ	/	±0.2%F.S ±3Digits
	Above DC 2A	1mA	> 1MΩ	/	±0.2%F.S ±3Digits

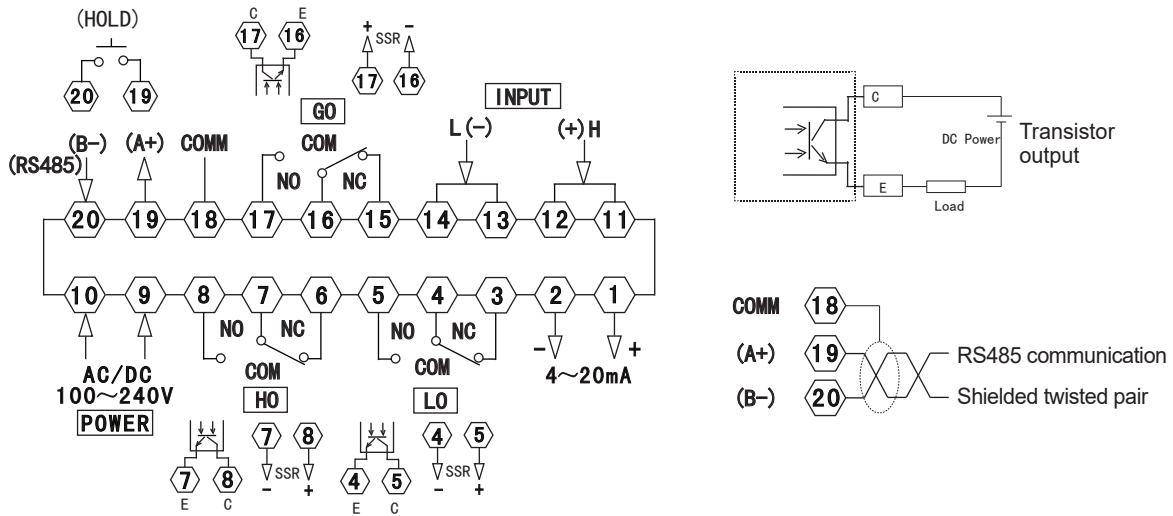
Note:When the measured voltage > 600V, it must be changed to AC 0~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

■ DP4 Connection



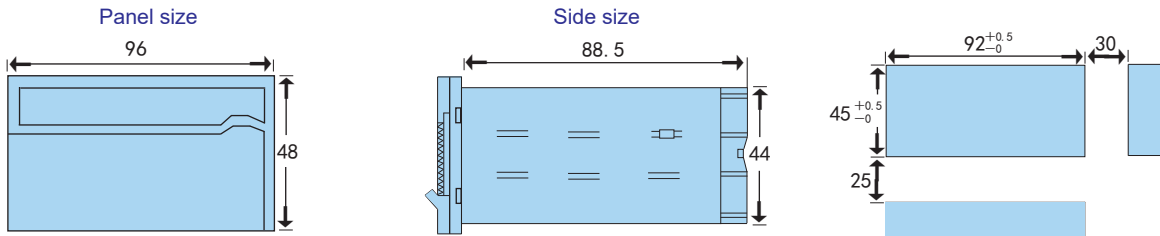
※When HOLD and COM are short-circuited, the meter data can be kept, and this function is invalid when it has communication. Note:Pls subject to the connections on meter if any changes.

DP4H connection



Note: 1. Only one of the communication function and the hold function can be selected  
 2. Please subject to the connections on meter if any changes.

Dimensions (Unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

### 3. DL8A Series Panel Meter

Panel Meter

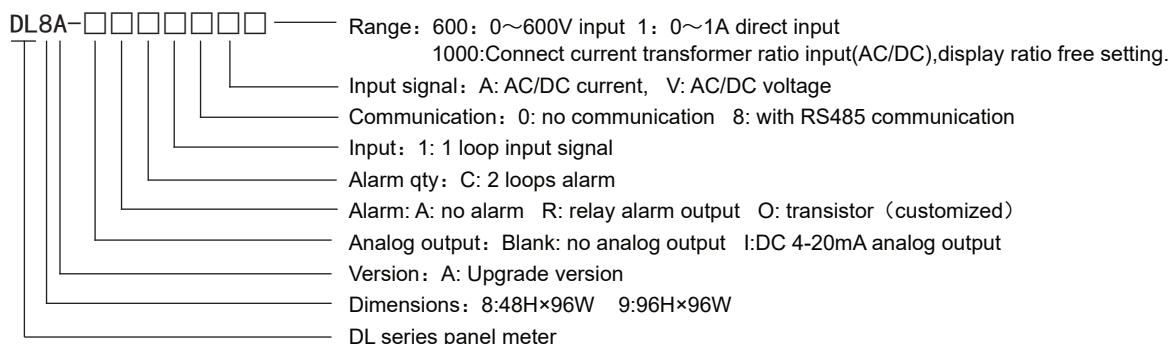
#### ■ Photos and Features



#### Features:

- ★ universal AC/DC (AC signal true effective value measuring)
- ★ Single phase multichannel input, can meet measuring range of demand all kinds of signal types.
- ★ 2 loops free setting alarm output function.
- ★ 1 loop 4 ~ 20mA analog output
- ★ RS485 communication, Modbus RTU protocol

#### ■ Model Illustration



#### ■ Ordering Information

Model	Alarm	Analog	Communication	Measure Specification	Code
DL8/9A-IA10V600	No	4~20mA	No	AC/DC 10V, 100V, 600V 3 channels input	B0410DL01
DL8/9A-RC10V600	2 loops	No	No	AC/DC 10V, 100V, 600V 3 channels input	B0390DL01
DL8/9A-RC18V600	2 loops	No	RS485	AC/DC 10V, 100V, 600V 3 channels input	B0520DL01
DL8/9A-IRC10V600	2 loops	4~20mA	No	AC/DC 10V, 100V, 600V 3 channels input	B0460DL01
DL8/9A-IRC18V600	2 loops	4~20mA	RS485	AC/DC 10V, 100V, 600V 3 channels input	B0590DL01
DL8/9A-IA10A1000	No	4~20mA	No	AC0~5A,DC0~75mV 2 channels input(ratio display)	B0420DL01
DL8/9A-RC10A1000	2 loops	No	No	AC0~5A,DC0~75mV 2 channels input(ratio display)	B0400DL01
DL8/9A-RC18A1000	2 loops	No	RS485	AC0~5A,DC0~75mV 2 channels input(ratio display)	B0530DL01
DL8/9A-IRC10A1000	2 loops	4~20mA	No	AC0~5A,DC0~75mV 2 channels input(ratio display)	B0470DL01
DL8/9A-IRC18A1000	2 loops	4~20mA	RS485	AC0~5A,DC0~75mV 2 channels input(ratio display)	B0600DL01
DL8/9A-IA10A1	No	4~20mA	No	AC/DC 10mA,100mA,1000mA 3 channels input	B0410DL01
DL8/9A-RC10A1	2 loops	No	No	AC/DC 10mA,100mA,1000mA 3 channels input	B0390DL01
DL8/9A-RC18A1	2 loops	No	RS485	AC/DC 10mA,100mA,1000mA 3 channels input	B0520DL01
DL8/9A-IRC10A1	2 loops	4~20mA	No	AC/DC 10mA,100mA,1000mA 3 channels input	B0460DL01
DL8/9A-IRC18A1	2 loops	4~20mA	RS485	AC/DC 10mA,100mA,1000mA 3 channels input	B0590DL01

#### ■ Technical Specifications

Input Signal	Input resistance	See the range description	Power Supply	Voltage	100~240V AC/DC 50/60Hz
	Overload capacity	Max 1.2 times of rated range		Power consumption	≤5W
	Accuracy	0.5%FS	Protection level	Panel	IP54
	Resolution	Voltage: 0.1V,Current: 0.001A		Casing	-
	Refresh rate	2.5times/second	Environment	Work environment	0~50°C <85%RH
Analog Output	Output	4~20mA		Storage environment	-20~60°C <85%RH

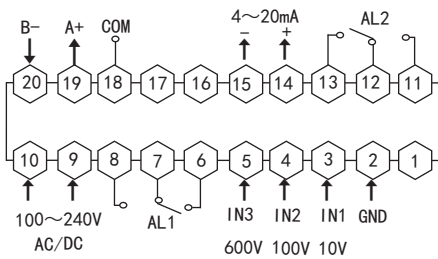
■ Technical Specifications

Analog Output	Load	600Ω max	Structure	Vibration,stack	10~55Hz X\Y\Z 0.75mm
	Output accuracy	0.5%FS		Screw torque	0.74n.m~0.9n.m
	Resolution	0.01mA 12 digits DA	Safety	Dielectric strength	2000V AC 50/60Hz 1minute
Relay Output	Load	3A/250V AC		Insulation resistance	100MΩ DC 500V
	Electrical	100,000 times	EMC	ESD	Level 3
Mechanical	1 million times	Pulse train anti-interference		Level 4 each mode±4000Vp-P	
Communication	Protocol	RS-485 ModBUS-RTU		Lightning surge	Level 3 N-L ±2000V
	Baud rate	4800bps,9600bps	Frequency drop	Level 3	

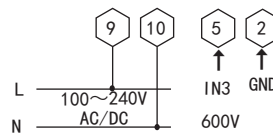
■ Connection

Note:Pls subject to the connections on meter if any changes as follow.

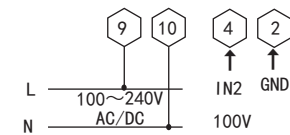
Voltage input connection



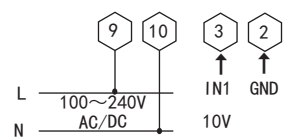
600V range voltage input



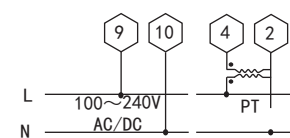
100V range voltage input



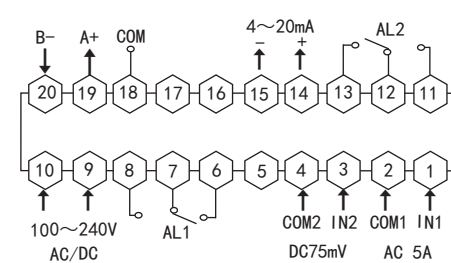
10V range voltage input



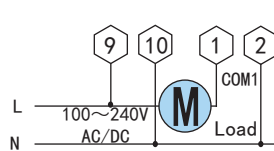
100V range voltage ratio input



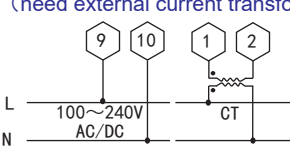
AC/DC ratio current input diagram



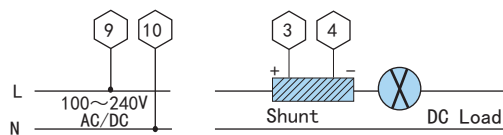
Below AC 5A direct input



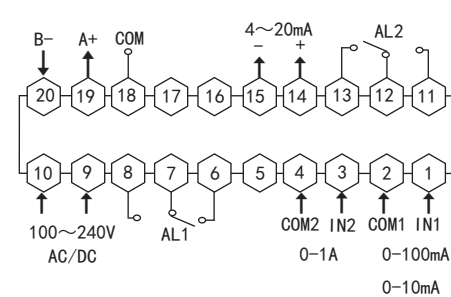
Above AC 5A ratio input (need external current transformer)



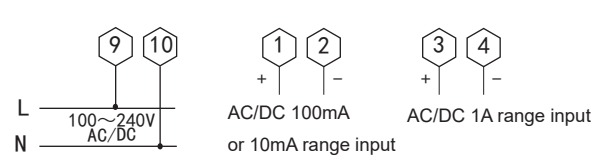
DC 75mV current ratio input



AC/DC small range current input wiring diagram

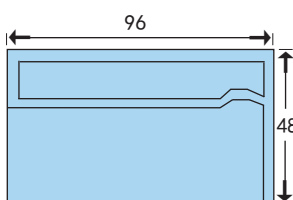


AC/DC small range current direct input

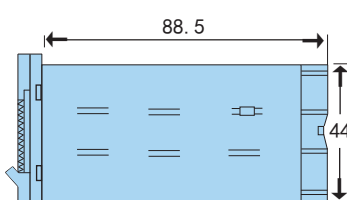


■ Dimensions (Unit:mm)

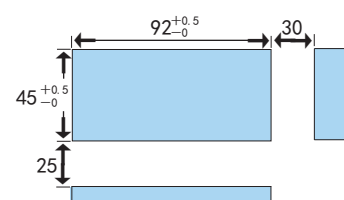
Panel size



Side size



Hole size



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter



## 4. DL8 Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

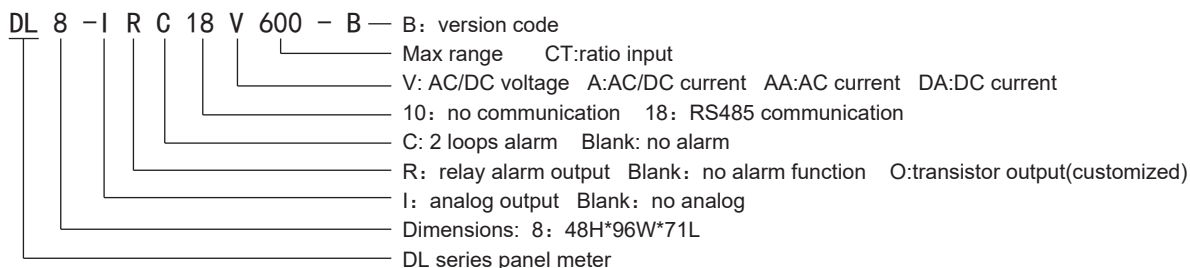
### Photos and Features



### Features:

- ★ Short case design, installation depth is 65mm only, save the space.
- ★ Multi channel input, can measure both AC and DC.
- ★ AC signal TRMS measurement and AVG measurement can be switched freely.
- ★ Extended function: force to reset, keep current value, keep maximum value, keep minimum value, alarm delay.
- ★ Optional 2 loops free setting alarm output function.
- ★ Optional 1 loop 4~20mA analog output.
- ★ Optional RS485 communication, Modbus RTU protocol.
- ★ 2 loop DI input ( This function is only available when the analog input change to be RS485 communication, and only when there is DI input hold function)

### Model Illustration



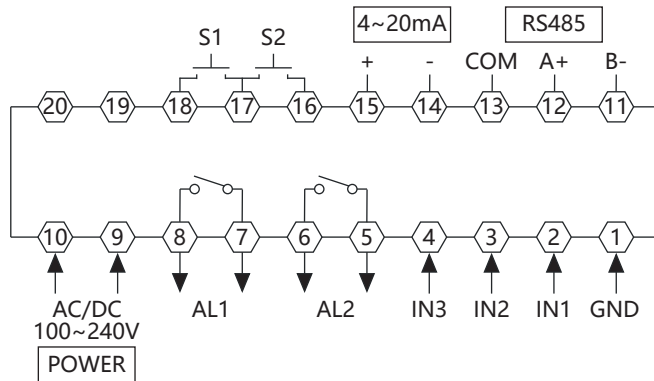
### Ordering Information

Model	Alarm	Analog	RS485	DI input	Input range	Code
DL8-IRC18V600	2 loops	4~20mA	Yes	Yes	IN1:6V,IN2:60V,IN3:600V	B0490DL01
DL8-IRC18V200	2 loops	4~20mA	Yes	Yes	IN1:2V,IN2:20V,IN3:200V	B0490DL01
DL8-IRC18V100	2 loops	4~20mA	Yes	Yes	IN1:1V,IN2:10V,IN3:100V	B0490DL01
DL8-IRC18A2	2 loops	4~20mA	Yes	Yes	IN1:2A,IN2:0.2A,IN3:0.02A	B0490DL01
DL8-IRC18AACT	2 loops	4~20mA	Yes	Yes	IN1:5A (AC)	B0490DL01
DL8-IRC18DACT	2 loops	4~20mA	Yes	Yes	IN1:75mV (DC)	B0490DL01
DL8-RC18V600	2 loops	No	Yes	Yes	IN1:6V,IN2:60V,IN3:600V	B0410DL01
DL8-RC18V200	2 loops	No	Yes	Yes	IN1:2V,IN2:20V,IN3:200V	B0410DL01
DL8-RC18V100	2 loops	No	Yes	Yes	IN1:1V,IN2:10V,IN3:100V	B0410DL01
DL8-RC18A2	2 loops	No	Yes	Yes	IN1:2A,IN2:0.2A,IN3:0.02A	B0410DL01
DL8-RC18AACT	2 loops	No	Yes	Yes	IN1:5A (AC)	B0410DL01
DL8-RC18DACT	2 loops	No	Yes	Yes	IN1:75mV (DC)	B0410DL01
DL8-IRC10V600	2 loops	4~20mA	No	No	IN1:6V,IN2:60V,IN3:600V	B0370DL01
DL8-IRC10V200	2 loops	4~20mA	No	No	IN1:2V,IN2:20V,IN3:200V	B0370DL01
DL8-IRC10V100	2 loops	4~20mA	No	No	IN1:1V,IN2:10V,IN3:100V	B0370DL01
DL8-IRC10A2	2 loops	4~20mA	No	No	IN1:2A,IN2:0.2A,IN3:0.02A	B0370DL01
DL8-IRC10AACT	2 loops	4~20mA	No	No	IN1:5A (AC)	B0370DL01
DL8-IRC10DACT	2 loops	4~20mA	No	No	IN1:75mV (DC)	B0370DL01
DL8-RC10V600	2 loops	No	No	No	IN1:6V,IN2:60V,IN3:600V	B0280DL01
DL8-RC10V200	2 loops	No	No	No	IN1:2V,IN2:20V,IN3:200V	B0280DL01
DL8-RC10V100	2 loops	No	No	No	IN1:1V,IN2:10V,IN3:100V	B0280DL01
DL8-RC10A2	2 loops	No	No	No	IN1:2A,IN2:0.2A,IN3:0.02A	B0280DL01
DL8-RC10AACT	2 loops	No	No	No	IN1:5A (AC)	B0280DL01
DL8-RC10DACT	2 loops	No	No	No	IN1:75mV (DC)	B0280DL01
DL8-IV600	No	4~20mA	No	No	IN1:6V,IN2:60V,IN3:600V	B0300DL01
DL8-IV200	No	4~20mA	No	No	IN1:2V,IN2:20V,IN3:200V	B0300DL01
DL8-IV100	No	4~20mA	No	No	IN1:1V,IN2:10V,IN3:100V	B0300DL01
DL8-IA2	No	4~20mA	No	No	IN1:2A,IN2:0.2A,IN3:0.02A	B0300DL01
DL8-IAACT	No	4~20mA	No	No	IN1:5A (AC)	B0300DL01
DL8-IDACT	No	4~20mA	No	No	IN1:75mV (DC)	B0300DL01
DL8-V600	No	No	No	No	IN1:6V,IN2:60V,IN3:600V	B0215DL01
DL8-V200	No	No	No	No	IN1:2V,IN2:20V,IN3:200V	B0215DL01
DL8-V100	No	No	No	No	IN1:1V,IN2:10V,IN3:100V	B0215DL01
DL8-A2	No	No	No	No	IN1:2A,IN2:0.2A,IN3:0.02A	B0215DL01
DL8-AACT	No	No	No	No	IN1:5A (AC)	B0215DL01
DL8-DACT	No	No	No	No	IN1:75mV (DC)	B0215DL01

**Technical Specifications**

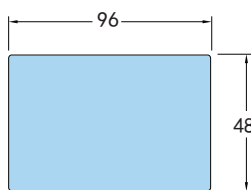
Power supply	100~240V AC/DC (85-265V)
Measurement accuracy	(>2000)±0.5%F.S±3digits @ 25±3°C Measuring temperature drift < 500PPM
Resolution	Minimum unit display value of default range or 12bits
AC Frequency	AC measuring frequency range:45~400Hz measuring accuracy range: 50~100Hz
Relay capacity	AC 250V /1A rated load life > 100000 times
Power consumption	< 6VA
Environment	In door, temperature: 0~50°C no condensation, humidity: <85%RH, altitude<2000m
Storage environment	-10~60°C, no condensation
Switching input	No power dry contact input Signal voltage≤DC 24V
Current output	DC 4~20mA Load<500Ω Temperature drift 300PPM
Communication	RS485 port Modbus-RTU proctol, can be connected up to max 30 units.
Insulation resistance	Input, output, power VS meter cover >20MΩ
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Pulse train anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Voltage drop & short interruption immunity	IEC/EN61000-4-29 0%~70% perf.Criteria B
Isolation withstand voltage	Signal input, output, power: 2000VAC 1min
Weight	About 400g
Cover material	The shell and panel frame PC/ABS (Flame Class UL94V-0)
Panel material	PET(F150/F200)
Power failure memory	10 years, times of writing: 1 million times
Panel Protection level	IP65 (IEC60529)
Safety Standard	IEC61010-1 Overvoltage category II, pollution level 2, levelIII (Enhanced insulation)

**Connection**

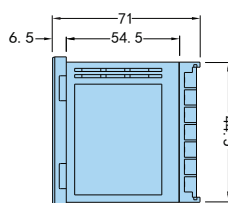


Note:Pls subject to the connections on meter if any changes as above.

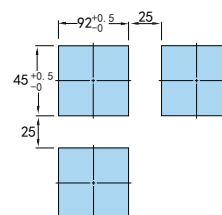
**Dimensions (Unit:mm)**



Panel size



Side size



Hole size

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 5. DA8 Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

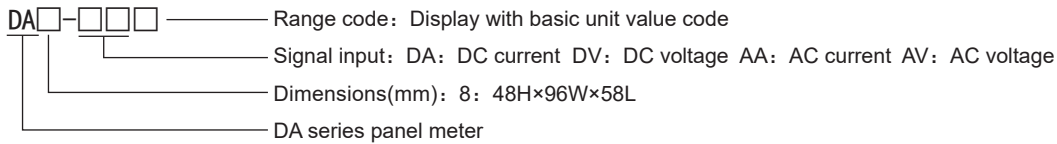
### ■ Photos and Features



#### Features:

- ★ Hardware design, good anti-interference, stable performance.
- ★ AC/DC 85~265 switch power.
- ★ 4 1/2 digits, high measuring accuracy, digital display range  $\pm 19999$
- ★ 58mm depth module design, saving mounting space.

### ■ Model Illustration



### ■ Ordering Information

Model	Dimension	Measurement range	Code
DA8-AV□	48H×96W×58L	AC Voltage: 20/200/600	B0300DA01
DA8-DV□		DC Voltage: 0.2/2/20/200/600	B0300DA01
DA8-AA□		AC Current: 0.2/2/20/200	B0300DA01
DA8-DA□		DC Current: 0.0002/0.002/0.02/0.2/2/20	B0300DA01

### ■ Technical Specifications

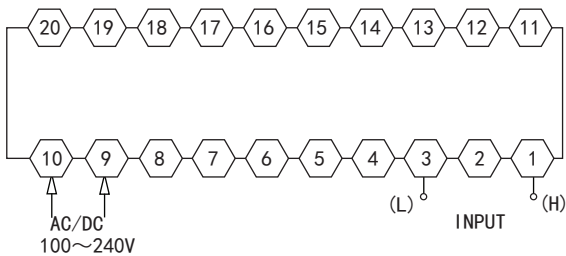
Input	Please refer to the range description
Accuracy	AC: $\pm 0.3\%F.S \pm 3$ Digits DC: $\pm 0.2\%F.S \pm 3$ Digits
A/D switch	Double integral
Sampling rate	About 2.5 times/second
Input impedance	Refer to measuring specifications table
Display range	0~ $\pm 19999$ , Decimal point can switch through pin of PCB board
Display	4 1/2 red LED 0.56 inch
Overflow indication	Display "1" or "-1"
Environment	0°C~50°C 35~85%RH
Storage environment	-20°C~60°C 35~90%RH
Power	AC 100~240V 50/60Hz
Power consumption	$\leq 3$ W
Dielectric strength	AC 1500V 1min 50Hz
Insulation strength	100M $\Omega$ DC 500V
Dimension	48H×96W×58L
Vibration	Sweep-frequency vibration: 10~50HZ
Weight	0.5kg

Measuring Range Specifications

Type	Range	Input	Resolution	Input Impedance	AC Accuracy Level	AC Accuracy Level
Voltage Signal	200mV	Direct input	0.01mV	200KΩ	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	2V	Direct input	0.1mV	2MΩ	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	20V	Direct input	1mV	2MΩ	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	200V	Direct input	10mV	2MΩ	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	600V	Direct input	100mV	5.1MΩ	±0.5%F.S ±3Digits	±0.3%F.S ±3Digits
Current Signal	2mA	Direct input	0.0001mA	100Ω	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	20mA	Direct input	0.001mA	10Ω	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	200mA	Direct input	0.01mA	1Ω	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	2A	Direct input	0.1mA	0.2Ω	±0.3%F.S ±3Digits	±0.2%F.S ±3Digits
	Above AC 5A	AC 0~5A input (ratio display)	1mA	2mΩ	±0.3%F.S ±3Digits	
	Above DC 2A	DC 0~75mV input (ratio display)	1mA	100KΩ		±0.2%F.S ±3Digits

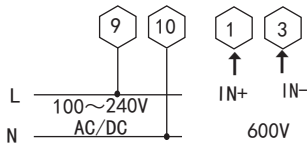
Note: When the measured voltage > 600V, it must be changed to AC 0~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

Connection

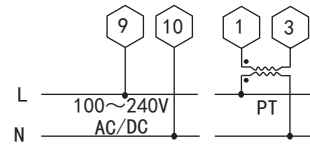


Note: Pls subject to the connection on meter if any changes.

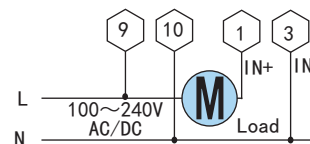
<600V range voltage direct input



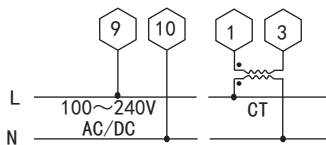
100V voltage ratio input



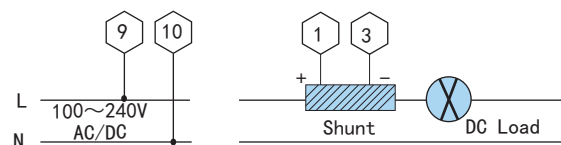
Voltage direct input



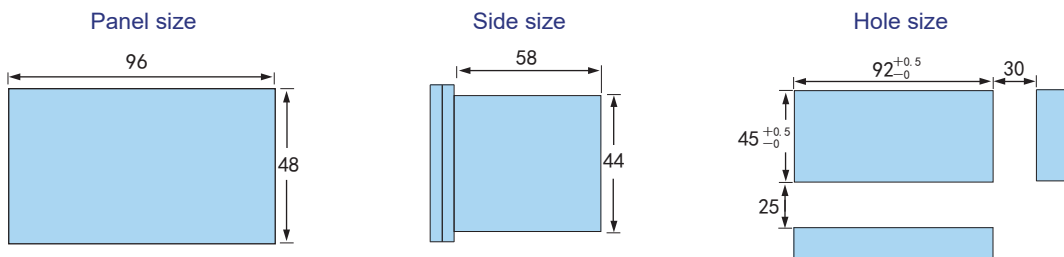
>AC 5A current ratio input (need external current transformer)



DC 75mV current ratio input



Dimensions (Unit:mm)



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 6. DP3 Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

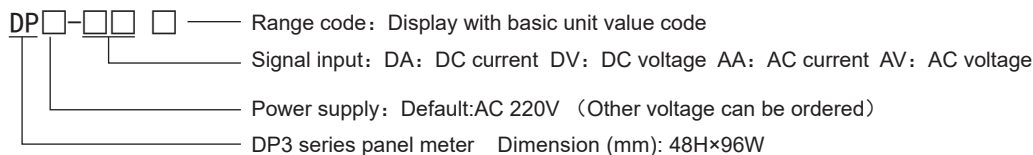
### ■ Photos and Features



#### Features :

- ★ Classical hardware design, stable performance.
- ★ AC 220V power supply.
- ★ AC/DC voltage current, rich measurement ranges.
- ★ The decimal point is switched by the internal PCB board jumper.

### ■ Model Illustration



### ■ Ordering Information

Model	Power supply	Analog	Measurement range	Code
DP3-AA□	AC 220V	No	AA: 2mA/20mA/200mA/2A/20A/200A	B0248DP01
DP3-AV□			AV: 0.2V/2V/20V/200V/600V	B0248DP01
DP3-DA□			DA: 2mA/20mA/200mA/2A/20A/200A	B0248DP01
DP3-DV□			DV: 0.2V/2V/20V/200V/600V	B0248DP01

Note: The original DP3I model with analog output was discontinued in 2015 and replaced with DL8A items.

### ■ Technical Specifications

Input	Please refer to the range description
Accuracy	±0.5%F.S ±2Digits
A/D switch	Double integral
Sampling rate	About 2.5times/second
Input impedance	Please refer to the range description
Analog output	No
Display range	0~±1999, Decimal point can switch through pin of PCB board.
Display	3 1/2 digits red LED 0.56 inch
Overflow indication	Display "1" or "-1"
Environment	0°C~50°C 35~85%RH
Storage environment	-20°C~60°C 35~90%RH
Power	AC 220V 50Hz(AC 110V、DC 18~30V to be ordered)
Power consumption	≤5W
Dielectric strength	AC 1500V 1min 50Hz
Insulation strength	100MΩ DC 500V
Dimension	48H×96W×100L
Vibration	Sweep-frequency vibration: 10~50Hz
Weight	0.5kg

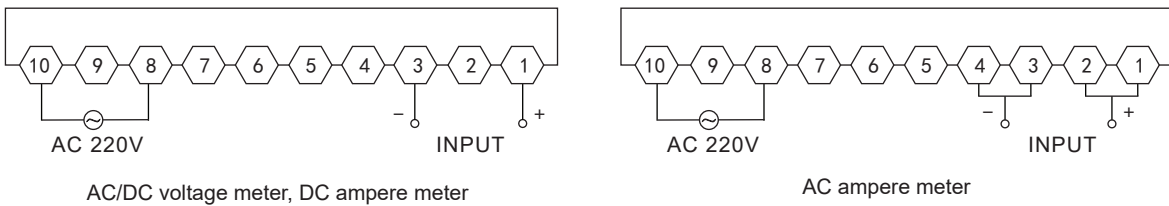
■ Measuring Range Specifications

Type	Range	Input	Resolution	Input resistance	Accuracy Level
Voltage signal	200mV	Direct input	100uV	5MΩ	±0.5%F.S ±2Digits
	2V	Direct input	1mV	5MΩ	±0.5%F.S ±2Digits
	20V	Direct input	10mV	5MΩ	±0.5%F.S ±2Digits
	200V	Direct input	100mV	5MΩ	±0.5%F.S ±2Digits
	600V	Direct input	1V	5MΩ	±1.0%F.S ±2Digits
Current signal	2mA	Direct input	1uA	100Ω	±0.5%F.S ±2Digits
	20mA	Direct input	10uA	10Ω	±0.5%F.S ±2Digits
	200mA	Direct input	100uA	1Ω	±0.5%F.S ±2Digits
	2A	Direct input	1mA	0.1Ω	±0.5%F.S ±2Digits
	Above AC 5A	AC 0~5A input (ratio display)	10mA	2mΩ	±0.5%F.S ±2Digits
	Above DC 2A	DC 0~75mV input (ratio display)	10mA	100KΩ	±0.5%F.S ±2Digits

Note:When the measured voltage > 600V, it must be changed to AC 0 ~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

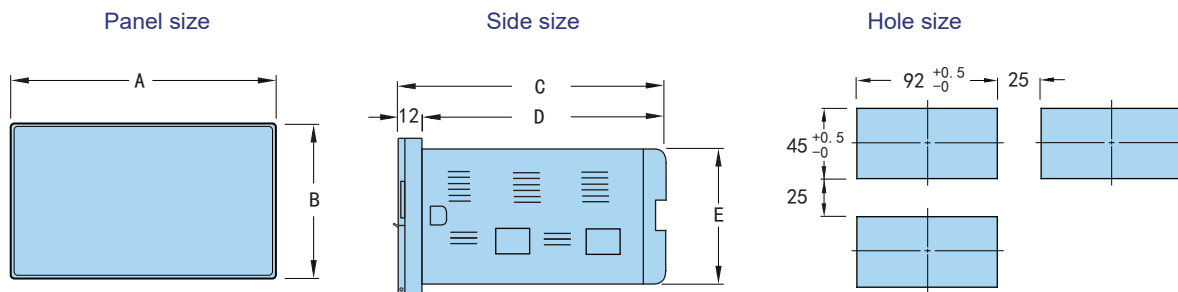
■ Connection

1. Diagram (A/2) without analog function:



Note:Pls subject to the connection on meter if any changes.

■ Dimensions (Unit: mm)



Model	A	B	C	D	E
DP3	96	48	100.5	88.5	44.5

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 7. DX Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

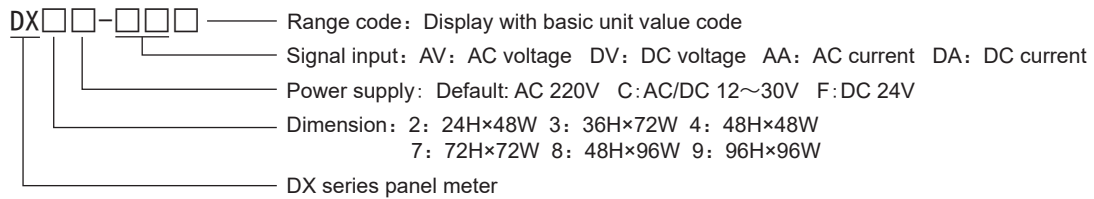
### Photos and Features



### Features:

- ★ Classical hardware design, stable performance.
- ★ Easy mounting.
- ★ Connections with EU safety standard.
- ★ 58mm short module design.
- ★ Rich measurement ranges.

### Model Illustration



### Ordering Information

Model	Power supply	Measurement range	Code
DX2F-AV□	DC 24V	AV: 0.2V/2V/20V/200V/600V	B0173DX01
DX2F-AA□		AA: 2mA/20mA/200mA/2A/20A/200A	B0173DX01
DX2F-DV□		DV: 0.2V/2V/20V/200V/600V	B0173DX01
DX2F-DA□		DA: 2mA/20mA/200mA/2A/20A/200A	B0173DX01
DX3/4/7/8/9-AV□	AC 220V	AV: 0.2V/2V/20V/200V/600V	B0148DX01
DX3/4/7/8/9-AA□		AA: 2mA/20mA/200mA/2A/20A/200A	B0148DX01
DX3/4/7/8/9-DV□		DV: 0.2V/2V/20V/200V/600V	B0148DX01
DX3/4/7/8/9-DA□		DA: 2mA/20mA/200mA/2A/20A/200A	B0148DX01

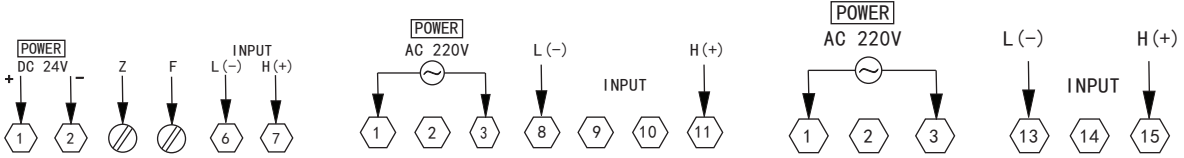
Note: DX3/DX8 DC24V power supply to be ordered.  
DX2F AC current range is only available for models below 2A, above AC 5A to be ordered.

### Technical Specifications

Input	Please refer to the range description
Accuracy	±0.5%F.S ±2Digits
A/D switch	Double integral
Sampling rate	About 2.5times/second
Input impedance	Please refer to the range description
Display range	0~±1999, Decimal point can switch through pin of PCB board.
Display	3 1/2 digits red LED 0.56 inch
Overflow indication	Display "1" or "-1"
Environment	0°C~50°C 35~85%RH
Storage environment	-20°C~60°C 35~90%RH
Power	AC 220V 50Hz, DC 24V
Power consumption	≤3W
Dielectric strength	AC 1500V 1min 50Hz
Insulation strength	100MΩ DC 500V
Dimension	Pls refer to the mounting drawing
Vibration	Sweep-frequency vibration: 10~50Hz
Weight	0.5kg

■ Connection

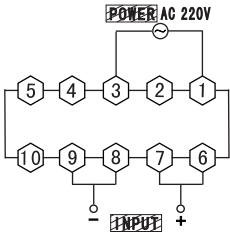
Note:Pls subject to the connection on meter if any changes.



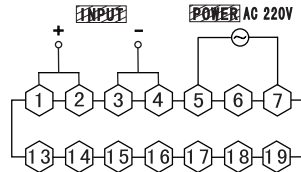
Z: 0 point adjustment F: full scale adjustment  
DX2F AC/DC voltage/ampere meter

DX3 AC/DC voltage/ampere meter

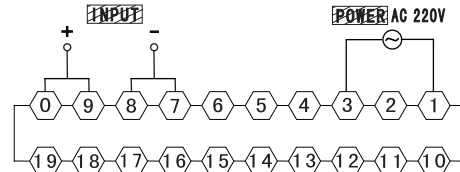
DX8W AC/DC voltage/ampere meter



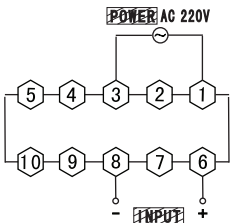
DX4 AC ampere meter



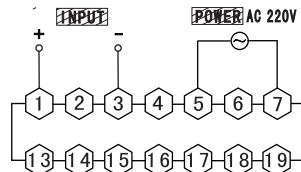
DX7 AC ampere meter



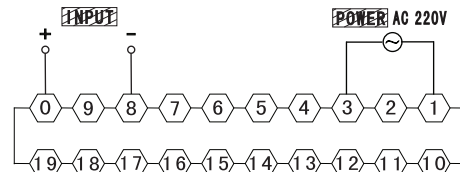
DX9 AC ampere meter



DX4 AC/DC voltage meter DC ampere meter

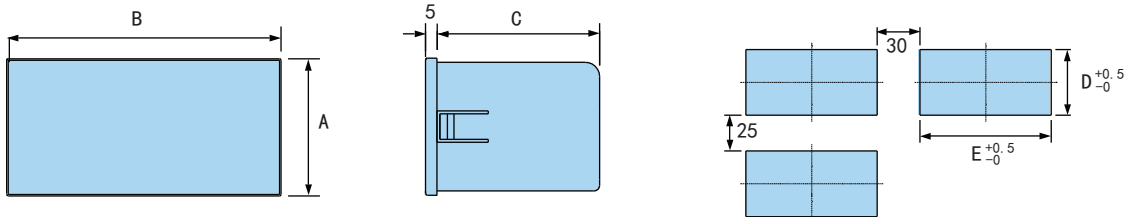


DX7 AC/DC voltage meter DC ampere meter



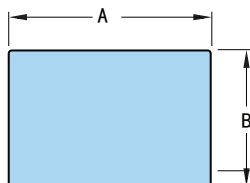
DX9 AC/DC voltage meter DC ampere meter

■ Dimensions (Unit: mm)

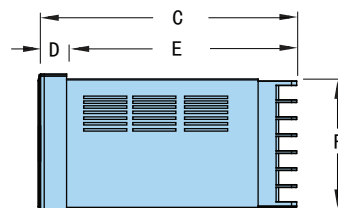


Model	A	B	C	D	E
DX2F	24	48	58	22.5	46.5
DX3	36	72	58	33.5	68.5
DX8W	48	96	58	45	92.5

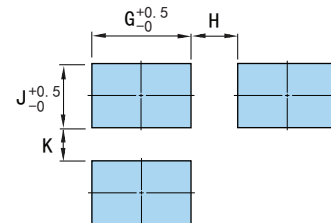
Panel size



Side size



Hole size



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25

Remarks Unit: (mm) Tolerance +0.5% (except for special indication)

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter



## 8. DK Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

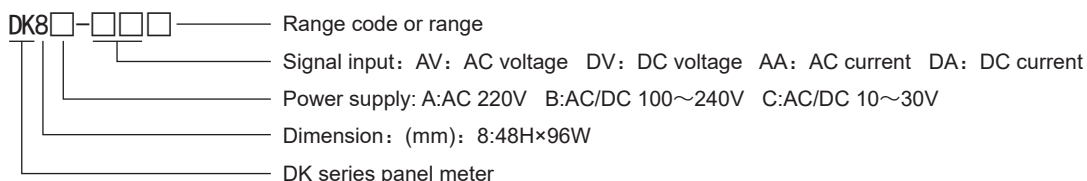
### ■ Photos and Features



#### Features:

- ★ Classical hardware design, stable performance.
- ★ Zero adjustment & linear measuring range on panel.
- ★ Connections with EU safety standard.
- ★ 58mm short module design.
- ★ Rich measurement ranges.

### ■ Model Illustration



### ■ Ordering Information

Model	Power supply	Measurement range	Code
DK8A-AV□	AC 220V	20/200/600	B0170DK03
DK8A-DV□		0.2/2/20/200/600	B0170DK03
DK8A-AA□		0.2/2/20/200	B0170DK03
DK8A-DA□		0.0002/0.002/0.02/0.2/2/20	B0170DK03
DK8B-AV□ (customized)	AC/DC 100~240V	20/200/600	B0193DK03
DK8B-DV□ (customized)		0.2/2/20/200/600	B0193DK03
DK8B-AA□ (customized)		0.2/2/20/200	B0193DK03
DK8B-DA□ (customized)		0.0002/0.002/0.02/0.2/2/20	B0193DK03
DK8C-AV□	AC/DC 10~30V	20/200/600	B0193DK03
DK8C-DV□		0.2/2/20/200/600	B0193DK03
DK8C-AA□		0.2/2/20/200	B0193DK03
DK8C-DA□		0.0002/0.002/0.02/0.2/2/20	B0193DK03

Note: DK8B series items to be ordered, please indicate the power supply range when order.

### ■ Technical Specifications

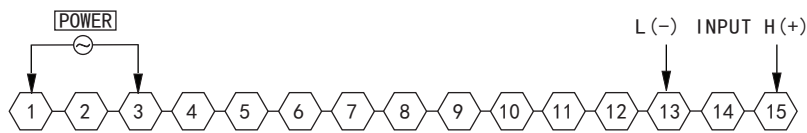
Input	Please refer to the range description
Accuracy	±0.5%F.S ±2Digits
A/D switch	Double integral
Sampling rate	About 2.5times/second
Input impedance	Please refer to the range description
Display range	0~±1999, Decimal point can switch through pin of PCB board.
Display	3 1/2 digits red LED 0.56 inch
Overflow indication	Display "1" or "-1"
Environment	0°C~50°C 35~85%RH
Storage environment	-20°C~60°C 35~90%RH
Power	Switch power: AC/DC 100~240V 50/60Hz Low voltage power: AC/DC 24V Linear power: AC 220V
Power consumption	≤3W
Dielectric strength	AC 1500V 1min 50Hz
Insulation strength	100MΩ DC 500V
Dimension	Refer to mounting drawing
Vibration	Sweep-frequency
Weight	0.5kg

Measuring Range Specifications

Type	Range	Input	Resolution	Input resistance	Accuracy Level
Voltage signal	20mV	Direct input	0.01mV	20KΩ	±0.5%F.S ±2Digits
	200mV	Direct input	0.1mV	200KΩ	±0.5%F.S ±2Digits
	2V	Direct input	1mV	2MΩ	±0.5%F.S ±2Digits
	20V	Direct input	10mV	2MΩ	±0.5%F.S ±2Digits
	200V	Direct input	100mV	2MΩ	±0.5%F.S ±2Digits
	600V	Direct input	1V	5.1MΩ	±1.0%F.S ±2Digits
Current signal	2mA	Direct input	0.001mA	100Ω	±0.5%F.S ±2Digits
	20mA	Direct input	0.01mA	10Ω	±0.5%F.S ±2Digits
	200mA	Direct input	0.1mA	1Ω	±0.5%F.S ±2Digits
	2A	Direct input	1mA	0.2Ω	±0.5%F.S ±2Digits
	Above AC 5A	AC 0~5A input (ratio display)	10mA	2mΩ	±0.5%F.S ±2Digits
	Above DC 2A	DC 0~75mV input (ratio display)	10mA	100KΩ	±0.5%F.S ±2Digits

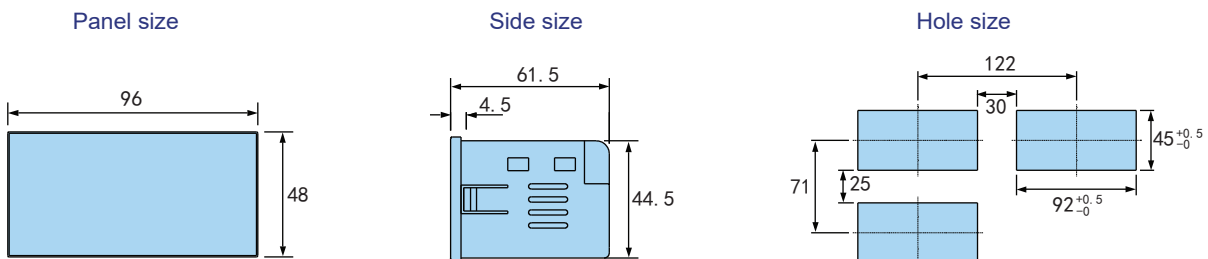
Note:When the measured voltage > 600V, it must be changed to AC 0~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

Connection



Note:Pls subject to the connection on meter if any changes.

Dimensions (Unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 9. DK Series Short Shell Panel Meter

Panel Meter

### ■ Photos and Features



#### Features:

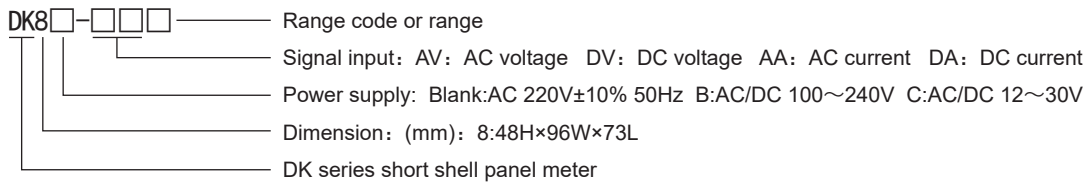
- ★ Conversion rate 2.5 times/sec
- ★ Zero and ratio potentiometer can be adjusted on the panel
- ★ Dimension: 48H×96W×71L
- ★ Number range ±1999

Sensor Indicator

Temperature Controller

Digital Counter

### ■ Photos and Features



Timer Relay

### ■ Ordering Information

Model	Power supply	Measurement range	Code
DK8-AV□	Blank:AC 220V±10% 50Hz	20V/200V/600V	C0080DK03
DK8-DV□		0.2V/2V/20V/200V/600V	C0080DK03
DK8-AA□		0.2A/2A/20A/200A	C0080DK03
DK8-DA□		0.0002A/0.002A/0.02A/0.2A/2A/20A	C0080DK03
DK8B-AV□ (customized)	AC/DC 100~240V	20V/200V/600V	B0193DK03
DK8B-DV□ (customized)		0.2V/2V/20V/200V/600V	B0193DK03
DK8B-AA□ (customized)		0.2A/2A/20A/200A	B0193DK03
DK8B-DA□ (customized)		0.0002A/0.002A/0.02A/0.2A/2A/20A	B0193DK03
DK8C-AV□	AC/DC 10~30V	20V/200V/600V	B0193DK03
DK8C-DV□		0.2V/2V/20V/200V/600V	B0193DK03
DK8C-AA□		0.2A/2A/20A/200A	B0193DK03
DK8C-DA□		0.0002A/0.002A/0.02A/0.2A/2A/20A	B0193DK03

Note: DK8B series items to be ordered, please indicate the power supply range when order.

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

### ■ Technical Specifications

Max display	1999 (AC display effective value)
Input	Single input
A/D Convert	Dual integral
Overflow indication	"1" or "-1"
Polarity display	Only display "-" (for AC only)
Display	Red LED (20.30mmH)
Power supply	Switching power supply: AC/DC 100~240V 50/60Hz Low-voltage power supply: AC/DC 24V      Linear power supply: AC 220V
Power consumption	≤5VA
Withstand voltage	AC 2000V 1min
Insulation resistance	DC 500V≥100MΩ
Weight	500g
Frequency range of the measured AC signal	40~200Hz

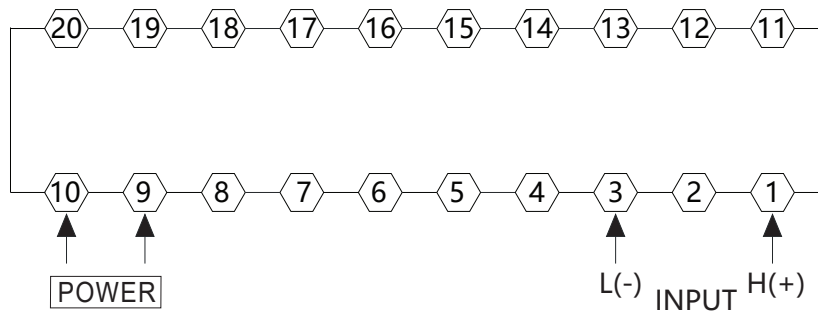
Power Meter

■ Measuring Range Specifications

Type	Range	Input	Resolution	Input resistance	Accuracy Level
Voltage signal	20mV	Direct input	0.01mV	20KΩ	±0.5%F.S ±2Digits
	200mV	Direct input	0.1mV	200KΩ	±0.5%F.S ±2Digits
	2V	Direct input	1mV	2MΩ	±0.5%F.S ±2Digits
	20V	Direct input	10mV	2MΩ	±0.5%F.S ±2Digits
	200V	Direct input	100mV	2MΩ	±0.5%F.S ±2Digits
	600V	Direct input	1V	5.1MΩ	±1.0%F.S ±2Digits
Current signal	2mA	Direct input	0.001mA	100Ω	±0.5%F.S ±2Digits
	20mA	Direct input	0.01mA	10Ω	±0.5%F.S ±2Digits
	200mA	Direct input	0.1mA	1Ω	±0.5%F.S ±2Digits
	2A	Direct input	1mA	0.2Ω	±0.5%F.S ±2Digits
	Above AC 5A	AC 0~5A input (ratio display)	10mA	2mΩ	±0.5%F.S ±2Digits
	Above DC 2A	DC 0~75mV input (ratio display)	10mA	100KΩ	±0.5%F.S ±2Digits

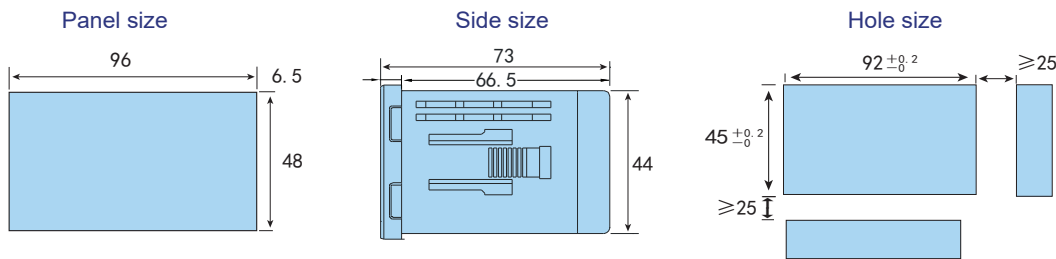
Note: When the measured voltage > 600V, it must be changed to AC 0 ~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

■ Connection



Note: Pls subject to the connection on meter if any changes.

■ Dimensions (Unit:mm)



■ Display Adjustment



SPAN: Display ratio adjustment potentiometer

ZERO: Zero adjustment potentiometer

The mirror panel has an external display and adjustment potentiometer, which is convenient to fine-tune and use.

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 10. DM, DE Series Panel Meter

Panel Meter

Sensor Indicator

Temperature Controller

Digital Counter

Timer Relay

Tacho/Speed Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter

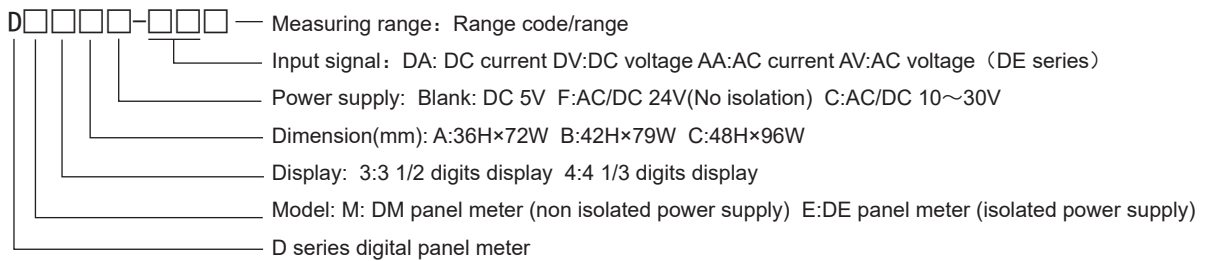
### ■ Photos and Features



#### Features:

- ★ Classical hardware design, stable performance.
- ★ Ultra-thin panel design
- ★ Optional measuring range.

### ■ Model Illustration



### ■ Ordering Information

Model	Power	Max digit	Normal range	Code
DM3□-DV/DA□	DC 5V	3 1/2 digits	AA: 2mA/20mA/200mA/2A/20A/200A AV: 0.2V/2V/20V/200V/600V DA: 2mA/20mA/200mA/2A/20A/200A DV: 0.2V/2V/20V/200V/600V (Special range need to be ordered)	B0080DM01
DM3□F-DV/DA□	DC 24V			B0108DM01
DM3□C-DV/DA□	AC/DC 10~30V			B0130DM01
DM4C-DV/DA□	DC 5V	4 1/2 digits		B0183DM01
DE3A-DA/DV□	AC/DC 10~30V	3 1/2 digits		B0110DE01
DE3A-AA/AV				B0110DE04

Note: DM series only support DC range signal, DE series AC current range only support AC below 2A, AC above 2A need to be ordered.

### ■ Specifications

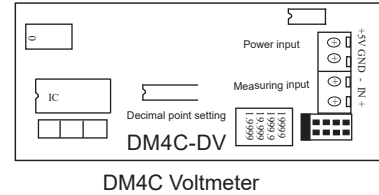
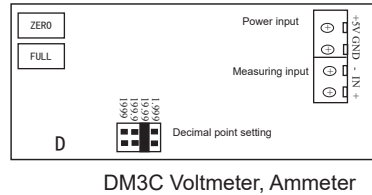
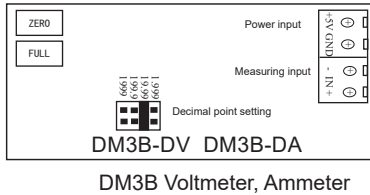
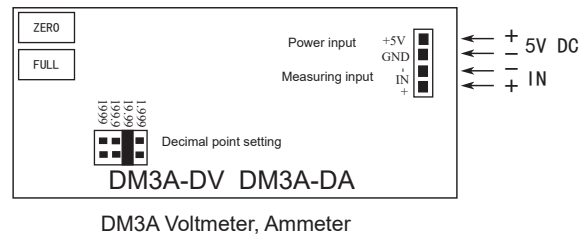
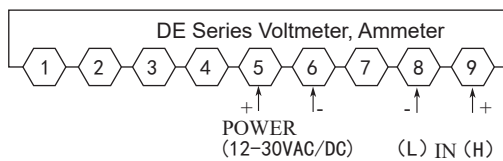
Input	Refer to measuring range specifications table
Accuracy	3 1/2: ±0.5%F.S ±2Digits 4 1/2: ±0.2%F.S ±2Digits
A/D convert	Dual integral
Sampling rate	About 2.5 times/sec
Input resistance	Refer to measuring range specifications table
Display range	0~±1999, decimal place can be set by adjusting the jumper cap position on PCB board.
Display	3 1/2 digits or 4 1/2 digits red LED, size 0.56 inch
Overflow indication	"-1" or "1"(3 1/2); "0000" or "-0000"(4 1/2) LED flash
Environment	0°C~50°C <85%RH
Storage environment	-20°C~60°C 35~90%RH
Power supply	DC 5V±10% ≤70mA(3 1/2); DC 5V±0.2V ≤80mA(4 1/2) Note: This product is powered by non isolated power supply. When multiple instruments share the same power supply, it is necessary to consider the signal sharing the same ground.
Power consumption	≤3W
Dielectric strength	AC 1500V 1min 50Hz
Insulation strength	100MΩ DC 500V
Dimension	Refer to mounting drawing
Vibration	Sweep-frequency vibration: 10~50Hz
Weight	0.5kg

Measuring Range Specifications

Type	Range	Input	Resolution	Input impedance	3 1/2 digits accuracy	4 1/2 digits accuracy
Voltage Signal	20mV	Direct input	0.01mV	20KΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	200mV	Direct input	0.1mV	200KΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	2V	Direct input	1mV	2MΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	20V	Direct input	10mV	2MΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	200V	Direct input	100mV	2MΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	600V	Direct input	1V	5.1MΩ	±1.0%F.S±2Digits	±0.5%F.S ±2Digits
Current Signal	2mA	Direct input	0.001mA	100Ω	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	20mA	Direct input	0.01mA	10Ω	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	200mA	Direct input	0.1mA	1Ω	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	2A	Direct input	1mA	0.2Ω	±0.5%F.S±2Digits	±0.2%F.S ±2Digits
	>DC 2A	DC 0~75mV input (ratio display)	10mA	100KΩ	±0.5%F.S±2Digits	±0.2%F.S ±2Digits

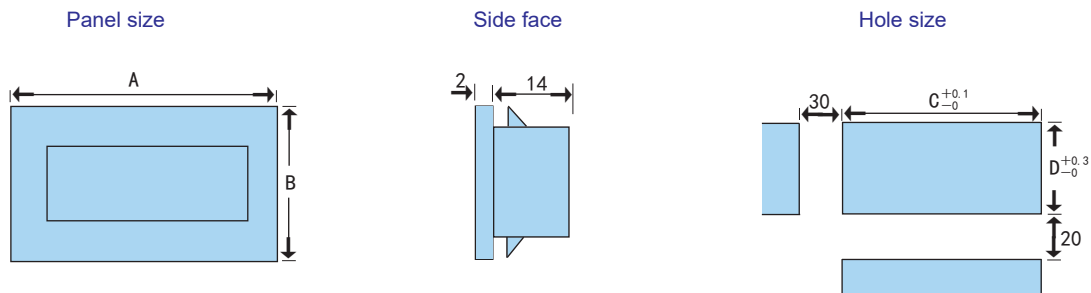
Note:When the measured voltage > 600V, it must be changed to AC 0 ~100V input by 100V ratio voltage transformer and the meter will display the ratio value.

Connection



Note:Please subject to the connections on meter if any changes here.

Dimensions (Unit: mm)



Model	A	B	C	D
DM-A	72	36	69	33.5
DM-B	79	42	76	39.5
DM-C	96	48	93	45.5
DE	72	36	69	33.5

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

# 1. SV Series Intelligent Sensor Indicator

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

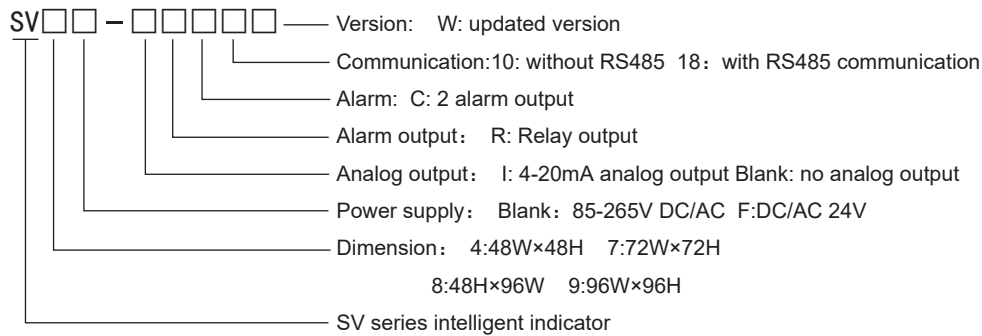
## ■ Photos and Features



### Features:

- ★ TC,RTD,standard analog signal input,set by input menu freely.
- ★ 2 programable alarm relay output
- ★ Optional isolated analog 4-20mA output,and RS485 communication port
- ★ Provide 24VDC max 30mA isolated power supply
- ★ Large LCD display
- ★ Accuracy level ±0.5%FS

## ■ Model Illustration



## ■ Ordering Information

Model	Alarm	Analog output	Communication	Code
SV4/7/8/9-RC10W	2	No	No	B0380SVW02
SV4/7/8/9-IRC10W(DC10W)	2	4~20mA	No	B0450SVW02
SV4/7/8/9-RC18W	2	No	RS485	B0510SVW02
SV4/7/8/9-IRC18W(DC18W)	2	4~20mA	RS485	B0570SVW02

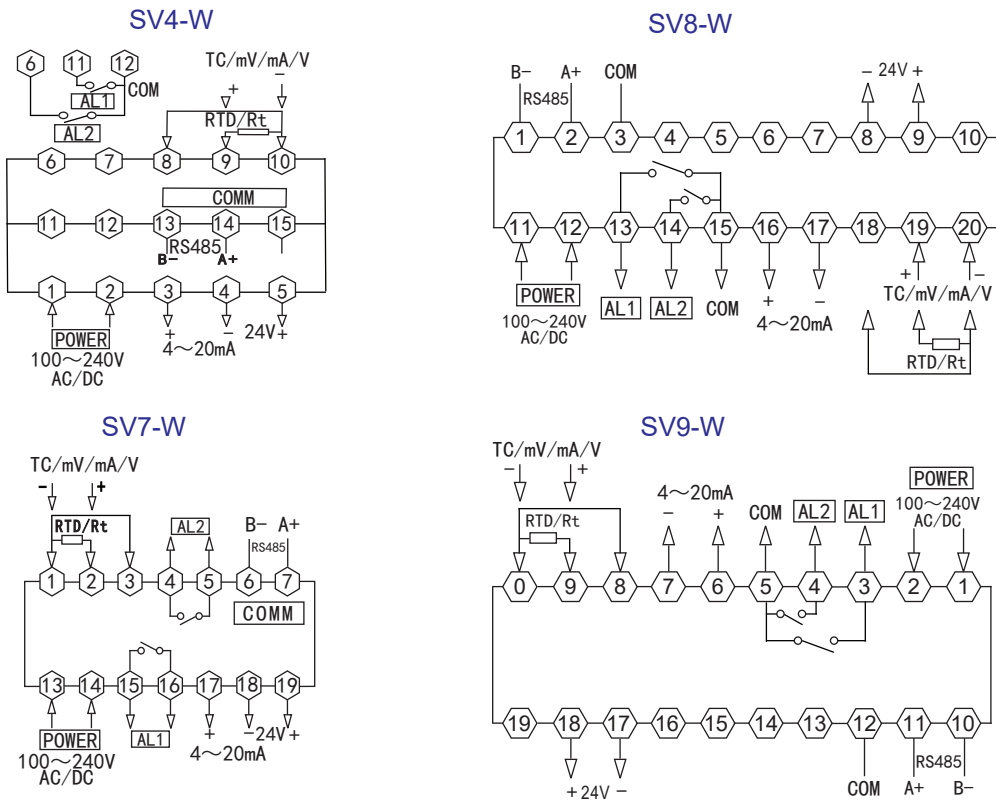
## ■ Specifications

Display&menu	Display digit	4 digits	Communication	Procotol	RS-485 ModBUS-RTU
	Range	-1999~9999		Baud rate	4800bps,9600bps
Input signal	Input type	TC/RTD universal input standard analog signal input (See the table below)	Power supply	IP range	1-247
	Accuracy	0.5%FS		Delay	No
	Resolution	can set freely	Protection level	Voltage	100~240V AC/DC 50/60Hz
	Sample rate	2.5 times/s		Consumption	≤5W
Analog output	Output	one	Environment	Panel	IP54
	Type	4~20mA		Body	-
	Range&load	Load resistance 600Ωmax	Structure	Work environment	0~50°C <85%RH
	Output accuracy	0.5%FS		Storage environment	-20~60°C <85%RH
Auxiliary voltage output	Resolution	0.01mA 12digits	Safe	Vibration	10~55Hz X\Y\Z 0.75mm
	Voltage	DC 24V		Screw torque	0.74n.m~0.9n.m
Relay output	Capacity	60mA max	EMC	Dielectric strength	2000V AC 50/60Hz 1min
	Load	3A/250V AC		Insulation Impedance	100MΩ DC 500V
	Electirical life	100,000 times	Frequency drop	ESD	3level
	Mechanical life	1million times		Pulse train anti-interference	4level each mode±4000VP-P
				Lightning surge	3 level N-L ±2000V
					3 level

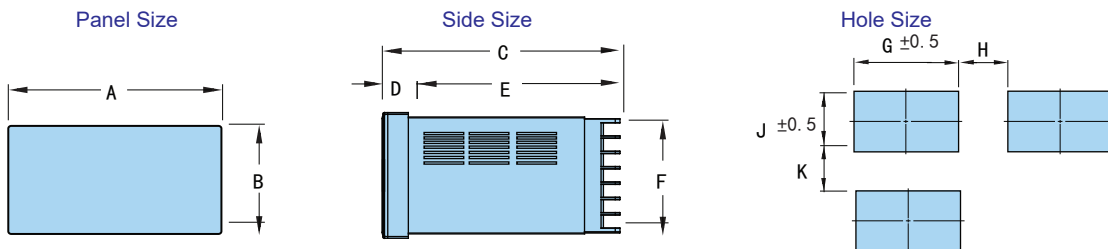
**Input parameters**

Number	Symbol	Input type	Measuring range	Resolution	Accuracy	Input resistance
0	⌑	K type TC	-50~1200°C	1°C	±0.5%F.S±3digits	> 100KΩ
1	⌒	J type TC	0~1200°C	1°C	±0.5%F.S±3digits	> 100KΩ
2	⌑	E type TC	0~850°C	1°C	±0.5%F.S±3digits	> 100KΩ
3	⌑	T type TC	-50~400°C	1°C	±0.5%F.S±3digits	> 100KΩ
4	⌑	B type TC (to be ordered)	600~1800°C	1°C	±0.5%F.S±3digits	> 100KΩ
5	⌑	R type TC (to be ordered)	500~1600°C	1°C	±0.5%F.S±3digits	> 100KΩ
6	⌑	S type TC (to be ordered)	-10~1600	1°C	±0.5%F.S±3digits	> 100KΩ
7	⌑	N type TC	-50~1200°C	1°C	±0.5%F.S±3digits	> 100KΩ
8	⌑	PT100	-199.9~650.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
9	⌑	CU50	-50.0~150.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
10	⌑	CU100	-50.0~150.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
11	⌑	DC 0~50mV	-1999~9999	1digit	±0.5%F.S±3digits	> 100KΩ
12	⌑	DC 4~20mA	-1999~9999	1digit	±0.5%F.S±3digits	<150Ω
13	⌑	DC 0~10V	-1999~9999	1digit	±0.5%F.S±3digits	> 1MΩ
14	⌑	0~400Ω	-1999~9999	1digit	±0.5%F.S±3digits	> 100KΩ

**Connection**



**Dimensions (Unit: mm)**



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter



## 2. SD Series Intelligent Sensor Indicator



### Photos and Features

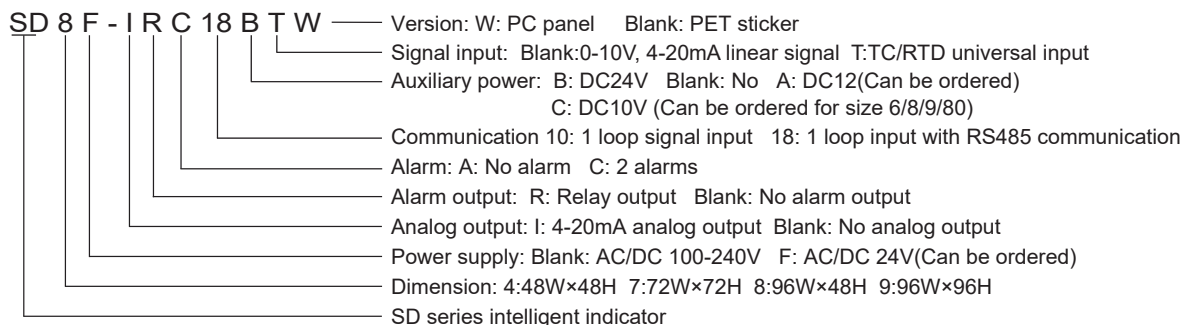


Note: SD-W is PC panel version

### Features:

- ★ Optional analog signal v/mA input or temperature sensor signal input.
- ★ Display range can be set arbitrarily for analog signal measuring
- ★ Panel with zero operation function.
- ★ 2 loops free-setting alarm output function.
- ★ Optional 4-20mA analog output and RS485 communication port
- ★ Keep max value, min value, current value, square root of signal

### Model Illustration



### Ordering Information

Model	Input signal	Analog output	Communication	Alarm	Auxiliary power	Code	
SD□-A10	Blank:0~10V 0~5V 1~5V 4~20mA 0~20mA Other input signal can be ordered.	No	No	No	No	B0188SD01	
SD□-A10B		No	No	No	DC24V(12V can be ordered)	B0215SD01	
SD□-RC10B		No	No	2	DC24V(12V can be ordered)	B0225SD01	
SD□-RC18B		No	Yes	2	DC24V(12V can be ordered)	B0360SD01	
SD□-IRC10B		Yes	No	2	DC24V(12V can be ordered)	B0300SD01	
SD□-IRC18B		Yes	Yes	2	DC24V(12V can be ordered)	B0430SD01	
SD□-A10C		No	No	No	DC10V	B0290SD01	
SD□-RC10C		No	No	2	DC10V	B0300SD01	
SD□-RC18C		No	No	2	DC10V	B0435SD01	
SD□-IRC10C		Yes	No	2	DC10V	B0375SD01	
SD□-IRC18C		Yes	No	2	DC10V	B0505SD01	
SD□-A10-T		T:TC/RTD universal input	No	Yes	No	No	B0193SD01
SD□-RC10B-T		No	No	2	DC24V(12V can be ordered)	B0225SD01	
SD□-A10W		Blank:0~10V 0~5V 1~5V 4~20mA 0~20mA Other input signal can be ordered.	No	Yes	No	No	B0210SD01
SD□-A10BW	No		No	No	DC24V(12V can be ordered)	B0240SD01	
SD□-RC10BW	No		No	2	DC24V(12V can be ordered)	B0250SD01	
SD□-RC18BW	No		No	2	DC24V(12V can be ordered)	B0385SD01	
SD□-IRC10BW	Yes		No	2	DC24V(12V can be ordered)	B0325SD01	
SD□-IRC18BW	Yes		No	2	DC24V(12V can be ordered)	B0455SD01	
SD□-A10CW	No		No	No	DC10V	B0315SD01	
SD□-RC10CW	No		Yes	2	DC10V	B0325SD01	
SD□-RC18CW	No		No	2	DC10V	B0460SD01	
SD□-IRC10CW	Yes		Yes	2	DC10V	B0400SD01	
SD□-IRC18CW	Yes		No	2	DC10V	B0525SD01	
SD□-A10-TW	T:TC/RTD universal input		No	No	No	No	B0210SD01
SD□-RC10B-TW	No		No	2	DC24V(12V can be ordered)	B0250SD01	

### Specifications

Sample rate	4 times/sec	Pulse trap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Relay capacity	AC 250V /3A rated load life>100 thousand times	Lightning surge	IEC/EN61000-4-5 ±2KV perf.Criteria B
Power supply	AC/DC 100-240V(85-265V), 24V(can be ordered)	Voltage dips & short supply interruption	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Consumption	< 6VA	Dielectric strength	Signal input & output & power: 1500VAC 1min Among <60V low voltage circuit: DC500V, 1min
Environment	Indoor only, temperature: 0~50°C no condensation, Humidity:<85%RH, altitude<2000m	Weight	About 400g
Storage environment	-10~60°C,no condensation	Case material	The case and panel frame PC/ABS (Flame class UL94V-0)
SSR output	DC 24V pulse level, load <30mA		

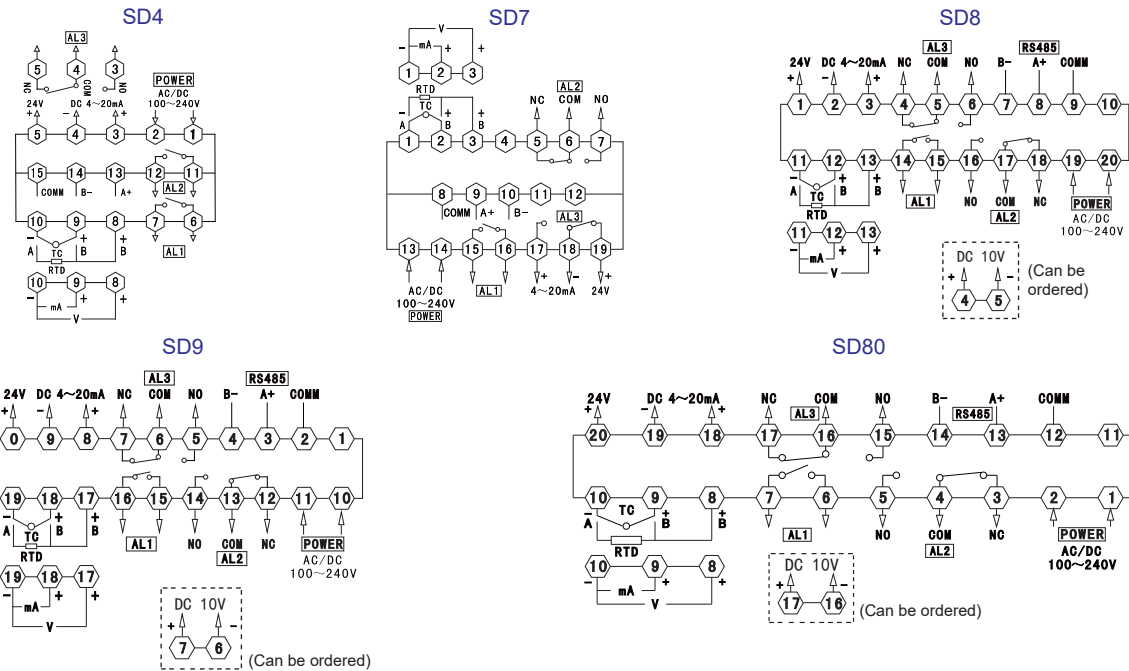
Current output	DC 4 ~ 20mA load<500Ω, temperature drift 250PPM	Panel sticker	PET(F150/F200)
Communication port	RS485 port Modbus-RTU protocol, can connect max 30 units.	Power-off data protection	10 years, times of writing:1 million times
Insulation impedance	Input,output,power to the case>20MΩ	Protection level of panel	IP65(IEC60529)
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.CriGTEria B	Safety Standard	IEC61010-1 Overvoltage category II , pollution level 2,level II (Enhanced insulation)

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

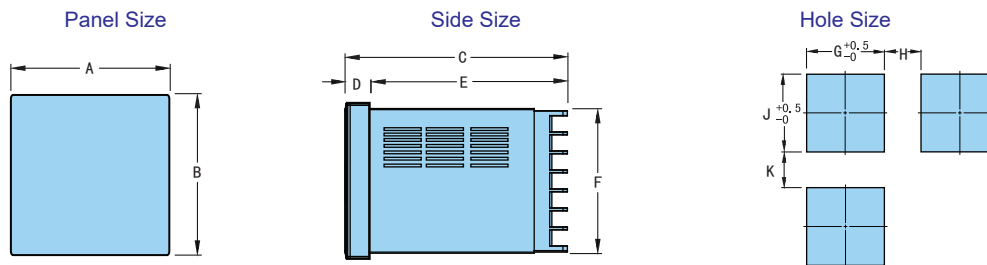
Input parameters

Symbol	Input type	Measuring range	Resolution	Accuracy	Input resistance
E	K type TC	-50~1200°C	1°C	0.5%F.S	>500KΩ
J	J type TC	0~1200°C	1°C	0.5%F.S	>500KΩ
E	E type TC	0~850°C	1°C	0.5%F.S	>500KΩ
t	T type TC	-50~400°C	1°C	0.5%F.S	>100KΩ
Pt	PT100	-199.9~600.0°C	0.1°C	0.5%F.S	(0.2mA)
CU50	CU50	-50.0~150.0°C	0.1°C	0.5%F.S	(0.2mA)
CU100	CU100	-50.0~150.0°C	0.1°C	0.5%F.S	(0.2mA)
mV	0~50mV	-1999~9999	0.1%FS	0.5%F.S	>500KΩ
rΩ	0~400Ω	-1999~9999	0.1%FS	0.5%F.S	(0.2mA)
0_10	0~10V	-1999~9999	0.1%FS	0.5%F.S	>500KΩ
4_20	4~20mA	-1999~9999	0.1%FS	0.5%F.S	<100Ω
0_5V	0~5V	-1999~9999	0.2%FS	1%F.S	>500KΩ
1_5V	1~5V	-1999~9999	0.2%FS	1%F.S	>500KΩ
0_20	0~20mA	-1999~9999	0.1%FS	0.5%F.S	<100Ω

Connection



Dimensions (Unit: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25

### 3. DP3-SVA Series Sensor Indicator

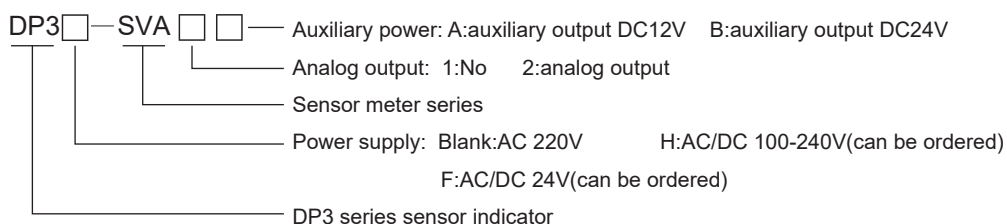
#### ■ Photos and Features



#### Features:

- ★ Panel display range is adjustable, and interior can switch decimal point.
- ★ Optional analog output function (4-20mA)
- ★ Auxiliary power output +12V or +24V/60mA.max
- ★ Widely used for measuring analog speed pressure in mechanical light industries.
- ★ Hardware design, stable and reliable.

#### ■ Model Illustration



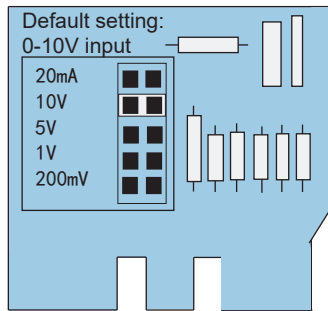
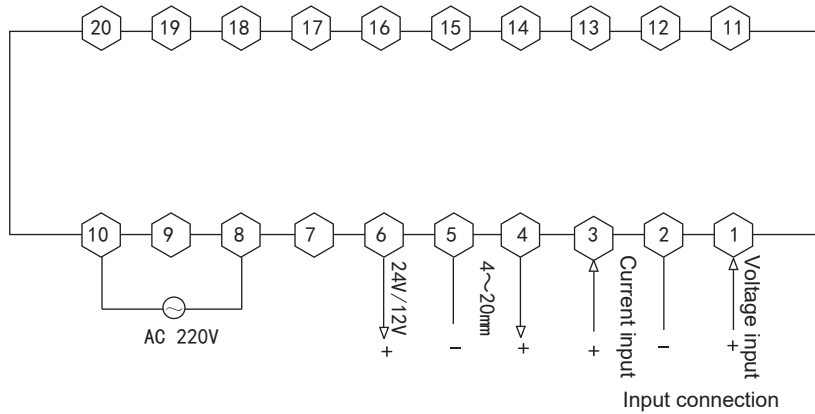
#### ■ Ordering Information

Model	Display range	Input	Analog output	Measuring accuracy	Auxiliary power	Sampling rate	Code
DP3-SVA1A	±1999 decimal point free range choosing free setting	0~5V	No	±0.5%FS ±2Digit	DC 12V/50mA	2 times/sec	B0220DP01
DP3-SVA1B		0~10V	No	±0.5%FS ±2Digit	DC 24V/50mA	2 times/sec	B0220DP01
DP3-SVA2A		4~20mA	4~20mA	±0.5%FS ±2Digit	DC 12V/50mA	2 times/sec	B0300DP01
DP3-SVA2B		0~1V 0~200mV (default setting 0~10V)	4~20mA	±0.5%FS ±2Digit	DC 24V/50mA	2 times/sec	B0300DP01

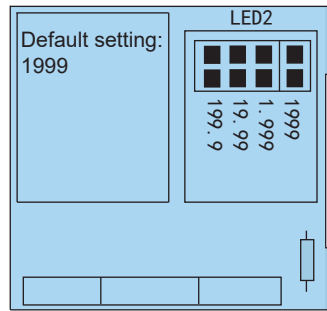
#### ■ Specification

Measuring function	0~10V, 0~5V, 0~1V, 0~200mV, 4~20mA (Default setting: input 0~10V, display 0~2000)
Accuracy	±0.5%F.S ±2Digit(23°C±5°C)
A/D convert	Dual integral
Sampling rate	About 2.5 times/sec
Input resistance	4-20mA(0-20mA) current: 100Ω 0~10V, 0~5V voltage: 2MΩ 0-200mV voltage: 200KΩ
Analog output	4~20mA ≤600Ω
Max display	0~±1999, decimal point can be switched by the pin on the PCB board.
Display	3 1/2 red LED size 0.56 inch
Overflow	Display "1" or "-1"
Environment	0°C~50°C 35~85%RH
Storage environment	-20°C~60°C 35~90%RH
Power	AC 220V 50Hz(AC 110V, DC 18~30V can be ordered)
Power consumption	≤5W
Dielectric strength	AC 1500V 1min 50Hz
Insulation impedance	100MΩ DC 500V
Dimension	48H×96W×100L
Vibration	Frequency vibration: 10~50HZ
Weight	0.5kg

■ Connection



Range setting by short-connecting the pins (Figure 1)



Decimal point setting pin (Figure 2)

1、 Range setting

Positions of jumper cap	20mA	10V	5V	1V	200mV
Input scale	4~20mA/0~20mA	0~10V	0~5V/1~5V	0~1V	0~200mV

2、 Decimal point setting: Insert the pin in different position to get different decimal place as shown on Figure 2.

Note: The original setting range is 0-10V, display 0-2000, the user can adjust them according to the actual situation.

3、 Display value adjustment: when the user adjust the SPAN and ZERO, they can adjust on the adjusting hole as shown on Figure 3.

(1) Span adjustment (SPAN)

Input with a typical value, clockwise adjustment can increase the display value, counterclockwise adjustment can reduce the display value.

(2) Zero point adjustment(ZREO)

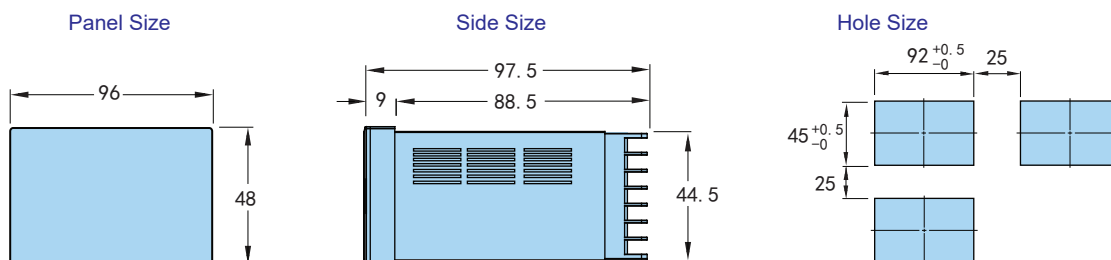
Clockwise adjustment is reverse biased, counterclockwise adjustment is forward biased.

Note: After adjustment of SPAN value and scale setting, need to check whether ZERO need to be reseted.

Zero adjustment must be in zero input or input shortcircuit or an adjustment signal. If input 4~20mA and need to display zero, please input 4mA signal and adjust to zero. In order to diminish error, please adjust SPAN and ZERO several times.



■ Dimensions (Unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## 4. DK8A-SVA Series Sensor Indicator

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

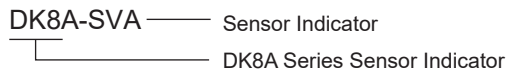
### ■ Photos and Features



#### Features:

- ★ Suitable for all kinds of sensors or measuring equipments with linear output characteristics, such as the measurement of pressure, weight, temperature, humidity, etc.
- ★ With decimal point, SPAN, range and ZERO setting function.

### ■ Model Illustration



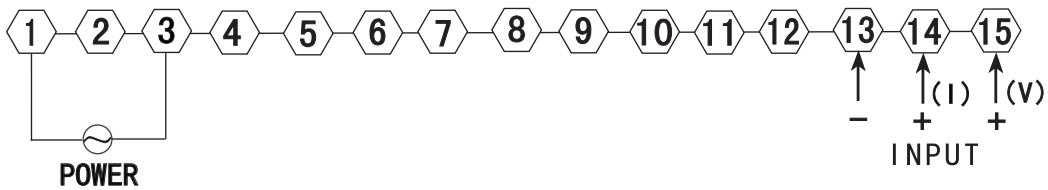
### ■ Ordering Information

Model	Display range	Input	Analog output	Measuring accuracy	Auxiliary power	Sampling rate	Code
DK8A-SVA	1999 decimal point	0~5V	No	±0.5%FS ±2Digit	No	2 times/sec	B0175DK01

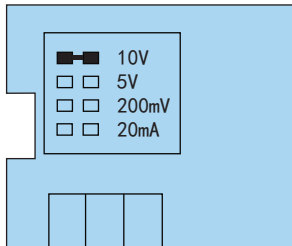
### ■ Specifications

Measuring function	Can be used with various sensors
Input type	Current: 4~20mA(0~20mA)    Voltage: 0~10V (0~5V, 0~200mV)
Accuracy	±0.5%F.S±2Digit (23°C±5°C)
A/D convert	Dual integral
Sampling rate	About 2.5 times/sec
Respond speed	About 4.5 sec
Max display	1999, decimal point can be set freely
Display	Red LED display, height 14.2mm
Power consumption	≤3.5VA
Working temperature	0°C~50°C
Power supply	AC 220V 50Hz (or AC/DC 24V)
Dimension	48mm(H)×96mm(W)×62mm(L)
Weight	500g
Dielectric strength	AC 1500V 1min
Insulation impedance	DC 500V ≥100MΩ
ZERO adjustable range	Input 0V/0mA ±300,    Input 4mA -100~+300
Full scale adjustable range	Input 10V/20mA    1000~1999

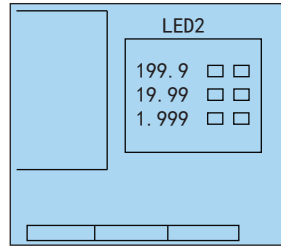
■ Connection



Note: If there is any change, please subject to connection diagram on the meter.



Range setting by short-connecting the pins (Figure 1)



Decimal point setting pin (If need to display 1999, please remove the pin) (Figure 2)

1.Range setting (Figure 1)

Positions of jumper cap	20mA	5V	10V	200mV
Input scale	4~20mA/0~20mA	0~5V	0~10V	0~200mV

2.Decimal point setting (Figure 2)

While moving the jumper cap on the PIN head, you can get the position of the DP that you want.

Note: The original setting range is 0~10V, display 0~1500, the user can adjust them according to the actual situation.

3.Display value adjustment: if need to adjust the SPAN and ZERO, need to open the panel protective cover. Shown as Figure 3.

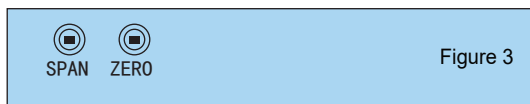
(1).Span adjustment (SPAN)

Input a typical value, clockwise adjustment can increase the display value, counterclockwise adjustment can reduce the display value.

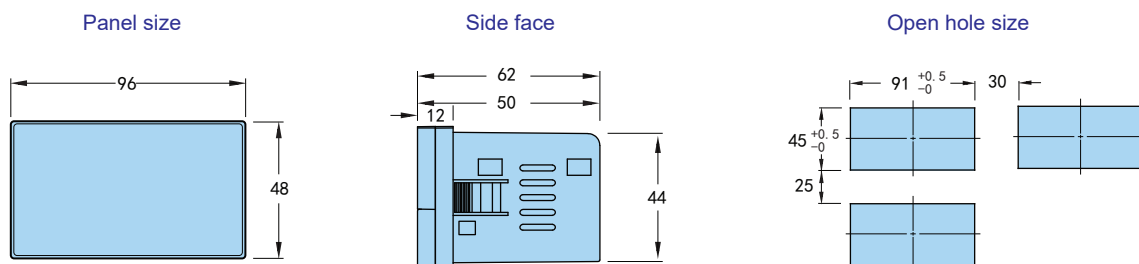
(2).Zero point adjustment (ZERO)

Clockwise adjustment is reverse biased, counterclockwise adjustment is forward biased.

Note:After adjustment of SPAN value and scale setting, need to check whether ZERO need to be reseted. Zero adjustment must be in zero input or input shortcircuit or an adjustment signal. If input 4~20mA and need to display zero, please input 4mA signal and adjust to zero.In order to diminish error, please adjust SPAN and ZERO several times.






■ Dimensions (Unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

## Temperature Controller Function Comparison Table

	No.	Model	AI808P	AI708	AI518	AI208	AI108	TP	TEP	TE	TM	GTE2		GTA2	
		Function													
Panel Meter															
Sensor Indicator			50 Segment Program		Adjustor	4 Digits Adjustor	3 digits Economical	3 Digits Simple Type	LCD	16 Segment Program	4 Digits General	Thumb switch	Din Rail 1 channel	Din Rail 2 channels	Din Rail 4 channels
Temperature Controller	1	Input	TC/RTD/MV/RT/MA/V	TC/RTD/MV/RT/MA/V	TC/RTD/MV/RT/MA/V	TC/RTD	TC or RTD	TC/RTD or MA/V	TC/RTD or MA/V	TC/RTD or MA/V	TC/RTD or MA/V	TC/RTD or MA/V	TC/RTD or MA/V	TC	
Digital Counter	2	Control output	Relay/SSR/Current/SRC			Relay/SSR		Relay/SSR/Current/SRC			Relay/SSR	Relay/SSR/Current/SRC		SSR	
Timer Relay	3	Auto-turning	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Timer Relay	4	Manual /auto switch	Yes	Yes	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	
Tacho/Speed Pulse Meter	5	Power mode	Customized (RUN/STOP/HOLD)	No	No	(RUN/STOP)	(RUN/STOP)	(RUN/STOP)	(RUN/STOP)	(RUN/STOP)	No	(RUN/STOP)	(RUN/STOP)	(RUN/STOP)	
Recorder	6	Control function	ON/OFF heating, PID heating, PID cooling, PID heating & cooling		ON/OFF heating, PID heating, PID heating, ON/OFF cooling	ON/OFF heating, PID heating, PID heating & cooling, ON/OFF cooling		ON/OFF heating, PID heating, PID cooling, PID heating & cooling, ON/OFF cooling			ON/OFF heating, PID heating, PID heating & cooling, ON/OFF cooling	ON/OFF heating, PID heating, PID cooling, PID heating & cooling, ON/OFF cooling		ON/OFF heating, PID heating, PID heating & cooling, ON/OFF cooling	
Signal Isolator	7	Sample Rate	2 times/s	2 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	3 times/s	
Rotary Encoder	8	Program	50	No	No	No	No	No	16	No	No	No	No	No	
Proximity Sensor	9	Decimal point setting	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	
Solid State Relay	10	Alarm	2	3	3	1	1	2	2	2	1	2	2	No output in communication read status	
Power Meter	11	Delay Alarm	No	No	No	No	No	Customized	No	Customized	No	No	No	No	
	12	DI/DO	No	No	No	No	No	No	No	No	No	No	No	No	
	13	Analog	No	No	Yes	/	/	Yes	Yes	Yes	/	Yes	Yes	/	
	14	Com	Yes	Yes	Yes	/	/	Yes	Yes	Yes	/	Yes	Yes	Yes	

# 1. AI808P Series Programmable Temperature Controller

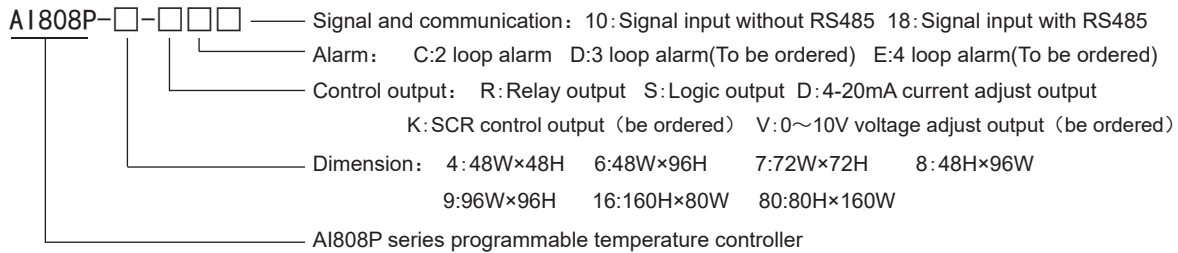
## Photos and Features



### Features:

- ★ 50 programmable segments control function
- ★ 0.2%FS high-accuracy signal measurement, industrial universal signal input.
- ★ Two freedom degree PID arithmetic with positive and negative control output.
- ★ Optional kinds of control output, heating control with inear output.
- ★ 2 loop alarm, optional kinds of alarm type.
- ★ Rich sizes, big LED display
- ★ RS485 communication, ModBUS-RTU protocol.
- ★ Industrial level of EMC test and higher reliability

## Model Illustration



## Ordering Information

Model	Alarm output	Control output	Input type	Communication	Code
AI808P-□-SC10	2 loop alarm (It can add 1 loop alarm if without cooling control)	SSR output	K, J, E, T, R, S, B, N, CU50, CU100, PT100, 0-10, 4-20mA, 0-50mV, 0-400Ω	No	A01900AI02
AI808P-□-RC10		Relay output		No	A01900AI02
AI808P-□-DC10		Current output		No	A02100AI02
AI808P-□-SC18		SSR output		R485	A02200AI02
AI808P-□-RC18		Relay output		R485	A02200AI02
AI808P-□-DC18		Current output		R485	A02400AI02

## Technical Specifications

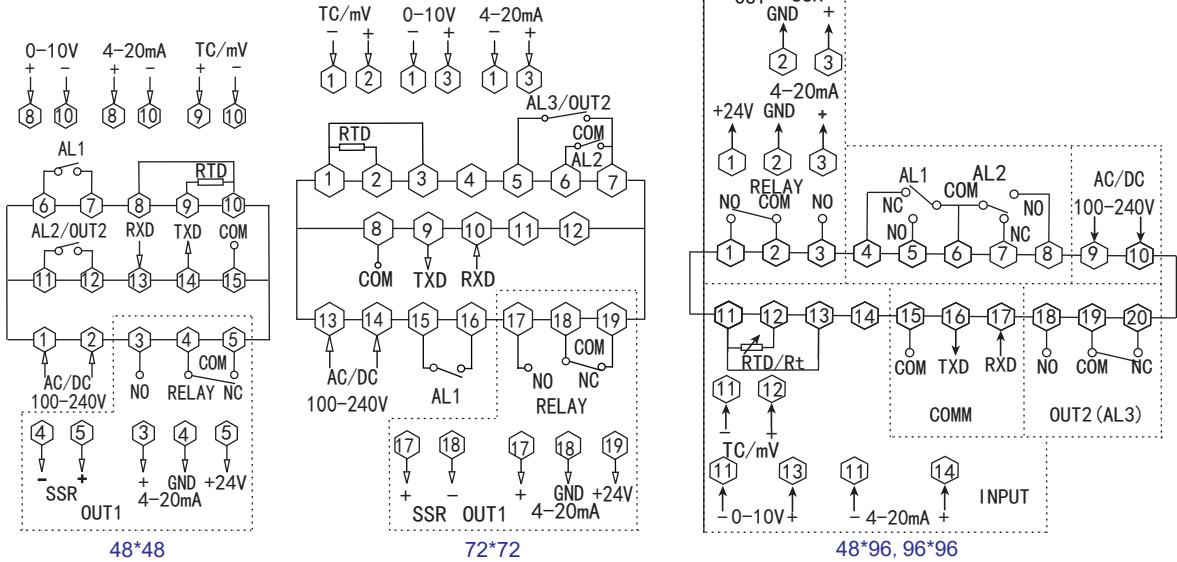
Display	Digits	4 digits	Communication	Protocol	RS-485 ModBUS-RTU
	Max	Refer input signal table		Baud	4800bps, 9600bps
Input signal	Input type	TC/RTD universal input	Power supply	IP range	1-247
		Standard analog signal input		Communication delay	No
	Accuracy	Refer input signal specification table	Voltage	100~240V AC/DC 50/60Hz	
	Resolution	0.3%FS±3digits	Power consumption	≤5W	
Analog output	Sample rate	3 time/second	Protection level	Panel	IP64
	Output points	1 loop		Environment	Body
			Type		4~20mA
	Range & Load	Load resistance 600Ωmax	Structure	Storage environment	-10~60°C <85%RH
	Output accuracy	0.5%FS		Vibrate, pile	10~55Hz X\Y\Z 0.75mm
Voltage output	Resolution	0.01mA 12 digits	Safe	Screw torque	0.74n.m~0.9n.m
	Voltage supply	DC 24V		Dielectric strength	2000V AC 50/60Hz 1min
Relay output	Capacity	30mA max	EMC	Insulation Impedance	100MΩ DC 500V
	Load	3A/250V AC		ESD	3level
	Electrical life	100,000 times		Pulse train anti-interference	4level each mode±4000VP-P
	Mechanical life	1 million times		Lightning surge	3level N-L ±2000V
				Frequency drop	3level

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

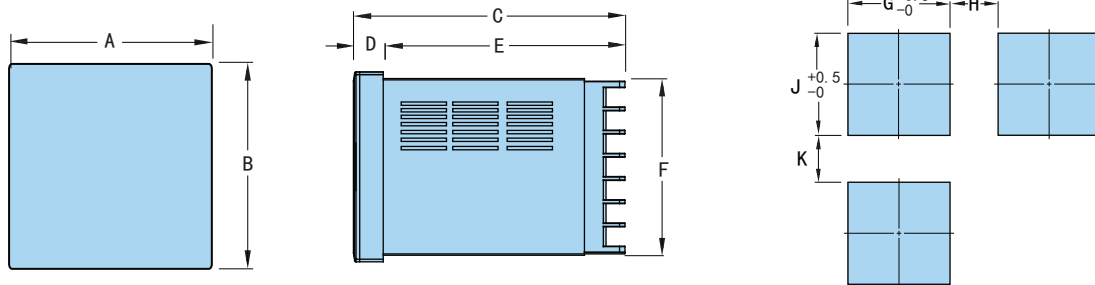


Number	Symbol	Input type	Measuring range	Resolution	Input resistance
0	ℰ	K type TC	-50~1300℃	1℃	>100KΩ
1	J	J type TC	-50~1200℃	1℃	>100KΩ
2	ℰ	E type TC	-50~1000℃	1℃	>100KΩ
3	ℰ	T type TC	-50~400℃	1℃	>100KΩ
4	ℰ	B type TC	600~1800℃	1℃	>100KΩ
5	r	R type TC	-10~1700℃	1℃	>100KΩ
6	S	S type TC	-10~1600	1℃	>100KΩ
7	n	N type TC	-50~1200℃	1℃	>100KΩ
8	000	Reservation			
9	PT	PT100	-199.9~850.0℃	0.1℃	(0.2mA)
10	JPT	JPT100	-199.9~500.0℃	0.1℃	(0.2mA)
11	CU50	CU50	-50.0~150.0℃	0.1℃	(0.2mA)
12	CU100	CU100	-50.0~150.0℃	0.1℃	(0.2mA)
13	0V	Linear voltage	0~50mV	0.01%FS	>100KΩ
14	0A	Linear current(AI708-4,to be ordered)	4~20mA	0.01%FS	<110Ω
15	1V	Linear voltage	0~10V	0.01%FS	>100KΩ
16	0Ω	Linear resistance	0~400Ω	0.01%FS	>0.2mA

■ Connection



■ Dimensions (Unit:mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(80*160)	160	80	96	13	83	75.5	155.5	30	76	30
16:(160*80)	80	160	96	13	83	155	76	30	155.5	30

## 2. AI708 Series Intelligent Temperature Controller

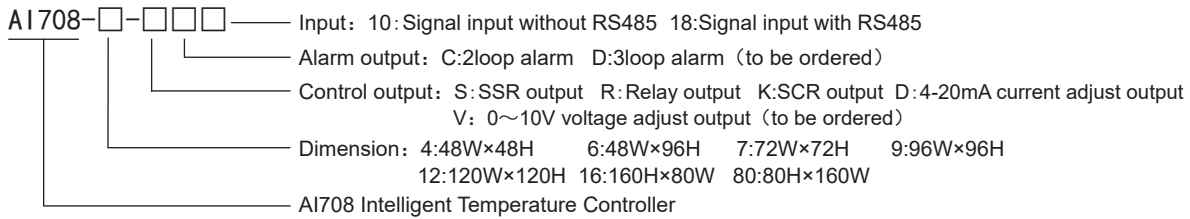
### Photos and Features



#### Features:

- ★ Optional input of TC/RTD/analog signal, universal software.
- ★ 0.3%FS high-accuracy signal measurement.
- ★ Fuzzy PID algorithm, forward/reverse control output.
- ★ Multiple control output options: ON/OFF, PID heating, PID heating and cooling.
- ★ 2 loop alarm, optional kinds of alarm type.
- ★ Rich sizes for option, with big LED display.
- ★ RS485 communication, ModBUS-RTU protocol.
- ★ Industrial level of EMC test and higher reliability

### Model Illustration



### Ordering Information

Model	Control output	Cooling control	Alarm	Communication	Input type	Code
AI708-□-SC10	SSR output	Relay output	2	No	Universal input: A: TC/RTD universal input K/J/E/T/R/S/B/N/CU50/CU100 PT100 B: standard analog signal input: 0-10V/4-20mA/0-50mV/0-400Ω	A0620AI02
AI708-□-RC10	Relay output	Relay output	2			A0620AI02
AI708-□-KC10	SCR output	Relay output	2			A0680AI02
AI708-□-DC10	Current output	Relay output	2			A0700AI02
AI708-□-SC18	SSR output	Relay output	2	RS485		A0790AI02
AI708-□-RC18	Relay output	Relay output	2			A0790AI02
AI708-□-KC18	SCR output	Relay output	2			A0820AI02
AI708-□-DC18	Current output	Relay output	2			A0920AI02

Note: It is 1 alarm for heating-cooling control of 48\*48 type, 2 alarms for other options control. And for other sizes, it is 2 alarms for heating-cooling control, 3 alarm for other control types. 4-20mA output can be as analog output or PID control output. (The factory default setting is PID output)

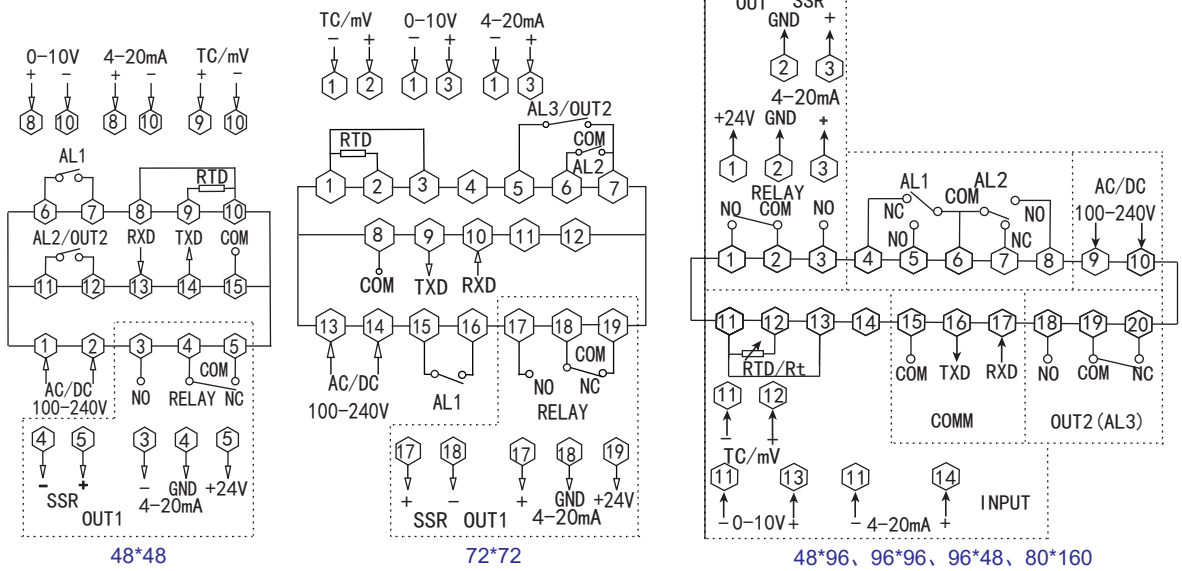
### Technical Specifications

Display	Digits	4 digits	Communication	Communication protocol	RS-485 ModBUS-RTU
	Max	Refer to the input signal table		Baud	4800bps, 9600bps
Input signal	Input type	TC, RTD universal input standard analog signal input. Refer to input signal parameter comparison table for details.	Power supply	IP range	1-247
	Accuracy	0.3%FS		Communication delay	No
	Resolution	Display ± 0.1°C	Voltage	100~240V AC/DC 50/60Hz	
Analog output	Sampling rate	3 times/s	Protection	Power consumption	≤5W
	Output points	1loop		Panel	IP54
	Type	4~20mA	Body	-	
	Range & Load	Load resistance 600Ωmax	Environment	Work environment	0~50°C <85%RH
Output accuracy	0.5%FS	Storage environment		-20~60°C <85%RH	
Voltage output	Resolution	0.01mA 12 digits	Structure	Vibrate, pile	10~55Hz X/Y/Z 0.75mm
	Voltage supply	DC 24V		Screw torque	0.74n.m~0.9n.m
Relay output	Capacity	30mA max	Safe	Dielectric strength	2000V AC 50/60Hz 1min
	Load	3A/250V AC		Insulation impedance	100MΩ DC 500V
	Electrical life	100,000times	EMC	ESD	3 level
Mechanical life	1million times	Pulse train anti-interference		4 level each mode ±4000VP-P	
				Lightning surge	3 level N-L ±2000V
				Frequency drop	3 level

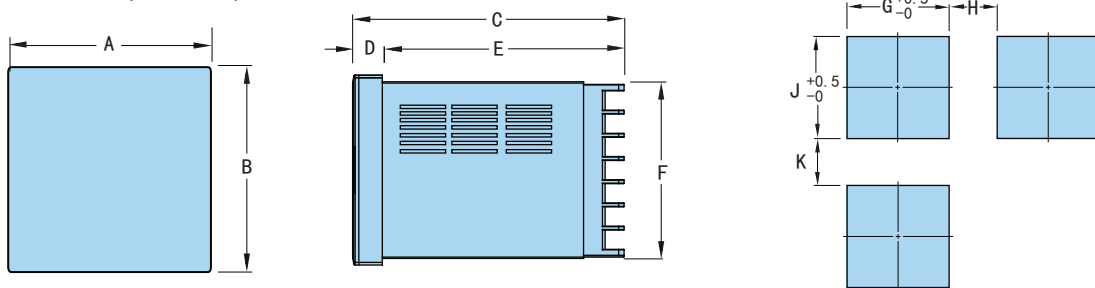
Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

Number	Symbol	Input type	Measuring range	Resolution	Input Impedance
0		K type TC	-50~1300°C	1°C	>100KΩ
1		J type TC	-50~1200°C	1°C	>100KΩ
2		E type TC	-50~1000°C	1°C	>100KΩ
3		T type TC	-50~400°C	1°C	>100KΩ
4		B type TC	600~1800°C	1°C	>100KΩ
5		R type TC	-10~1700°C	1°C	>100KΩ
6		S type TC	-10~1600	1°C	>100KΩ
7		N type TC	-50~1200°C	1°C	>100KΩ
8	000	Reservation			
9	PT	PT100	-199.9~850.0°C	0.1°C	(0.2mA)
10	JPT	JPT100	-199.9~500.0°C	0.1°C	(0.2mA)
11	CU50	CU50	-50.0~150.0°C	0.1°C	(0.2mA)
12	CU100	CU100	-50.0~150.0°C	0.1°C	(0.2mA)
13	0V	Linear voltage	0~50mV	0.01%FS	>100KΩ
14	0A	Linear current(AI708-4 need to order)	4~20mA	0.01%FS	<110Ω
15	1V	Linear voltage	0~10V	0.01%FS	>100KΩ
16	Rt	Linear resistance	0~400Ω	0.01%FS	> (0.2mA)

**Connection**



**Dimensions (Unit:mm)**



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(80*160)	160	80	96	13	83	75.5	155.5	30	76	30
16:(160*80)	80	160	96	13	83	155	76	30	155.5	30

### 3. AI518 Series Intelligent Temperature Controller



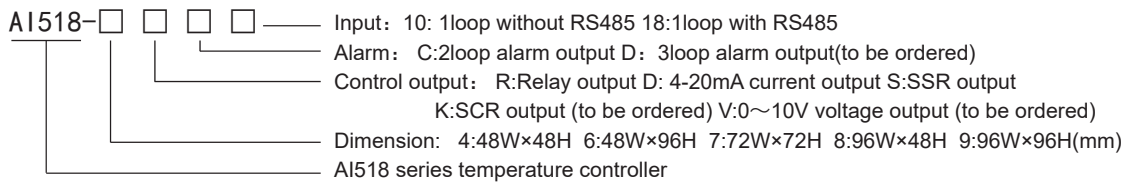
#### ■ Photos and Features



#### Features:

- ★ Optional input of TC/RTD/analog signal,universal software.
- ★ Two freedom degree PID arithmetic with auto-tuning function.
- ★ Optional various control output and 4~20mA linear output
- ★ 2 loop alarm,many kinds of alarm type are optional.
- ★ Rich sizes, big LED display.
- ★ RS485 communication,ModBUS-RTU protocol.
- ★ Industrial level of EMC test and higher reliability.

#### ■ Model Illustration



#### ■ Ordering Information

Model	Control output	Analog output	Communication	Input	Accuracy	Code
AI518-□-SC10	Voltage output	No	No	Input signal included TC input RTD input Standard analog input (0~10V, 4~20mA, 0~50mV, 0~400Ω)	±0.5%FS	B0370AI01
AI518-□-RC10	Relay output	No				B0370AI01
AI518-□-KC10	SCR output	No				B0390AI01
AI518-□-DC10	Current output	Yes				B0420AI01
AI518-□-SC18	Voltage output	No	RS485	Standard analog input (0~10V, 4~20mA, 0~50mV, 0~400Ω)	±0.5%FS	B0450AI01
AI518-□-RC18	Relay output	No				B0450AI01
AI518-□-KC18	SCR output	No				B0470AI01
AI518-□-DC18	Current output	Yes				B0500AI01

Note: 4-20mA output can be switched to analog output or PID control output on the menu, factory default setting is PID control output.

#### ■ Technical Specifications

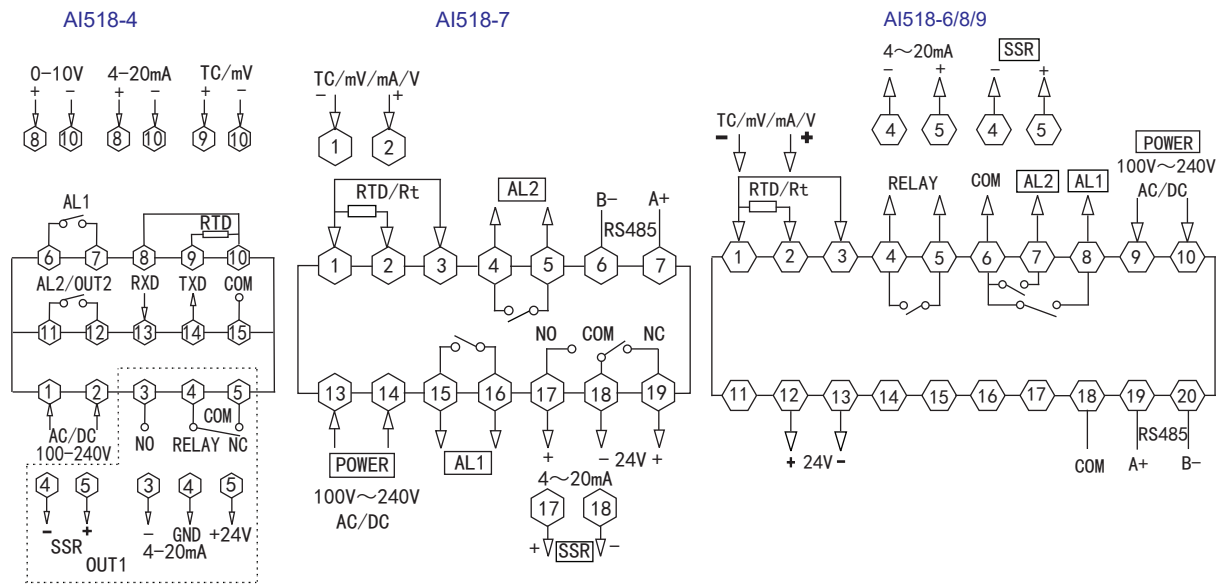
Display	Digits	4 digits	Communication	Comm. protocol	RS-485 ModBUS-RTU
	Max display	Refer to input signal table		Baud	4800bps,9600bps
Input signal	Input signal type	TC,RTD universal input Standard analog input		IP range	1-247
	Accuracy	Refer to input signal table 0.5%FS		Delay	No
	Resolution	Display ± 0.1°C	Power supply	Voltage	100~240V AC/DC 50/60Hz
Sampling rate	2.5 times/second	Power consumption		≤5W	
Analog output	Output points	1 loop	Protection level	Panel	IP54
	Type	4~20mA		Body	-
	Range & load	Load resistance 600Ωmax	Environment	Working environment	0~50°C <85%RH
	Output accuracy	0.5%FS		Storage environment	-20~60°C <85%RH
	Resolution	0.01mA 12 digits	Structure	Vibration,pile	10~55Hz X Y Z 0.75mm
Voltage output	Voltage supply	DC 24V		Screw torque	0.74n.m~0.9n.m
	Capacity	30mA max	Safe	Dielectric strength	2000V AC 50/60Hz 1 min
Relay output	Load capacity	3A/250V AC		Insulation impedance	100MΩ DC 500V
	Electrical	100 thousand times	EMC	ESD	3 class
	Mechanical	1 million times		Pulse train anti-interference	4 class each mode±4000VP-P
			Frequency drop	3 class	

Panel Meter
Sensor Indicator
Temperature Controller
Digital Counter
Timer Relay
Tacho/Speed Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter

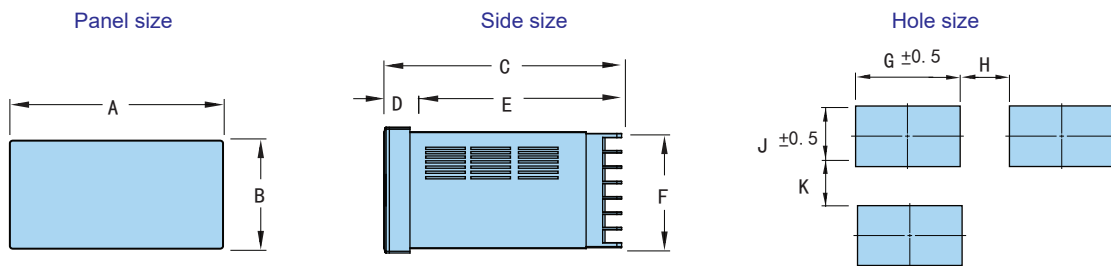
■ Input parameters

No.	Symbol	Input type	Measuring range	Resolution	Accuracy	Input impedance
0	☐	K	-50~1200°C	1°C	±0.5%F.S±3digits	>100KΩ
1	∩	J	0~1200°C	1°C	±0.5%F.S±3digits	>100KΩ
2	⌒	E	0~850°C	1°C	±0.5%F.S±3digits	>100KΩ
3	⌒	T	-50~400°C	1°C	±0.5%F.S±3digits	>100KΩ
4	⌒	B (to be ordered)	600~1800°C	1°C	±0.5%F.S±3digits	>100KΩ
5	∩	R (to be ordered)	500~1600°C	1°C	±0.5%F.S±3digits	>100KΩ
6	∩	S (to be ordered)	-10~1600	1°C	±0.5%F.S±3digits	>100KΩ
7	∩	N	-50~1200°C	1°C	±0.5%F.S±3digits	>100KΩ
8	⌒	PT100	-199.9~650.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
9	⌒	CU50	-50.0~150.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
10	⌒	CU100	-50.0~150.0°C	0.1°C	±0.5%F.S±3digits	(0.2mA)
11	∩	0~50mV	0~50mV	1digit	±0.5%F.S±3digits	>100KΩ
12	∩	4~20mA	4~20mA	1digit	±0.5%F.S±3digits	<150Ω
13	∩	0~10V	0~10V	1digit	±0.5%F.S±3digits	>100KΩ
14	∩	0~400Ω	0~400Ω	1digit	±0.5%F.S±3digits	>(0.2mA)

■ Connection



■ Dimensions (Unit: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(80*160)	160	80	96	13	83	75.5	155.5	30	76	30
16:(160*80)	80	160	96	13	83	155	76	30	155.5	30

## 4. AI208/AI208X Series Intelligent Temperature Controller ★

### ■ Photos and Features



AI208(Long shell)

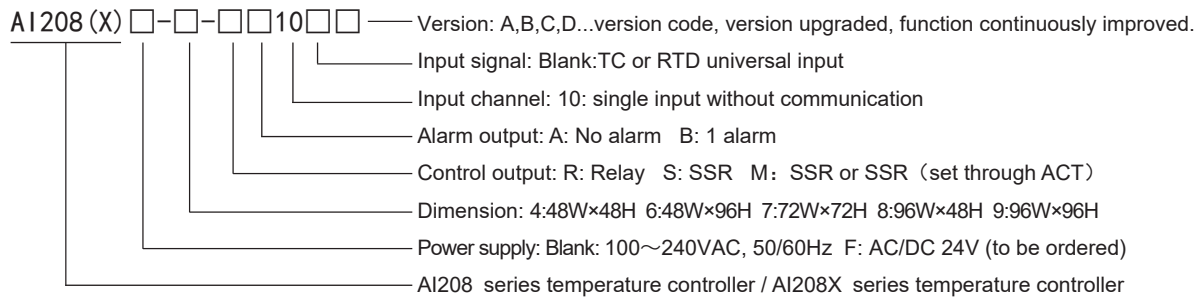


AI208X(Short shell)

### Features:

- ★ Easy operation,economy model.
- ★ Intelligent fuzzy PID algorithm with auto-tuning function.
- ★ One-press to enter the auto-tuning state, calculate the best controlling state automatically.
- ★ 1 loop free-setting alarm function.
- ★ Heating control , compressor cooling control, heating-cooling control for extruder screw.
- ★ AI208X series use integrated digital tube.

### ■ Model Illustration



### ■ Ordering Information

Model	Version	Panel size	Alarm	Control output	Input type	Power supply	Code
AI208-4/6/7/8-R/SB10	E Version	4:48W×48H	1	S:SSR	Universal input (TC/RTD)	AC/DC 100~240V	B0170AI01
AI208-9-R/SB10		6:48W×96H		R:Relay			B0190AI01
AI208X-4/6/7/8-MB10	A Version	7:72W×72H		M:SSR or Relay (set through ACT)			B0175AI01
AI208X-9-MB10		8:96W×48H		9:96W×96H			B0195AI01

### ■ Specifications

Sampling speed	2 times per second
Relay capacity	AC 250V /3A Life of rated load>100 thousand times
Power supply	AC/DC 100 ~ 240V (85-265V)
Total consumption	< 6VA
Ambient environment	Indoor use, temperature: 0 ~ 50°C, no condensation, humidity:<85%RH, altitude<2000m
Storage environment	-10 ~ 60°C, no condensation
SSR output	DC 24V impulse level, load<30mA
Insulation impedance	Input, output, power to cabinet>20MΩ
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Pulse triap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V, 1min
Weight	About 400g
Shell material	PC/ABS (flame class UL94V-0)
Panel material	PET(F150/F200)
Power-off protection	10 years, times of writing:1 million times
Panel protection class	IP65(IEC60529)
Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II (Enhanced insulation)

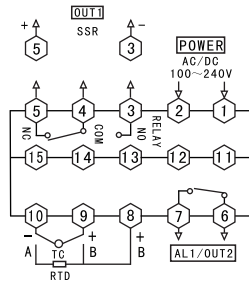
Temperature Controller
Panel Meter
Sensor Indicator
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

Input Signal List

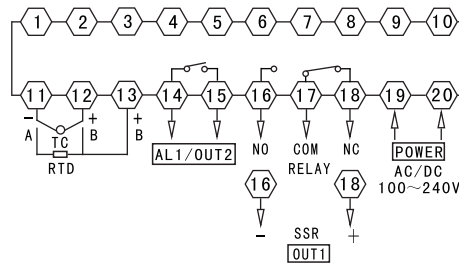
	Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current
Panel Meter	K		-50 ~ 999	1°C	0.5%F.S±3digits	>500kΩ
	J		0 ~ 999	1°C	0.5%F.S±3digits	>500kΩ
Sensor Indicator	E		0 ~ 850	1°C	0.5%F.S±3digits	>500kΩ
	T		-50 ~ 400	1°C	0.5%F.S±2°C	>500kΩ
Temperature Controller	PT100		-200 ~ 600	1°C	0.5%F.S±3digits	0.2mA
	CU50		-50 ~ 150	1°C	0.5%F.S±3°C	0.2mA
	CU100		-50 ~ 150	1°C	0.5%F.S±1°C	0.2mA

AI208 Series Connection

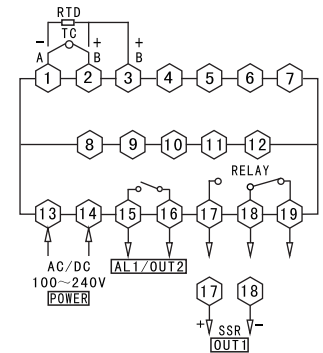
AI208-4



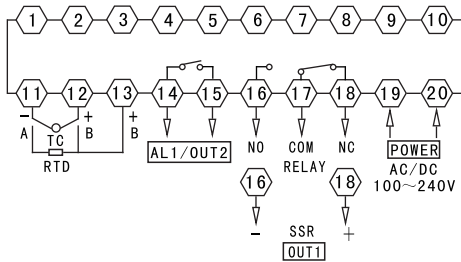
AI208-6



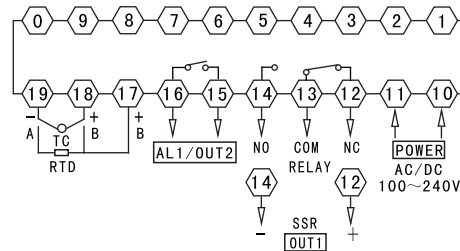
AI208-7



AI208-8



AI208-9



Counter

Timer Relay

Tacho/Speed/  
Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

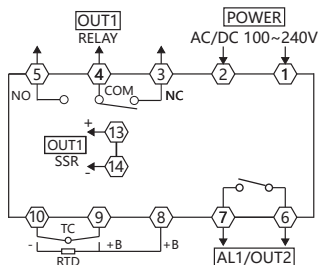
Proximity Sensor

Solid State Relay

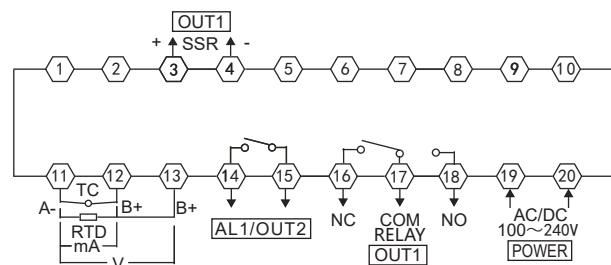
Power Meter Introduction

AI208X Series Connection

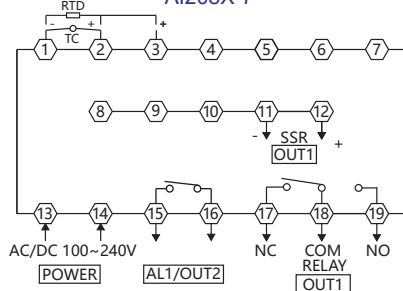
AI208X-4



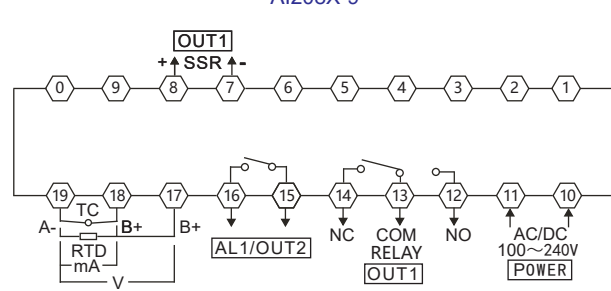
AI208X-6



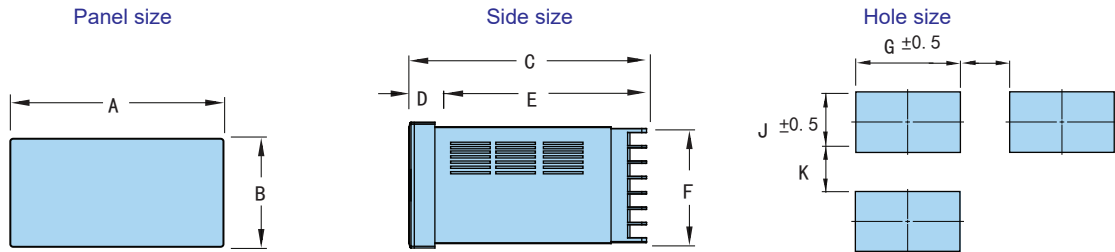
AI208X-7



AI208X-9

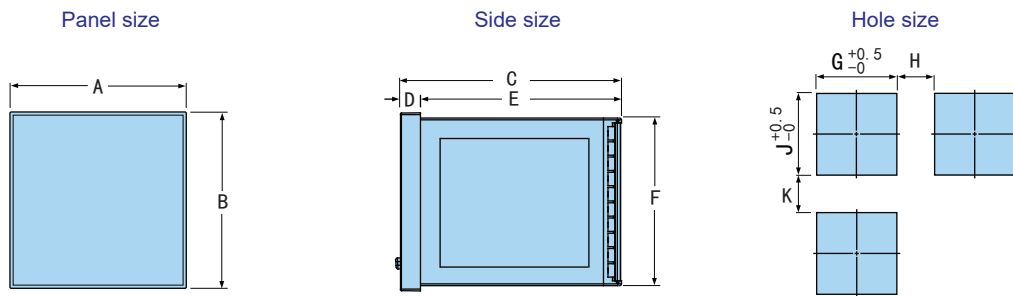


■ AI208 Series Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25

■ AI208X Series Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	73	6.5	66.5	44	45	25	45	25
6:(96*48)	48	96	73	6.5	66.5	90	91.5	25	45	25
7:(72*72)	72	72	73	6.5	66.5	66	67.5	25	67.5	25
9:(96*96)	96	96	73	6.5	66.5	90	91.5	25	91.5	25

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



## 5. AI108 Series Intelligent Temperature Controller

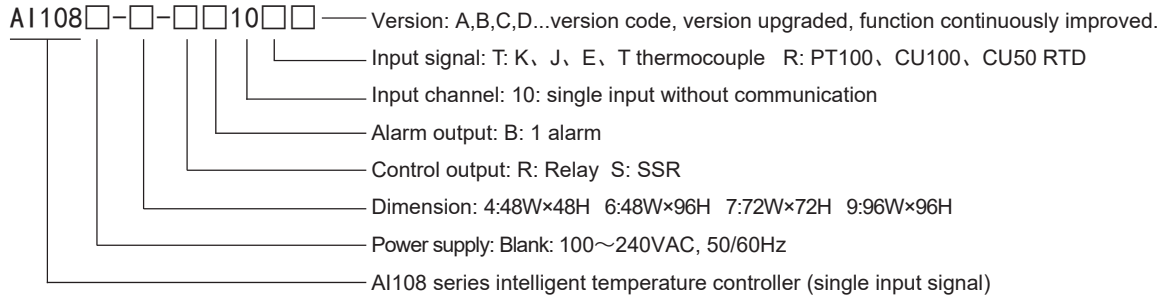
### ■ Photos and Features



#### Features:

- ★ Easy operation, economy model.
- ★ Intelligent fuzzy PID algorithm with auto-tuning function.
- ★ One-press to enter the auto-tuning state, calculate the best controlling state automatically.
- ★ 1 loop free-setting alarm function.
- ★ Heating control , compressor cooling control, heating-cooling control for extruder screw.

### ■ Model Illustration



### ■ Ordering Information

Model	Version	Panel size	Alarm	Control output	Input type	Power supply	Code
AI108-4/6/7-R/SB10-R	A version	4:48W×48H	1 loop	S: SSR R: Relay	R: PT100, CU100, CU50	AC/DC 100~240V	C0087AI01
AI108-4/6/7-R/SB10-T		6:48W×96H			T: K, J, ,T		C0087AI01
AI108-9-R/SB10-R		7:72W×72H			R: PT100, CU100, CU50		C0095AI01
AI108-9-R/SB10-T		9:96W×96H			T: K, J, E, T		C0095AI01

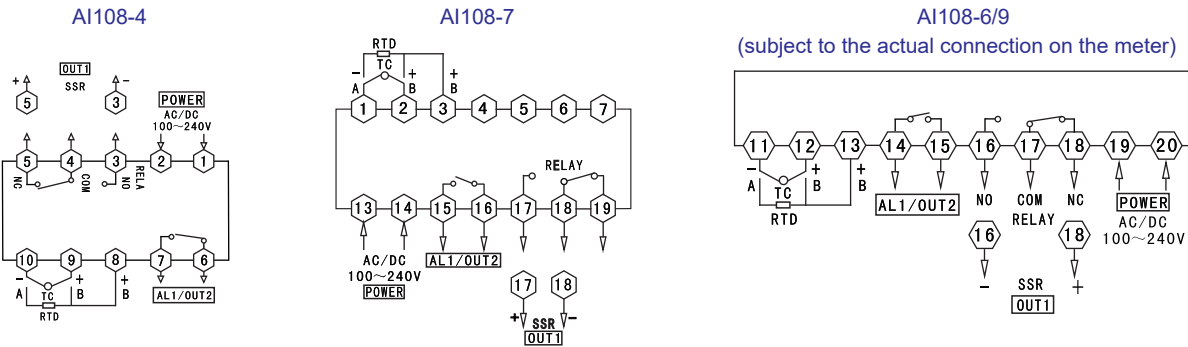
### ■ Technical Specifications

Sampling speed	2 times per second
Relay capacity	AC 250V /3A Life of rated load>100 thousand times
Power supply	AC/DC 100 ~ 240V (85-265V)
Total consumption	< 6VA
Ambient environment	Indoor use, temperature: 0 ~ 50°C, no condensation, humidity:<85%RH, altitude<2000m
Storage environment	-10 ~ 60°C, no condensation
SSR output	DC 24V impulse level, load<30mA
Insulation impedance	Input, output, power to cabinet>20MΩ
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Pulse triap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V, 1min
Weight	About 400g
Shell material	PC/ABS (flame class UL94V-0)
Panel material	PET(F150/F200)
Power-off protection	10 years, times of writing:1 million times
Panel protection class	IP65(IEC60529)
Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II (Enhanced insulation)

Input parameters

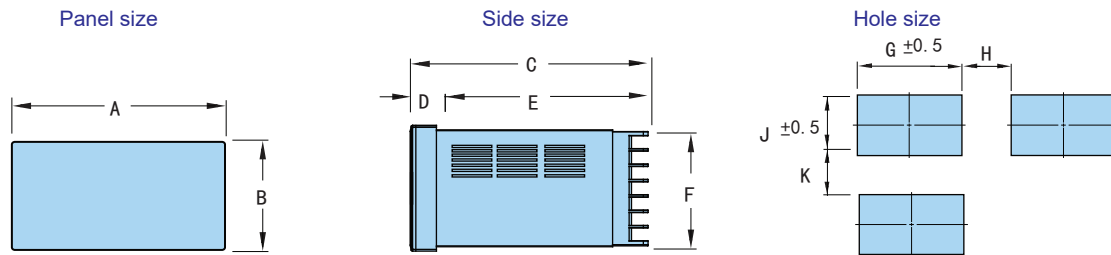
Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current	
TC	K	$\text{E}$	-50 ~ 400	1°C	0.5%F.S $\pm$ 3digits	> 500k $\Omega$
	J	$\text{J}$	0 ~ 400	1°C	0.5%F.S $\pm$ 3digits	> 500k $\Omega$
	E	$\text{E}$	0 ~ 400	1°C	0.5%F.S $\pm$ 3digits	> 500k $\Omega$
	T	$\text{E}$	-50 ~ 400	1°C	0.5%F.S $\pm$ 2°C	> 500k $\Omega$
RTD	PT100	$\text{Pt}$	-200 ~ 400	1°C	0.5%F.S $\pm$ 3digits	0.2mA
	CU50	$\text{CUS}$	-50 ~ 150	1°C	0.5%F.S $\pm$ 3°C	0.2mA
	CU100	$\text{CUO}$	-50 ~ 150	1°C	0.5%F.S $\pm$ 1°C	0.2mA

Connection



Note: if there is any change, please subject to the connection on the meter.

Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 6. TP Series LCD Display Intelligent Temperature Controller

### Photos and Features

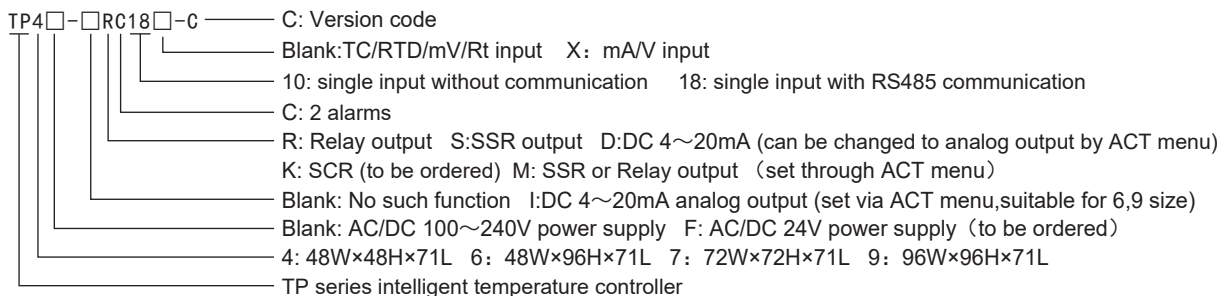


New design

#### Features:

- ★ Segment LCD display, Super brightness backlight, wide viewing angle.
- ★ Short housing design, save installation space.
- ★ Multi input signals, multi dimensions, multi control outputs for option.
- ★ With measurement display, control output, alarm output, analog output, RS485 communication function.
- ★ Multi PID algorithm for option, and with auto tune function.
- ★ This meter is applicable to industrial machinery, machine tools, general measuring instruments and equipment.

### Model Illustration



### Ordering Information

Model	OUT1 Control output			Alarm output		Analog	Communication	Auxiliary power	Code
	RELAY	SSR	4~20mA	AL1	OUT2	AL2	4~20mA	RS485	
TP4-DC18□			●	●		●	◎	●	B0510TP01
TP4-DC10□			●	●		●	◎	●	B0390TP01
TP4-RC18□	●			●		●			B0430TP01
TP4-SC18□		●		●		●			B0430TP01
TP4-MC10□	●	●		●		●			B0310TP01
TP7-DC18□			●	●		●	◎	●	B0510TP01
TP7-DC10□			●	●		●	◎	●	B0390TP01
TP7-MC18□	●	●		●		●			B0430TP01
TP7-MC10□	●	●		●		●			B0310TP01
TP6/9-IMC18□	●	●	●	●		●	◎	●	B0550TP01
TP6/9-IMC10□	●	●	●	●		●	◎	●	B0430TP01
TP6/9-DC18□			●	●		●	◎	●	B0510TP01
TP6/9-DC10□			●	●		●	◎	●	B0390TP01
TP6/9-MC18□	●	●		●		●			B0430TP01
TP6/9-MC10□	●	●		●		●			B0310TP01

□: The default "Blank" input signal is TC/RTD/Mv/Rt; "X" input signal is 4~20mA/0~10V.

●: Standard configuration function.

◎: With this function, but multiplexed with other functions. This series has only one DC 4-20mA output, but it can be configured for main control output or transmission output through the ACT menu.

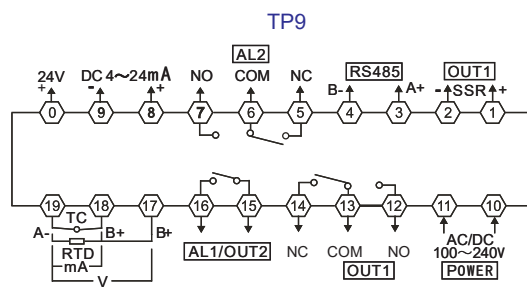
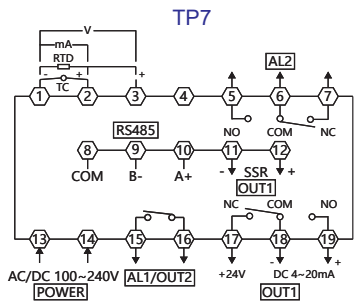
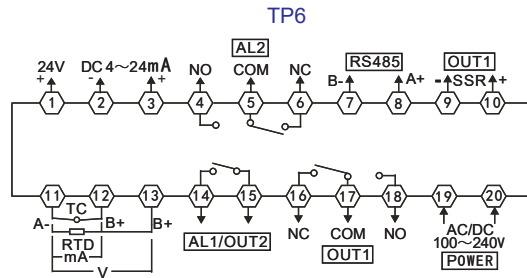
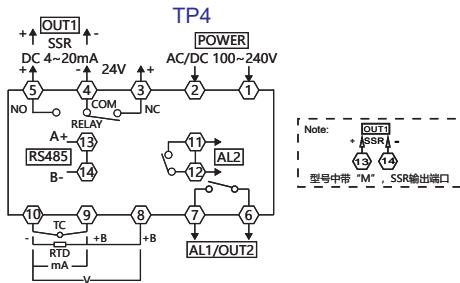
### Technical Specifications

Sampling speed	2 times per second	ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000 times	Pulse traip anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Power supply	AC/DC 100 ~ 240V (85-265V)	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Total consumption	< 6VA	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Ambient environment	Indoor use, temperature: 0~50°C, no condensation, humidity:<85%RH, altitude<2000m	Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V,1min
Storage environment	-10 ~ 60°C, no condensation	Weight	About 400g
SSR output	DC 24V impulse level, load<30mA	Shell material	PC/ABS (flame class UL94V-0)
Current output	DC 4~20mA load<500Ω,temperature drift 250PPM	Panel material	PC
Communication port	RS485 port Modbus-RTU protocol, maximum input:30units	Power-off protection	10 years,times of writing:1 million times
Insulation impedance	Input, output, power to housing>20MΩ	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)

Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current	Communication data code
K1	ㄎ1	-50 ~ 1200	1°C	0.5%F.S±3digits	>500KΩ	0
K2	ㄎ2	-50.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500kΩ	16
J1	ㄐ1	0 ~ 1200	1°C	0.5%F.S±3digits	>500KΩ	1
J2	ㄐ2	0.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500KΩ	17
E1	ㄷ1	0 ~ 850	1°C	0.5%F.S±3digits	>500KΩ	2
E2	ㄷ2	0.0 ~ 850.0	0.3°C	0.5%F.S±1°C	>500KΩ	18
T1	ㄷ1	-50 ~ 400	1°C	0.5%F.S±3°C	>500KΩ	3
T2	ㄷ2	-50.0 ~ 400.0	0.4°C	0.5%F.S±3°C	>500KΩ	19
B	ㄷ	250 ~ 1800	1°C	1%F.S±2°C	>500KΩ	4
R	ㄷ	-10 ~ 1700	1°C	1%F.S±2°C	>500KΩ	5
S	ㄷ	-10 ~ 1600	1°C	1%F.S±2°C	>500KΩ	6
N1	ㄴ1	-50 ~ 1200	1°C	0.5%F.S±1°C	>500KΩ	7
N2	ㄴ2	-50.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500KΩ	20
PT100-1	ㄷ1	-200.0 ~ 600.0	0.2°C	0.5%F.S±0.3°C	0.2mA	8
PT100-2	ㄷ2	-200 ~ 600	1°C	0.5%F.S±3digits	0.2mA	21
JPT100-1	ㄷ1	-200.0 ~ 500.0	0.2°C	0.5%F.S±0.3°C	0.2mA	9
JPT100-2	ㄷ2	-200 ~ 500	1°C	0.5%F.S±3digits	0.2mA	22
CU50-1	ㄷ1	-50.0 ~ 150.0	0.2°C	0.5%F.S±3°C	0.2mA	10
CU50-2	ㄷ2	-50 ~ 150	1°C	0.5%F.S±3°C	0.2mA	23
CU100-1	ㄷ1	-50.0 ~ 150.0	0.2°C	0.5%F.S±1°C	0.2mA	11
CU100-2	ㄷ2	-50 ~ 150	1°C	0.5%F.S±3digits	0.2mA	24
0 ~ 50mV	ㄴ	-1999 ~ 9999	12bit	0.5%F.S±3digits	>500kΩ	12
0 ~ 400Ω	ㄴ	-1999 ~ 9999	12bit	0.5%F.S±3digits	0.2mA	13
* 4 ~ 20mA	ㄴ	-1999 ~ 9999	12bit	0.5%F.S±3digits	<50Ω	14
* 0 ~ 10V	ㄴ	-1999 ~ 9999	12bit	0.5%F.S±3digits	>1MΩ	15

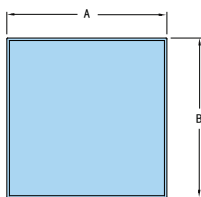
\*: Please specify the signal input requirements when ordering.

**Connection** Note: if any change, please subject to the connection drawing on the meter.

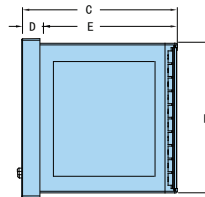


**Dimensions (Units: mm)**

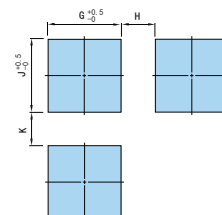
Panel size



Side size



Hole size



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	73	6.5	66.5	44	45	25	45	25
6:(96*48)	48	96	73	6.5	66.5	90	91.5	25	45	25
7:(72*72)	72	72	73	6.5	66.5	66	67.5	25	67.5	25
9:(96*96)	96	96	73	6.5	66.5	90	91.5	25	91.5	25

- Panel Meter
- Sensor Indicator
- Temperature Controller
- Counter
- Timer Relay
- Tacho/Speed/Pulse Meter
- Recorder
- Signal Isolator
- Rotary Encoder
- Proximity Sensor
- Solid State Relay
- Power Meter Introduction

## 7. TE Series Intelligent Temperature Controller

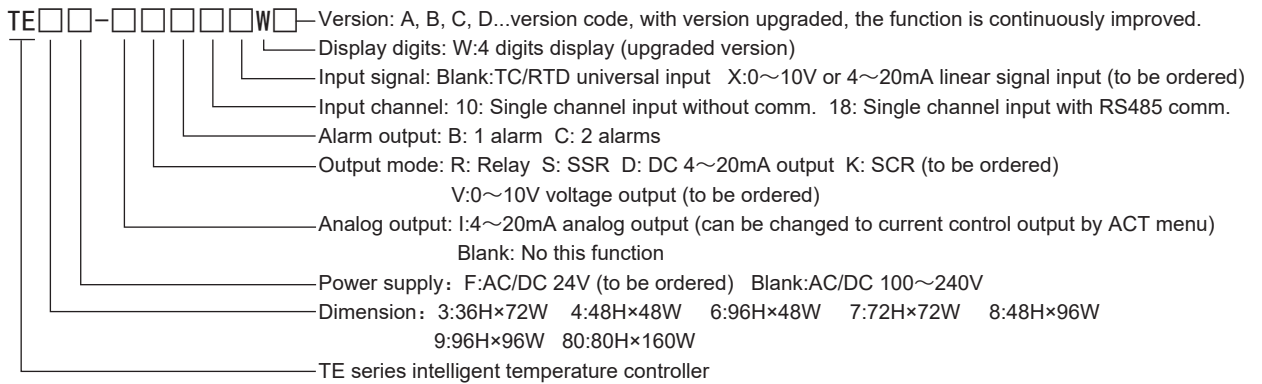
### Photos and Features



#### Features:

- ★ Easy operation, economy model.
- ★ Multi input signal types and models.
- ★ Measured value display, control output, alarm output, analog output, RS485 communication, etc.
- ★ Intelligent PID control and auto-tuning function
- ★ Positive-negative PID action for option.
- ★ Manual automatic control switch.
- ★ This product is used in industrial machinery, machine tools, general measuring instruments and equipment.

### Model Illustration



### Ordering Information

Model	Control output	Alarm	Analog output	Communication	Code
TE4/6/7/8-R/SB10W	R: Relay output S: SSR output I:4~20mA analog output D:4~20mA Current output	1	No	No	B0210TEW01
TE9/80-R/SB10W		1	No	No	B0225TEW01
TE4/6/7/8-R/SC10W		2	No	No	B0238TEW01
TE9/80-R/SC10W		2	No	No	B0253TEW01
TE□-R/SC18W		2	No	RS485	B0380TEW01
TE□-DC10W		2	4~20mA(multiplex with control output)	No	B0310TEW01
TE□-DC18W		2	4~20mA(multiplex with control output)	RS485	B0450TEW01
TE6/8/9/80-IR/SC10W		2	4~20mA	No	B0350TEW01
TE6/8/9/80-IR/SC18W		2	4~20mA	RS485	B0490TEW01

Note:Input signal 4~20mA, 0~10V and power supply DC24V need to be ordered, please indicate it before place an order.

### Technical Specification

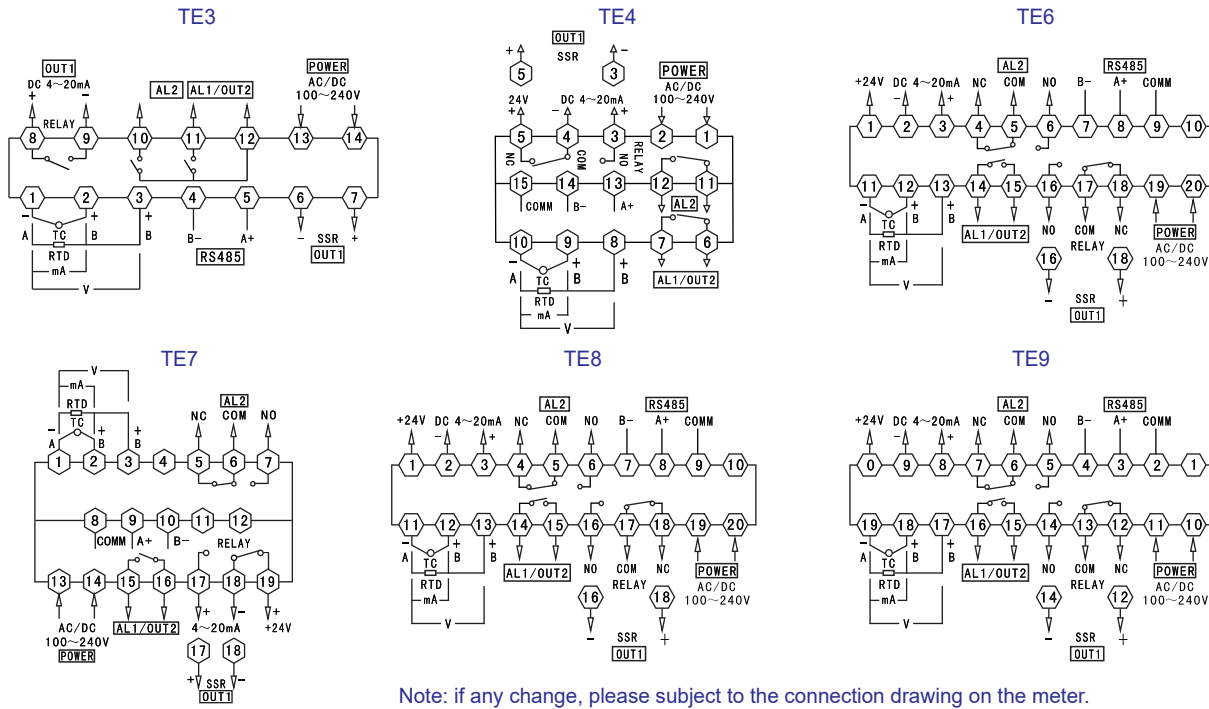
Sampling speed	2 times per second	Pulse trap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000 times	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Power supply	AC/DC 100~240V (85-265V)	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Total consumption	< 6VA	Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V,1min
Ambient environment	Indoor use, temperature: 0~50°C, no condensation, humidity:<85%RH, altitude<2000m	Weight	About 400g
Storage environment	-10~60°C, no condensation	Shell material	PC/ABS (flame class UL94V-0)
SSR output	DC 24V impulse level, load<30mA	Panel material	PET(F150/F200)
Current output	DC 4~20mA load<500Ω,temperature drift 250PPM	Power-off protection	10 years,times of writing:1 million times
Communication port	RS485 port Modbus-RTU protocol, maximum input: 30 units	Panel protection class	IP65(IEC60529)
Insulation impedance	Input, output, power to housing>20MΩ	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.CriGTEria B		

Input parameters

Symbol	Input type	Measuring range	Resolution	Accuracy	Input impedance	Symbol	Input type	Measuring range	Input impedance	Resolution
K	K	-50~1300°C	1°C	0.5%F.S	>100KΩ	0-50mV	0-50mV	-1999 ~9999	>500KΩ	12bit
J	J	0~1200°C	1°C	0.5%F.S	>100KΩ	0-400Ω	0-400Ω		0.2mA	
E	E	0~850°C	1°C	0.5%F.S	>100KΩ	4-20mA	4-20mA		100Ω	
T	T	-50~400°C	1°C	0.5%F.S	>100KΩ	0-10V	0-10V		>1MΩ	
B	B	250~1800°C	2°C	1%F.S	>500kΩ					
R	R	-10~1700°C	1°C	1%F.S	>500kΩ					
S	S	-10~1600°C	1°C	1%F.S	>500kΩ					
N	N	-50~1200°C	1°C	0.5%F.S	>500kΩ					
PT100	PT100	-199.9~600.0°C	0.2°C	0.5%F.S	(0.2mA)					
CU50	CU50	-50.0~150.0°C	0.2°C	0.5%F.S	(0.2mA)					
CU100	CU100	-50.0~150.0°C	0.2°C	0.5%F.S	(0.2mA)					

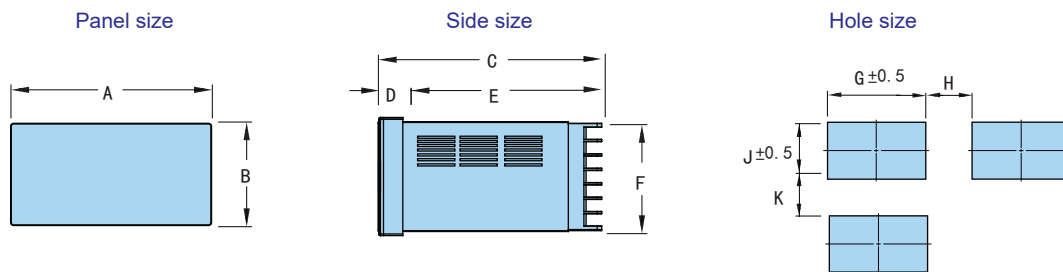
\*: Note: 4~20mA, 0~10V input need to be ordered

Connection



Note: if any change, please subject to the connection drawing on the meter.

Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
3:(72*36)	72	36	70.5	6.5	64	32	68	25	33	25
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(80*160)	160	80	96	13	83	75.5	155.5	30	76	30

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 8. TEP Series Intelligent Programmable Temperature Controller

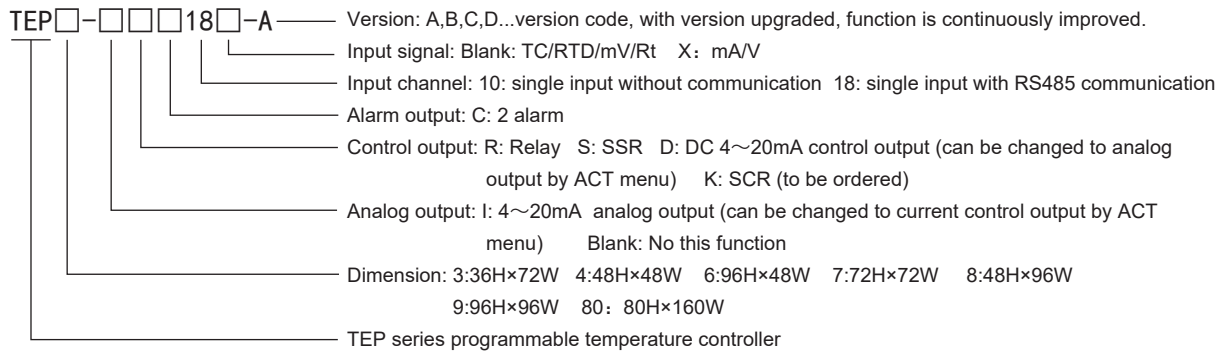
### Photos and Features



#### Features:

- ★ Intelligent fuzzy PID algorithm with auto-tuning function, rapid performance, high efficiency.
- ★ Max 16 segments ramp/soak program, free setting curve number and length.
- ★ TC/RTD universal input. Linear signal input can be ordered.
- ★ RELAY/SSR/SCR control output for option.
- ★ Menu operation for manual output, pause, stop, repeat, PV activation, etc.
- ★ Optional 4-20mA control output or analog output.
- ★ Optional RS-485 communication to easy communicate with PLC, HMI.

### Model Illustration



### Ordering Information

Model	Program	Control output	Alarm	Analog output	Communication	Code
TEP□-R/SC10W	16 segments program	R: Relay S: SSR I:4~20mA analog output D:4~20mA control output	2	No	No	B0410TEP01
TEP□-R/SC18W			2	No	RS485	B0620TEP01
TEP□-DC10W			2	4~20mA(multiplex with control output)	No	B0570TEP01
TEP□-DC18W			2	4~20mA(multiplex with control output)	RS485	B0680TEP01
TEP6/8/9/80-IR/SC10W			2	No	No	B0570TEP01
TEP6/8/9/80-IR/SC18W			2	4~20mA	RS485	B0680TEP01

Note: Input signal 4~20mA, 0~10V and power supply DC24V need to be ordered, please indicate it before place an order.

### Technical Specifications

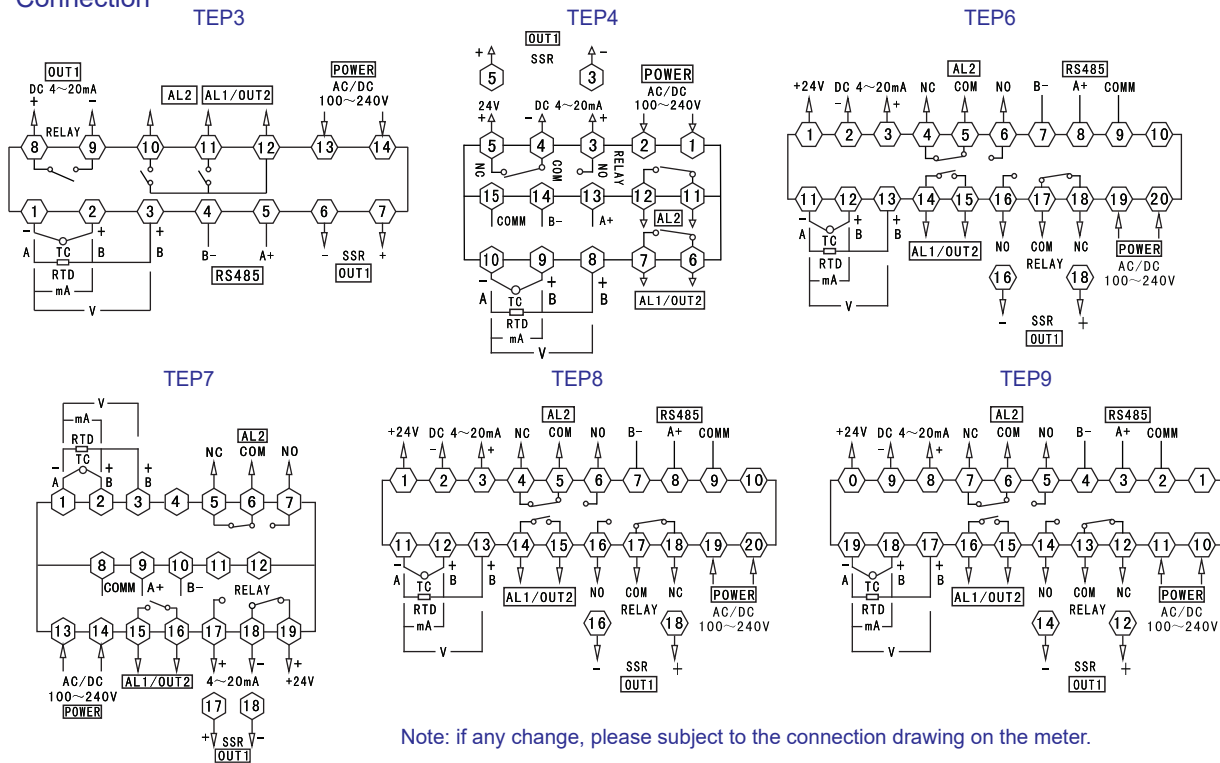
Sampling speed	2 times per second	Pulse tria anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000 times	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Power supply	AC/DC 100 ~ 240V (85-265V)	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Total consumption	< 6VA	Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V,1min
Ambient environment	Indoor use, temperature: 0 ~ 50°C, no condens humidity:<85%RH, altitude<2000m	Weight	About 400g
Storage environment	-10 ~ 60°C, no condensation	Shell material	PC/ABS (flame class UL94V-0)
SSR output	DC 24V impulse level, load<30mA	Panel material	PET(F150/F200)
Current output	DC 4 ~ 20mA load<500Ω,temperature drift 250P	Power-off protection	10 years,times of writing:1 million times
Communication port	RS485 port Modbus-RTU protocol, maximum input: 30 units	Panel protection class	IP65(IEC60529)
Insulation impedance	Input, output, power to housing>20MΩ	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.CriGTeria B		

Input parameters

Symbol	Input type	Measuring range	Resolution	Accuracy	Input impedance	Symbol	Input type	Measuring range	Input impedance	Resolution
K	K	-50~1300°C	1°C	0.5%F.S	>100KΩ	0-50mV			>500KΩ	12 bit
J	J	0~1200°C	1°C	0.5%F.S	>100KΩ	0-400Ω		0.2mA		
E	E	0~850°C	1°C	0.5%F.S	>100KΩ	4-20mA	-1999 ~9999	100Ω		
T	T	-50~400°C	1°C	0.5%F.S	>100KΩ	0-10V		>1MΩ		
B	B	250~1800°C	2°C	1%F.S	>500kΩ					
R	R	-10~1700°C	1°C	1%F.S	>500kΩ					
S	S	-10~1600°C	1°C	1%F.S	>500kΩ					
N	N	-50~1200°C	1°C	0.5%F.S	>500kΩ					
PT100	PT100	-199.9~600.0°C	0.2°C	0.5%F.S	(0.2mA)					
CU50	CU50	-50.0~150.0°C	0.2°C	0.5%F.S	(0.2mA)					
CU100	CU100	-50.0~150.0°C	0.2°C	0.5%F.S	(0.2mA)					

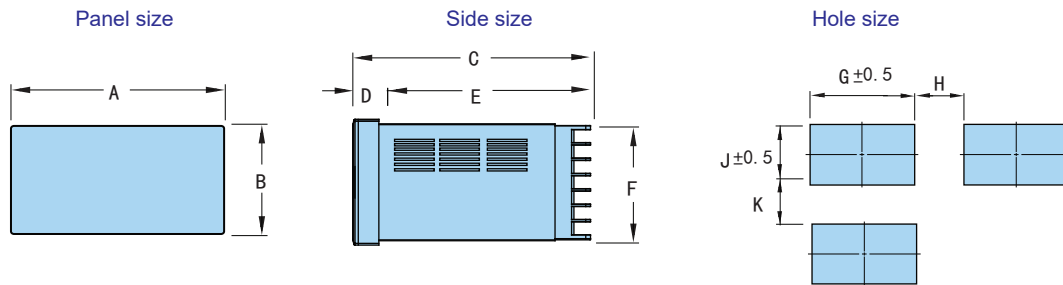
\*: Note: 4~20mA, 0~10V input need to be ordered

Connection



Note: if any change, please SUBJECT to the connection drawing on the meter.

Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
3:(72*36)	72	36	70.5	6.5	64	32	68	25	33	25
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45.5	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(80*160)	160	80	96	13	83	75.5	155.5	30	76	30

- Panel Meter
- Sensor Indicator
- Temperature Controller
- Counter
- Timer Relay
- Tacho/Speed/Pulse Meter
- Recorder
- Signal Isolator
- Rotary Encoder
- Proximity Sensor
- Solid State Relay
- Power Meter Introduction



## 9. TEY Series Intelligent Temperature Controller

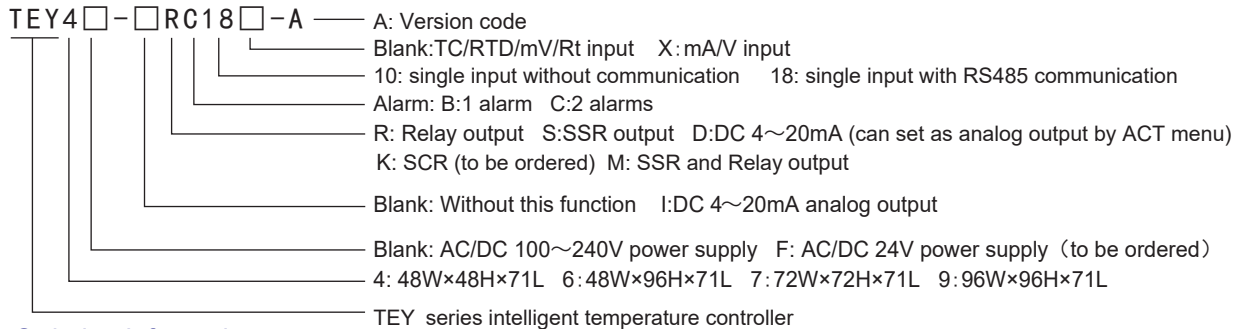
### Photos and Features



#### Features:

- ★ Support universal input signal, multi-output.
- ★ With measurement display, control output, alarm output, analog output, RS485 communication function.
- ★ Multi PID control algorithms for option, with self-tuning function
- ★ Suitable for industrial machinery, machine tools, general measuring instruments and equipment.
- ★ Short shell, integrated digital tube.

### Model Illustration



### Ordering Information

Model	OUT1 Control output			Alarm output		Analog	Communication	Auxiliary power	Code
	RELAY	SSR	4~20mA	AL1 OUT2	AL2	4~20mA	RS485	24V	
TEY4-DC18□			•	•	•	◎	•	•	B0475TEY01
TEY4-DC10□			•	•	•	◎		•	B0335TEY01
TEY4-RC18□	•			•	•		•		B0405TEY01
TEY4-SC18□		•		•	•		•		B0405TEY01
TEY4-MC10□	•	•		•	•				B0263TEY01
TEY7-DC18□			•	•	•	◎	•	•	B0475TEY01
TEY7-DC10□			•	•	•	◎		•	B0335TEY01
TEY7-MC18□	•	•		•	•		•		B0405TEY01
TEY7-MC10□	•	•		•	•				B0263TEY01
TEY6/8/9-IMC18□	•	•	•	•	•	◎	•	•	B0515TEY01
TEY6/8/9-IMC10□	•	•	•	•	•	◎		•	B0375TEY01
TEY6/8/9-DC18□		•	•	•	•	◎	•	•	B0475TEY01
TEY6/8/9-DC10□		•	•	•	•	◎		•	B0335TEY01
TEY6/8/9-MC18□	•	•		•	•		•		B0405TEY01
TEY6/8/9-MC10□	•	•		•	•				B0263TEY01

□: The default "Blank" input signal is TC/RTD/Mv/Rt; "X" input signal is 4~20mA/0~10V.

•: Standard configuration function.

◎: With this function, but multiplexed with other functions. This series has only one DC 4-20mA output, but it can be configured for main control output or transmission output through the ACT menu.

### Specifications

Sampling speed	5 times per second	Pulse trap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000 times	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Power supply	AC/DC 100 ~ 240V (85-265V)	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Total consumption	<10VA	Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V,1min
Ambient environment	Indoor use, temperature: 0~50°C, no condensation, humidity:<85%RH, altitude<2000m	Weight	About 400g
Storage environment	-10 ~ 60°C, no condensation	Shell material	PC/ABS (flame class UL94V-0)
SSR output	DC 24V impulse level, load<30mA	Panel material	PC
Current output	DC 4~20mA load<500Ω,temperature drift 250PPM	Power-failure protection	10 years,times of writing:1 million times
Communication port	RS485 port Modbus-RTU protocol, maximum input:30units	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)
Insulation impedance	Input, output, power to housing>20MΩ		
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.CriGTEria B		

Input parameters

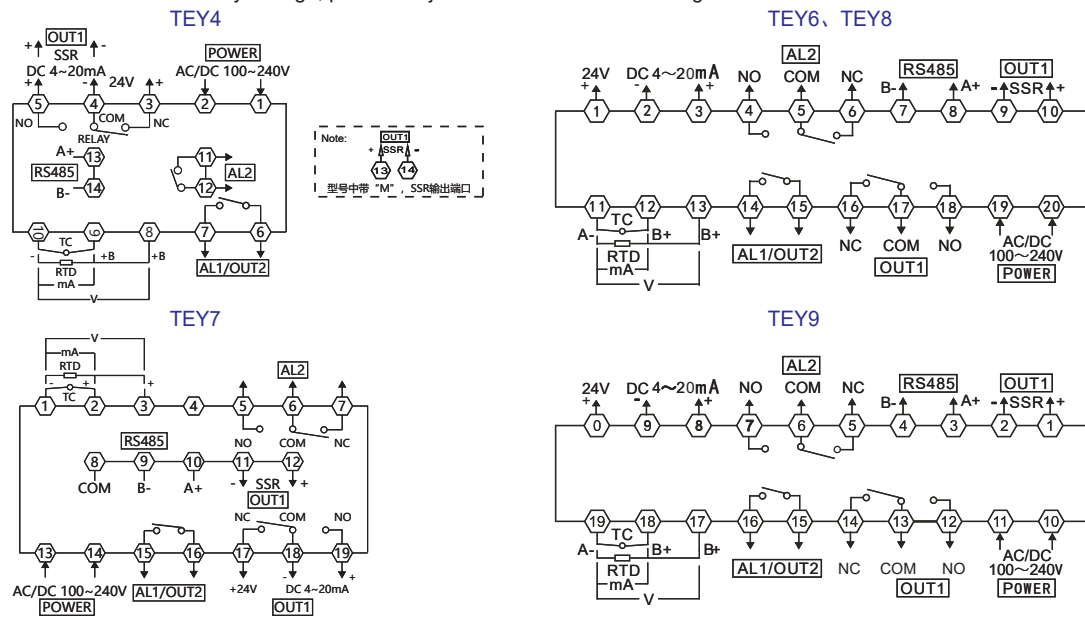
\*: Please specify signal input requirements when ordering.

Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current	Communication data code
K1	Ⓚ1	-50 ~ 1200	1°C	0.5%F.S±3digits	>500KΩ	0
K2	Ⓚ2	-50.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500KΩ	16
J1	Ⓜ1	0 ~ 1200	1°C	0.5%F.S±3digits	>500KΩ	1
J2	Ⓜ2	0.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500KΩ	17
E1	ⓔ1	0 ~ 850	1°C	0.5%F.S±3digits	>500KΩ	2
E2	ⓔ2	0.0 ~ 850.0	0.3°C	0.5%F.S±1°C	>500KΩ	18
T1	Ⓣ1	-50 ~ 400	1°C	0.5%F.S±3°C	>500KΩ	3
T2	Ⓣ2	-50.0 ~ 400.0	0.4°C	0.5%F.S±3°C	>500KΩ	19
B	ⓑ	250 ~ 1800	1°C	1%F.S±2°C	>500KΩ	4
R	Ⓡ	-10 ~ 1700	1°C	1%F.S±2°C	>500KΩ	5
S	Ⓢ	-10 ~ 1600	1°C	1%F.S±2°C	>500KΩ	6
N1	Ⓝ1	-50 ~ 1200	1°C	0.5%F.S±1°C	>500KΩ	7
N2	Ⓝ2	-50.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500KΩ	20
PT100-1	ⓅⓉ1	-200.0 ~ 600.0	0.2°C	0.5%F.S±0.3°C	0.2mA	8
PT100-2	ⓅⓉ2	-200 ~ 600	1°C	0.5%F.S±3digits	0.2mA	21
JPT100-1	ⓂⓅⓉ1	-200.0 ~ 500.0	0.2°C	0.5%F.S±0.3°C	0.2mA	9
JPT100-2	ⓂⓅⓉ2	-200 ~ 500	1°C	0.5%F.S±3digits	0.2mA	22
CU50-1	ⒸⓊ1	-50.0 ~ 150.0	0.2°C	0.5%F.S±3°C	0.2mA	10
CU50-2	ⒸⓊ2	-50 ~ 150	1°C	0.5%F.S±3°C	0.2mA	23
CU100-1	ⒸⓊ01	-50.0 ~ 150.0	0.2°C	0.5%F.S±1°C	0.2mA	11
CU100-2	ⒸⓊ02	-50 ~ 150	1°C	0.5%F.S±3digits	0.2mA	24
0 ~ 50mV	ⓂV	-1999 ~ 9999	12bit	0.5%F.S±3digits	>500kΩ	12
0 ~ 400Ω	ⓇⓉ	-1999 ~ 9999	12bit	0.5%F.S±3digits	0.2mA	13
* 4 ~ 20mA	ⓂA	-1999 ~ 9999	12bit	0.5%F.S±3digits	<50Ω	14
* 0 ~ 10V	ⓂV	-1999 ~ 9999	12bit	0.5%F.S±3digits	>1MΩ	15

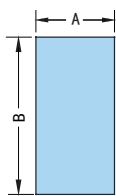
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

Connection

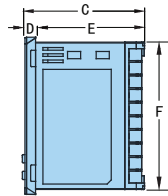
Note: if any change, please subject to the connection drawing on the meter.



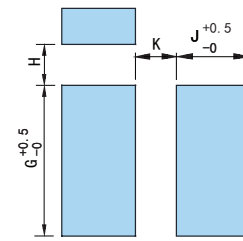
Dimensions (Units: mm)



Panel size



Side size



Hole size

Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	73	6.5	66.5	44	45	25	45	25
6:(96*48)	48	96	73	6.5	66.5	90	91.5	25	45	25
7:(72*72)	72	72	73	6.5	66.5	66	67.5	25	67.5	25
8:(48*96)	96	48	73	6.5	66.5	90	91.5	25	45	25
9:(96*96)	96	96	73	6.5	66.5	90	91.5	25	91.5	25

## 10. TM Series Universal Input Thumb Switch Temperature Controller

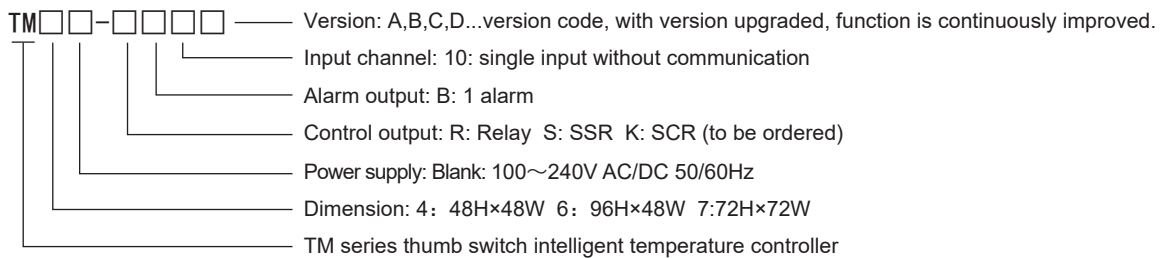
### Photos and Features



#### Features:

- ★ Easy operation,economy model.
- ★ Intelligent fuzzy PID algorithm with auto-tuning function.
- ★ One-press to enter the auto-tuning state, calculate the best controlling state automatically.
- ★ 1 loop free-setting alarm function.
- ★ Heating control , compressor cooling control, heating-cooling control for extruder screw.
- ★ Thumb switch for easy operation.

### Model Illustration



### Ordering Information

Model	Panel size	Alarm	Control output	Input type	Power supply	Code
TM4-RB10, TM4-SB10	4:48W×48H	1 loop	S: SSR	Universal input (TC/RTD)	AC/DC 100~240V	A0238AI01
TM6-RB10, TM6-SB10	6:48W×96H		R: Relay			A0238AI01
TM7-RB10, TM7-SB10	7:72W×72H		K: SCR (to be ordered)			A0238AI01

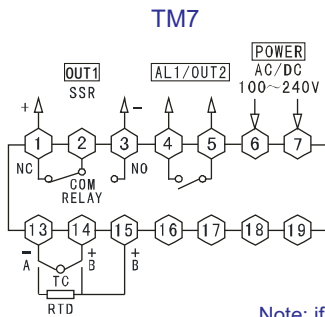
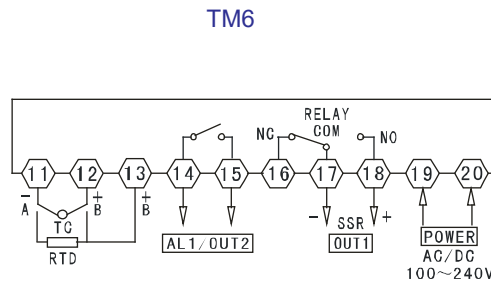
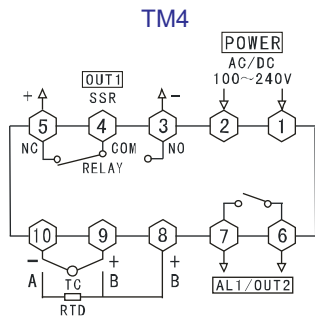
### Technical Specifications

Sampling speed	2 times per second
Relay capacity	AC 250V /3A Life of rated load>100 thousand times
Power supply	AC/DC 100 ~ 240V (85-265V)
Total consumption	< 6VA
Ambient environment	Indoor use, temperature: 0 ~ 50°C, no condensation, humidity:<85%RH, altitude<2000m
Storage environment	-10 ~ 60°C, no condensation
SSR output	DC 24V impulse level, load<30mA
Insulation impedance	Input, output, power to housing>20MΩ
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Pulse triap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V, 1min
Weight	About 400g
Shell material	PC/ABS (flame class UL94V-0)
Panel material	PET(F150/F200)
Power-off protection	10 years, times of writing:1 million times
Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II (Enhanced insulation)

Input parameters

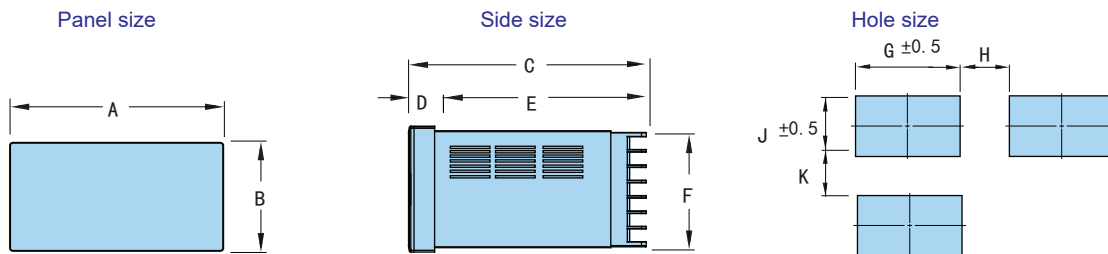
Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current
K		-50 ~ 999	1°C	0.5%F.S±3digits	>500kΩ
J		0 ~ 999	1°C	0.5%F.S±3digits	>500kΩ
E		0 ~ 850	1°C	0.5%F.S±3digits	>500kΩ
T		-50 ~ 400	1°C	0.5%F.S±2°C	>500kΩ
PT100		-200 ~ 600	1°C	0.5%F.S±3digits	0.2mA
CU50		-50 ~ 150	1°C	0.5%F.S±3°C	0.2mA
CU100		-50 ~ 150	1°C	0.5%F.S±1°C	0.2mA

Connection



Note: if there is any change, please subject to the connection on the meter.

Dimensions (Units: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45.5	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 10. GTE Din Rail Mounting Module Type Temperature Controller

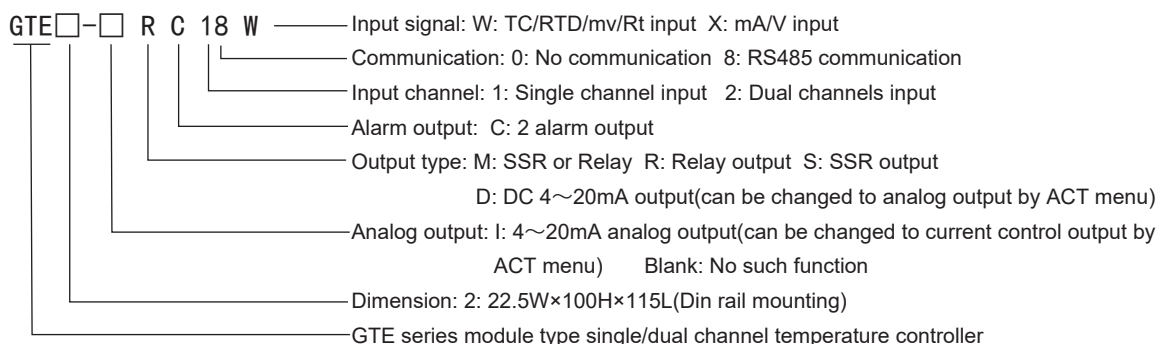
### Photos and Features



#### Features:

- ★ Module type design, din rail mounting, with display, easy setting, no need to install display module separately.
- ★ RS485 communication, easy to communicate with PLC, HMI.
- ★ With intelligent PID control and auto-turning function.
- ★ RELAY/SSR, 4~20mA control output available.

### Model Illustration



### Ordering Information

Model	Channel	Control output function	RS485	Alarm	Analog 4~20mA	Code
GTE2-MC10W/X	Single channel	SSR, Relay output	No	2	No	B0380GTE01
GTE2-MC18W/X		SSR, Relay output	Yes	2	No	B0490GTE01
GTE2-IMC10W/X		SSR, Relay output, 4~20mA available	No	2	multiplex with control output	B0450GTE01
GTE2-IMC18W/X		SSR, Relay output, 4~20mA available	Yes	2	multiplex with control output	B0560GTE01
GTE2-RC20T/R/X	Dual channel	Relay output	No	2	No	B0520GTE01
GTE2-RC28T/R/X		Relay output	Yes	2	No	B0620GTE01
GTE2-SC20T/R/X		SSR output	No	2	No	B0520GTE01
GTE2-SC28T/R/X		SSR output	Yes	2	No	B0620GTE01
GTE2-DC20T/R/X		4~20mA	No	2	multiplex with control output	B0620GTE01
GTE2-DC28T/R/X		4~20mA	Yes	2	multiplex with control output	B0720GTE01

Note: Input signal 4~20mA, 0~10V and power supply DV24V need to be ordered, please indicate it before place and order.

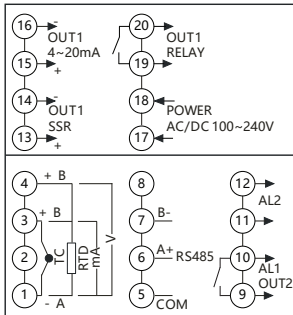
### Technical Specifications

Sampling rate	2 times per second	ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000/time	Pulse triap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Power supply	AC/DC 100 ~ 240V (85-265V)	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Total consumption	< 6VA	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Ambient environment	Indoor use, temperature:0 ~ 50°C, no condensation, humidity:<85%RH, altitude2000m	Dielectric strength	Signal input & output & power 1500VAC 1min, <60V Low voltage circuit between DC500V,1min
Storage environment	-10 ~ 60°C, no condensation	Weight	About 400g
SSR output	DC 24V impulse level, load<30mA	Shell material	PA66-FR(flame class UL94V-0)
Current output	DC 4 ~ 20mA load<500Ω, temperature drift 250PPM	Panel material	PVC and PEM
Communication port	RS485 port Modbus-RTU protocol, maximum input: 30 units	Power-off protection	10 years, times of writing:1 million times
Insulation impedance	Input, output, power cabinet>20MΩ	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II (Enhanced insulation)

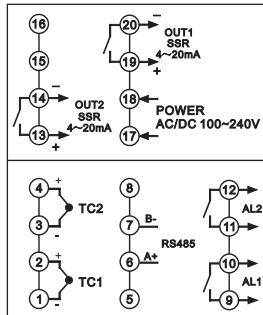
Input parameters

Input	Symbol	Measuring range	Resolution	Accuracy	Input impedance/auxiliary current
K	$\text{K}$	-50 ~ 1200	1°C	0.5%F.S±3digits	>500kΩ
J	$\text{J}$	0 ~ 1200	1°C	0.5%F.S±3digits	>500kΩ
E	$\text{E}$	0 ~ 850	1°C	0.5%F.S±3digits	>500kΩ
T	$\text{T}$	-50 ~ 400	1°C	0.5%F.S±2°C	>500kΩ
S	$\text{S}$	-10 ~ 1600	1°C	0.5%F.S±1°C	>500kΩ
PT100	$\text{PT100}$	-200 ~ 600	0.2°C	0.5%F.S±3digits	0.2mA
CU50	$\text{CU50}$	-50 ~ 150	0.2°C	0.5%F.S±3°C	0.2mA
CU100	$\text{CU100}$	-50 ~ 150	0.2°C	0.5%F.S±1°C	0.2mA
0 ~ 50mV	$\text{mV}$	-1999 ~ 9999	12bit	0.5%F.S±3digits	>500kΩ
0 ~ 400Ω	$\text{Ω}$	-1999 ~ 9999	12bit	0.5%F.S±3digits	0.2mA
4 ~ 20mA	$\text{mA}$	-1999 ~ 9999	12bit	0.5%F.S±3digits	100Ω
0 ~ 10V	$\text{V}$	-1999 ~ 9999	12bit	0.5%F.S±3digits	>1MΩ

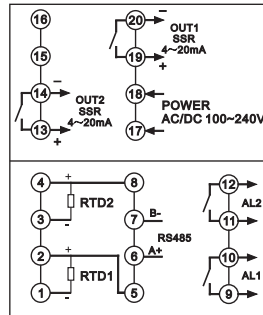
Connection



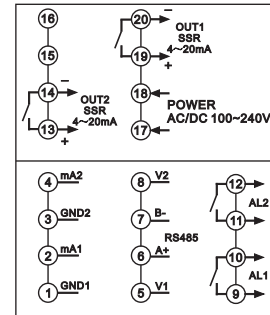
Single channel connection



GTE2-T



GTE2-R

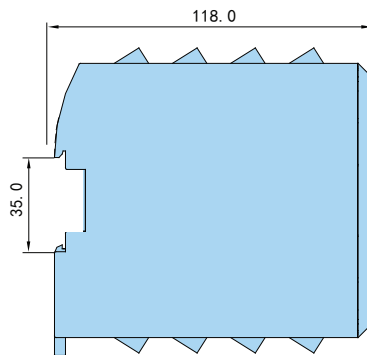
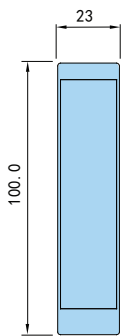


GTE2-X

Dual channels connection

Note: if any change, please subject to the connection drawing on the meter.

Dimensions (Units: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 12.GTA/GTAX Din Rail Mounting Type 4 Channels Temperature Controller

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

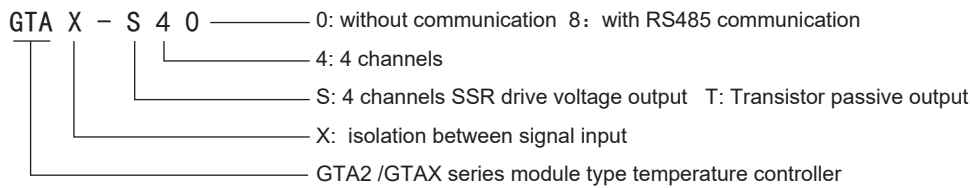
### ■ Photos and Features



#### Features:

- ★ 4 Channels thermocouple inputs.
- ★ 4 Loops SSR control output.
- ★ With LCD display and key operation function, convenient for on-site debugging and monitoring of working status.
- ★ Can realize communication interconnection with host computer system software or HMI through RS485 communication interface.
- ★ With fuzzy adaptive PID algorithm and standard algorithm optional.
- ★ With self-tuning function.
- ★ suitable for multi-temperature zone plastic machinery, packaging machinery, tunnel furnace equipment, etc., and can also be used as an on-site temperature signal acquisition instrument.
- ★ Multi thermocouple signal for option, isolated between input signals

### ■ Model Illustration



### ■ Ordering Information

Model	Input	Output	RS485	Power supply	Code
GTA2-S40	4 Channels TC input	4 Loops SSR output	No	100-240V AC/DC	B0450GTA01
GTA2-S48			Yes	100-240V AC/DC	B0600GTA01
GTAX-S48	4 Channels TC input <span style="color: red;">(with isolation)</span>	SSR output	Yes	100-240V AC/DC	B0750GTAX01
GTAX-T48		Transistor passive output	Yes	100-240V AC/DC	B0750GTAX01
GTAX-S40		SSR output	No	100-240V AC/DC	B0600GTAX01
GTAX-T40		Transistor passive output	No	100-240V AC/DC	B0600GTAX01

**Note:** 1. All models have no alarm output function, but the alarm status can be read through RS485 communication.  
 2. No isolation between GTA2 series four input signals. If used in the same grounding network, please use isolated thermocouples, otherwise it will cause interference between the input signals and affect the measured value.

### ■ Technical Specifications

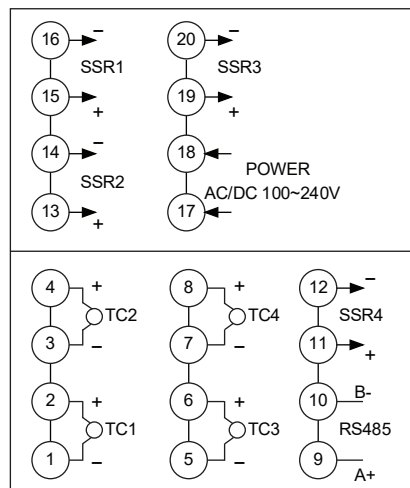
Input type	TC(K, J, E, T, N, B, R, S) 4 channels input
Accuracy	Standard accuracy $\pm 0.5\%F.S \pm 3$ digits @ (20 $\pm$ 5) °C
Resolution	K-type thermocouple: 0.2°C.
Power supply	100~240V AC/DC (85-265V)
Total consumption	<5VA
Ambient environment	Temperature: 0 ~ 50°C no condensation, humidity: <85%RH
Storage environment	-10~60°C, no condensation
SSR output	MAX 24V DC pulse level, 20mA per loop, ( 4 outputs are not isolated )
Transistor output capacity	DC 24V, DC 100mA per loop
Communication port	RS485 Modbus-RTU communication protocol (interface and output share a ground wire)
Insulation resistance	Input, output, power to housing >20MΩ
ESD	IEC/EN61000-4-2 Contact $\pm 4$ KV /Air $\pm 8$ KV perf.Criteria B
Pulse triap anti-interference	IEC/EN61000-4-4 $\pm 2$ KV perf.Criteria B
Surge immunity	IEC/EN61000-4-5 $\pm 2$ KV perf.Criteria B
Voltage drop & short interruption immunity	IEC/EN61000-4-29 0%~70% perf.Criteria B

Dielectric strength	Signal input & output & power 1500VAC 1min,<60V Low voltage circuit between DC500V,1min
Weight	About 300g
Shell material	PC/ABS (flame class UL94V-0)
Panel material	PVC film and PEM silicone buttons
Power-off protection	10 years,times of writing:1 million times
Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)

Input parameters

Series	Input type	Symbol	Measuring range	Resolution	Accuracy	Input impedance	Communication parameter code	
GTA2	K	Ǝ	-50~1200	1°C	0.5%FS±3digits	>500kΩ	0	
	J	Ǝ	0~1200	1°C	0.5%FS±3digits	>500kΩ	1	
	E	Ǝ	0~850	1°C	0.5%FS±3digits	>500kΩ	2	
	T	Ǝ	-50~400	1°C	0.5%FS±2°C	>500kΩ	3	
	B	Ǝ	250~1800	1°C	1%FS±2°C	>500kΩ	4	
	R	Ǝ	-10~1700	1°C	1%FS±2°C	>500kΩ	5	
	S	Ǝ	-10~1600	1°C	1%FS±2°C	>500kΩ	6	
	N	Ǝ	-50~1200	1°C	0.5%FS±3digits	>500kΩ	7	
GTAX	K	K1	Ǝ1	-50~1200	1°C	0.5%F.S±3digits	>500kΩ	0
		K2	Ǝ2	-50.0~999.9	0.2°C	0.5%F.S±1°C	>500kΩ	16
	J	J1	Ǝ1	0~1200	1°C	0.5%F.S±3digits	>500kΩ	1
		J2	Ǝ2	0.0~999.9	0.2°C	0.5%F.S±1°C	>500kΩ	17
	E	E1	Ǝ1	0~850	1°C	0.5%F.S±3digits	>500kΩ	2
		E2	Ǝ2	0.0~850.0	0.3°C	0.5%F.S±1°C	>500kΩ	18
	T	T1	Ǝ1	-50~400	1°C	0.5%F.S±3°C	>500kΩ	3
		T2	Ǝ2	-50.0~400.0	0.4°C	0.5%F.S±3°C	>500kΩ	19
	B	Ǝ	250~1800	1°C	1%F.S±2°C	>500kΩ	4	
	R	Ǝ	-10~1700	1°C	1%F.S±2°C	>500kΩ	5	
	S	Ǝ	-10~1600	1°C	1%F.S±2°C	>500kΩ	6	
	N	N1	Ǝ1	-50~1200	1°C	0.5%F.S±1°C	>500kΩ	7
		N2	Ǝ2	-50.0~999.9	0.2°C	0.5%F.S±1°C	>500kΩ	20
	0~50mV	Ǝ	-1999~9999	12bit	0.5%F.S±3digits	>500kΩ	12	

GTA2 Connection



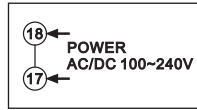
Note: if any change, please subject to the connection drawing on the meter.

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

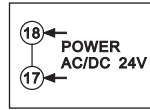


■ GTAX Connection

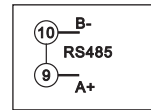
1. Connection



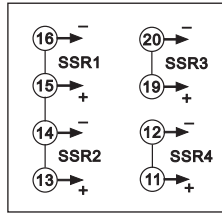
AC/DC 100 ~ 240V power supply



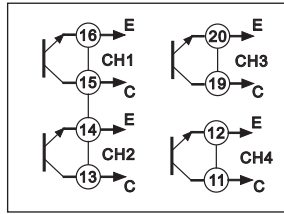
AC/DC 24V power supply



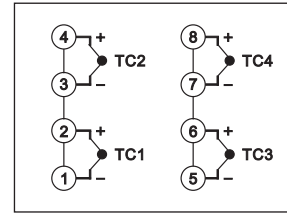
RS485 communication port



SSR output

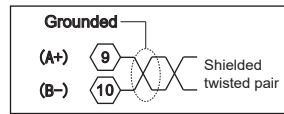


Transistor output

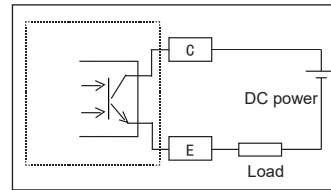


TC input

2. Connection examples



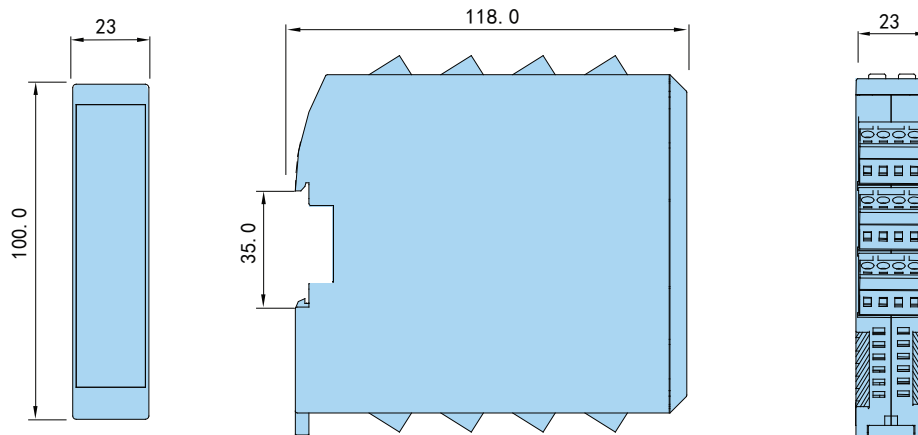
RS485 communication



Transistor output

Note: if any change, please subject to the connection drawing on the meter.

■ Dimensions (Units: mm)



# 13. TH Series Temperature Humidity Controller

## Photos and Features



TH

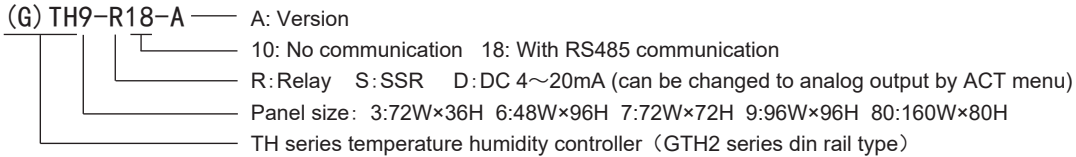


GTH2

### Features:

- ★ With heating, cooling, humidifying, dehumidifying, 4 loops control output.
- ★ Measuring accuracy: humidity ±2%RH, temperature ±0.2°C.
- ★ 4 digits temperature and humidity display, resolution 0.1 °C or 0.1%RH.
- ★ With PID or ON/OFF heating function (ON/OFF or compressor cooling delay function, ON/OFF humidifying and dehumidifying function).
- ★ With RS485 communication function, adopt Modbus-RTU communication protocol.
- ★ Adopt high accuracy digital temperature humidity sensor.

## Model Illustration



## Ordering Information

Model	Power supply	Control output	Sensor	RS485	Code	
TH□/GTH2-A10	AC/DC 100 ~ 240V	No	Plastic housing temperature humidity sensor	No	B0300TH01	
TH□/GTH2-A18				Yes	B0400TH01	
TH□/GTH2-R10	AC/DC 100 ~ 240V	Relay heating/cooling or relay humidifying/dehumidifying		No	B0400TH01	
TH□/GTH2-R18				Yes	B0500TH01	
TH□/GTH2-S10	AC/DC 100 ~ 240V	SSR heating/cooling or SSR humidifying/dehumidifying		No	B0400TH01	
TH□/GTH2-S18				Yes	B0500TH01	
TH□/GTH2-DR10	AC/DC 100 ~ 240V	4~20mA heating or analog/relay cooling or relay humidifying/dehumidifying		No	B0450TH01	
TH□/GTH2-DR18				Yes	B0550TH01	
TH□/GTH2-A10C	AC/DC 100 ~ 240V	No		Stainless steel housing temperature humidity sensor	No	B0350TH01
TH□/GTH2-A18C					Yes	B0450TH01
TH□/GTH2-R10C	AC/DC 100 ~ 240V	Relay heating/cooling or relay humidifying/dehumidifying	No		B0450TH01	
TH□/GTH2-R18C			Yes		B0550TH01	
TH□/GTH2-S10C	AC/DC 100 ~ 240V	SSR heating/cooling or SSR humidifying/dehumidifying	No		B0450TH01	
TH□/GTH2-S18C			Yes		B0550TH01	
TH□/GTH2-DR10C	AC/DC 100 ~ 240V	4~20mA heating or analog/relay cooling or relay humidifying/dehumidifying	No		B0500TH01	
TH□/GTH2-DR18C			Yes		B0600TH01	
DMSHT3XD0A temperature humidity sensor	Plastic housing temperature humidity sensor					B0120TH01
DMSHT3XD0B temperature humidity sensor	Plastic housing, rail-mounted, with wiring terminal					B0120TH01
DMSHT3XD0C temperature humidity sensor	Stainless steel housing temperature humidity sensor with aviation plugs				B0170TH01	

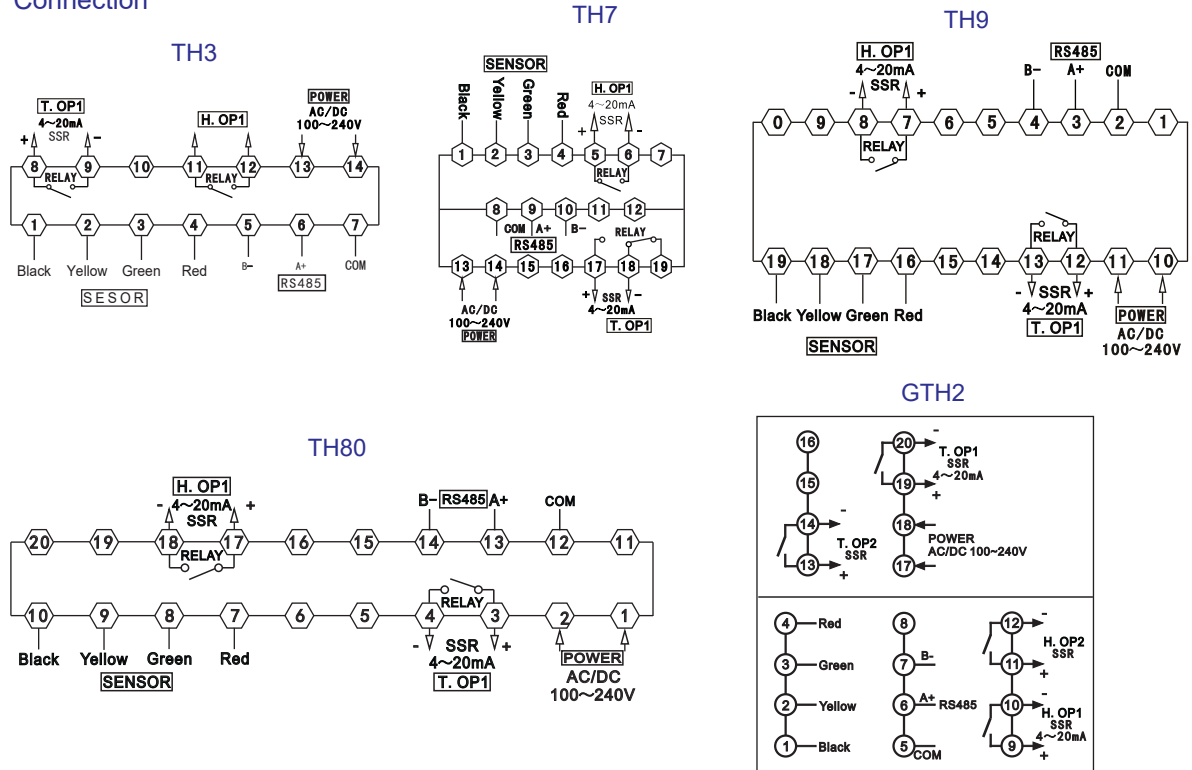
## Technical Specifications

Sampling speed	0.5/1/2/4/10 times per second selected by MPS menu	Pulse trap anti-interference	IEC/EN61000-4-4 ±2KV perf.Criteria B
Relay capacity	AC 250V /3A Life of rated load>100000 times	Surge immunity	IEC/EN61000-4-5 ±2KV perf.Criteria B
Power supply	AC/DC 100 ~ 240V (85-265V)	Voltage drop & short interruption immunity	IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Total consumption	< 6VA		
Ambient environment	Indoor use, temperature: 0 ~ 50°C, no condensation, humidity:<85%RH, altitude<2000m	Dielectric strength	Signal input & output & power 2000VAC 1min, <60V Low voltage circuit between DC500V,1min
Storage environment	-10 ~ 60°C, no condensation		
SSR output	DC 24V impulse level, load<30mA	Weight	About 400g
Current output	DC 4 ~ 20mA load<500Ω, temperature drift 250PPM	Shell material	PC/ABS (flame class UL94V-0)
Communication port	RS485 port Modbus-RTU protocol, maximum input:30units	Panel material	PET(F150/F200)
		Power-off protection	10 years,times of writing:1 million times
Insulation impedance	Input, output, power to housing>20MΩ	Panel protection class	IP65(IEC60529)
ESD	IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria B	Safe standard	IEC61010-1 Overvoltage category II, pollution level 2, level II(Enhanced insulation)

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Rotary Encoder
Proximity Sensor
Solid State Relay
Recorder
Signal Isolator
Power Meter Introduction

■ Connection

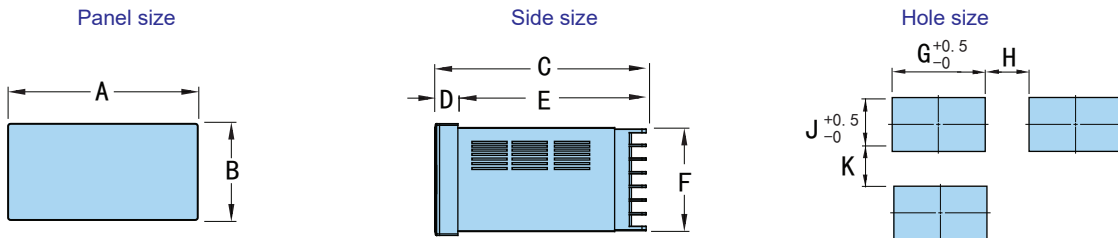
- Panel Meter
- Sensor Indicator
- Temperature Controller
- Counter
- Timer Relay
- Tacho/Speed/Pulse Meter
- Rotary Encoder
- Proximity Sensor
- Solid State Relay
- Recorder
- Signal Isolator
- Power Meter Introduction



Note: if any change, please subject to the connection drawing on the meter.

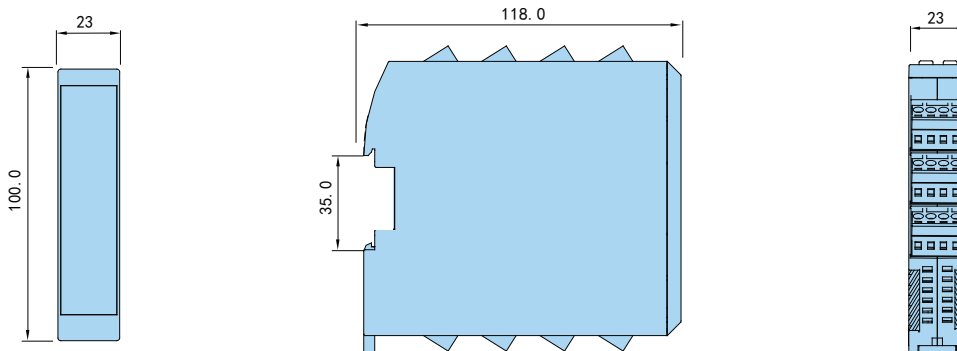
■ Dimensions (Units: mm)

TH series dimension



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
3:(72*36)	72	36	70.5	6.5	64	32	68	25	33	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45	25
9:(96*96)	96	96	97.5	9	88.5	91.5	92	25	92	25
80:(160*80)	160	80	96	13	83	75.5	155.5	30	76	30

GTH2 series dimension



## Digital Counter Function Comparison Table

No.	Model Function	CL	CI	CI-W	CA	CA-W	CA-X	CM	CX	TCN
										
1	Realtime measurement	Counting/length counting/rpm counting	Counting/length counting/batch counting	Counting/length counting/batch counting/total counting	Counting/length counting	Counting/length counting	Counting/length counting	Counting/length counting/time counting	Counting/length counting/time counting	Counting
2	Input	2	2	2	1	1	2	2	2	1
3	Input type	Count up/Count down/Count up & down/Rotary encoder count up & down			Count up	Count up	Count up/Count down/Count up & down/Rotary encoder count up & down			Count up
4	Output	Relay/SCR/SSR	Relay/SCR/SSR	Relay/SCR/SSR	Relay/SCR	Relay/SCR	Relay/SCR	Relay/SCR	Relay/SCR	Relay
5	Outputs	2 alarms + 1 rpm	2 alarms + 1 rpm	2 alarms + 1 rpm	1	1	1	2	1	1
6	Output type	12	12	12	4	4	12	8	4	4
7	Ratio factor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
8	Ratio Demical Point	5 digits settable	5 digits settable	5 or 7 digits settable	3 digits fixed	3 digits fixed	5 digits settable	5 digits settable	3 digits fixed	No
9	Digit	6	6	6, 8	6	6	6	4, 5, 6	4, 6	4, 6
10	Demical Point	Settable	Settable	Settable	Settable	Settable	Settable	Settable	Automatc	No
11	SV Demical Point	Automatc	Automatc	Automatc	Automatc	Automatc	Automatc	Settable	Settable	No
12	Delay output	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	Stop Reset	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	Analog	To be ordered	No	To be ordered	No	No	No	No	No	No
15	Comm	Yes	Yes	Yes	/	/	No	/	/	/

Remarks: \* All models of transistor output and solid state output need to be ordered;

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

# 1. CI Series Digital Counter

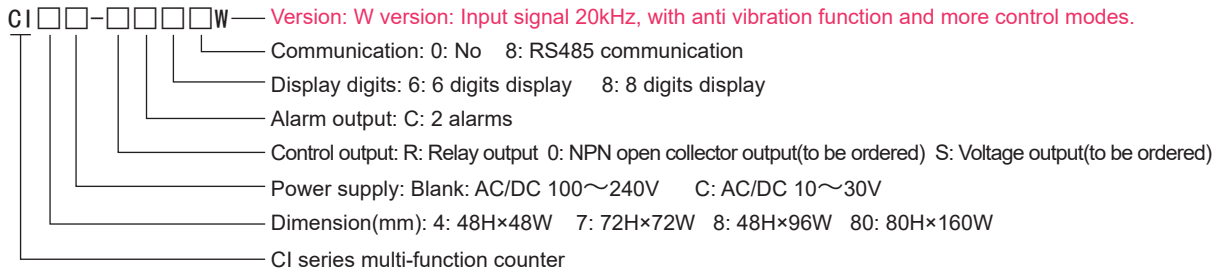
## Photos and Features



### Features:

- ★ Multi-function: number counting/length counting/ batch counting.
- ★ High speed counting, up to 10Kcps.
- ★ 1 loop batch output/ 2 loops counting output.
- ★ Voltage input (PNP) and non-voltage input (NPN) can be switched by software.
- ★ Adjustable pulse width of control signal.
- ★ Key Lock Function.
- ★ RS485 communication function selectable.
- ★ Excellent anti-interference capability.

## Model Illustration



## Ordering Information

Model	Panel Size(mm)	Output Mode	Output	Display	Batch output	Communication	Code		
CI80-RC60	80H×160W	Relay output	2 loops	6 digits	1 loop relay	No	B0380CI01		
CI80-RC68	80H×160W					RS485	B0510CI01		
CI8-RC60	48H×96W					No	B0380CI01		
CI8-RC68	48H×96W					RS485	B0510CI01		
CI7-RC60	72H×72W					No	B0380CI01		
CI7-RC68	72H×72W					RS485	B0510CI01		
CI4-RC60	48H×48W			Relay output	2 loops	8 digits	1 loop relay	No	B0380CI01
CI4-RC68	48H×48W							RS485	B0510CI01
CI8-RC80	48H×96W							No	B0510CI01
CI8-RC88	48H×96W							RS485	B0620CI01
CI7-RC80	72H×72W							No	B0510CI01
CI7-RC88	72H×72W							RS485	B0620CI01
CI80-RC60W	80H×160W	Relay output	2 loops	6 digits	1 loop relay	No	B0425CI01		
CI80-RC68W	80H×160W					RS485	B0550CI01		
CI8-RC60W	48H×96W					No	B0425CI01		
CI8-RC68W	48H×96W					RS485	B0550CI01		
CI7-RC60W	72H×72W					No	B0425CI01		
CI7-RC68W	72H×72W					RS485	B0550CI01		
CI4-RC60W	48H×48W					No		No	B0425CI01
CI4-RC68W	48H×48W							RS485	B0550CI01

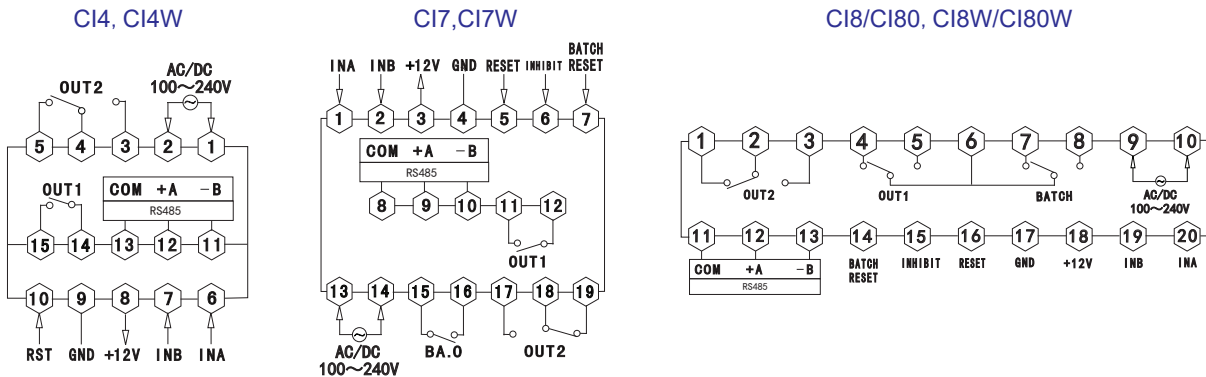
## Technical Specifications

Display	Display digits	Dual-line,6 digits,high light LED	Communication	Comm. Protocol	ModBUS RTU
	Display Range	-19999~999999			Baud Rate
Input Signal	Signal Type	Square wave, sine wave, passive contact	Function	Address Range	1-247
	Input Impedance	Voltage input impedance is 5.4KΩ, Non-voltage input: short circuit impedance is max.1KΩ		Comm. Delay	No
	Signal Level	High Level:5-30VDC Low Level:0-2VDC		Power-Fail Memory	YES/NO
				Reset Pause Lock	Optional

Input Signal	Max Frequency	1Hz,30Hz,1KHz,5KHz,10KHz selectable	Power supply & consumption		100~240V AC/DC <5W	
	Edge Trigger	NPN falling edge,PNP rising edge	Protection Class	Panel	IP 54	
	Counting Accuracy	±1 pulse (more or less)	Mechanical requirements	Housing	—	
	Ratio Coefficient	0.00001~9.99999		Screw torque	0.74n.m~0.9n.m	
Relay	Load Capacity	>100,000 times (NO:250VAC 3A resistive load NC:250VAC 2A resistive load)	Transportation requirements	Installation size	Refer to the Dimensions	
	NO/NC guide	Refer to the connections		Installation Mode	Panel mounting	
	Mechanical Life	>10,000,000 times	Vibration, Stacking	Amplitude:0.75mm Frequency:10~55Hz 1h for each X,Y,Z directions		
Input mode	UP/DOWN counting	U UP counting/D DOWN counting	Min Pulse Width	Reset	1,20ms optional	
	UP/DOWN counting control	UD-A UP/DOWN-A、UD-B UP/DOWN-B		Pause	1,20ms optional	
	Phase Difference Counting	Rotary Encoder Input	Output	Passive contactor output (to be ordered)		
Output	Output Mode	12 kinds, F、N、C、R, etc.	Withstand Voltage	Dielectric Strength	2000V AC 50/60Hz 1 min	
	Delay Time	0.01~499.99s	Insulation	Insulation Resistance	Min. 100MΩ (at500VDC)	
Auxiliary power supply	Supply Voltage	12VDC±10%		EMC Anti-interference capability	Static	3 class
	Capacity	<100mA	Group of Pulses		4 class each mode±4000VP-P	
Temp.	Woking Temp.	-10°C~50°C (Unfrozen)	Lightning surge	3 class wire to wire±2000V		
	Storage Temp.	-25°C~65°C (Unfrozen)		Frequency Drop	3 class	
	Environment RH	35-85%RH				

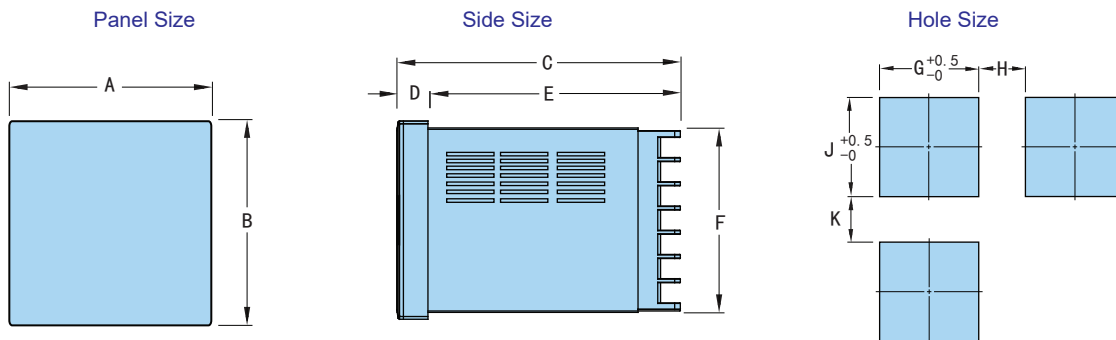
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

■ Connection



Note: if there is any change, please subject to the connection on the meter.

■ Dimensions (Unit: mm)



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48*96)	96	48	97.5	9	88.5	44.5	92	25	45	25
80:(80*160)	160	80	96	13	83	155	76	30	155.5	30

## 2. CL Series Digital Counter

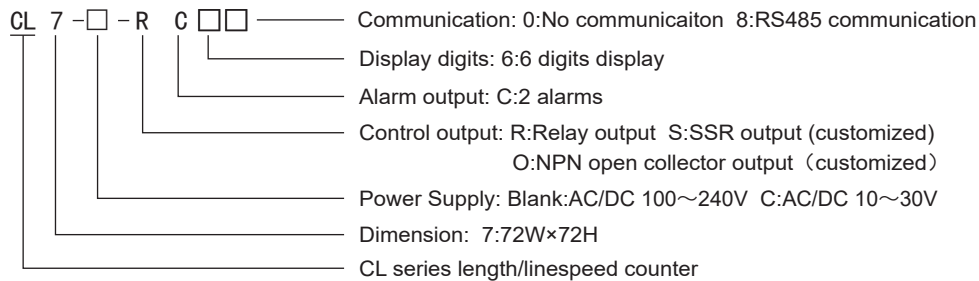
### ■ Photos and Features



#### Features:

- ★ With 2 loops length (number) counting control output, 1 loop linespeed control output.
- ★ Linespeed coefficient, length (number) coefficient can be set respectively.
- ★ Various input/output modes,easy for flexible using.
- ★ Excellent anti-interference capability, highly reliable pulse input circuit design
- ★ Optional counting speed range,to guarantee the measuring accuracy.
- ★ RS-485 ModBus-RTU communication function optional.
- ★ Used in zipper,foodstuff and packing mechanism industries.

### ■ Model Illustration



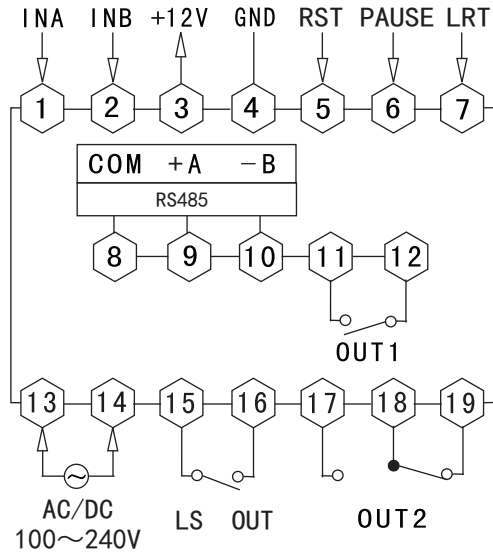
### ■ Ordering Information

Model	Dimension(mm)	Output	Display digits	Counting output	Linespeed output	Communication	Code
CL7-RC60	72H×72W	Relay	6 digits	2 loops	1 loop	No	B0510CL01
CL7-RC68						RS485	B0620CL01

### ■ Technical Specifications

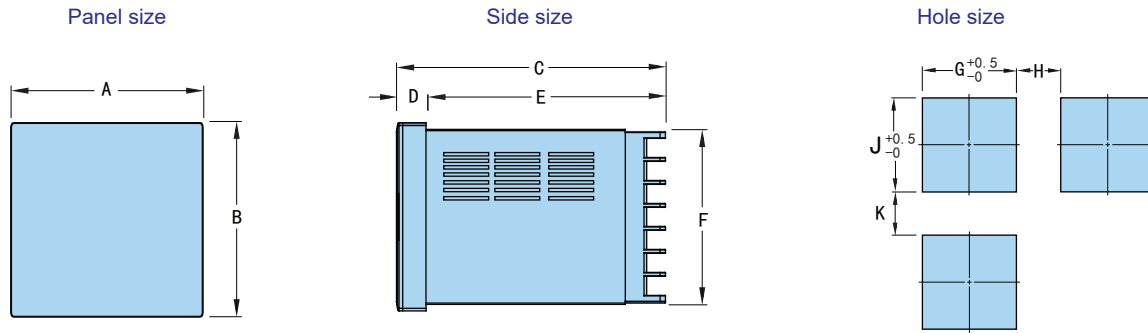
Power Supply	AC/DC 100~240V 50/60Hz
Consumption	<5W
Trigger Edge	Rising edge,falling edge
Data Reserve	10 years
Input Signal(Square/Sin wave)	Electrical level: Hight:3~30V Low:0~2V
Counting Speed	≤10Kcps
Environment Temperature	0°C~50°C
Anti-interference	3000Vp-p
Counting Range	-199999~999999(6 digits)
Linespeed Display Range	0.00001~999999(6 digits)
Delay Time	0.01~9999.99s
Counting Output Mode	F、N、C、R、K、P、Q、A optional(UP/DOWN counting)
Input Impedance	5.4kΩ
Relay Contact Capacity	AC 250V 3A (Resistance loading)
Insulation Impedance	≥20MΩ
Dielectric Strength	AC 1.5KV 1min(Power port&External port)
Dimension(mm)	72H×72W×100L

■ Connection



Note: if there is any change, please subject to the connection on the meter.

■ Dimensions (Unit: mm)



Panel	A	B	C	D	E	F	G	H(Min)	J	K(Min)
72*72	72	72	97.5	3	94.5	67	67.5	25	67.5	25

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



### 3. CM Series Conter/Timer

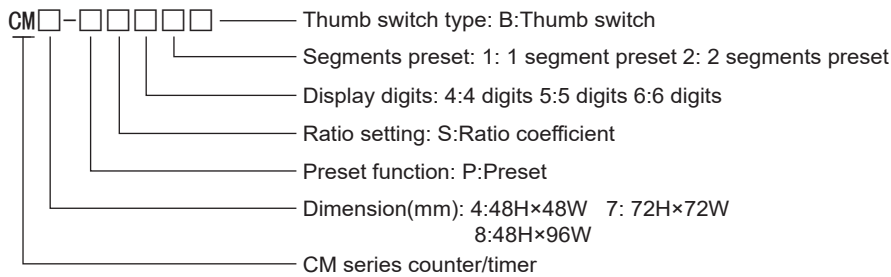
#### ■ Photos and Features



#### Features:

- ★ Thumb switch setting, intuitive and easy operation.
- ★ CP1/CP2 2 inputs, multiple input modes:A/B/C/D
- ★ Max 2 output channels(relay or NPN open collector), AL1,AL2
- ★ 12 output modes: F/N/R/C/L1/K2P/Q/A/D/H/L
- ★ Power fail memory, timing pausing functions.
- ★ Counting/timing functions switchable by software.
- ★ 8 timing modes, optional decimal or sexagesimal.

#### ■ Model Illustration



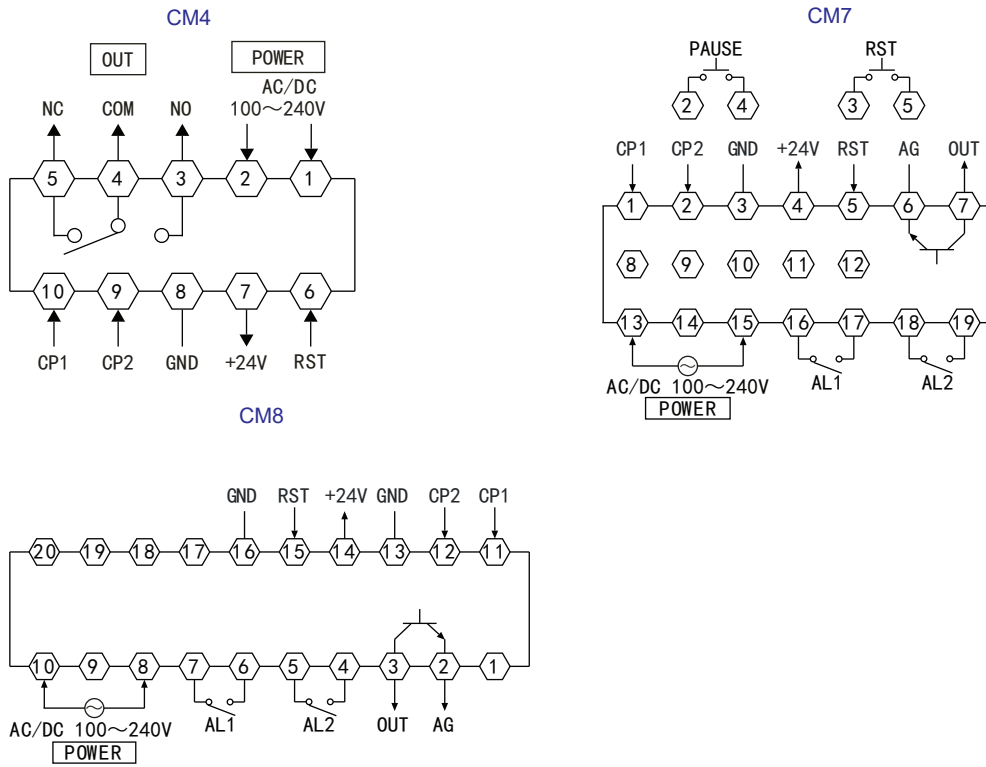
#### ■ Ordering Information

Model	Dimension(mm)	Display digits	Output	Power supply	Code
CM4-PS41B	48H×48W×100W	4 digits	1 loop output	AC/DC 100~240V	A0550CM01
CM7-PS41B	72H×72W×100W	4 digits			A0550CM01
CM8-PS51B	48H×96W×100W	5 digits			A0570CM01
CM7-PS61B	72H×72W×100W	6 digits			A0590CM01
CM7-PS42B	72H×72W×100W	4 digits	2 loops output		A0790CM01
CM8-PS52B	48H×96W×100W	5 digits			A0840CM01
CM7-PS62B	72H×72W×100W	6 digits			A0850CM01

#### ■ Technical Specifications

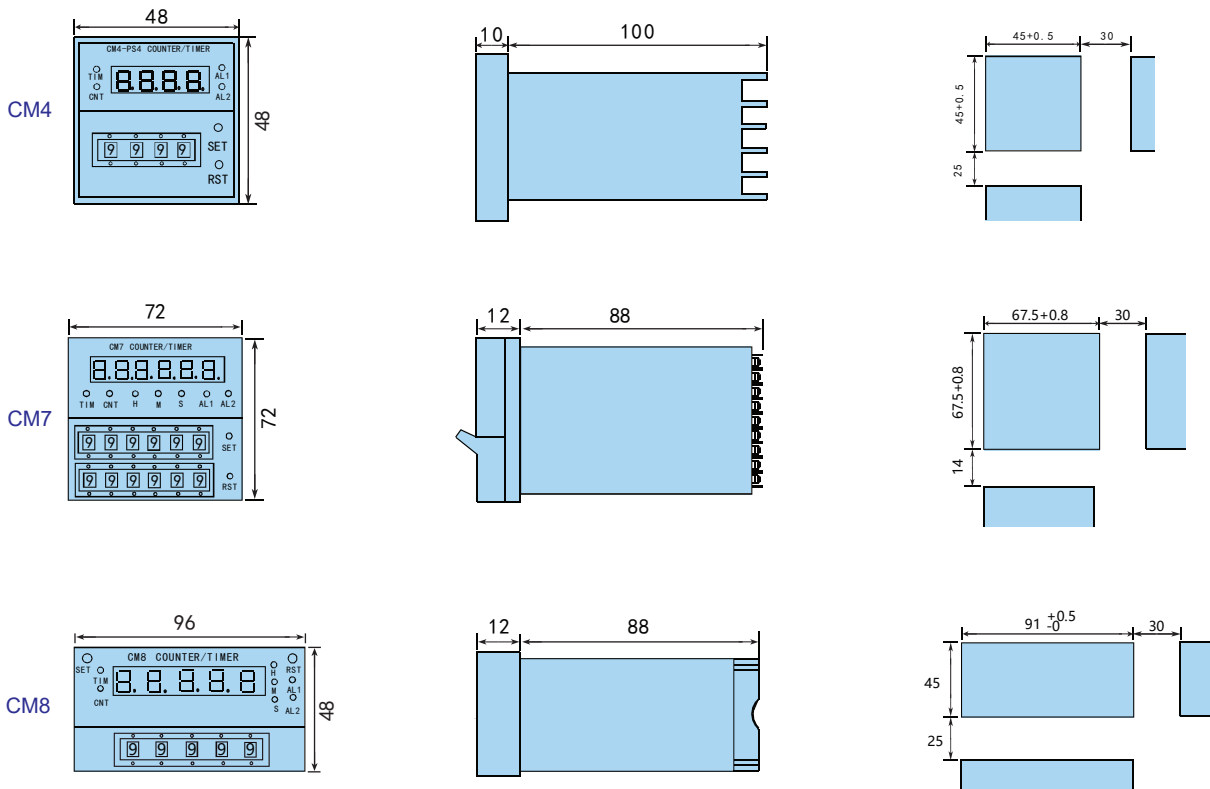
Power Supply	AC/DC 100~240V
Consumption	≤5W
Input Signal(Sin/square wave)	Electrical level:High:3~30V Low:0~2V
Trigger Edge	Rising edge,falling edge
Counting Speed	≤5Kcps
Data Reserve	10 year
Anti-interference	Power:2000Vp-p I/O Port:500Vp-p
Environment Temperature	0°C~50°C
Counting Range	-19999~99999(5digit)、-199999~999999(6 digit)、-1999~9999(4 digit)
Relay Contact Capacity	AC 250V 3A(Resistance loading)
Input Impedance	≤6 KΩ
Counting Output Mode	F、N、C、R、K、P、Q、A(UP/DOWN counting optional)
Insulation Impedance	≥20MΩ(Power port & External port)
Dielectric Strength	AC 1.5KV 1min(Power port & External port)
Timing Accuracy	0.2%FS
Timing Range	0.01S~999.9H(4 digits) 0.01S~9999.99H(6 digits) 0.01S~9999.9H(5 digits)

■ Connection



Note: if there is any change, please subject to the connection on the meter.

■ Dimensions (Unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 4. CX Series Counter/Timer

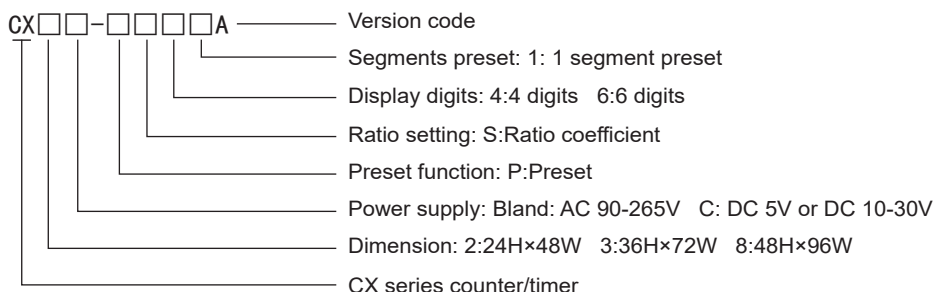
### ■ Photos and Features



#### Features

- ★ 48\*96、36\*72、24\*48 compact size, saving installation space
- ★ One setting output, multi control modes to satisfy customers' requirements
- ★ Counting/timing function switchable.
- ★ Length counting coefficient setting range 0.001~9999
- ★ NPN open collector output (CX2C/CX3C) or relay output (CX3/CX8)
- ★ Key-pressing and external terminal resetting function, high anti-interference capability.

### ■ Model Illustration



### ■ Ordering Information

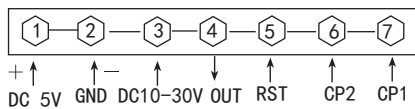
Model	Dimension(mm)	Display digits	Output	Output Mode	Auxiliary Output	Power Supply	Code			
CX2C-PS41A	24H×48W×58L	4 digits	1 loop output	NPN open collector output	No	DC 5V or AC/DC 10-30V	B0205CA01			
CX3C-PS61A	36H×72W×58L	6 digits					Relay output	12V	AC/DC 85-265V	B0205CA01
CX8C-PS61A	48H×98W×58L									B0205CA01
CX3-PS61A	36H×72W×58L						B0238CA01			
CX8-PS61A	48H×98W×58L						B0238CA01			

### ■ Technical Specifications

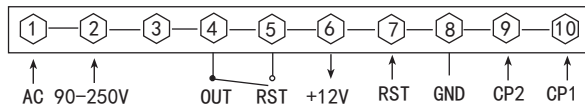
Power Supply	85~256V AC/DC、5V DC、10-30V AC/DC (to be ordered)
Consumption	<5W
Input Signal(Sin/square wave)	Electrical level: Height:5~30V
Trigger Edge	Rising edge,falling edge
Counting Speed	10cps/100cps/1000cps/3000cps optional
Data Reserve	10 years
Environment Temperature	0°C~50°C
Anti-interference	Power: 2000VP-P I/O Port: 500VP-P
Counting Range	-1999~9999(4digit) -199999~999999(6digit)
Output delay time	0.01~99.99S
Input Impedance	≥10KΩ
Relay Contact Capacity	AC 250V 3A (Resistance loading)
Transistor output capacity	24VDC/30mA(OC port)
Insulation Impedance	≥20MΩ
Dielectric Strength	AC 1.5KV 1min( Power port & External port)
Timing Accuracy	0.1%FS
Timing Range	0.01S~99H59M(4 digits) 0.01S~9999H59M(6 digits)
Dimension	24H×48W×58L 36H×72W×58L 48H×96W×58L

■ Connection

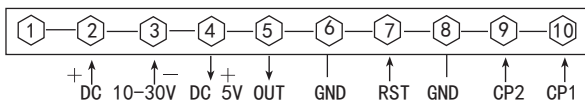
CX2C-PS41A



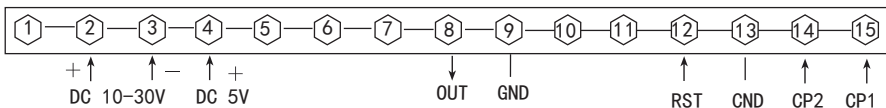
CX3-PS61A



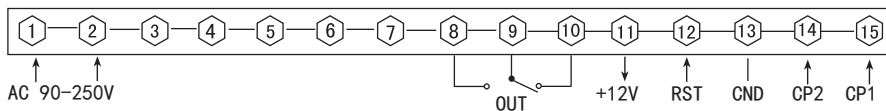
CX3C-PS61A



CX8C-PS61A



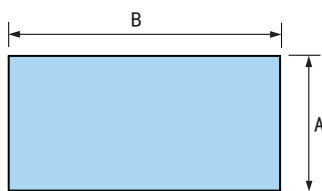
CX8-PS61A



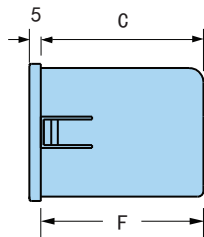
Note: if there is any change, please subject to the connection on the meter.

■ Dimensions (Unit: mm)

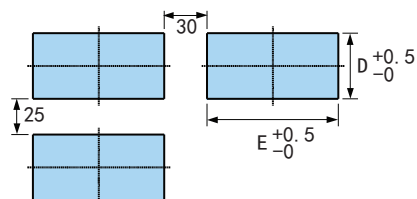
Panel size



Side size



Hole size



CX2C	A=24	B=48	C=58	D=22.5	E=46.5	F=68
CX3	A=36	B=72	C=58	D=33.5	E=68.5	F=68
CX8	A=48	B=96	C=58	D=45	E=92.5	F=68

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter Introduction

## 5. CA-X Series Economy Counter

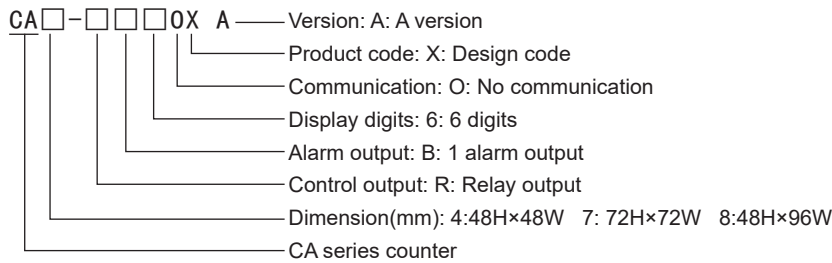
### ■ Photos and Features



#### Features:

- ★ Switching power supply.
- ★ Number/length counting function.
- ★ Max pulse input frequency 5kHz.
- ★ 2 loops pulse signal input, can be connected with rotary encoder.
- ★ Key lock function.
- ★ With multi output modes, F/R/N/C, ect.

### ■ Model Illustration



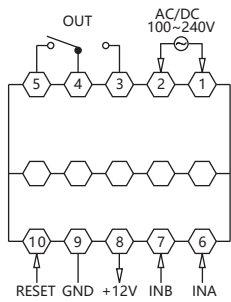
### ■ Ordering Information

Model	Dimension(mm)	Display digits	Alarm output	Power supply	Code
CA4-RB60X	48H×48W	6 digits	1 alarm	AC/DC 100~240V 50/60Hz	B0248CA01
CA7-RB60X	72H×72W				B0248CA01
CA8-RB60X	48H×96W				B0248CA01

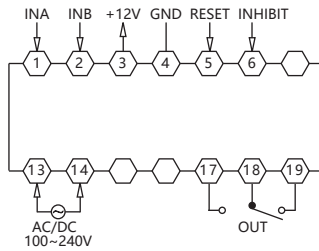
### ■ Technical Specifications

Display	Display digits	Dual-line,6 digits,high light LED	Communication	Comm. Protocol	—
	Display Range	-19999~999999		Baud Rate	—
Input Signal	Signal Type	Square wave, sine wave, passive contact	Function	Address Range	—
	Input Impedance	Voltage input impedance is 5.4KΩ, Non-voltage input: short circuit impedance is max.1KΩ		Comm. Delay	—
	Signal Level	High Level:5-30VDC Low Level:0-2VDC	Power-Fail Memory	YES/NO	
	Max Frequency	1Hz, 30Hz, 1KHz, 5KHz selectable	Reset Pause Lock	Optional	
Solid State Relay	Edge Trigger	NPN falling edge,PNP rising edge	Power supply & consumption		100~240V AC/DC <5W
	Counting Accuracy	±1 pulse (more or less)	Protection Class	Panel	IP 54
	Ratio Coefficient	0.00001~999999		Housing	—
Relay	Load Capacity	>100,000 times	Mechanical requirements	Screw torque	0.74n.m~0.9n.m
		(NO:250VAC 3A resistive load NC:250VAC 2A resistive load)		Installation size	Refer to the Dimensions
	NO/NC guide	Refer to the connections		Installation Mode	Panel mounting
Power Meter Introduction	Mechanical Life	>10,000,000 times	Transportation requirements	Vibration, Stacking	Amplitude:0.75mm Frequency:10~55Hz 1h for each X,Y,Z directions

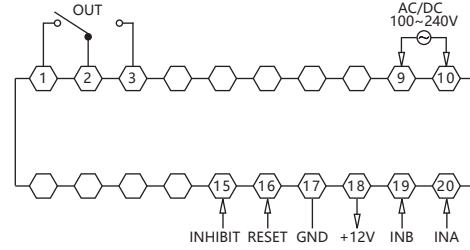
■ Connection



CA4-X

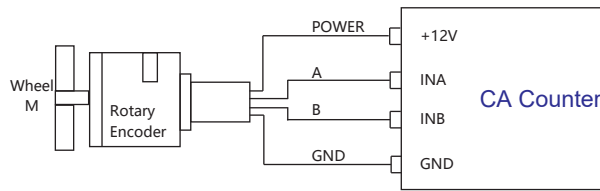
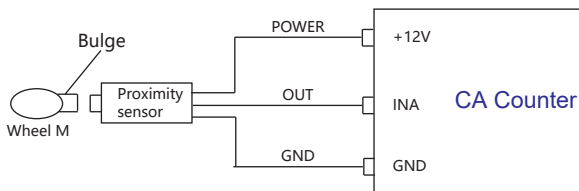


CA7-X



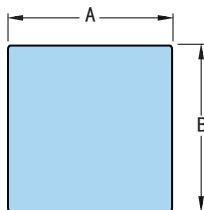
CA8-X

Note: if any change, please subject to the connection drawing on the meter.

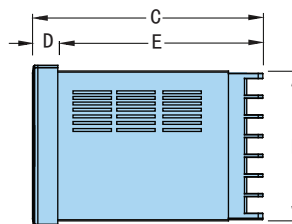


■ Dimensions (Unit: mm)

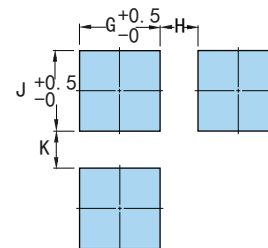
Panel size



Side size



Hole size



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48×48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72×72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48×96)	96	48	97.5	9	88.5	44.5	92	25	45	25
Remark	Unit:(mm) Tolerance +0.5%(Except for special indications)									

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 6. CA/CA-W Series Economy Type Counter



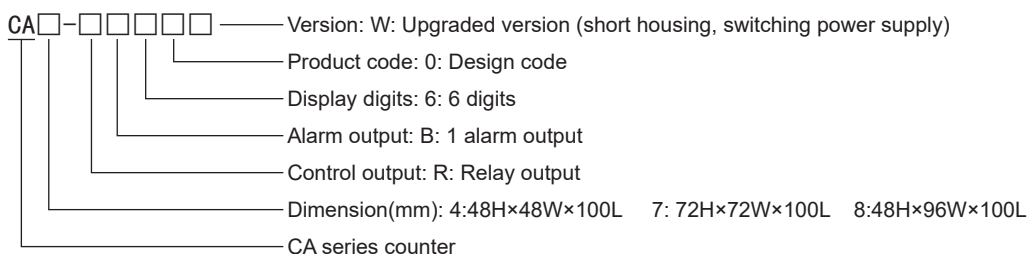
### Photos and Features



#### Features:

- ★ Economical and practical, dual-line 6 digits display.
- ★ High-performance, micro processor as controlling core
- ★ High accuracy and anti-interference capability.
- ★ NPN、PNP can be switched by changing the internal short-circuit pin.
- ★ With F/R/N/C output function.
- ★ Upgraded version with 100~240V switching power supply.
- ★ Upgraded version with short housing design, installation depth is 65mm only.

### Model Illustration



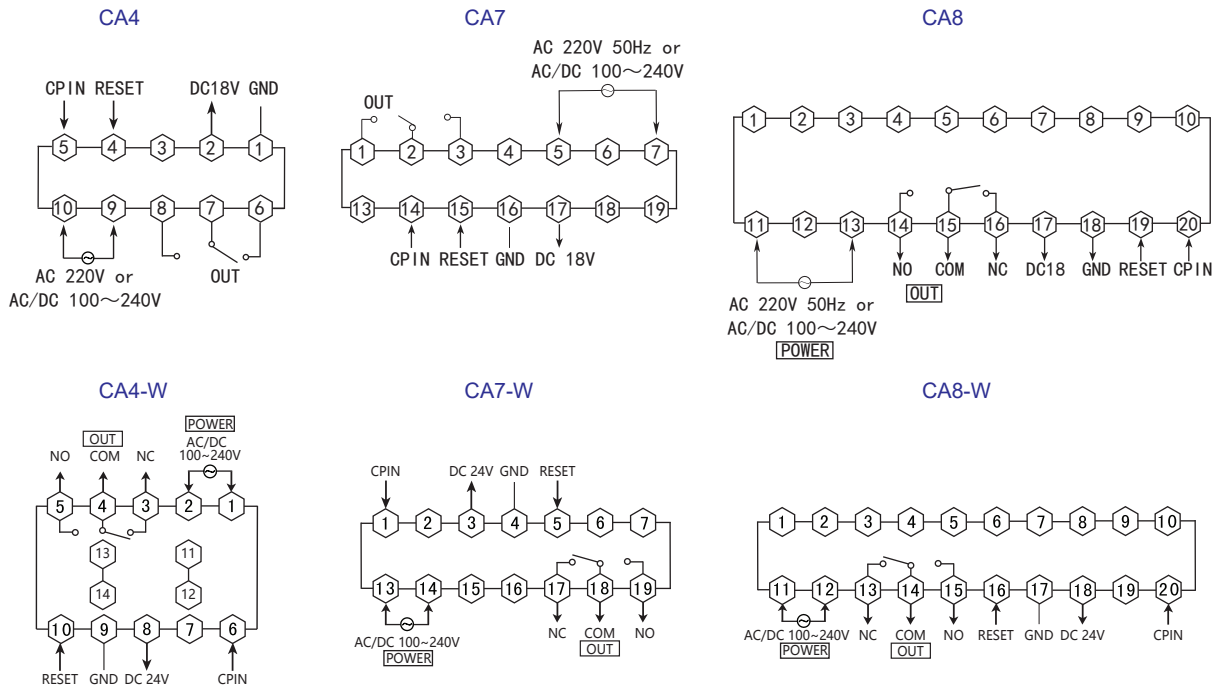
### Ordering Information

Model	Power supply	Output mode	Display digits	Alarm output	Code
CA□-RB60	AC 220V	Relay output	6 digits	1 loop alarm	B0180CA01
CA□-RB60W	AC/DC 100~240V				B0210CA01

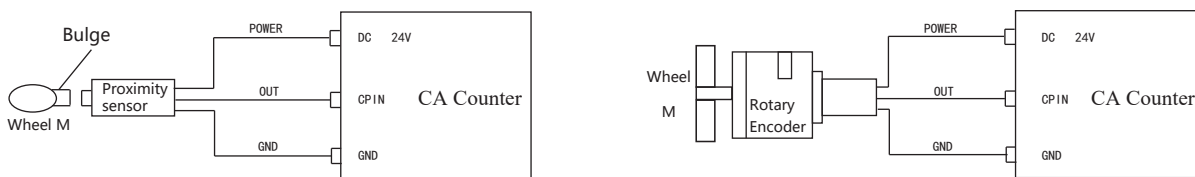
### Technical Specifications

Power Supply	AC 220V±10% 50Hz    W: AC/DC 100~240V 50/60Hz
Consumption	≤4W
Relay Contact Capacity	AC 250V/3A
Auxiliary Voltage	DC 18V±5V(≤25mA)
Input Impedance	Voltage input impedance 5.4KΩ,
Counting Speed	≤1/30/300/1000Hz(4 ranges to be chosen)
Counting Range	0.001-999999
Delay Time	0.01-600.00s
Coefficient Setting Range	0.001-99.999
External Signal	External reset frequency 2,10,100,500Hz selectable
Working Environment	-10°C~50°C (unfrozen)
Storage Environment	-25°C~65°C (unfrozen)
Dielectric Strength	2000V AC 50/60Hz 1 min
Insulation Impedance	≥100MΩ (at500VDC)
Anti-static strength	3 class direct discharging 6kV air discharging 8kV
Anti-interference Capacity	4 class each mode±4000V <sub>P-P</sub>
Lightning Surge	3 class wire to wire±2000V
Frequency Drop	3 class

■ Connection

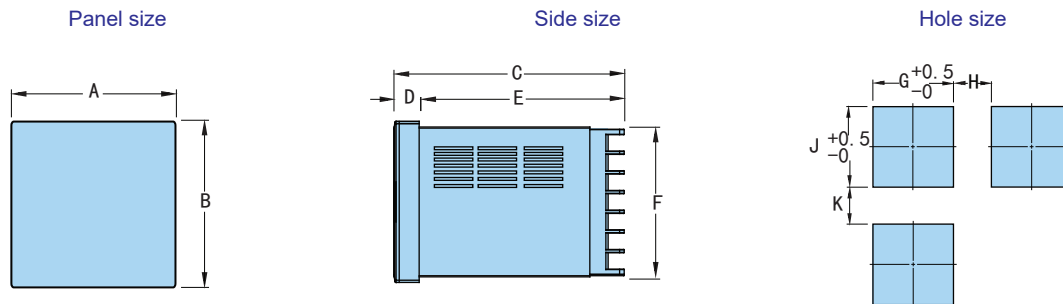


Note: if any change, please subject to the connection drawing on the meter.



Note: if any change, please subject to the connection drawing on the meter.

■ Dimensions (Unit: mm)



CA

Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48×48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
7:(72×72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25
8:(48×96)	96	48	97.5	9	88.5	44.5	92	25	45	25
Remark	Unit:(mm) Tolerance +0.5%(Except for special indications)									

CA-W

Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48×48)	48	48	71	6.5	64.5	44.5	45.5	25	45.5	25
7:(72×72)	72	72	71	6.5	64.5	67.5	67.5	25	67.5	25
8:(48×96)	96	48	71	6.5	64.5	44.5	92	25	45	25
Remark	Unit:(mm) Tolerance +0.5%(Except for special indications)									

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



## 7. TCN Series Thumb Switch Digital Counter

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

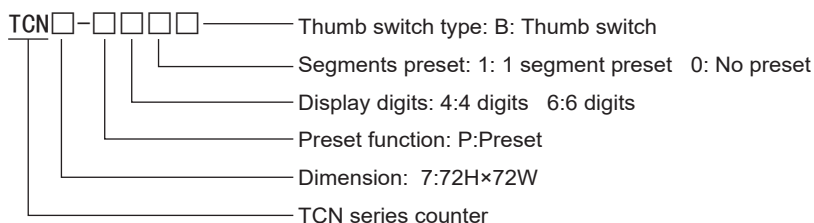
### ■ Photos and Features



#### Features:

- ★ Thumb switch setting preset value, intuitive and easy operation
- ★ Independently display the delay time and with output indicator light.
- ★ Applied high quality micro processor as controlling core.
- ★ High measuring accuracy and anti-interference capability.

### ■ Model Illustration



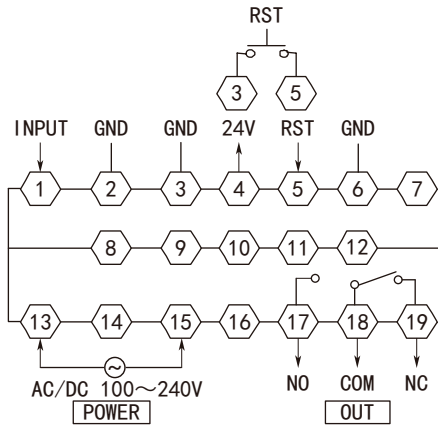
### ■ Ordering Information

Model	Dimension(mm)	Power	Display digits	Delay time(S)	Output mode	Code
TCN-P41B	72H×72W×100L	AC/DC 100~240V	4 digits	0.2-15	F/N/R/C	B0280TCN01
TCN-P61B			6 digits			B0300TCN01

### ■ Technical Specifications

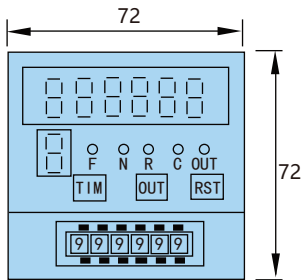
Power Supply	AC/DC 100~240V (DC 24V to be ordered)
Consumption	<5W
Relay Contact Capacity	250VAC/3A
Auxiliary power	DC24V±2V 50mA
Input Impedance	Voltage input impedance 5.4KΩ,
Counting Speed	≤1000Hz
Counting range	0.01~999999(6 digits) 0.001~9999(4 digits)
Delay time	0~15 second
Output mode	F/N/R/C
Working Environment	-10°C~50°C (unfrozen)
Storage Environment	-25°C~65°C (unfrozen)
Dielectric Strength	2000V AC 50/60Hz 1 min
Insulation Impedance	≥100MΩ (at500VDC)
Anti-interference Capacity	2 class each mode ±2000VP-P
Lightning Surge	3 class wire to wire±2000V
Frequency Drop	3 class

■ Connection

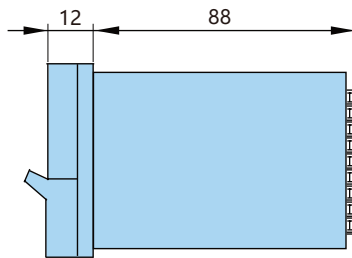


Note: if any change, please subject to the connection drawing on the meter.

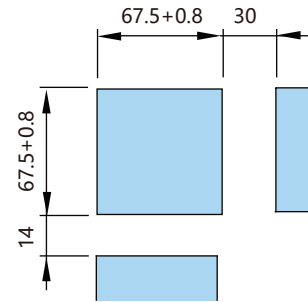
■ Dimensions (Unit: mm)



Panel size



Side size



Hole size

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

# 1. HP Series Timer Relay

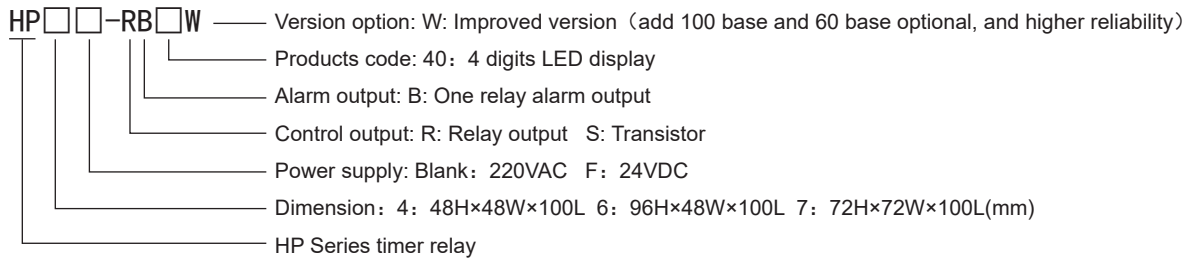
## ■ Photos and Features



### Features:

- ★ Dual-line 4 digits bright LED display.
- ★ High timing accuracy.
- ★ Power fail memory function.
- ★ Optional dimension.
- ★ Multiple output delay function modes selected by the menu.
- ★ Passed strict EMC and reliability testing.
- ★ With decimal/centesimal/sexagesimal timing function.
- ★ With pausing,resetting function.

## ■ Model Illustration



## ■ Ordering Information

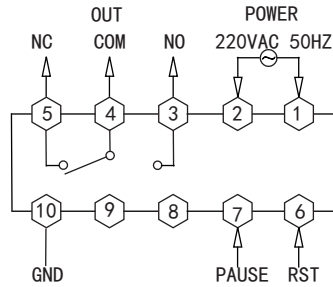
Model	Display	Power supply	Dimension	Alarm	Code
HP4-RB40W	Dual-line 4 digits	220VAC 50Hz	48H×48W	1	B0205HPW01
HP6-RB40W			96H×48W		B0205HPW01
HP7-RB40W			72H×72W		B0205HPW01

## ■ Technical Specifications

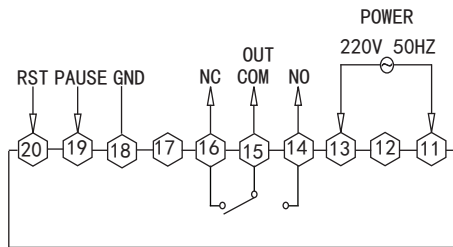
Power Supply	220±10% 50Hz (other power supply be ordered)
Power Consumption	≤3W
Installation	Panel mounting
Timing Range	0.01-99.99S, 0.1-999.9S, 1-9999S, 1-99M59S, 0.01-99.99M, 0.1-999.9M, 1-9999M, 1-99H59M, 0.01-99.99H, 0.1-999.9H, 1-9999H
Timing Accuracy	±0.1%±0.05sec
Reset Mode	Panel reset/external reset/automatic reset/power-off reset selectable
Input Signal	Active Low
Output Capacity	AC/DC 250V 5A(Resistive load)
Impulse Interference	Level 3 2000Vp-p
Lightning Surge	Level 3 Power port L-N ±2000V
Working Environment	0~50°C ≤85%R.H
Storage Environment	-20~55°C ≤85%R.H
Withstand Voltage	AC 2000V 50Hz 1 minute
Insulation Resistance	DC 500V ≥100MΩ
Vibration	X/Y/Z axis 10~50Hz 0.75mm

■ Wiring Diagram

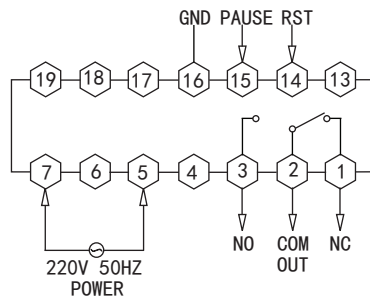
HP4



HP6

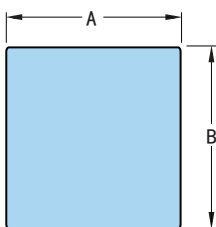


HP7

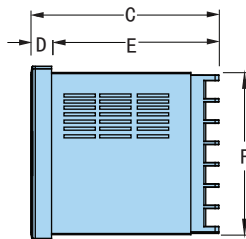


■ Installation And Hole Size (Unit: mm)

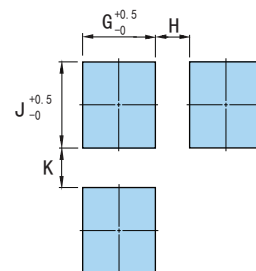
Panel size



Side size







Hole size



Model	A	B	C	D	E	F	G	H(Min)	J	K(Min)
4:(48*48)	48	48	97.5	6.5	91	45	45.5	25	45.5	25
6:(96*48)	48	96	97.5	9	88.5	89.5	45	25	92	25
7:(72*72)	72	72	97.5	9	88.5	67	67.5	25	67.5	25

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## Frequency Meter Function Comparison Table

	No.	Model Function	CL	FI	FM	FA
Panel Meter						
Sensor Indicator						
Temperature Controller	1	Measure	Counting/length counting/ frequency/speed/line speed	Frequency/speed/ line speed	Frequency/speed/ line speed	Frequency/speed
Counter	2	Input	2	1	1	1
Timer Relay	3	Input type	Up count/down count/ up/down counting/ encoder up/down counting	NPN/PNP input	NPN/PNP input	NPN input
	4	Operation method	Key setting	Key setting	Thumb switch setting	Thumb switch setting
	5	Output	Relay	Relay	Relay/transistor	Relay/transistor
Tacho/Speed/ Pulse Meter	6	Output channels	2	2	2	1
	7	Output type	12 Types	4 Types	4 Types	2 Types
Recorder	8	Ratio	Yes	Yes	Yes	Yes
Signal Isolator	9	Ratio decimal point	5 Digits settable	5 Digits settable	3 Digits/4 digits settable	3 Digits fixed
	10	Digits	6	6	4 / 5	4
Rotary Encoder	11	Decimal point	Settable	Settable	Settable	Settable
Proximity Sensor	12	Delay output	Yes	Yes	No	No
	13	Reset	Yes	Yes	Yes	No
Solid State Relay	14	Analog	Customized	Yes	No	No
Power Meter Introduction	15	Communication	Yes	Yes	No	No

Remarks: \* All models of transistor output and solid state output are customized.

# 1. FI Series Frequency/Speed/Tacho Meter

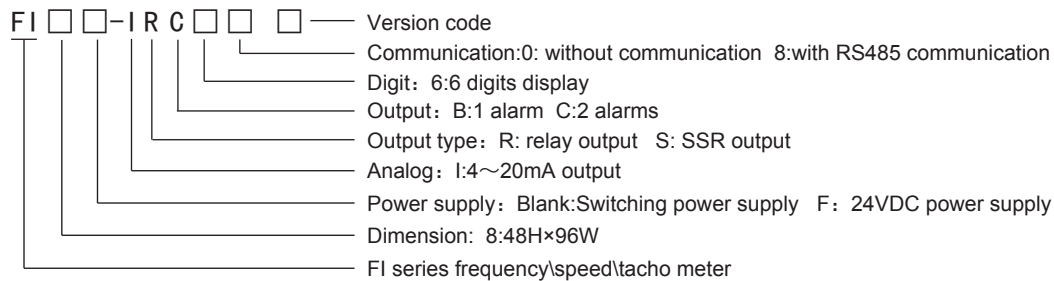
## ■ Photos and Features



### Features:

- ★ 6 digit LED display, upper row displays the measured value, the lower row displays the setting value.
- ★ Optional 2 control output : high limit alar (U), low limit alarm(d).
- ★ With hysteresis setting, which improve the working stability.
- ★ Optional 4~20mA analog output and RS485 communication.
- ★ High measurement accuracy, and the decimal point can be fixed or floating display.
- ★ Multipurpose: It can be used as frequency meter, line speed meter and tachometer, set through software.

## ■ Model Illustration



## ■ Ordering Information

Model	Dimension (mm)	Digits	Alarm	Analog	Communication	Code
FI8-RC60	48H*96W	6 Digits	2	No	No	B0550FI01
FI8-IRC60	48H*96W	6 Digits	2	4~20mA	No	B0620FI01
FI8-RC68	48H*96W	6 Digits	2	No	RS485	B0700FI01
FI8-IRC68	48H*96W	6 Digits	2	4~20mA	RS485	B0775FI01

## ■ Technical Specifications

Power Supply	AC/DC 100 ~ 240V±15%
Consumption	<5W
Contact rating	AC 250V/3A or DC 30V/3A
External power	DC 12V±2V 100mA max
Insulation resistance	≥100MΩ
Anti-interference	Power: 4000Vp-p I/O terminal: 2000Vp-p
Anti-vibration	10 ~ 55Hz; 0.75mm
Environment	-15 ~ 50°C 35 ~ 85% RH
Input signal	Square wave, sine wave pulse signal: 3V≤high level≤30V 0≤low level≤1V
Input resistance	≥5.4kΩ
Meassure range	0.1 ~ 10000Hz
Accuracy	0.1%RD±3Digits
Communication data	Communication port: RS485
	Protocol: MODBUS-RTU Verification method: no verification
	Baud rate: 4800bps, 9600bps optional. Frame format: 1 start bit, 8 data bits, 2 stop bits
Analog output	Output range: 4 ~ 20mA
	Load Resistance: ≤600Ω

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

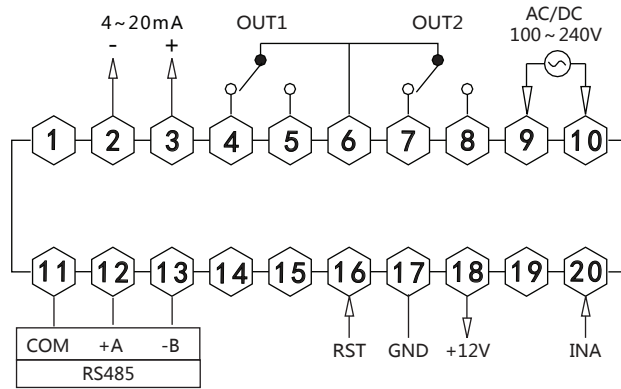
Power Meter Introduction

■ Wiring Diagram

Panel Meter

Sensor Indicator

Temperature Controller



Note:Pls subject to the connection on meter if any changes.

Counter

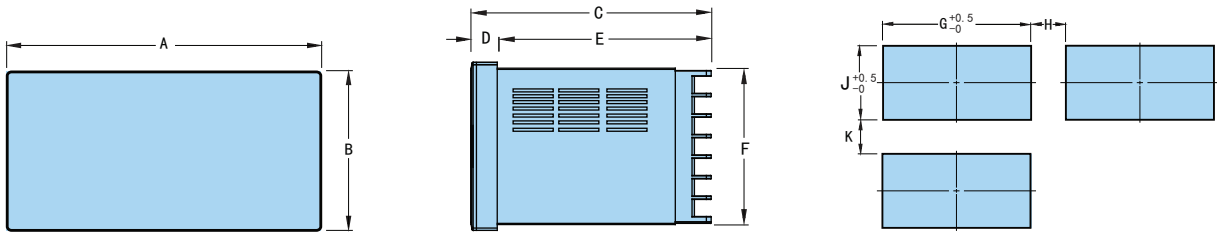
■ Installation And Hole Size (Unit: mm)

Timer Relay

Panel size

Side size

Hole size



Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Dimension	A	B	C	D	E	F	G	H(Min)	J	K(Min)
48*96	96	48	97.5	3	94.5	44.5	90	25	45	25

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter Introduction

## 2. FM Series Frequency/Speed/Tacho Meter

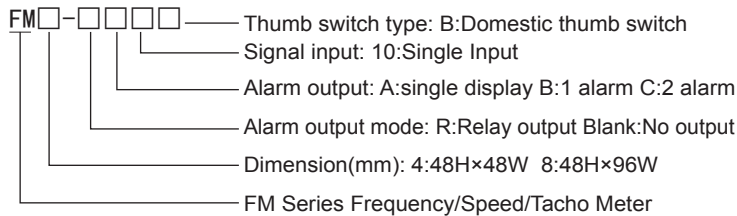
### ■ Photos and Features



#### Features:

- ★ The frequency/tacho/linespeed measuring function selected by software.
- ★ Input/output optoelectronic isolation, high anti-interference.
- ★ Thumb switch setting alarm value, 4 control mode: U-U, U-d, d-U, d-d.
- ★ High accuracy, decimal point is optional for float or fixed display.
- ★ The display refreshing rate can be set according to customer's viewing habits.
- ★ Frequency range of the input pulse is settable.

### ■ Model Illustration



### ■ Ordering Information

Model	Dimension(mm)	Display digits	Alarm	Output	Power supply	Code
FM4-A10B	48H×48W	4	No	Relay output	AC 220V 50Hz	A0620FM01
FM4-RB10B	48H×48W	4	1			A0840FM01
FM8-A10B	48H×96W	5	No			A0650FM01
FM8-RB10B	48H×96W	5	1			A0890FM01
FM8-RC10B	48H×96W	5	2			A1120FM01

### ■ Technical Specifications

Power supply	FM8: AC 220V±10% 50Hz FM4: 90~260V 50/60Hz
Power consumption	≤5W
Display refresh	0.5~20 seconds adjustable, when set to 0, it is automatic mode
Accuracy	±0.1%RD
Display range	FM8: 0.0000-99999 FM4: 0.000-9999
Input level	Pulse signal: 5~30V pulse voltage
Input signal	Pulse signal: Square wave, sine wave 0.1~5000Hz
Input resistance	Pulse signal: ≥10kΩ
Auxiliary voltage	12V load current ≤50mA
Output capacity	AC/DC 250V 5A(Resistive load)
Pulse interference	Level 3 2000Vp-p
Lightning surge	Level 3 Power port L-N ±2000V
Environment	0~50°C ≤85%R.H
Storage environment	-20~60°C ≤85%R.H
Withstand voltage	AC 2000V 50Hz 1 minute
Insulation resistance	DC 500V ≥100MΩ
Vibration test	10~55Hz X\Y\Z axis 0.7mm

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/ Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

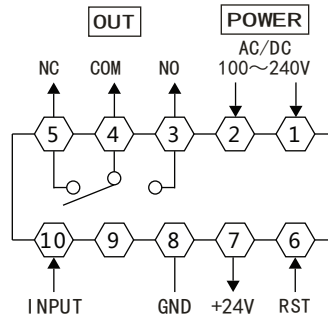
Power Meter Introduction



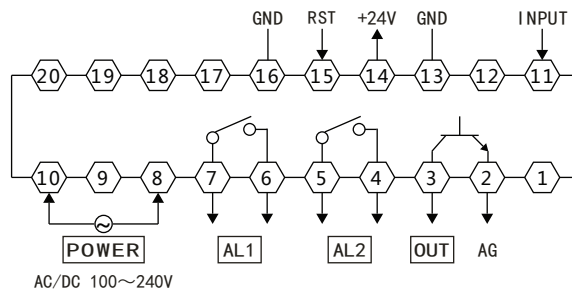
■ Wiring Diagram

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

FM4

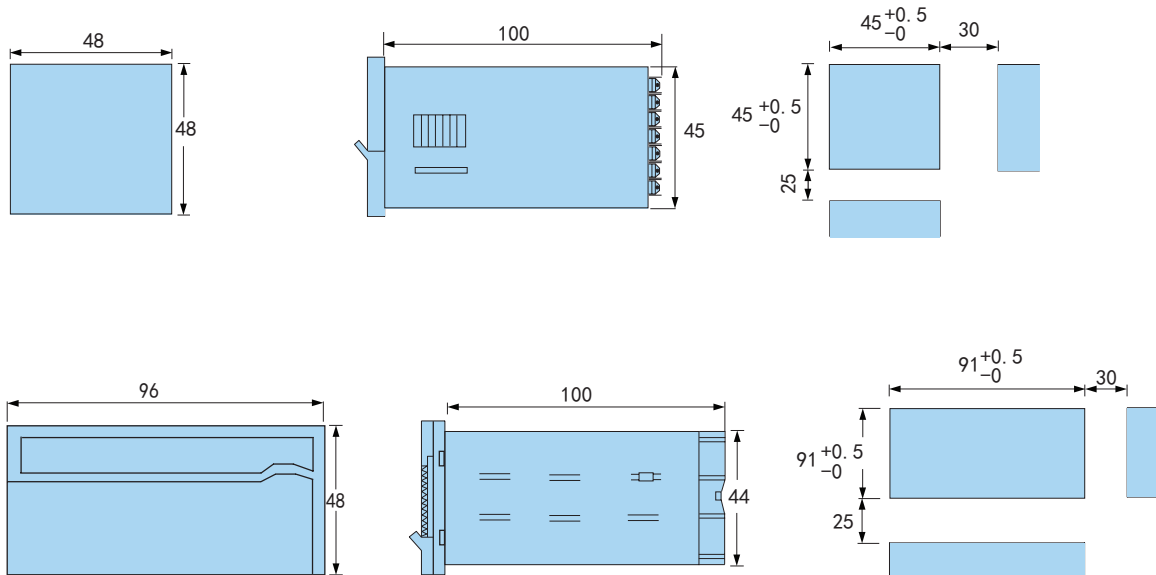


FM8



Note:Pls subject to the connection on meter if any changes.

■ Installation And Hole Size (Unit: mm)



### 3. FA8 Series Frequency Meter

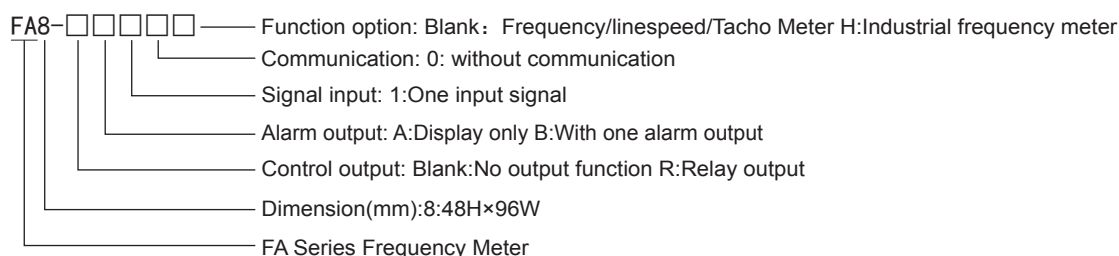
#### ■ Photos and Features



#### Features:

- ★ Pulse signal/high-voltage industrial frequency signal input.
- ★ Frequency/linespeed/tacho measuring is selectable.
- ★ One alarm relay output function.
- ★ Input signal is specially filtered, which improves anti-clutter ability.

#### ■ Model Illustration



#### ■ Ordering Information

Model	Replaced Model	Input Signal	Frequency upper line	Alarm	Alarm Qty	Code
FA8-A10	DP4-FR1	5~30V pulse signal	0~5000Hz	No	No	B0380FA01
FA8-RB10				Relay	1	B0430FA01
FA8-A10H	DP4-HZ11	60~380V voltage range	0~400Hz	No	No	B0400FA03
FA8-RB10H				Relay	1	B0450FA03

#### ■ Technical Specifications

Power supply	AC 220V±10% 50Hz
Power consumption	≤3.5W
Response speed	About 1 second
Accuracy	±0.1Hz
Display range	0.000-9999
Input voltage	Pulse signal: 5~30V pulse voltage Power frequency voltage: 60~380V/AC
Input frequency	Pulse signal: 0~5000Hz Power frequency voltage: 0~400Hz
Input Impedance	Pulse signal: ≥5kΩ Power frequency voltage: ≥2MΩ
Auxiliary voltage	12V Load current ≤30mA
Output capacity	AC/DC 250V 5A(Resistive load)
Pulse interference	Level 3 2000Vp-p
Lightning surge	Level 3 Power port L-N ±2000V
Working environment	0~50°C ≤85%R.H
Storage environment	-20~60°C ≤85%R.H
Withstand voltage	AC 2000V 50Hz 1 minute
Insulation resistance	DC 500V ≥100MΩ

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

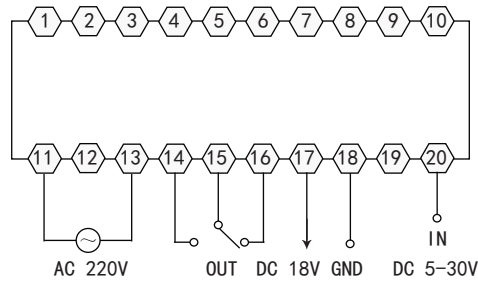
Solid State Relay

Power Meter Introduction

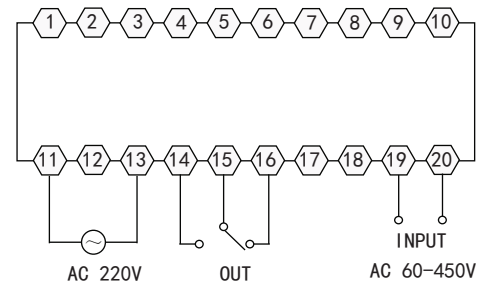
■ Wiring Diagram

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

FA8-A10/FA8-RB10

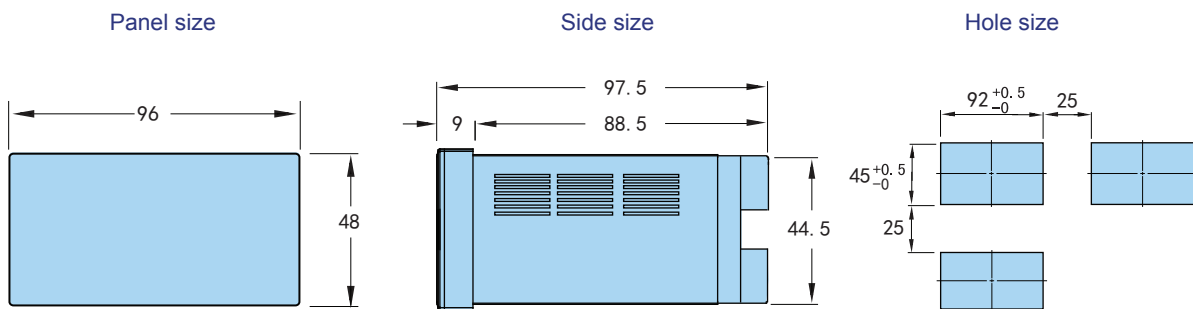


FA8-A10H/FA8-RB10H



Note:Pls subject to the connection on meter if any changes.

■ Installation And Hole Size (Unit: mm)



## 4. DM Series Frequency Meter

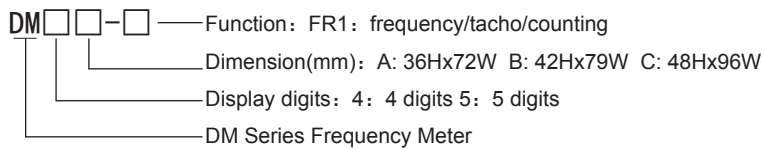
### ■ Photos and Features



#### Features:

- ★ Ultra-thin design, delicate size, easy to install.
- ★ High accuracy, good performance.
- ★ For measuring frequency/tacho/counting.
- ★ Decimal point floating display. Will display the fractional values according to available space next to the last digit from the left.

### ■ Model Illustration



### ■ Ordering Information

Model	Frequency range	Tacho Range	Counting Range	Code
DM4A-FR1	1-9999Hz	60-9999Rpm	0-9999	B0130DM
DM4B-FR1	1-9999Hz	60-9999Rpm	0-9999	B0130DM
DM5C-FR1	1-10000Hz	60-99999Rpm	0-99999	B0140DM

### ■ Technical Specifications

Display	0.56 inch red LED
Input Impedance	>10KΩ
Input Level	5~25V
Input Signal	Square wave, sine wave signal
High Input Voltage	30V
Frequency Measuring Accuracy	±0.05%±1Digit (DM4A-FR1/DM4B-FR1) ±0.05%±10Digits(DM5C-FR1)
Frequency Measuring Range	0.1~10KHZ
Counting Speed	≤1000CPS
Frequency Sampling Time	Automatically
Decimal Point	Change automatically according to measuring range
Overflow Display	“UUUU” or “UUUUU”
Power Supply	DC 5V±10% ≤90mA
Working Environment	0~50°C <85% RH
Storage Environment	-20~60°C ≤85%R.H
Vibration Test	10~55Hz X\Y\Z shaft 0.7mm
Switch Function	Change the Short circuit pin on the PCB board manually
Counting Resetting Mode	Connect the reset switch to the outside of PCB lead wire.

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

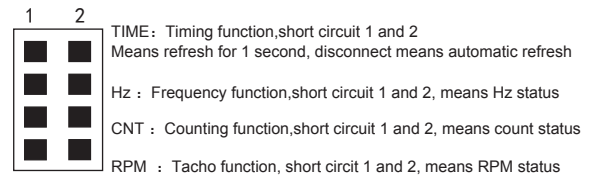
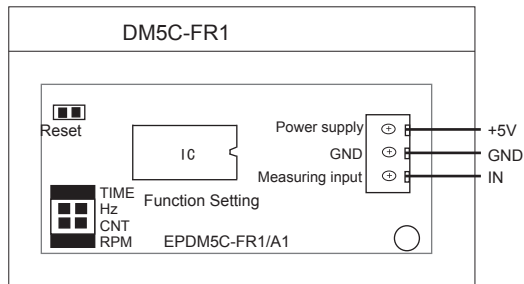
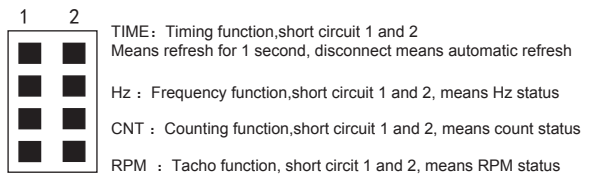
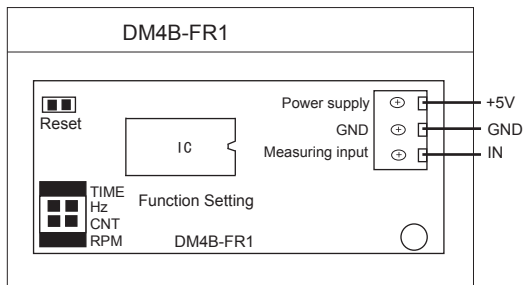
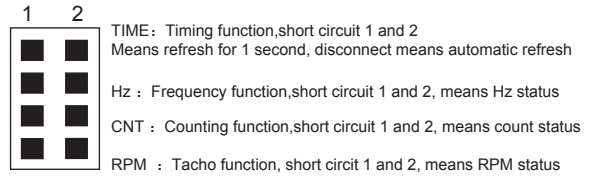
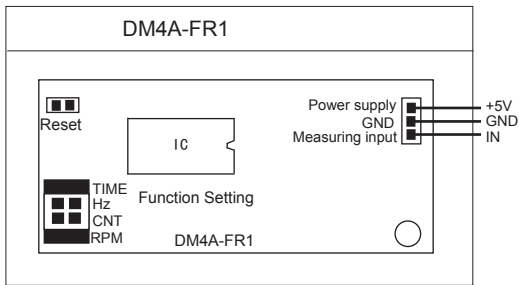
Proximity Sensor

Solid State Relay

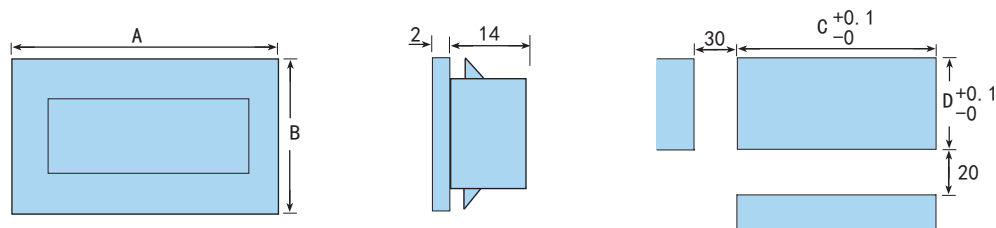
Power Meter Introduction

■ Wiring Diagram

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



■ Installation And Hole Size (Unit: mm)



Model	A	B	C	D
DM-A	72	36	69	33.5
DM-B	79	42	76	39.5
DM-C	96	48	93	45.5

# 1. VX80, 14, 28 Series Multi-channel Paperless Recorder

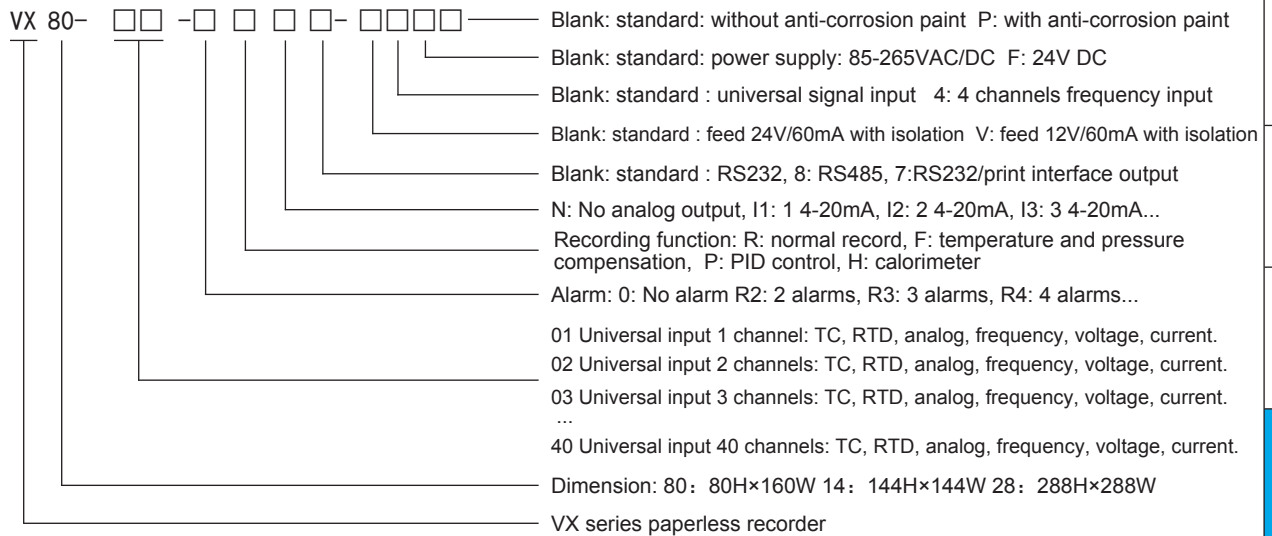
## Photos and Features



### Features:

- ★ High-speed, high-performance 32-bit ARM microprocessor, the screen response time is <0.2 seconds, which can simultaneously realize the detection, recording/display and alarm of multiple signals.
- ★ Fully isolated universal input, which can support multi input signals without jumper wires, and can be configured through software.
- ★ Switching power supply, can work normally within 85V~265VAC.
- ★ Integrated hardware real-time clock that can run accurately even when the power is off.
- ★ Provide transmitter 24VDC isolated power distribution, and equipped with U disk and cumulative report function.
- ★ True TFT LCD display, clear picture and wide viewing angle.
- ★ Large-capacity FLASH memory stores historical data, and the data will never be lost after power failure.

## Model Illustration



## Ordering Information

Model	Input channel	Alarm output	Analog output	Communication/print	Code
VX80-01-0RN	1-4 channels, 1 loop frequency input	2 or 4 optional	1 loops	Standard RS232	D01800VX02
VX14-01-0RN*	1-12 channels or 16 channels of pulse input	6 or 12 optional	1-4 loops	Standard RS232	D04500VX02
VX14-01-0RN	1-12 channels or 16 channels of pulse input	6 or 12 optional	1-4 loops	Standard RS232	D06000VX02
VX28-08-0RN	8,16,24,32 or 40 channels	12 or 24 optional	4 or 8 loops	Standard RS232	D14400VX02

\*Note: VX14 size is available with monochrome LCD screen and color LCD screen, please pay attention when ordering.

- The models listed above are basic models. If you need other functions, please insert it into the model list according to the function module. For example: VX80-04-R2R11, For example: VX80-04-R2R11, means 80 size, 4 channel input, 2 relay alarms, common record, 1 4-20mA output, standard RS232 communication.
- 80 size has only 1 transmission output, only 2 or 4 alarm outputs for option, and only one frequency pulse input;
- For 14 size, 6 or 12 alarm outputs, 1 to 4 transmission outputs, and 8 and 16 inputs for option when selecting frequency signals.
- For the 28 size, 12 or 24 relay alarms, 4 or 8 transmission outputs, 8, 16, 24, 32, and 40 inputs are available for frequency input.
- All models can be connected to a micro printer through an external RS232 communication interface.

## Model list module

Code	Module	Code	Code	Module	Code	Code	Module	Code
01	1 Universal input	C0350TD02	0	No relay alarm	No	R	Ordinary record	No
02	2 Universal input	C0700TD02	R2	2 relay alarm	C0120R02	P	PID control	C0600P02
03	3 Universal input	C1050TD03	N	No analog output	No	F	Temperature & pressure compensation	C0600F02
**	* Universal input	0350/TD	I1	1 analog output:4-20mA	C0350M02	H	Calorimeter	C0350F02
F	24V DC power supply	C0150B02	8	RS485 communication	C0350S02	7	RS232 communication/print	C0350S02

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## ■ Technical Specifications

Panel Meter	Input channels	1~16	Input resistance	Current:10Ω	Ambient temperature	0-50°C
	Measurement period	1S	Excitation current	0.25mA	Environment humidity	0-85%
Sensor Indicator	Analog output	4-20mA, 4 max	Burnout detection current	1uA	Preheat time	30 minutes
	Auxiliary power	24V DC	Max common mode noise voltage	250V/AC rms	Storage temperature	-10-60°C
	Auxiliary power capacity	≤30mA	Power supply	220V/AC、24V/DC	Storage humidity	0-95%(No condensation)
	Alarm type	L,H	Voltage range	85-240VAC, 22-26DC	Clock	2000-2099 year
Temperature Controller	Alarm	12 max	Frequency,power consumption	50Hz, <10W	Battery Life	10 years (room temperature)
	Alarm record	50	Installation	Embedded	USB port	1
	Contact rating	250VAC/3A	Dimesion	Ref to model illustration	Communication	RS232/RS485
	Display resolution	320*234	Hole size	Refer to the hole size table	Print	Panel type micro printer
Counter	Accuracy	≤0.2%F.S	Weight	Refer to different size	Antiseptis	To be ordered

## ■ Input Signal

	Signal tpe	Signal range	Input resistance	Accuracy(25°C)	Signal	Signal range	Input resistance	Accuracy(25°C)
Timer Relay	4-20mA	4.00-20.00	≤200	±0.2%	S	-50-1768	10M	±2°C
	0-10mA	0.00-10.00	≤200	±0.2%	R	-50-1768	10M	±2°C
	0-5V	0.000-5.000	1M	±0.2%	B	250-1820	10M	±2°C
Tacho/Speed/ Pulse Meter	1-5V	1.000-5.000	1M	±0.2%	K	-200-1372	10M	±1°C
	0-10V	0.000-10.000	1M	±0.2%	N	-200-1300	10M	±1°C
	0-20mV	0.00-20.00	10M	±0.2%	E	-200-1000	10M	±1°C
Recorder	0-100mV	0.00-10.00	10M	±0.2%	J	210-1200	10M	±1°C
	350ohm	0.0-350.0	---	±0.2%	T	-200-400	10M	±1°C
	Fr	0-10000	---	±1Hz	F1	7000-2000	10M	±2°C
	WRE5-26	0-2310	10M	±2°C	F2	700-2000	10M	±2°C
Signal Isolator	WRE3-25	0-2310	10M	±2°C	Cu100	-50.0-150.0	---	±0.4°C
	Pt100	-200.0-650.0	---	±0.4°C	BA1	-200.0-650.0	---	±0.4°C
	Cu50	-50.0-150.0	---	±0.4°C	BA2	-200.0-650.0	---	±0.4°C

Measurement period: 1 second. Thermocouple cold junction compensation: internal cold junction compensation is used, with ±0.5°C accuracy. Digital filtering: 0-9.9 seconds inertial filtering. Vacuum operation: ordinary algorithm, LOG curve operation is used in the entire range, segmented algorithm, linear operation is used in the first segment

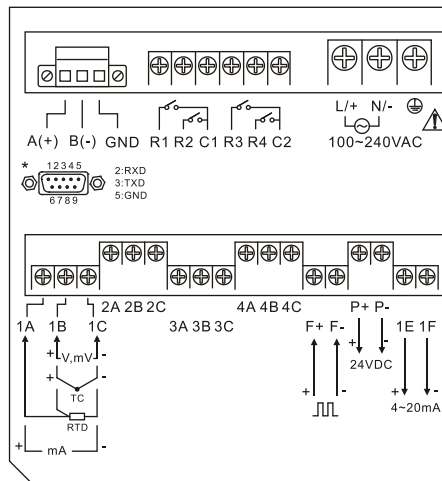
## ■ Spare Parts

	Description	Specification	Code	Description	Specification	Code
Proximity Sensor	U disk	2 GB	A070U01	Communication conversion	Active RS232/RS485 conversion module	A0800T01
	Solid State Relay	Communication cable	1.5m RS232 communication cable	Free gift	Power filter	220VAC/1:1/50W
			1.5m RS485 communication cable	A015RS01	Software	Data management software

Power Meter Introduction

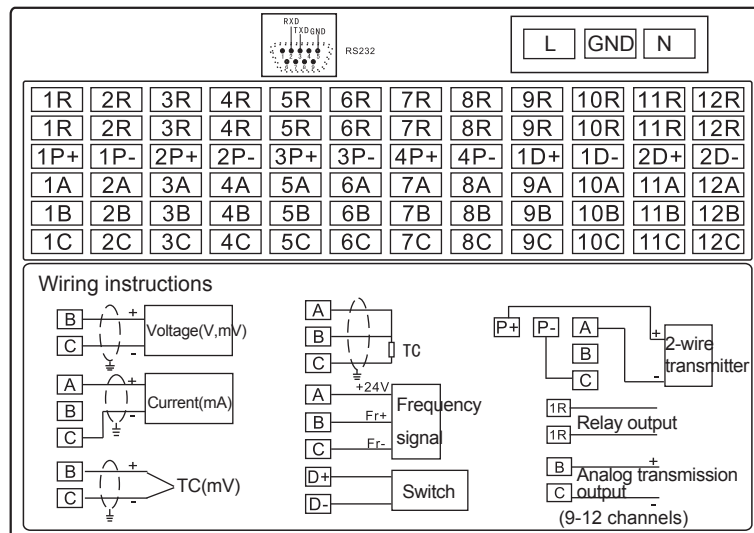
■ Connection

VX80 connection

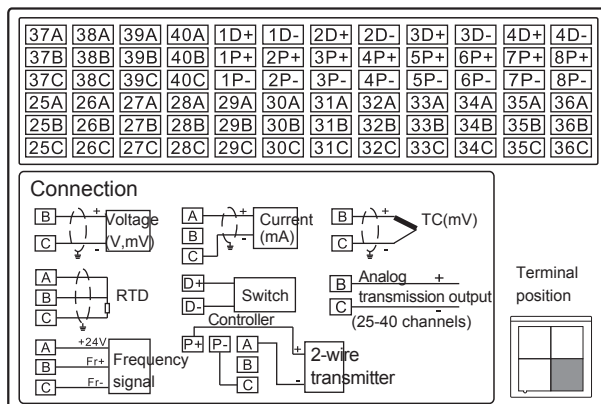
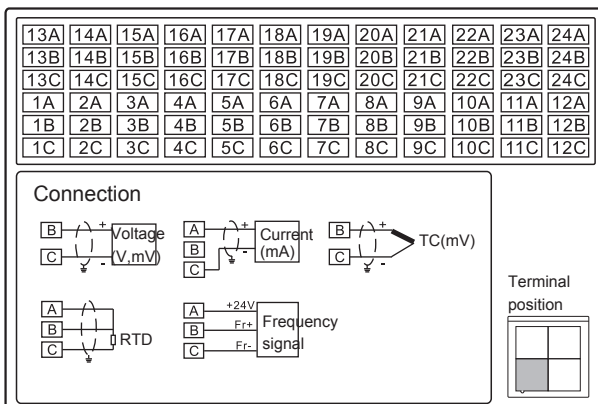


Power terminal arrangement	Input voltage
<p>220V power supply</p>	<p>100VAC-240VAC 50~60Hz</p>
<p>24V power supply</p>	<p>24VDC±10%</p>

VX14 connection



VX28 connection



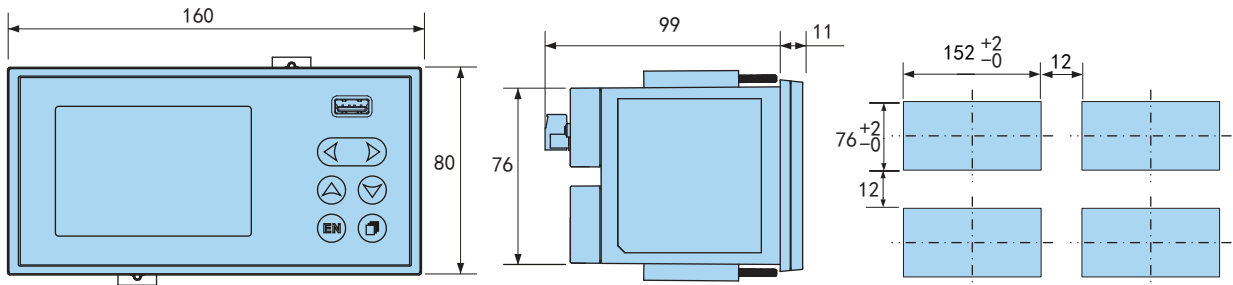
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



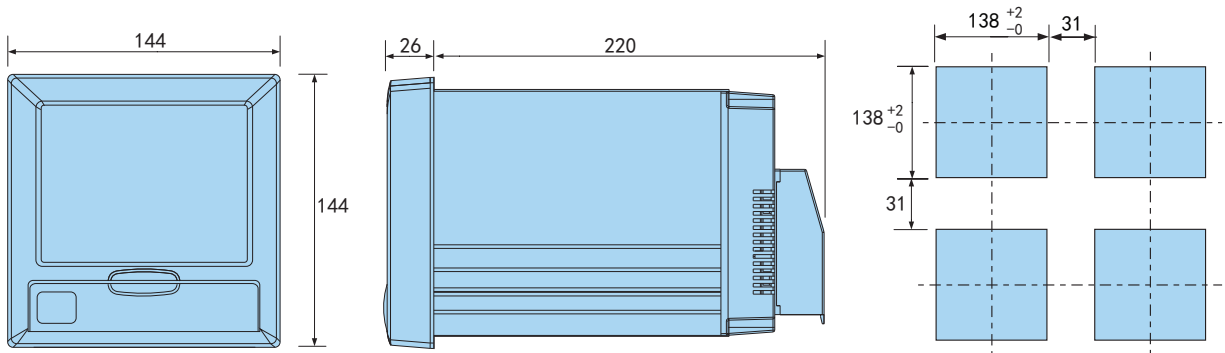
■ Dimension (unit:mm)

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

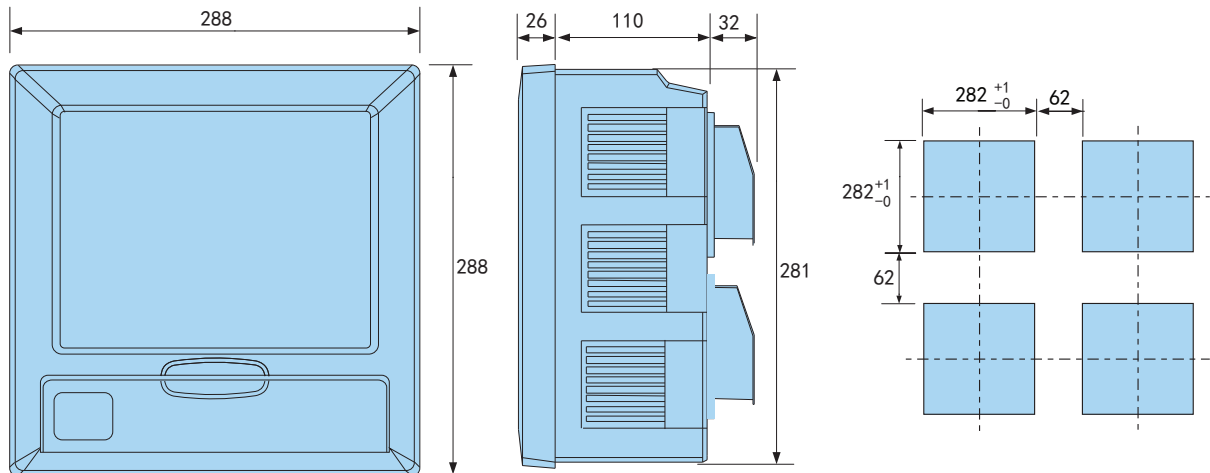
VX80 Dimension



VX14 Dimension



VX28 Dimension



# 1. PD voltage and current isolation transmitter

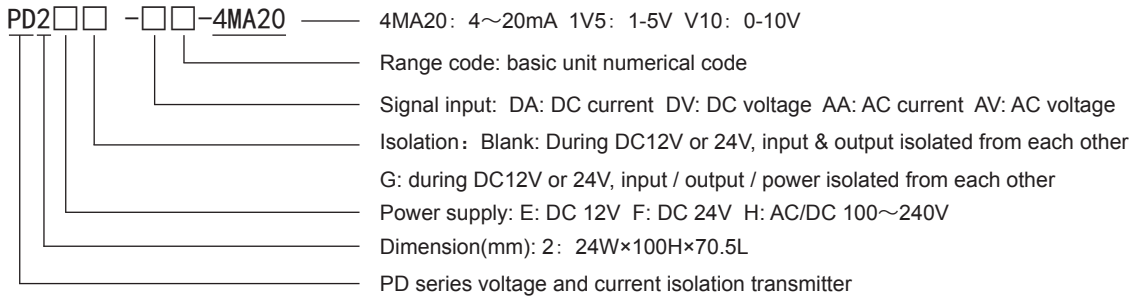
## ■ Photos and Features



### Features:

- ★ Electromagnetic isolation, more stable and reliable
- ★ Rail installation
- ★ Low power consumption design
- ★ Quick response
- ★ Din rail mounting

## ■ Model Illustration



## ■ Ordering Information

Model	Power supply	Isolation mode	Measuring range	Analog output	Code
PD2E(F)-AA□-4MA20	E:12V DC F:24V DC	Isolation between input and output.	AA: 200mA/2A/20A/200A	4~20mA (Other output signal need to customized)	D0650PD203
PD2E(F)-AV□-4MA20			AV: 20V/200V/600V		D0650PD203
PD2E(F)-DA□-4MA20			DA: 200mA/2A/20A/200A		D0770PD203
PD2E(F)-DV□-4MA20			DV: 20V/200V/600V		D0770PD203
PD2E(F)G-AA□-4MA20	AC/DC 100~240V	Isolation among input, output and power.	AA: 200mA/2A/20A/200A		D0770PD203
PD2E(F)G-AV□-4MA20			AV: 20V/200V/600V		D0770PD203
PD2E(F)G-DA□-4MA20			DA: 200mA/2A/20A/200A		D0850PD203
PD2E(F)G-DV□-4MA20			DV: 20V/200V/600V		D0850PD203
PD2H-AA□-4MA20	AC/DC 100~240V	Isolation among input, output and power.	AA: 200mA/2A/20A/200A		D0920PD203
PD2H-AV□-4MA20			AV: 20V/200V/600V		D0920PD203
PD2H-DA□-4MA20			DA: 200mA/2A/20A/200A		D1000PD203
PD2H-DV□-4MA20			DV: 20V/200V/600V		D1000PD203

## ■ Specifications

Input parameters	Refer to measure specifications table
Accuracy	±0.5%
Temperature drift	±0.015%/℃
Input impedance	Refer to measure specifications table
Analog output	4~20mA ≤300Ω (0~20mA,0~10mA,0~10V,1~5V,0~5V need to be ordered)
Environment	0℃~50℃ 35~85%RH
Storage environment	-25℃~70℃ 35~90%RH
Power	DC24V、DC12V、AC/DC100~240V 50/60HZ
Power consumption	<3W
Isolation strength	AC 2000V 1min 50Hz
Isolation features	Isolation between input and output, or Isolation among input, output and power.
Insulation impedance	100MΩ DC 500V
Dimension	24W×100H×70.5L(mm)
Vibration	Sweep-frequency vibration: 10~50Hz
Weight	0.5kg

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

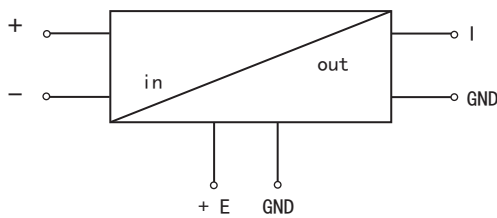
■ Measuring signal parameters

Signal type	Measuring range	Input method	Input impedance
Voltage signal	20V	Direct input	2MΩ
	200V	Direct input	2MΩ
	600V	Direct input	5.1MΩ
Current signal	200mA	Direct input	1Ω
	2A	Direct input	0.2Ω
	≥ AC 5A	AC 0~5A input (Ratio display)	2mΩ
	≥ DC 2A	DC 0~75mV input (Ratio display)	100KΩ

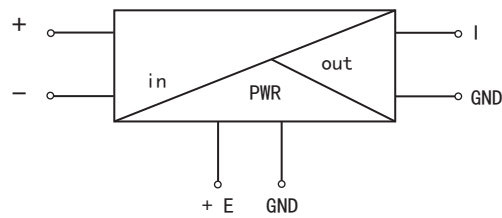
Note: When measured voltage >600, input it to the meter through the 100V ratio voltage transformer, the ratio is AC 0~100V, the meter displays ratio value.

■ Connection

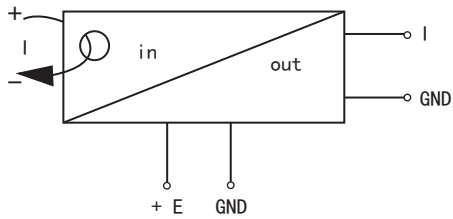
Note: if any change, please subject to the connection drawing on the meter



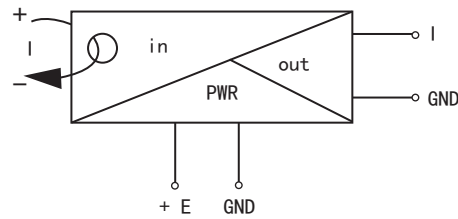
Isolation between input and output.



Isolation among input, output and power.

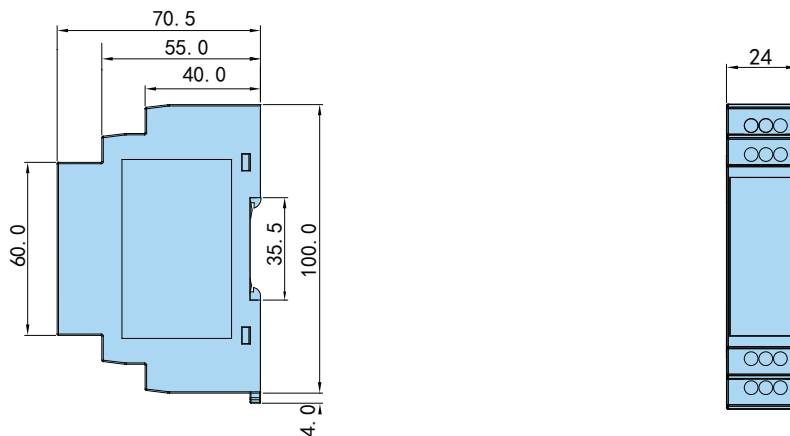


Isolation between input and output.



Isolation among input, output and power.

■ Dimension (units: mm)



## 2. PP Series Signal Isolator

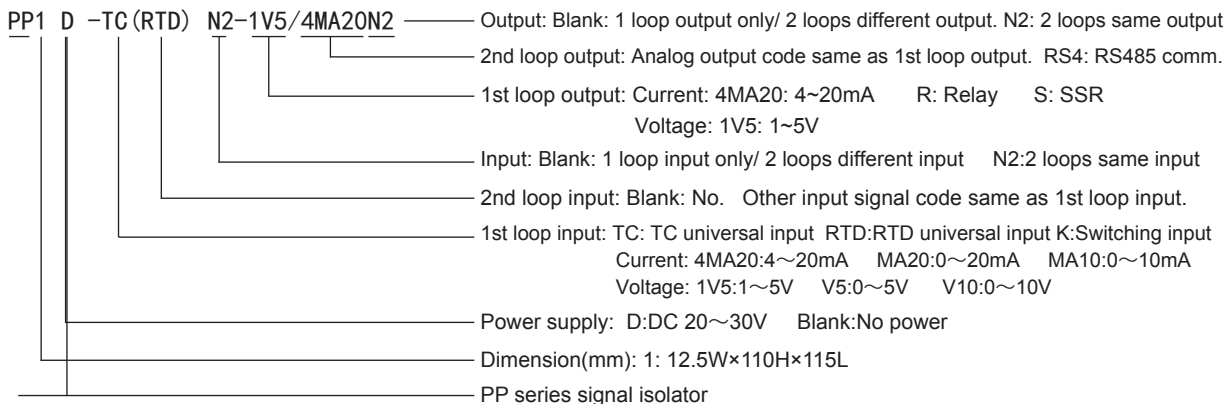
### Photos and Features



#### Features:

- ★ Ultra-thin shell, high accuracy, high anti-interference ability.
- ★ Optional signals: 4~20mA, 0~10V, 0~400Ω, TC, RTD, etc.
- ★ Various combination ways of analog: 1 input 2 output, 2 input 2 output, 1 input 1 output, etc.
- ★ To communicate with the product by the equipped software, the signal type can be switched easily.
- ★ With electromagnetic isolation technology.
- ★ Standard 35mm din rail mounting

### Model Illustration



### Ordering Information

Model	Power supply	Input channel	Input signal	Analog output	Code
PP1D-□-□	DC 20~30V	1 input 1 output	4~20mA (with auxiliary power), 0~20mA 1~5V, 0~10V	1~5V 4~20mA or other appointed signal	D0430PP02
PP1D-□-□N2		1 input 2 output			D0555PP02
PP1D-□N2-□N2		2 input 2 output			D0680PP02
PP1-□-□	No power	1 input 1 output	4~20mA	1~5V 4~20mA or other appointed signal	D0600PP02
PP1-□N2-□N2		2 input 2 output			D0860PP02
PP1D-TC(RTD)-□	DC 20~30V	1 input 1 output	TC, RTD		1~5V 4~20mA or other appointed signal
PP1D-TC(RTD)-□N2		1 input 2 output		D0860PP02	
PP1D-TC(RTD)N2-□N2		2 input 2 output		D1000PP02	
PP1D-K-□	DC 20~30V	1 input 1 output	Switching signal	Relay/ Level signal/ Transistor	D0600PP02
PP1D-K-□N2		1 input 2 output			D0760PP02
PP1D-KN2-□N2		2 input 2 output			D0860PP02

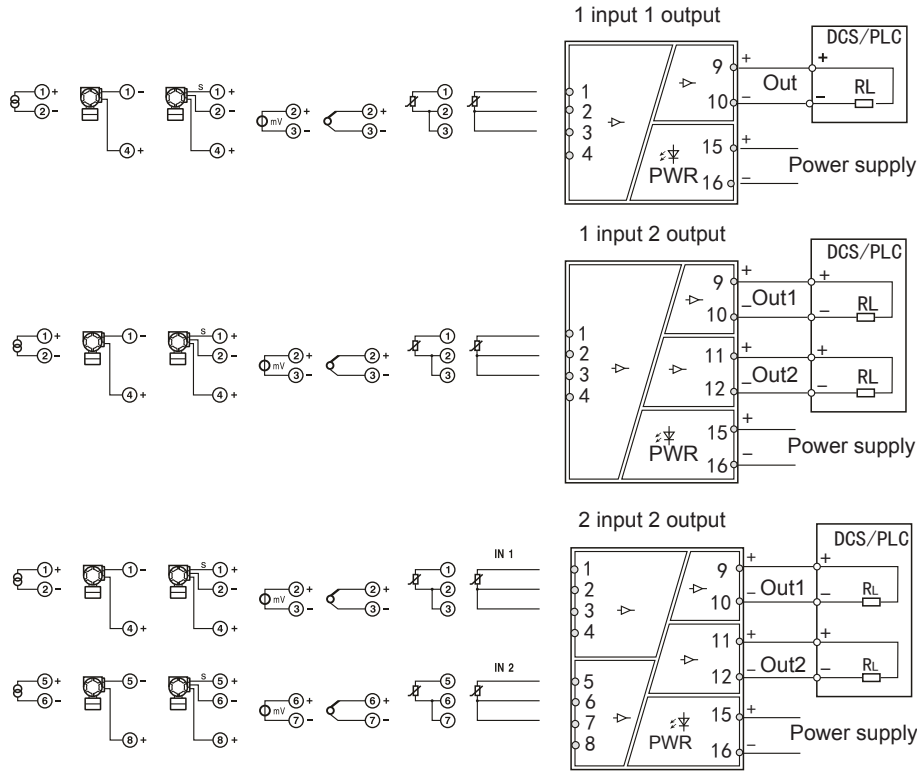
### Specifications

Input signal	0~5V 1~5V 0~10V 4~20mA 0~20mA TC RTD (or appointed signal)		
Output signal	0~5V 1~5V 0~10V 4~20mA 0~20mA (or appointed signal)		
Input impedance	Voltage input signal impedance: ≥500KΩ Current input signal impedance: 50Ω		
Load	≤350Ω		
Wire resistance effect	RTD 3 wires input, <0.005%/Ω		
TC cold junction compensation error	±0.5~1℃ (compensation range -15~+75℃)	Shell material	PC (polycarbonate)
Standard accuracy	±0.1%	Total weight	C type: about 50g R type: about 80g A type: about 110g
Temperature drift	±0.015%/℃	Mounting	35mm standard din rail mounting
Load change effect	±0.1%	Connection cable	Solid cable or multicore cable 0.5~2.5 (mm²)
Response time	<10ms	Connection type	T type: M3 screw /below 0.8Nm

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

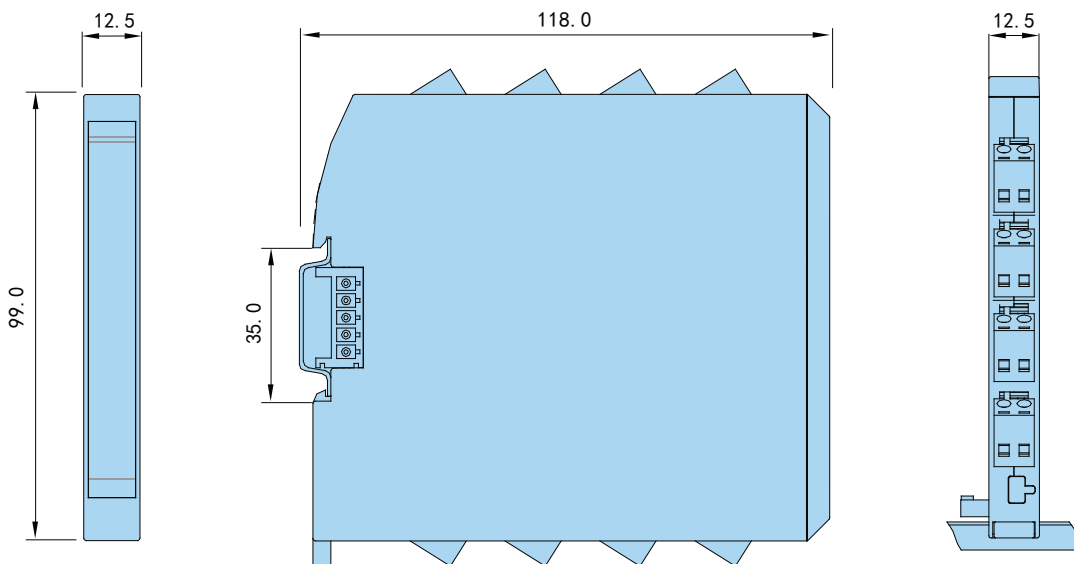
Output current high limit	25mA	Environment humidity	5~95% (No condensation)
Output Ripple	<10mA P-P	Operated temperature	-20~60℃
Electricity/storage time drift	2μA	Storage temperature	-40~80℃
Electrical stability time	<1s	Protection level	IP20
Power voltage range	20~30VDC	Isolated ability	1.5kV(50Hz,1min)
Rated power voltage	24VDC	Insulation resistance	≥100MΩ/500VDC
Current consumption	<100mA(24VDC power/20mA output/80Ω)	EMC	GB/T18268(IECC613 26-1)

■ Connection









Note: if any change, please subject to the connection drawing on the meter.

■ Dimension (units: mm)



## Rotary Encoder Function Comparison Table

No.	Model Function	HY25	HY30	HY38	HY50	HY58	HU38
							
1	Output	NPN open collector output, voltage output	NPN open collector output, voltage output	Push and pull output, NPN open collector output, voltage output, line drive output	Push and pull output, NPN open collector output, voltage output, line drive output	Push and pull output, NPN open collector output, voltage output, line drive output	Push and pull output, voltage output, line drive output
2	Output signal	A、B、Z A、B、Z	A、B、Z A、B、Z	A、B、Z A、B、Z	A、B、Z A、B、Z	A、B、Z A、B、Z	A、B
3	Out diameter	M25	M30	M38	M50	M58	M38
4	Shaft	Solid shaft: M4	Solid shaft: M4	Solid shaft: M6, M8 Semi-hollow shaft: M6, M8 Hollow shaft: M6, M8	Solid shaft: M8, M10, M12 Semi-hollow shaft: M8, M10, M12 Hollow shaft: M8, M10, M12	Solid shaft: M8, M10, M12, M14, M15 Semi-hollow shaft: M8, M10, M12, M14, M15 Hollow shaft: M8, M10, M12, M14, M15	Solid shaft: M6, M8
5	Pulse	20-1200 for option	20-1200 for option	10-5000 for option	10-5000 for option	10-5800 for option	200, 400, 600, 1000
6	Power supply	DC 8-26V	DC 8-26V	DC 8-26V DC 5V	DC 8-26V DC 5V	DC 8-26V DC 5V	DC 8-26V
7	Cable	PVC 2 meter length	PVC 2 meter length	PVC 2 meter length	PVC 2 meter length	PVC 2 meter length	PVC 2 meter length
8	Protection	Reverse connection protection, short-circuit protection between output and power	Reverse connection protection, short-circuit protection between output and power	Reverse connection protection, short-circuit protection between output and power	Reverse connection protection, short-circuit protection between output and power	Reverse connection protection, short-circuit protection between output and power	Reverse connection protection, short-circuit protection between output and power

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

# 1、HY25 Series Rotary Encoder

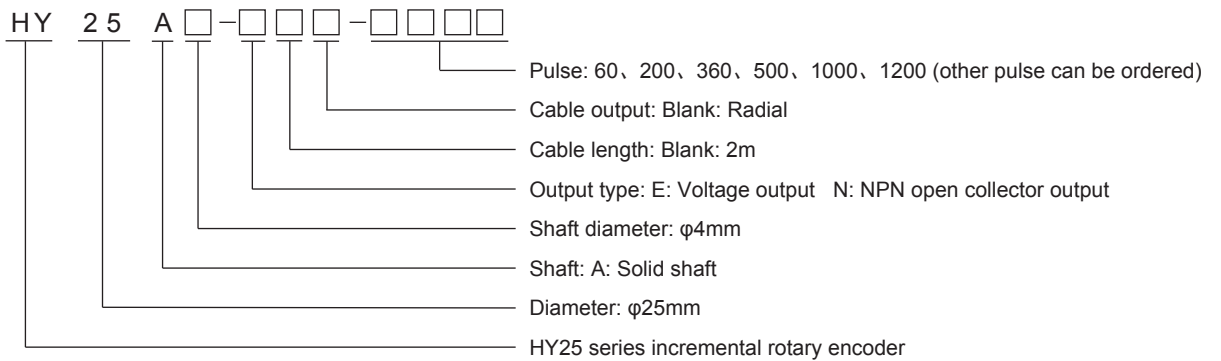
## ■ Photo and Features



### Features:

- ★ Out diameter Φ25
- ★ Shaft Φ4
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000r/min
- ★ Protection: IP54
- ★ Resolution (PPR) 20~1200

## ■ Model Illustration



## ■ Ordering Information

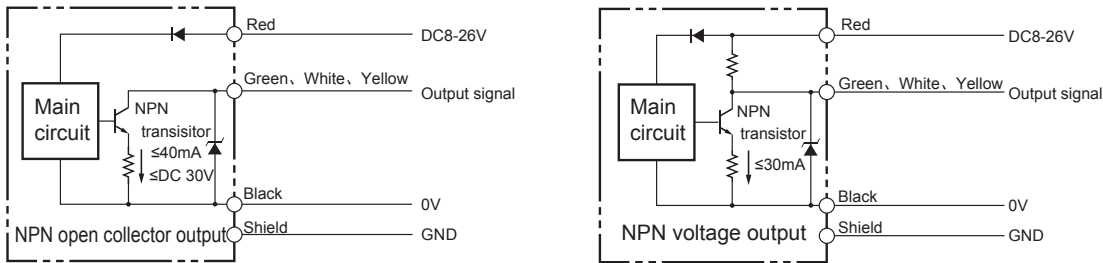
Model	Shaft	Pulse	Output and Power Supply	Pulses	Code
HY25A4-E-□	Solid shaft φ4mm	≤1200	E: Voltage output, 8-26V DC	Below 1200	D0345HY01
HY25A4-N-□	Solid shaft φ4mm	≤1200	N: NPN open collector output, 8-26V DC	Below 1200	D0345HY01

## ■ Specifications

Power supply	Voltage	DC 8~26V ±5%	Input and Output	Response time	≤1μs (when cable length is 1m)
	Ripple wave	≤3%rms		NPN open collector output	Negative logic (for low-level) Load current ≤ 40mA
	Current consumption	≤120mA, DC 5V Powers≤80mA		Voltage output	Output voltage≥power supply -3V DC Output current ≤ 30mA
Output wave	Signal mode	A, B phase + Z phase (zero position)		Residual voltage	≤0.5V DC
	Max response frequency	300kHz			
	Max speed	(Max frequency/resolution)×60			
	Duty ratio	50±25%			
Phase difference width	25±12.5%				
	Z phase signal Width	100±50%			

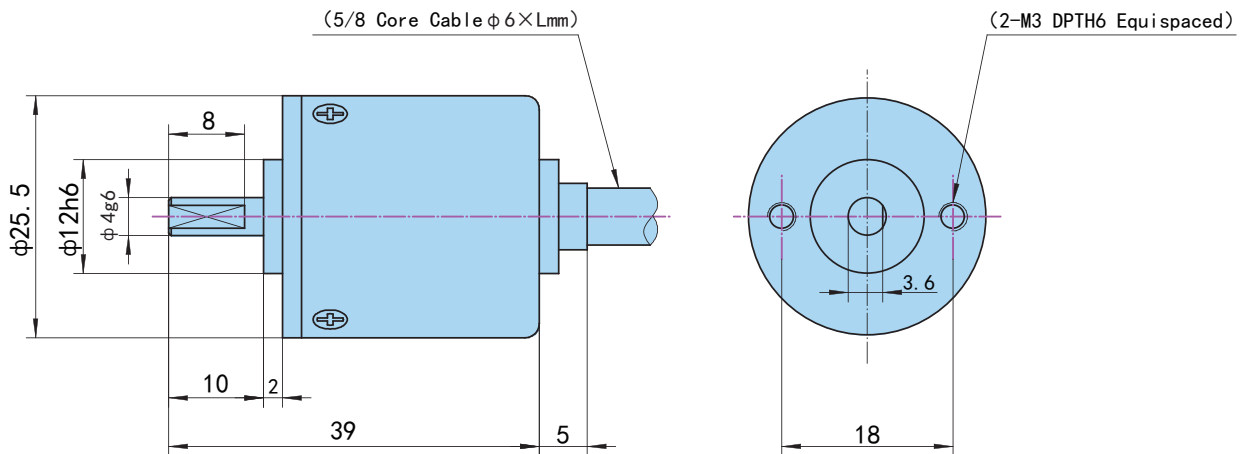
Mechanical specification	Starting torque	$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection	Output and power supply	
	Rotor inertia	$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature	$-20 \sim +85^{\circ}C$	
	Shaft loading	Radial		15N	Store temperature	$-30 \sim +95^{\circ}C$
		Thrust		10N	Ambient humidity	35~85%RH (Non Condensing)
	Max revolution	6000rpm		Dielectric strength	AC 500V (50/60Hz) for 1 min	
	Cable	Material		PVC	Insulation resistance	$\geq 50M\Omega$
		Length		2m	Anti-vibration	0.75mm amplitude at 10~55Hz <sup>*2</sup>
Diameter		$\Phi 5mm$	Anti-impact	$490m/S^2 \quad 11ms^{*3}$		
Weight	About 200g		Protection	IP54		

■ Wire Connection



Cable color	Red	Black	Green	White	Yellow	Shield
NPN open collector output	Vcc	OV	A	B	Z	G
Voltage output	Vcc	OV	A	B	Z	G

■ Dimension (unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
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Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



## 2、HY30 Series Rotary Encoder

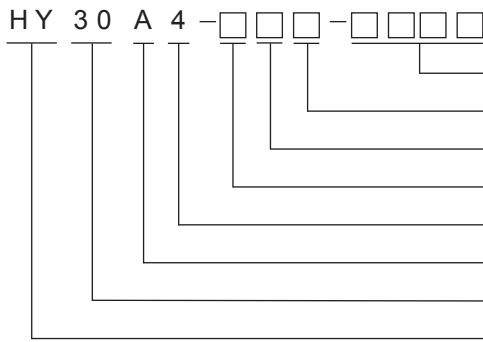
### ■ Photo and Features



#### Features:

- ★ Out diameter Φ30
- ★ Shaft Φ4x10mm
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000r/min
- ★ Protection: IP54
- ★ Resolution (PPR) 20~1200

### ■ Model Illustration



- Pulse: 100、200、360、500、6000、1024 (other pulse can be ordered)
- Cable output: Blank: Radial S: Axial
- Cable length: Blank: 2m B: other length can be customized
- Output type: E: Voltage output N: NPN open collector output
- Shaft diameter: φ4mm
- Shaft: A: Solid shaft
- Diameter: φ30mm
- HY30 series incremental rotary encoder

### ■ Ordering Information

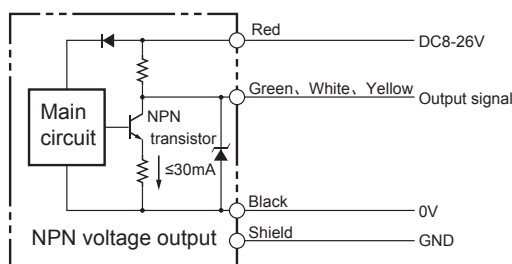
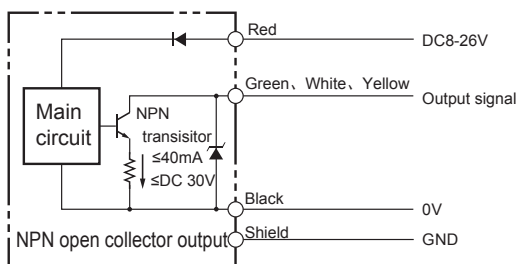
Model	Shaft	Pulse	Output	Power supply	Code
HY30A4-E-□	Solid shaft Φ4mm	≤1200	E: Voltage output	DC8-26V	D0345HY01
HY30A4-N-□	Solid shaft Φ4mm	≤1200	N:NPN open collector	DC8-26V	D0345HY01

### ■ Specifications

Power supply	Voltage	DC 8~26V ±5%	Input and Output	Response time	≤1μs (when cable length is 1m)
	Ripple wave	≤ 3%rms		NPN open collector output	Voltage output
Current consumption	≤ 120mA				
Output wave	Signal mode	A, B phase + Z phase (zero position)	Voltage output	Residual voltage	Output voltage ≥ power supply -3V DC Output current ≤ 30mA
	Max response frequency	300kHz			
	Max speed	(Max frequency/resolution)×60			
	Duty ratio	50± 25%			
	Phase difference width	25± 12.5%			
Z phase signal width	100± 50%	≤0.5V DC			

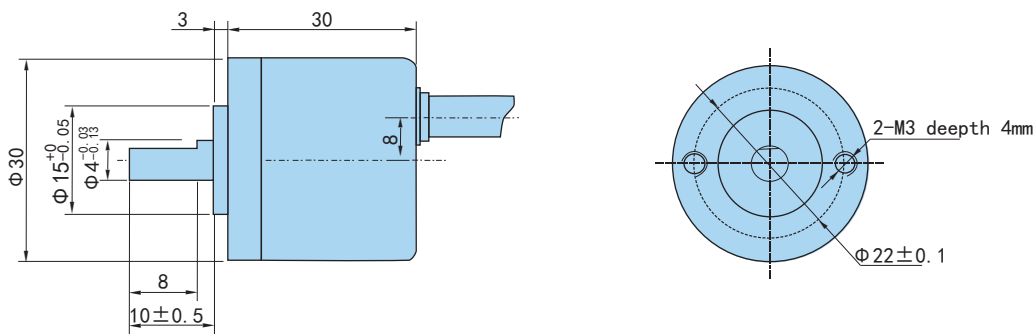
Mechanical specification	Starting torque		$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection		Output and power supply	
	Rotor inertia		$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature		$-20 \sim +85^{\circ}C$	
	Shaft loading	Radial	15N		Store temperature		$-30 \sim +95^{\circ}C$	
		Thrust	10N		Ambient humidity		35~85%RH (Non Condensing)	
	Max revolution		6000rpm		Dielectric strength		AC 500V (50/60Hz) for 1 min	
	Cable	Material	PVC		Insulation resistance		$\geq 50M\Omega$	
		Length	2m		Anti-vibration		0.75mm amplitude at 10~55Hz*2	
Diameter		$\Phi 5mm$		Anti-impact		490m/S <sup>2</sup> 11ms*3		
Weight		About 200g		Protection		IP54		

■ Wire Connection



Cable color	Red	Black	Green	White	Yellow	Shield
NPN open collector output	Vcc	OV	A	B	Z	G
Voltage output						

■ Dimension (unit: mm)

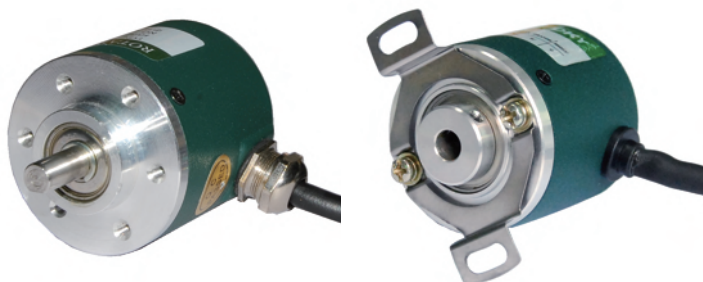


Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

### 3、HY38 Series Rotary Encoder



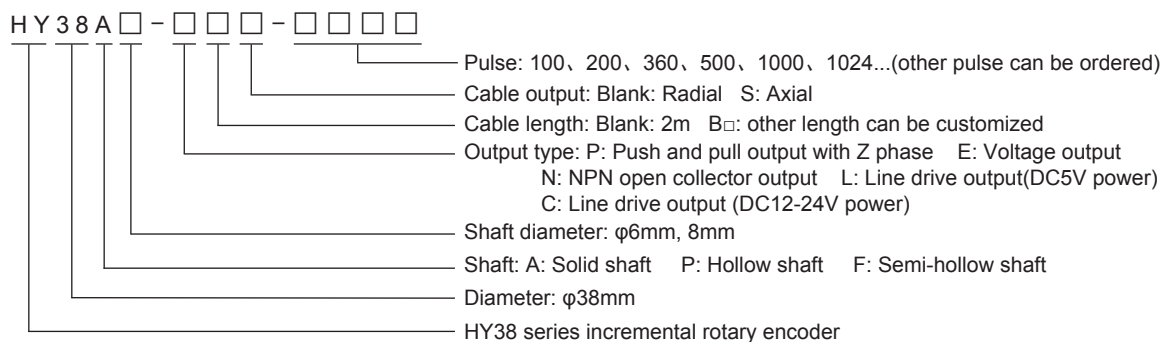
#### ■ Photo and Features



#### Features:

- ★ Out diameter Φ38
- ★ Shaft Φ6/8
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000rpm
- ★ Protection: IP54

#### ■ Model Illustration



#### ■ Ordering information

Model	Shaft	Output and power supply	Pulse	Code
HY38A6/8-□-□	Solid shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0310HY01
HY38A6/8-□-□	Solid shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0360HY01
HY38A6/8-□-□	Solid shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-3500	D0460HY01
HY38A6/8-□-□	Solid shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3600-4096	D0475HY01
HY38A6/8-□-□	Solid shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	5000	D0575HY01
HY38F6/8-□-□	Semi-hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0320HY01
HY38F6/8-□-□	Semi-hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0380HY01
HY38F6/8-□-□	Semi-hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-3500	D0460HY01
HY38F6/8-□-□	Semi-hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3600-4096	D0515HY01
HY38F6/8-□-□	Semi-hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	5000	D0575HY01
HY38P6/8-□-□	Hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0375HY01
HY38P6/8-□-□	Hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0420HY01
HY38P6/8-□-□	Hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-3500	D0520HY01
HY38P6/8-□-□	Hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	3600-4096	D0525HY01
HY38P6/8-□-□	Hollow shaft φ6mm φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	5000	D0720HY01

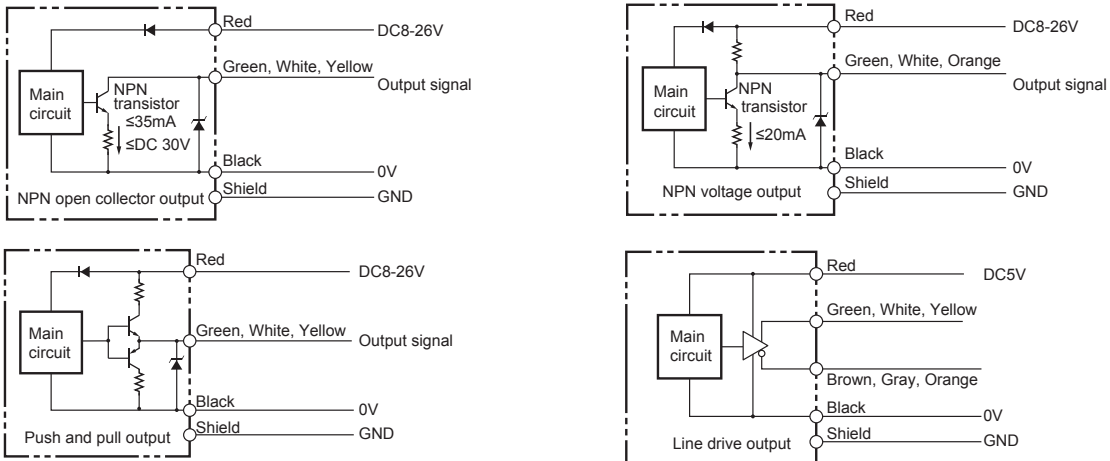
For example: HY38A8-P-1000, solid shaft φ8mm, pulse 1000, push and pull output, power supply DC 8~26V.

#### ■ Specifications

Power supply	Voltage	Line drive output DC 5V ±5% Other output DC 8~26V ±5%	Input and Output	Response time	≤1μs (when cable length is 2m)
	Ripple wave	≤3%rms		NPN open collector output	Negative logic (for low-level) Load currents≤30mA
Output wave	Current consumption	≤120mA, DC 5V power ≤80mA	Push and pull output	Output voltage≥ power voltage - 3V DC Load currents≤30mA output current ≤10mA	
	Signal mode	A, B phase+Z phase (zero position)	Voltage output	Output voltage≥power voltage - 3V DC Output currents≤30mA	
	Max response frequency	300kHz	Line drive output	Output voltage≥2.5V DC Load/output currents≤20mA	
	Max speed	(Max frequency/resolution)x60	Residual voltage	≤0.5V DC	
	Duty ratio	50±25%			
	Phase difference width	25±12.5%			
	Z phase signal width	100±50%			

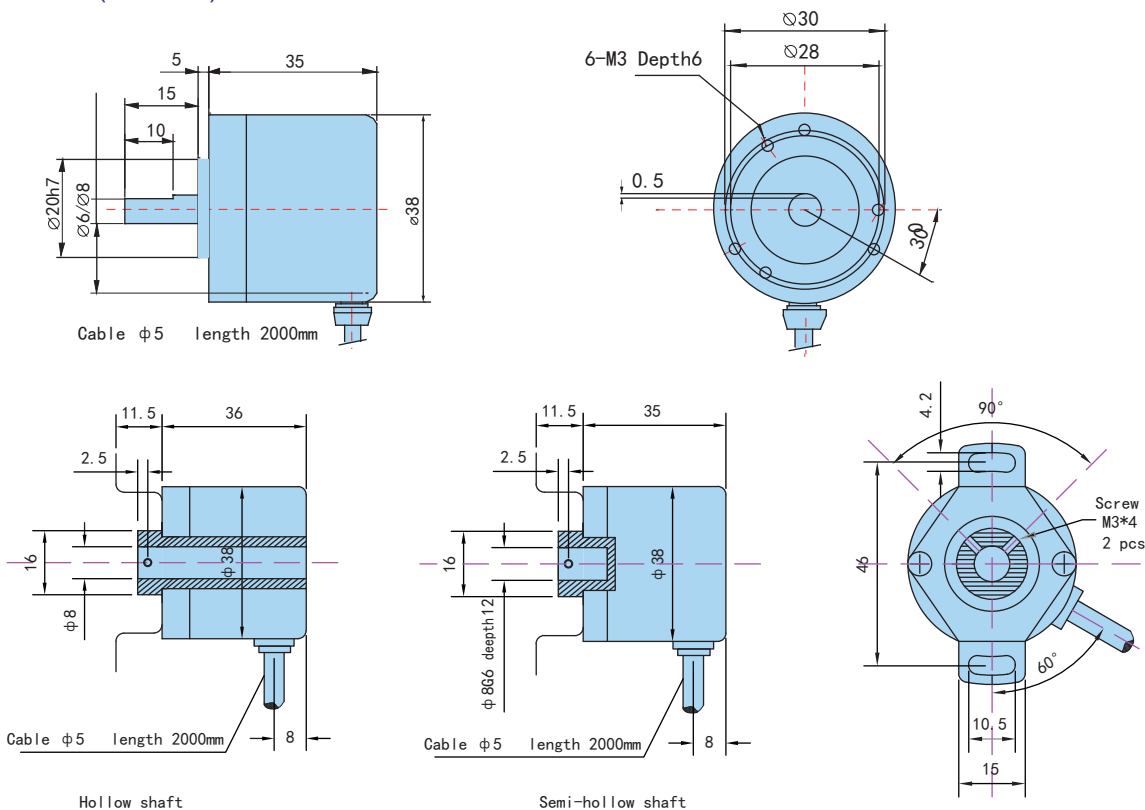
Mechanical specification	Starting torque	$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection	Output and power supply	
	Rotor inertia	$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature	$-20 \sim +85^{\circ}C$	
	Shaft loading	Radial		20N	Store temperature	$-30 \sim +95^{\circ}C$
		Thrust		15N	Ambient humidity	35~85%RH (Non Condensing)
	Max revolution	6000rpm		Dielectric strength	AC 500V (50/60Hz) for 1 min	
	Cable	Material		PVC	Insulation resistance	$\geq 50M\Omega$
		Length		2m	Anti-vibration	0.75mm amplitude at $10 \sim 55Hz^{*2}$
		Diameter		$\Phi 5mm$	Anti-impact	$490m/S^2 \ 11ms^{-3}$
Weight	About 200g		Protection	IP54		

■ Wire Connection



Cable color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
NPN open collector output	Vcc	OV	A	-	B	-	Z	-	G
Push and pull output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G
Voltage output	Vcc	OV	A	-	B	-	Z	-	G
Line drive output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G

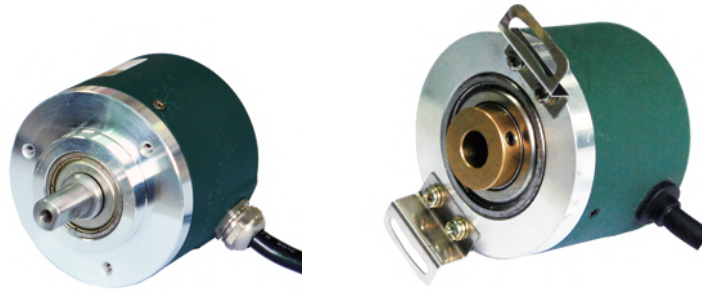
■ Dimension (unit: mm)



- Panel Meter
- Sensor Indicator
- Temperature Controller
- Counter
- Timer Relay
- Tacho/Speed/Pulse Meter
- Recorder
- Signal Isolator
- Rotary Encoder
- Proximity Sensor
- Solid State Relay
- Power Meter Introduction

## 4、HY50 Series Rotary Encoder

### ■ Photo and Features

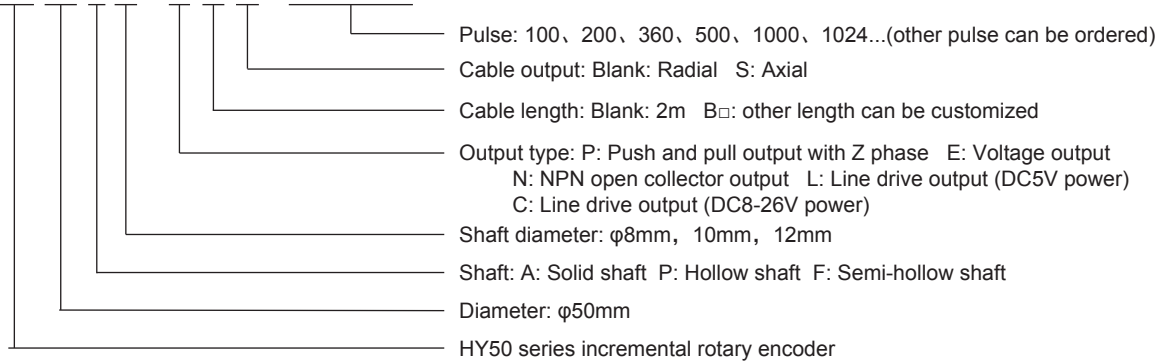


#### Features:

- ★ Out diameter  $\Phi$ 50
- ★ Shaft  $\Phi$ 8x10mm
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000rpm
- ★ Protection: IP54

### ■ Model Illustration

HY50A□-□□□-□□□□



### ■ Ordering Information

Model	Shaft	Output and power supply	Pulse	Code
HY50A8-□-□	Solid shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0420HY01
HY50A8-□-□	Solid shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0490HY01
HY50A8-□-□	Solid shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0555HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi$ 8mm,10mm,12mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0440HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi$ 8mm,10mm,12mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0525HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi$ 8mm,10mm,12mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0600HY01
HY50P8-□-□	Hollow shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0485HY01
HY50P8-□-□	Hollow shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0570HY01
HY50P8-□-□	Hollow shaft $\phi$ 8mm	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0650HY01

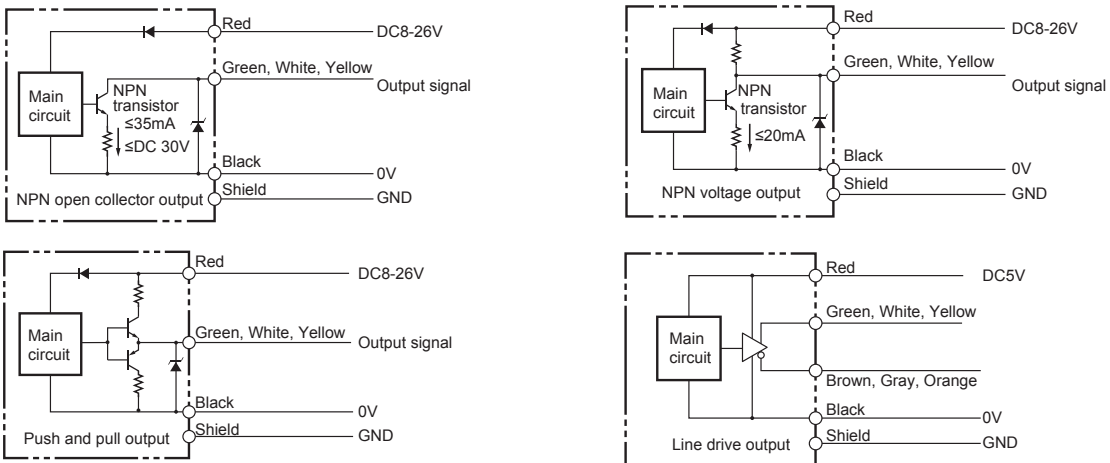
For example: HY50A6-P-1000, solid shaft  $\phi$ 6mm, pulse 1000, push and pull output, power supply DC 8~26V.

### ■ Specification

Power supply	Voltage	Line drive output DC 5V $\pm$ 5% Other output DC 8~26V $\pm$ 5%	Input and Output	Response time	$\leq$ 1 $\mu$ s (when cable length is 1m)
	Ripple wave	$\leq$ 3%rms		NPN open collector output	Negative logic (for low-level) Load currents $\leq$ 30mA
	Current consumption	$\leq$ 120mA, DC 5V power $\leq$ 80mA		Push and pull output	Output voltage $\geq$ power voltage - 3V DC Load currents $\leq$ 30mA output current $\leq$ 10mA
Output wave	Signal mode	A, B phase+Z phase (zero position)	Voltage output	Line drive output	Output voltage $\geq$ power voltage - 3V DC Output current $\leq$ 30mA
	Max response frequency	300kHz			
	Max speed	(Max frequency/resolution)x60			
	Duty ratio	50 $\pm$ 25%			
	Phase difference width	25 $\pm$ 12.5%			
Z phase signal width	100 $\pm$ 50%	Residual voltage	$\leq$ 0.5V DC		

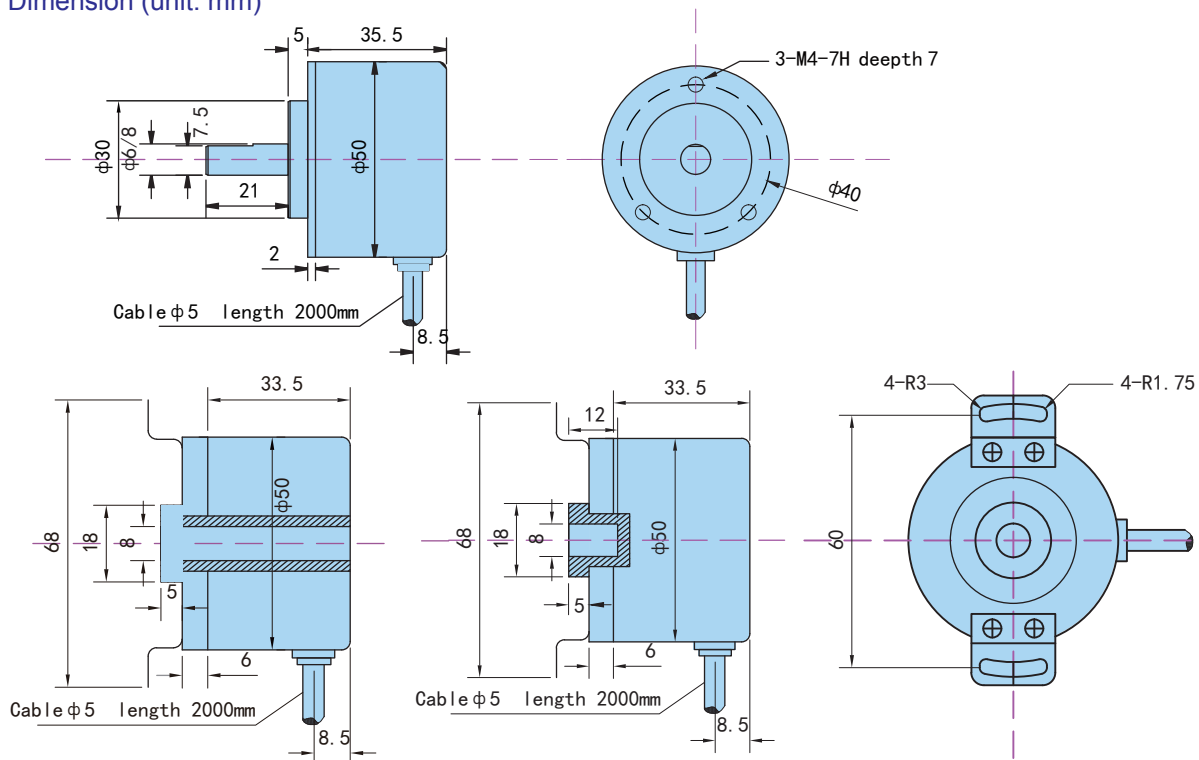
Mechanical specification	Starting torque	$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection	Output and power supply	
	Rotor inertia	$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature	$-20 \sim +85^{\circ}C$	
	Shaft loading	Radial		20N	Store temperature	$-30 \sim +95^{\circ}C$
		Thrust		15N	Ambient humidity	35~85%RH (Non Condensing)
	Max revolution	6000rpm		Dielectric strength	AC 500V (50/60Hz) for 1 min	
	Cable	Material		PVC	Insulation resistance	$\geq 50M\Omega$
		Length		2m	Anti-vibration	0.75mm amplitude at $10 \sim 55Hz^{-2}$
Diameter		$\Phi 5mm$	Anti-impact	$490m/S^2 \quad 11ms^{-3}$		
Weight	About 200g		Protection	IP54		

■ Wire Connection



Cable color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
NPN open collector output	Vcc	OV	A	-	B	-	Z	-	G
Push and pull output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G
Line drive output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G

■ Dimension (unit: mm)



Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter Introduction

## 5、HY58 series rotary encoder

### ■ Photo and Features

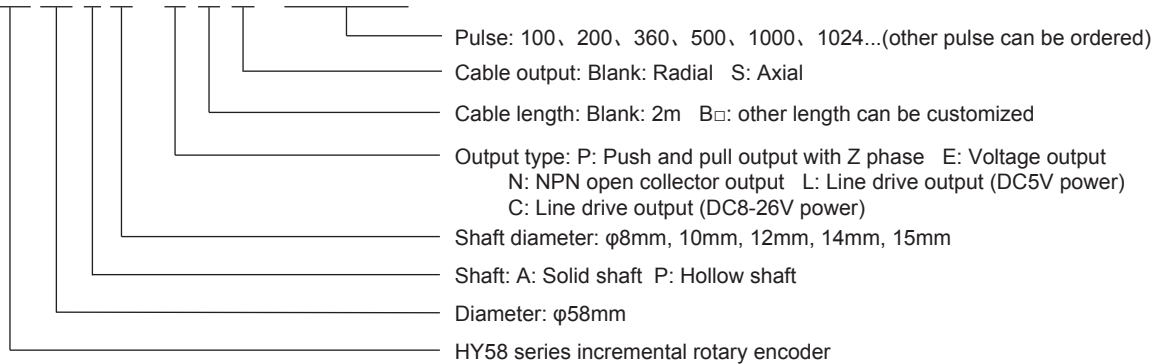


#### Features:

- ★ Out diameter Φ58
- ★ Shaft Φ8/10/12/14/15
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000rpm
- ★ Protection: IP54
- ★ 100-6000PPR

### ■ Model Illustration

HY58A□-□□□-□□□□



### ■ Ordering Information

Model	Shaft	Output and power supply	Pulse	Code
HY58A8-□-□	Solid shaft φ8mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0720HY01
HY58A8-□-□		P/E/N/C (DC 8~26V), L (DC5V)	2000-2580	D0720HY01
HY58A8-□-□		P/E/N/C (DC 8~26V), L (DC5V)	3000-5800	D0865HY01
HY58P8/10/12/14/15-□-□	Hollow shaft φ8mm φ10mm φ12mm φ14mm φ15mm	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0865HY01
HY58P8/10/12/14/15-□-□		P/E/N/C (DC 8~26V), L (DC5V)	2000-2580	D0865HY01
HY58P8/10/12/14/15-□-□		P/E/N/C (DC 8~26V), L (DC5V)	3000-5800	D1150HY01

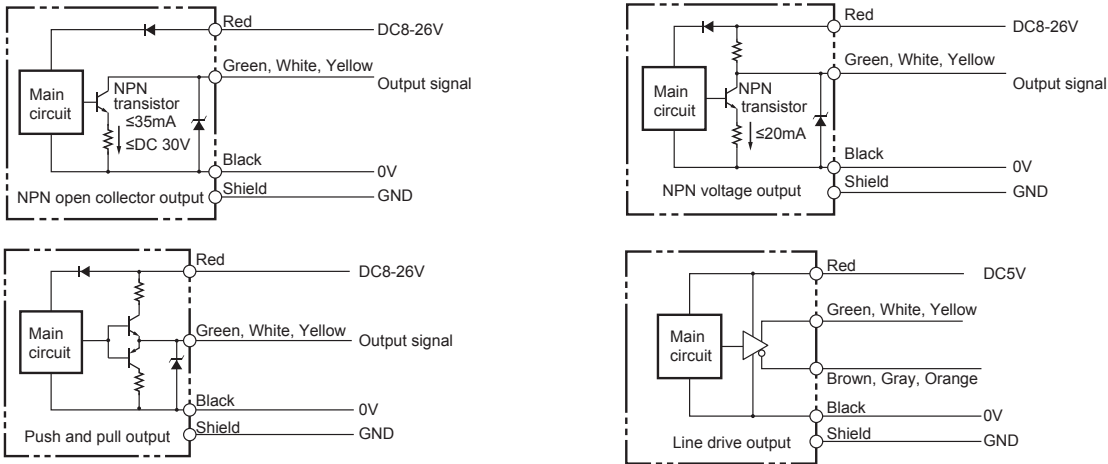
For example: HY58A8-P-1000, solid shaft φ8mm, pulse 1000, push and pull output, power supply DC 8~26V.

### ■ Specification

Power supply	Voltage	Line drive output DC 5V ±5% Other output DC 8~26V ±5%	Response time	≤1μs (when cable length is 1m)		
	Ripple wave	≤3%rms		NPN open collector output	Negative logic (for low-level) Load current≤30mA	
Current consumption	≤120mA, DC 5V power ≤80mA	Input and Output	Push and pull output	Output voltage≥ power voltage - 3V DC Load current≤30mA output current ≤10mA		
Output wave	Signal mode		A, B phase+Z phase (zero position)	Voltage output	Output voltage≥power voltage - 3V DC Output current≤30mA	
	Max response frequency		300kHz	Line drive output	Output voltage≥2.5V DC Load/output current≤20mA	
	Max speed		(Max frequency/resolution)×60		Residual voltage	≤0.5V DC
	Duty ratio		50±25%			
	Phase difference width		25±12.5%			
Z phase signal width	100±50%					

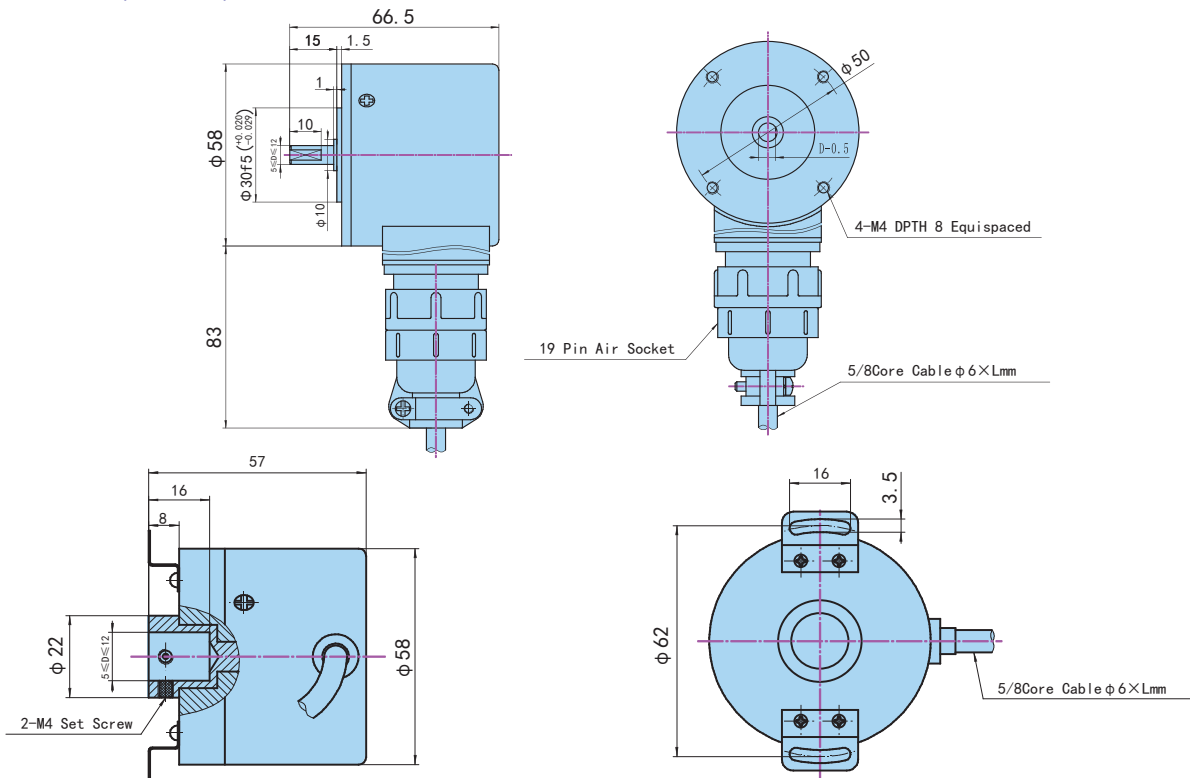
Mechanical specification	Starting torque	$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection	Output and power supply	
	Rotor inertia	$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature	$-20 \sim +85^{\circ}C$	
	Shaft loading	Radial		30N	Store temperature	$-30 \sim +95^{\circ}C$
		Thrust		20N	Ambient humidity	35~85%RH (Non Condensing)
	Max revolution	6000rpm		Dielectric strength	AC 500V (50/60Hz) for 1 min	
	Cable	Material		PVC	Insulation resistance	$\geq 50M\Omega$
		Length		2m	Anti-vibration	0.75mm amplitude at 10~55Hz <sup>*2</sup>
Diameter		$\Phi 5mm$	Anti-impact	$490m/S^2 \ 11ms^{-3}$		
Weight	About 200g		Protection	IP54		

**Wire Connection**



Cable color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
NPN open collector output	Vcc	OV	A	-	B	-	Z	-	G
Push and pull output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G
Line drive output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G

**Dimension (unit:mm)**



- Panel Meter
- Sensor Indicator
- Temperature Controller
- Counter
- Timer Relay
- Tacho/Speed/Pulse Meter
- Recorder
- Signal Isolator
- Rotary Encoder
- Proximity Sensor
- Solid State Relay
- Power Meter Introduction



## 6、HU38 Series Rotary Encoder

### ■ Photo and Features

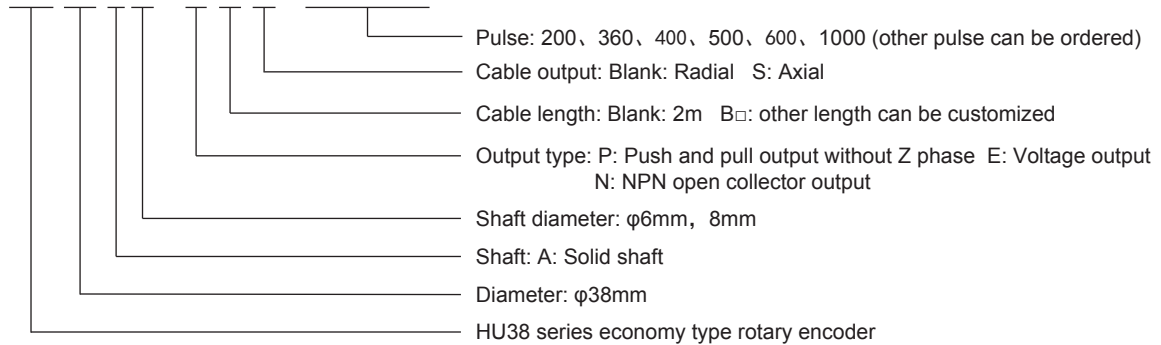


#### Features:

- ★ Out diameter  $\Phi 38$
- ★ Shaft  $\Phi 6/8$
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 20KHz
- ★ Max speed 3000rpm
- ★ Protection IP50
- ★ Without Z phase (zero position) signal
- ★ Output pulse 200、360、400、500、600、1000 for option

### ■ Model Illustration

H U 3 8 A □ - □ □ □ - □ □ □ □



### ■ Ordering Information

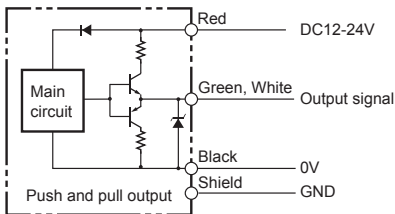
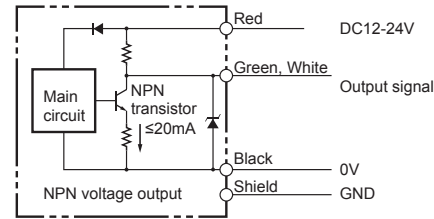
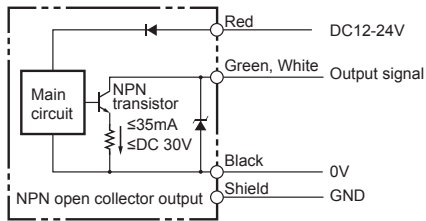
Model	Shaft	Output and power supply	Pulse	Code
HU38A6/8-□-□	Solid shaft $\phi 6\text{mm}$ $\phi 8\text{mm}$	P/E/N, 12-24V DC	200/360/400/500/600/1000	D0200HU01
For example: HU38A6-P-1000, solid shaft $\phi 6\text{mm}$ , pulse 1000, push and pull output, power supply DC 12~24V.				

### ■ Specification

Power supply	Voltage	DC 12~24V $\pm 5\%$	Input and Output	Response time	$\leq 1\mu\text{s}$ (when cable length is 1m)
	Ripple wave	$\leq 3\%$ rms		NPN open collector output	Negative logic (for low-level) Load current $\leq 30\text{mA}$
	Current consumption	$\leq 60\text{mA}$		Push and pull output	Output voltage $\geq$ power voltage - 3V DC Load current $\leq 30\text{mA}$ output current $\leq 10\text{mA}$
Output wave	Signal mode	A B phase		Voltage output	Output voltage $\geq$ power voltage - 3V DC Output current $\leq 30\text{mA}$
	Max response frequency	20kHz		Line drive output	Output voltage $\geq 2.5\text{V}$ DC Load/output current $\leq 20\text{mA}$
	Max speed	(Max frequency/resolution) $\times 60$		Residual voltage	$\leq 0.5\text{V}$ DC
	Duty ratio	50 $\pm 25\%$			
	Phase difference width	25 $\pm 12.5\%$			
	Z phase signal width	100 $\pm 50\%$			

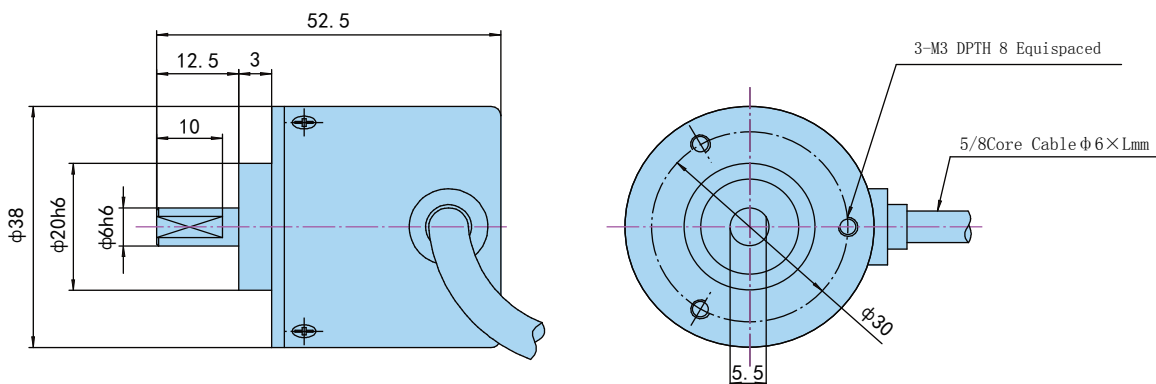
Mechanical specification	Starting torque		$\leq 0.01N \cdot m (+20^{\circ}C)$	Ambient specification	Short-circuit protection		Output and power supply
	Rotor inertia		$0.3 \times 10^{-6} kg \cdot m^2$		Ambient temperature		$-25 \sim +70^{\circ}C$
	Shaft loading	Radial	20N		Store temperature		$-25 \sim +85^{\circ}C$
		Thrust	10N		Ambient humidity		35~85%RH (Non Condensing)
	Max revolution		3000rpm		Dielectric strength		AC 500V (50/60Hz) for 1 min
	Cable	Material	PVC		Insulation resistance		$\geq 50M\Omega$
		Length	2m		Anti-vibration		0.75mm amplitude at 10~55Hz <sup>*2</sup>
		Diameter	$\Phi 5mm$		Anti-impact		$490m/S^2 \ 11ms^{-3}$
	Weight		About 200g		Protection		IP54

■ Wire Connection



Cable color	Red	Black	Green	White	Shield
NPN open collector output	Vcc	OV	A	B	G
Push and pull output	Vcc	OV	A	B	G
Voltage output	Vcc	OV	A	B	G
Line drive output	Vcc	OV	A	B	G

■ Dimension (unit: mm)



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## Proximity Sensor Function Comparison Table

Panel Meter	No	Model Function	TK	TKX	TL	TC
Sensor Indicator						
Temperature Controller		Category	Inductive	Enhanced Inductive	Inductive short type	Capacitive
Counter	1	Output	NPN NO NPN NC PNP NO PNP NC DC 2-wire NO AC 2-wire NO AC 2-wire NC	NPN NO NPN NC PNP NO PNP NC DC 2-wire NO	NPN NO NPN NC PNP NO PNP NC	NPN NO NPN NC PNP NO PNP NC AC 2-wire NO AC 2-wire NC
Timer Relay	2	Shape	Column shape: M8/12/18/30 Square shape: 18/30/40/65 Protuberant shape: 40/50/70	Column shape: M8/12/18/30 Square shape: 18/30/40	Column shape: M8/12/18/30	Column shape: M18/30
Tacho/Speed/ Pulse Meter	3	Connector	No connector/ Straight/ With angle	No connector/ Straight/ With angle	No connector	No connector
Recorder	4	Sensing distance	Column shape: 2/4/5/8/10/15 Square shape: 5/10/15/20/35 Protuberant shape: 10/20/35	Column shape: 2/4/5/8/10/15 Square shape: 5/10/15/20	Column shape: 2/4/5/8/10/15	Column shape: 8/15mm
Signal Isolator	5	Power supply	DC 3 wire: DC 10-30V DC 2 wire: DC 24V AC 2 wire: AC 90-250V	DC 3 wire: DC 10-30V DC 2 wire: DC 24V	DC 3 wire: DC 10-30V	DC 3 wire: DC 10-30V AC 2 wire: AC 90-250V
Rotary Encoder	6	Cable	PVC sheath & multi-strand copper wire cable	Glass fiber wire & multi-strand copper wire flexible cable	PVC sheath & multi-strand copper wire cable	PVC sheath & multi-strand copper wire cable
Proximity Sensor	7	Protection	No	Protection of power supply reverse Protection of output reverse Short-circuit load protection Overvoltage/power surge protection High voltage pulse absorption protection Power supply voltage fluctuation Working environment temperature compensation	No	No
Solid State Relay	8	Load capacity	200mA 300mA	200mA	100mA	200mA 300mA
Power Meter Introduction	9	Cylindrical length	52mm	45mm	38mm	52mm
	10	Thread length	35mm	45mm	28mm	35mm

# 1. TL Series Inductive Proximity Sensor

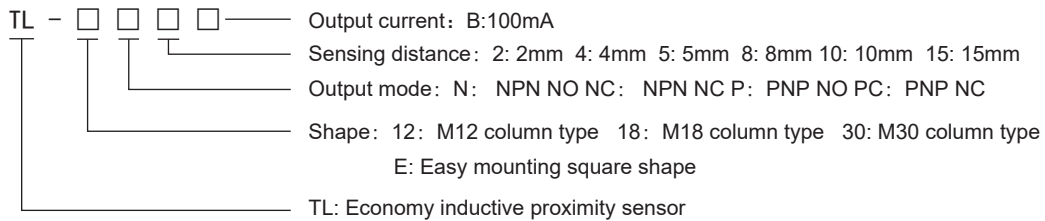
## ■ Photos and Features



### Features:

- ★ Economical and practical, widely used in machinery and equipment.
- ★ With power supply reverse connection protection design, 10-30V power supply.
- ★ Has excellent anti-interference ability.
- ★ The sensing distance is precisely adjusted.
- ★ Inductive non-contact detection, no wear, long service life

## ■ Model Illustration



## ■ Ordering Information

### 1. Inductive Column Shape

Model	Output type	Mounting type	Sensing distance	Effective distance	Frequency	Load current	Protection level	Code
TL-12N(NC)4B	NPN NO(NC)	Non-flush	4mm	3.2mm	400Hz	100mA	IP66(IEC)	C0021TL01
TL-12P(PC)4B	PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	100mA	IP66(IEC)	C0021TL01
TL-18N(NC)5B	NPN NO(NC)	Flush	5mm	4mm	400Hz	100mA	IP66(IEC)	C0026TL01
TL-18P(PC)5B	PNP NO(NC)	Flush	5mm	4mm	400Hz	100mA	IP66(IEC)	C0026TL01
TL-18N(NC)8B	NPN NO(NC)	Non-flush	8mm	6.4mm	200Hz	100mA	IP66(IEC)	C0028TL01
TL-18P(PC)8B	PNP NO(NC)	Non-flush	8mm	6.4mm	200Hz	100mA	IP66(IEC)	C0028TL01
TL-30N(NC)10B	NPN NO(NC)	Flush	10mm	8mm	200Hz	100mA	IP66(IEC)	C0038TL01
TL-30P(PC)10B	PNP NO(NC)	Flush	10mm	8mm	200Hz	100mA	IP66(IEC)	C0038TL01
TL-30N(NC)15B	NPN NO(NC)	Non-flush	15mm	12mm	100Hz	100mA	IP66(IEC)	C0040TL01
TL-30P(PC)15B	PNP NO(NC)	Non-flush	15mm	12mm	100Hz	100mA	IP66(IEC)	C0040TL01

### 2. Inductive Square Shape

Model	Output type	Mounting type	Sensing distance	Effective distance	Frequency	Load current	Protection level	Code
TL-EN(NC)5B	NPN NO(NC)	Screws	5mm	4mm	500Hz	100mA	IP66 (IEC)	C0016TL01
TL-EP(PC)5B	PNP NO(NC)	Screws	5mm	4mm	500Hz	100mA	IP66 (IEC)	C0016TL01

Note: It will be TL-12N2B for NPN NO and TL-12NC2B for NPN NC.

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter Introduction

## ■ Technical Specifications

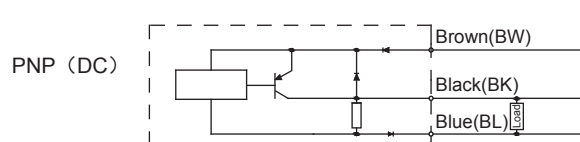
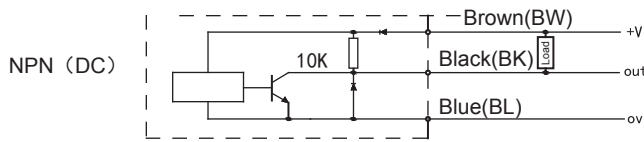
### 1. Column shape

Panel Meter	Type	DC 3-wire					
		Flush	Non-flush	Flush	Non-flush	Flush	Non-flush
Sensor Indicator	Model	TL-12N(C)2B	TL-12N(C)4B	TL-18N(C)5B	TL-18N(C)8B	TL-30N(C)10B	TL-30N(C)15B
		TL-12P(C)2B	TL-12P(C)4B	TL-18P(C)5B	TL-18P(C)8B	TL-30P(C)10B	TL-30P(C)15B
Temperature Controller	Dimension	M12×43mm		M18×48mm		M30×58mm	
	Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)					
Counter	Stipulate distance	2mm	4mm	5mm	8mm	10mm	15mm
	Sensing distance	0~1.6mm	0~3.2mm	0~4.0mm	0~6.4mm	0~8.0mm	0~12.0mm
	Frequency	≤600Hz	≤400Hz	≤400Hz	≤200Hz	≤200Hz	≤100Hz
	Output current	≤100mA					
Timer Relay	Power supply	DC 10~30V					
	Hysteresis	Less than 10% of the stipulate distance					
	Control output	Pure resistance load≤100mA, induction load≤50mA					
	Voltage drop	≤2V (At DC 24V 100mA)					
Tacho/Speed/Pulse Meter	Leakage current	≤0.5mA (At DC 24V)					
	Insulation resistance	≥100MΩ (At DC 500V)					
	Dielectric strength	AC 1000V 1min (At 50/60Hz)					
Recorder	LED	Yellow					
	Protection level	IP66(IEC)					
	Working environment	-25°C~70°C					
	Cable length	Standard 2m					

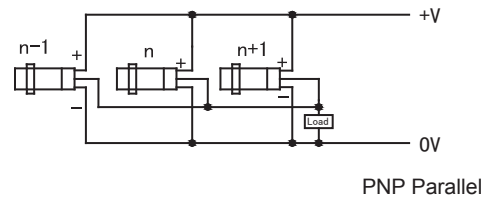
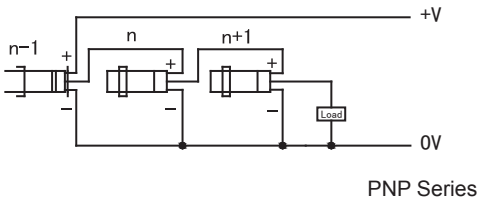
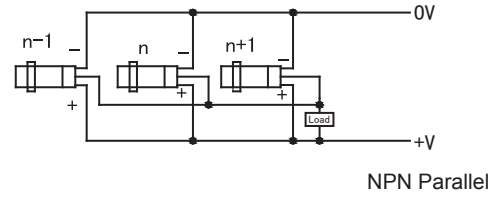
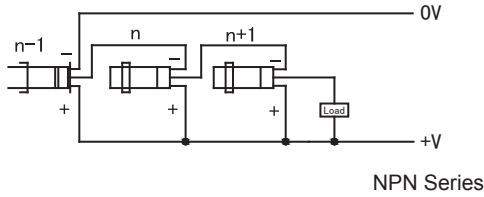
### 2. Square shape/Little square shape/Easy mounting square shape

Signal Isolator	Type	DC 3-wire					
	Model	TL-EN(NC)5B/TL-EP(PC)5B					
Rotary Encoder	Dimension	18Wx18Hx36Dmm					
	Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)					
Proximity Sensor	Standard detected object	Iron 18×18×1mm					
	Stipulate distance	5mm					
	Sensing distance	0~4mm					
	Frequency	≤400Hz					
Solid State Relay	Output current	≤100mA					
	Power supply	DC 10~30V					
	Hysteresis	Less than 10% of the stipulate distance					
	Control output	Pure resistance load≤100mA, induction load≤50mA					
Power Meter Introduction	Voltage drop	≤2V (At DC 24V 100mA)					
	Leakage current	≤0.5mA (At DC 24V)					
	Insulation resistance	≥100MΩ (At DC 500V)					
	Dielectric strength	AC 1000V 1min (At 50/60Hz)					
Recorder	LED	Yellow					
	Protection level	IP66(IEC)					
	Working environment	-25°C~70°C					
	Cable length	Standard 2m					

■ Wiring Diagram

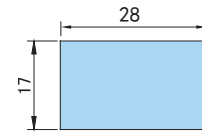
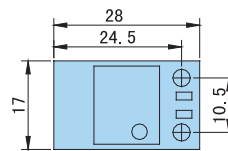
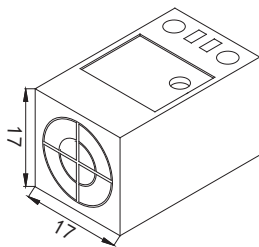


Series and parallel

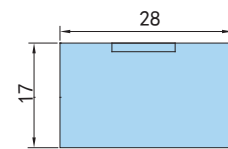
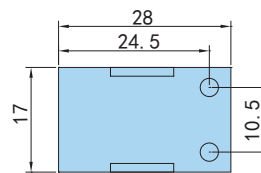
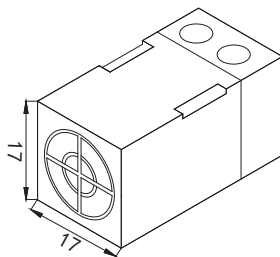


■ Dimension (Unit: mm)

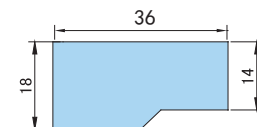
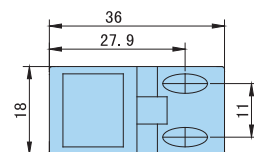
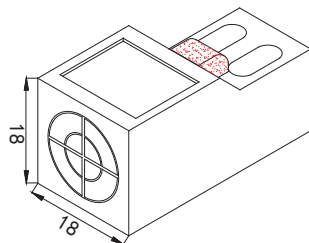
TL-Q short square shape



TL-R short square shape



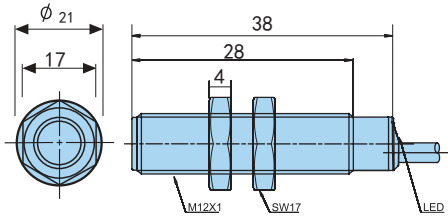
TL-E Easy-mounting square shape



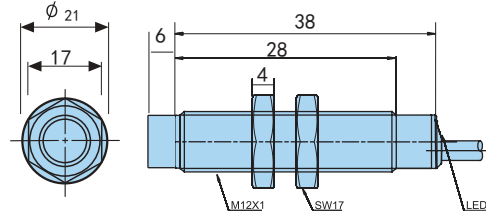
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

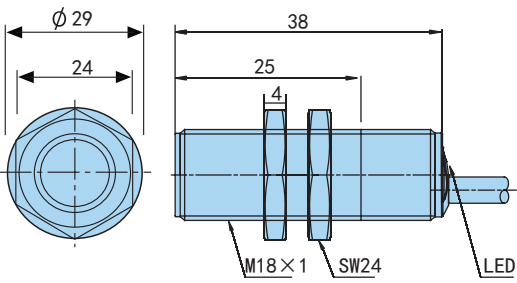
TL-12 Flush



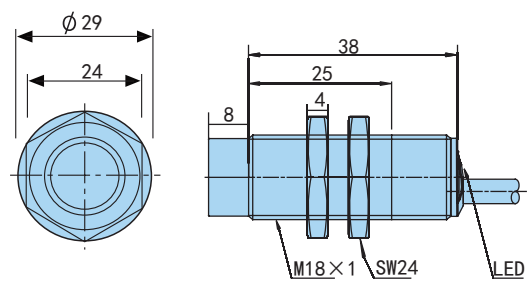
TL-12 Non-flush



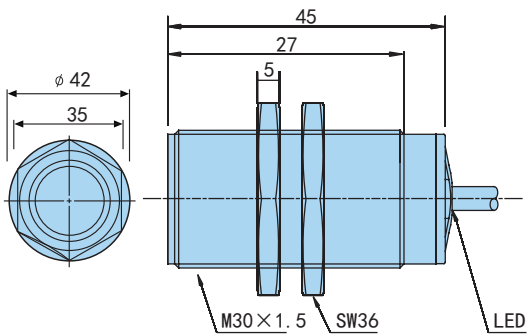
TL-18N Flush



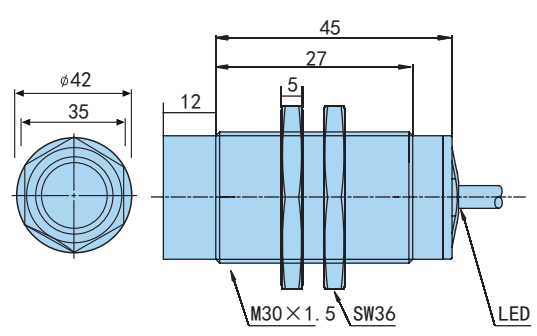
TL-18 Non-flush



TL-30 Flush



TL-30 Non-flush



## 2. TK Series Inductive Proximity Sensor

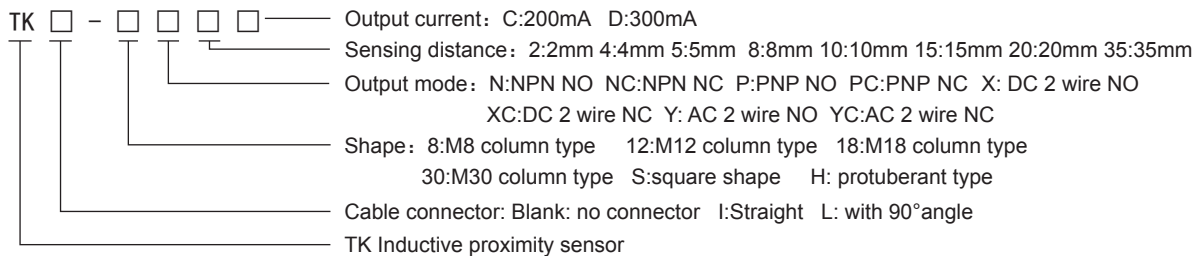
### Photos and Features



#### Features:

- ★ Inductive non-contact detecting, long service life.
- ★ Accurated sensing distance, and strong anti-interference ability.
- ★ Optional model:3/2wires, DC/AC type,NC/NO type
- ★ Connection type and direct line type selectable.
- ★ Optional mounting,sensing distance and control mode.
- ★ Transistor driven design with abnormal protection circuit
- ★ Optimal designed sensing detection circuit for better performance.

### Model Illustration



### Ordering Information

#### 1. TK Square Shape “S” Series Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-SN(NC)5C/SP(PC)5C	NPN/PNP NO(NC)	5mm	4mm	500Hz	IP66(IEC)	B0043TK01
TK-SN(NC)10C/SP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP66(IEC)	B0070TK01
TK-SN(NC)20C/SP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP66(IEC)	B0085TK01
TK-SN(NC)35C/SP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP66(IEC)	B0118TK01
TK-SY(YC)10D	AC NO(NC)	10mm	8mm	20Hz	IP66(IEC)	B0085TK01
TK-SY(YC)20D	AC NO(NC)	20mm	16mm	10Hz	IP66(IEC)	B0093TK01
TK-SY(YC)35D	AC NO(NC)	35mm	28mm	5Hz	IP66(IEC)	B0135TK01

#### 2. TK Normal Type Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-HN(NC)10C/HP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP66(IEC)	B0070TK01
TK-HN(NC)20C/HP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP66(IEC)	B0085TK01
TK-HN(NC)35C/HP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP66(IEC)	B0118TK01

#### 3. Protuberant Type “H” Series AC Inductive Proximity Sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TK-HY(YC)10D	AC NO(NC)	10mm	8mm	20Hz	IP66(IEC)	B0108TK01
TK-HY(YC)20D	AC NO(NC)	20mm	16mm	10Hz	IP66(IEC)	B0145TK01
TK-HY(YC)35D	AC NO(NC)	35mm	28mm	5Hz	IP66(IEC)	B0155TK01

Panel Meter

Sensor Indicator

Temperature Controller

Counter

Timer Relay

Tacho/Speed/Pulse Meter

Recorder

Signal Isolator

Rotary Encoder

Proximity Sensor

Solid State Relay

Power Meter Introduction



#### 4. Column Type Series Inductive Proximity Sensor

	Model	Output mode	Mounting type	Sensing distance	Effective distance	Frequency	Protection level	Code
Panel Meter	TK-8N(NC)2B/8P(PC)2B	NPN/PNP NO(NC)	Non-flush	2mm	1.6mm	600Hz	IP66(IEC)	B0065TK01
	TK-12N(NC)2C/12P(PC)2C	NPN/PNP NO(NC)	Flush	2mm	1.6mm	600Hz	IP66(IEC)	B0036TK01
Sensor Indicator	TK-12N(NC)4C/12P(PC)4C	NPN/PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	IP66(IEC)	B0036TK01
	TK-18N(NC)5C/18P(PC)5C	NPN/PNP NO(NC)	Flush	5mm	4mm	400Hz	IP66(IEC)	B0041TK01
	TK-18N(NC)8C/18P(PC)8C	NPN/PNP NO(NC)	Non-flush	8mm	6.4mm	200Hz	IP66(IEC)	B0043TK01
Temperature Controller	TK-30N(NC)10C/30P(PC)10C	NPN/PNP NO(NC)	Flush	10mm	8mm	100Hz	IP66(IEC)	B0080TK01
	TK-30N(NC)15C/30P(PC)15C	NPN/PNP NO(NC)	Non-flush	15mm	12mm	100Hz	IP66(IEC)	B0093TK01
	TK-18Y(YC)5D	AC NO(NC)	Flush	5mm	4mm	20Hz	IP66(IEC)	B0085TK01
Counter	TK-18Y(YC)8D	AC NO(NC)	Non-flush	8mm	6.4mm	20Hz	IP66(IEC)	B0085TK01
	TK-30Y(YC)15D	AC NO(NC)	Non-flush	15mm	12mm	20Hz	IP66(IEC)	B0103TK01
	TK-18X5B	DC NO	Flush	5mm	4mm	80Hz	IP66(IEC)	B0085TK01

#### 5. TKI (L) Column Type Inductive Proximity Sensor With Cable Connector

	Model	Output mode	Mounting type	Sensing distance	Effective distance	Frequency	Protection level	Code
Timer Relay	TKI(L)-12N(NC)2C/12P(PC)2C	NPN/PNP NO(NC)	Flush	2mm	1.6mm	600Hz	IP66 (IEC)	B0085TK01
Tacho/Speed/Pulse Meter	TKI(L)-12N(NC)4C/12P(PC)4C	NPN/PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	IP66 (IEC)	B0085TK01
	TKI(L)-18N(NC)5C/18P(PC)5C	NPN/PNP NO(NC)	Flush	5mm	4mm	400Hz	IP66 (IEC)	B0098TK01
	TKI(L)-18N(NC)8C/18P(PC)8C	NPN/PNP NO(NC)	Non-flush	8mm	6.4mm	400Hz	IP66 (IEC)	B0098TK01
Recorder	TKI(L)-30N(NC)10C/30P(PC)10C	NPN/PNP NO(NC)	Flush	10mm	8mm	100Hz	IP66 (IEC)	B0108TK01
	TKI(L)-30N(NC)15C/30P(PC)15C	NPN/PNP NO(NC)	Non-flush	15mm	12mm	100Hz	IP66 (IEC)	B0118TK01
	TKI(L)-18Y(YC)5D	AC NO(NC)	Flush	5mm	4mm	20Hz	IP66 (IEC)	B0108TK01
Signal Isolator	TKI(L)-18Y(YC)8D	AC NO(NC)	Non-flush	8mm	6.4mm	20Hz	IP66 (IEC)	B0118TK01
	TKI(L)-30Y(YC)15D	AC NO(NC)	Non-flush	15mm	12mm	20Hz	IP66 (IEC)	B0130TK01
	TKI(L)-18X5B	DC NO	Flush	5mm	4mm	80Hz	IP66 (IEC)	B0108TK01

### ■ Technical Specifications

#### 1. Square Shape S Series Proximity Sensor

Type	DC 3-wire				AC 2-wire	DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire	
	Output	DC		DC		AC	DC		AC	DC		AC
		NPN	PNP	NPN	PNP		NPN	PNP		NPN	PNP	
Model	NO	TK-SN5	TK-SP5C	TK-SN10C	TK-SP10C	TK-SY10D	TK-SN20C	TK-SP20C	TK-SY20D	TK-SN35C	TK-SP35C	TK-SY35D
	NC	TK-SNC5C	TK-SPC5C	TK-SNC10C	TK-SPC10C	TK-SYC20D	TK-SNC20C	TK-SPC20C	TK-SYC20D	TK-SNC35C	TK-SPC35C	TK-SYC35D
Dimension	18W×18H×36Dmm			30W×30H×52Dmm			40W×40H×53Dmm			65W×65H×70Dmm		
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)											
Standard detected object	Iron 18×18×1mm			Iron 30×30×1mm			Iron 40×40×1mm			Iron 65×65×1mm		
Sensing distance	5.0mm			10.0mm			20.0mm			35.0mm		
Stipulate distance	0~4.0mm			0~8.0mm			0~16.0mm			0~28.0mm		
Frequency	≤400Hz			≤200Hz			≤100Hz			≤10Hz		
Power supply	DC 10~30V			DC 10~30V			AC 90~250V			DC 10~30V		
										AC 90~250V		

## 2. Protuberant Type H Series Proximity Sensor

Type	DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire	DC 3-wire		AC 2-wire	
Model	Output	DC		AC	DC		AC	DC		AC
	Type	NPN	NPN		NPN	PNP		NPN	PNP	
	NO	TK-HN10C	TK-HP10C	TK-HY10C	TK-HN20C	TK-HP20C	TK-HY20C	TK-HN35C	TK-HP35C	TK-HY35D
NC	TK-HNC10C	TK-HPC10C	TK-HYC10C	TK-HNC20C	TK-HPC20C	TK-HYC20D	TK-HNC35C	TK-HPC35C	TK-HYC35C	
Dimension	40W×40H×25Dmm			50W×50H×35Dmm			70W×70H×55Dmm			
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)									
Standard detected object	Iron 40×40×1mm			Iron 50×50×1mm			Iron 65×65×1mm			
Sensing distance	10.0mm			20.0mm			35.0mm			
Stipulate distance	0~8.0mm			0~16.0mm			0~28.0mm			
Frequency	≤200Hz		≤20Hz	≤100Hz		≤10Hz	≤50Hz		≤5Hz	
Power supply	DC 10~30V		AC 90~250V	DC 10~30V		AC 90~250V	DC 10~30V		AC 90~250V	

## 3. Colume Type Proximity Sensor

Type	DC 3-wire		DC 3-wire		AC 2-wire	
Model	Output	DC		DC		AC
	Type	NPN	PNP	NPN	PNP	
	NO	TK-12N2(4)C	TK-12P2(4)C	TK-18N5(8)C	TK-18P5(8)C	TK-18Y5(8)D
NC	TK-12NC2(4)C	TK-12PC2(4)C	TK-18NC5(8)C	TK-18PC5(8)C	TK-18YC5(8)D	
Dimension	M12×53(L) mm			M18×53(L) mm		
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)					
Standard detected object	Iron 12×12×1mm			Iron 18×18×1mm		
Sensing distance	2.0mm	4.0mm	5.0mm	8.0mm		
Stipulate distance	2mm:0~1.6mm	4mm:0~3.2mm	5mm:0~4.0mm	8mm:0~6.4mm		
Frequency	2mm≤600Hz	4mm≤400Hz	5mm≤400Hz	8mm≤200Hz	≤20Hz	
Power supply	DC 10~30V			DC 10~30V		AC 90~250V

## 4. W Positive Induction / DC 2-wire

Type	DC 3-wire		DC 2-wire NO
Model	Output	DC	
	Type	NPN	PNP
	NO	TK-WN5B	TL-WP5B
Dimension	18W×10H×30Dmm		M18×53(L)
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)		
Standard detected object	Iron 18×18×1mm		
Sensing distance	5mm		
Stipulate distance	0~4.0mm		
Frequency	≤500Hz		≤80Hz
Output current	≤100mA		
Power supply	DC 10~30V		

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

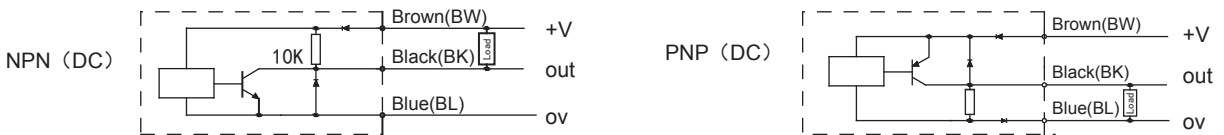
5. Column Shape With Connector

Panel Meter	Type	DC 3-wire		DC 3-wire type with pins			
	Output	DC		DC		DC	
Sensor Indicator	Model	NPN	NPN	NPN	PNP	NPN	PNP
	NO	TK(I, L)-12N2(4)C	TK(I, L)-12P2(4)C	TK(I, L)-18N5(8)C	TK(I, L)-18P5(8)C	TK(I, L)-30N10(15)C	TK(I, L)-30P10(15)C
	NC	TK(I, L)-12NC2(4)C	TK(I, L)-12PC2(4)C	TK(I, L)-18NC5(8)C	TK(I, L)-18PC5(8)C	TK(I, L)-30NC10(15)C	TK(I, L)-30PC10(15)C
Dimension	M12×71 (L)		M18×71 (L)		M30×78 (L)		
Detected object	Magnetic metal (detection distance decreases when it's non-magnetic metal)						
Standard detected object	Iron 12×12×1mm		Iron 18×18×1mm		Iron 30×30×1mm		
Temperature Controller	Sensing distance	2.0mm	4.0mm	5.0mm	8.0mm	10.0mm	15.0mm
Stipulate distance	2mm:0~1.6mm	4mm:0~3.2mm	5mm:0~4.0mm	8mm:0~6.4mm	10mm:0~8.0mm	15mm:0~12mm	
Frequency	2mm:≤600Hz	4mm:≤400Hz	5mm:≤400Hz	8mm:≤200Hz	10mm:≤200Hz	15mm:≤200Hz	
Power supply	DC 10-30V						

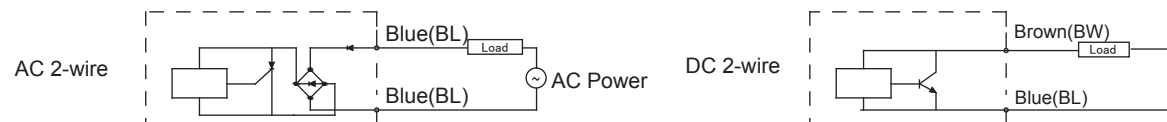
■ Specifications

Timer Relay	Hysteresis	Less than 10% of sensing distance
	Control output	DC: pure resistance loads ≤ 200mA induction load ≤ 100mA
	Voltage drop	DC ≤ 2V (At DC 24V 200mA)
	Leakage	DC ≤ 0.5mA (At DC 24V)
Tacho/Speed/Pulse Meter	Insulation resistance	≥ 100MΩ (At DC 500V)
	Insulation strength	DC: AC 1000V 1min (At 50/60HZ) AC: AC 2000V 1min (At 50/60HZ)
	LED	Yellow
Recorder	Protection level	IP66(IEC)
	Work environment	-25°C-70°C
	Output wire length	Standard 2m

■ Wiring Diagram



Proximity Sensor

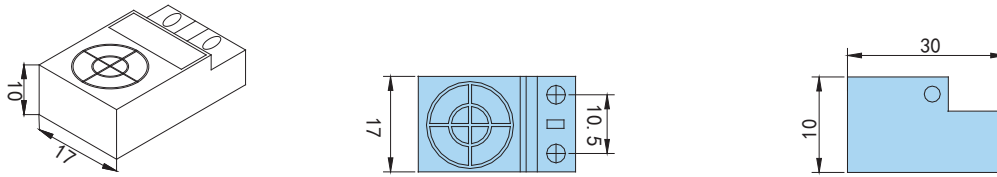


Solid State Relay

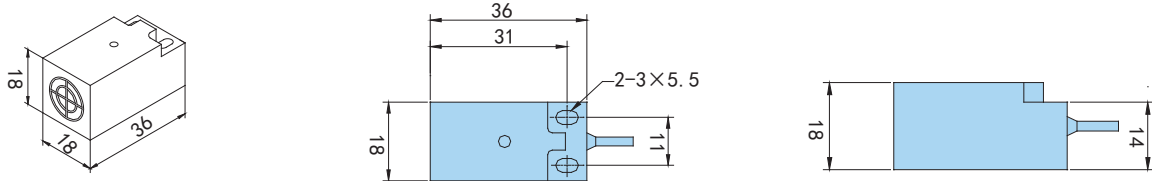
Power Meter Introduction

■ Dimension (Unit: mm)

TK-WN(NC)/P(PC)5C

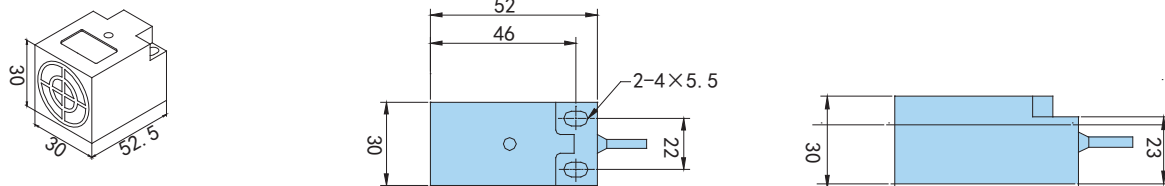


TK-SN(NC)/P(PC)5C



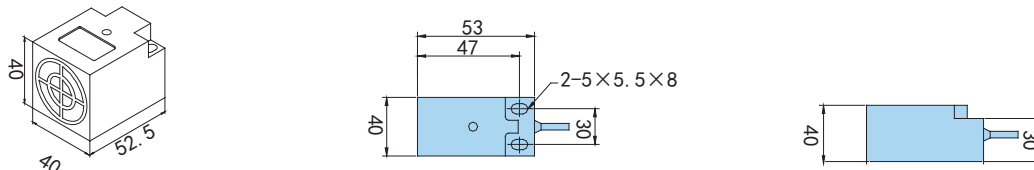
TK-SN(NC)/P(PC)10C

TK-SY(YC)10D



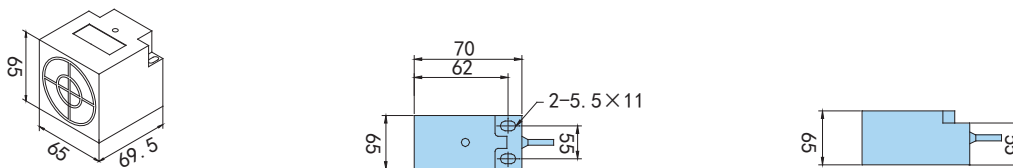
TK-SN(NC)/P(PC)20C

TK-SY(YC)20D



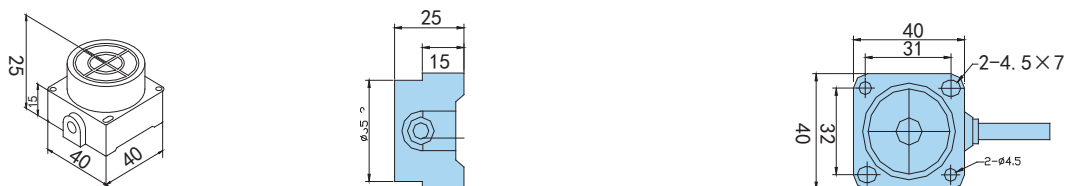
TK-SN(NC)/P(PC)35C

TK-SY(YC)35D



TK-HN(NC)/P(PC)10C

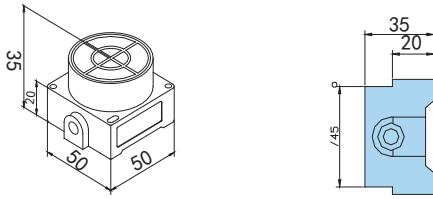
TK-HY(YC)10D



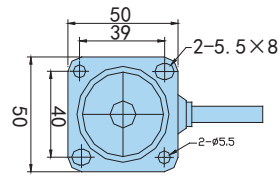
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

Panel Meter
Sensor Indicator
Temperature Controller
Counter
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Tacho/Speed/Pulse Meter
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Power Meter Introduction

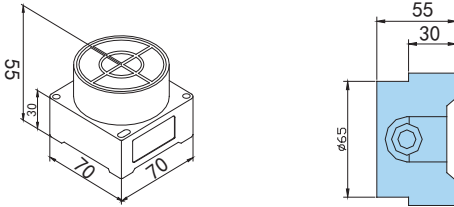
TK-HN(NC)/P(PC)20C



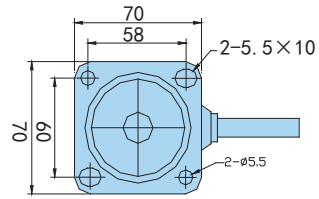
TK-HY(YC)20D



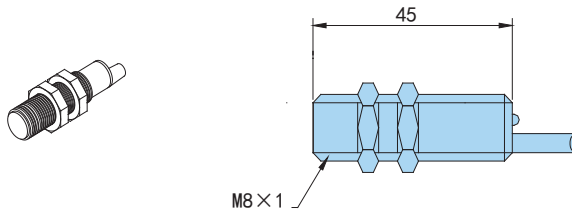
TK-HN(NC)/P(PC)35C



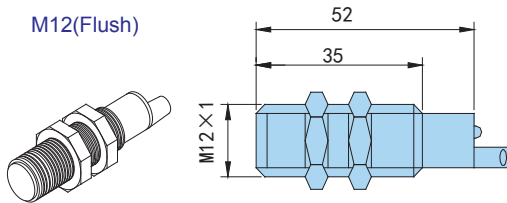
TK-HY(YC)35D



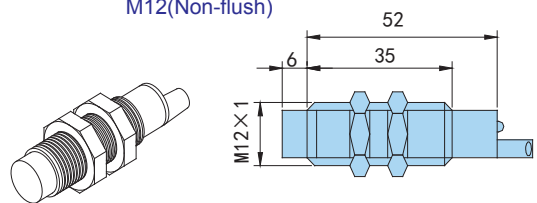
M8(Flush)



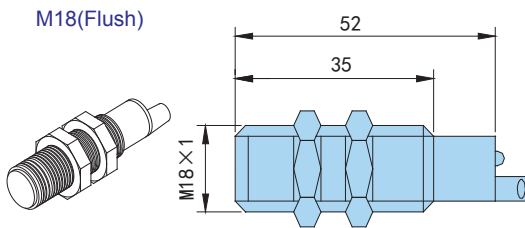
M12(Flush)



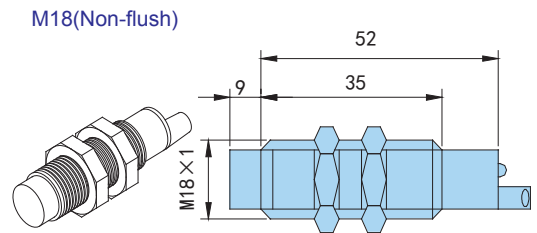
M12(Non-flush)



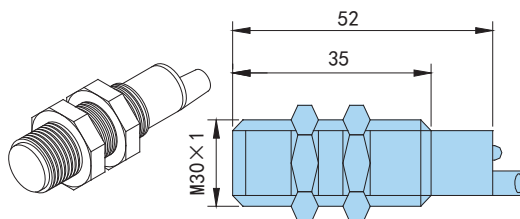
M18(Flush)



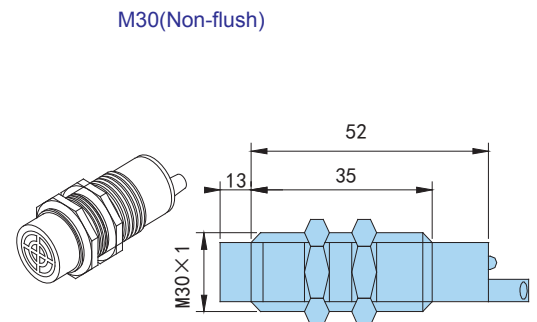
M18(Non-flush)



M30(Flush)



M30(Non-flush)



### 3.TKX Series Inductive Proximity Sensor

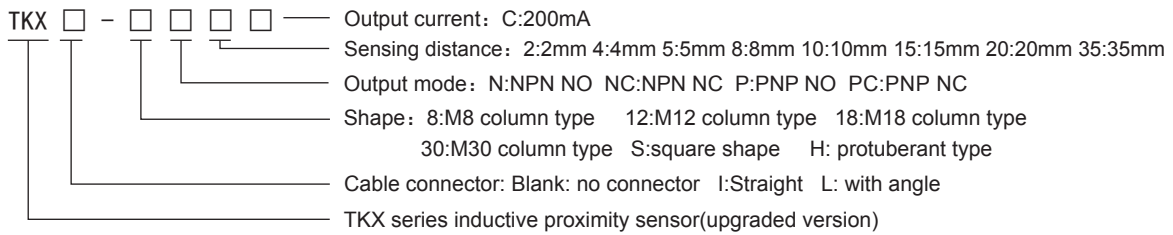
#### Photos and Features



#### Features:

- ★ Built-in power protection, signal protection, overvoltage protection, overload protection, short circuit protection, surge protection ect .
- ★ 40mm column for longer installation length.
- ★ Toothed screw nuts make the installation firmer.
- ★ IP65 protection level.
- ★ High-strength, flexible cable with wide temperature range, 32-strand copper core wire and built-in fiber wire to improve tensile and bending resistance.

#### Model Illustration



#### Ordering Information

##### 1. TKX square column type S series inductive proximity sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TKX-SN(NC)5C/SP(PC)5C	NPN/PNP NO(NC)	5mm	4mm	400Hz	IP65(IEC)	B0043TKX01
TKX-SN(NC)10C/SP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP65(IEC)	B0070TKX01
TKX-SN(NC)20C/SP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP65(IEC)	B0096TKX01
TKX-SN(NC)35C/SP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP65(IEC)	B0130TKX01

##### 2.TKX protuberant type inductive proximity sensor

Model	Output mode	Sensing distance	Effective distance	Frequency	Protection level	Code
TKX-HN(NC)10C/HP(PC)10C	NPN/PNP NO(NC)	10mm	8mm	200Hz	IP65(IEC)	B0075TKX01
TKX-HN(NC)20C/HP(PC)20C	NPN/PNP NO(NC)	20mm	16mm	100Hz	IP65(IEC)	B0100TKX01
TKX-HN(NC)35C/HP(PC)35C	NPN/PNP NO(NC)	35mm	28mm	50Hz	IP65(IEC)	B0140TKX01

##### 3. Column type series inductive proximity sensor

Model	Output mode	Mounting type	Sensing distance	Effective distance	Frequency	Protection level	Code
TKX-8N(NC)2B/8P(PC)2B	NPN/PNP NO(NC)	Non-flush	2mm	1.6mm	800Hz	IP65(IEC)	A0070TKX01
TKX-12N(NC)2C/12P(PC)2C	NPN/PNP NO(NC)	Flush	2mm	1.6mm	600Hz	IP65(IEC)	A0045TKX01
TKX-12N(NC)4C/12P(PC)4C	NPN/PNP NO(NC)	Non-flush	4mm	3.2mm	400Hz	IP65(IEC)	A0045TKX01
TKX-18N(NC)5C/18P(PC)5C	NPN/PNP NO(NC)	Flush	5mm	4mm	400Hz	IP65(IEC)	A0050TKX01
TKX-18N(NC)8C/18P(PC)8C	NPN/PNP NO(NC)	Non-flush	8mm	6.4mm	200Hz	IP65(IEC)	A0055TKX01
TKX-30N(NC)10C/30P(PC)10C	NPN/PNP NO(NC)	Flush	10mm	8mm	200Hz	IP65(IEC)	A0090TKX01
TKX-30N(NC)15C/30P(PC)15C	NPN/PNP NO(NC)	Non-flush	15mm	12mm	200Hz	IP65(IEC)	A0100TKX01

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

TKX Proximity Sensor Technical Specifications

1. S type plastic box type inductive proximity sensor(power cord is perpendicular to the sensing surface)

Code	TKX-S□5C		TKX-S□10C		TKX-S□20C		TKX-S□35C		
Dimension									
Output mode	DC(3-wire)		DC(3-wire)		DC(3-wire)		DC(3-wire)		
	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	
Model	NO	TKX-SN5C	TKX-SP5C	TKX-SN10C	TKX-SP10C	TKX-SN20C	TKX-SP20C	TKX-SN35C	TKX-SP35C
	NC	TKX-SNC5C	TKX-SPC5C	TKX-SNC10C	TKX-SPC10C	TKX-SNC20C	TKX-SPC20C	TKX-SNC35C	TKX-SPC35C
Sensing distance	5.0mm		10.0mm		20.0mm		35.0mm		
Stipulate distance	0~4.0mm		0~8.0mm		0~16.0mm		0~28.0mm		
Power supply	DC 10~30V		DC 10~30V		DC 10~30V		DC 10~30V		
Frequency	≤400Hz		≤200Hz		≤100Hz		≤50Hz		
Output current	≤200mA(DC24V)		≤200mA(DC24V)		≤200mA(DC24V)		≤200mA(DC24V)		
Mounting type	Non-flush								

2. H type plastic box type inductive proximity sensor (power cord is parallel to the sensing surface)

Code	TKX-H□10C		TKX-H□20C		TKX-H□35C		
Dimension							
Output mode	DC(3-wire)		DC(3-wire)		DC(3-wire)		
	NPN	PNP	NPN	PNP	NPN	PNP	
Model	NO	TKX-HN10C	TKX-HP10C	TKX-HN20C	TKX-HP20C	TKX-HN35C	TKX-HP35C
	NC	TKX-HNC10C	TKX-HPC10C	TKX-HNC20C	TKX-HPC20C	TKX-HNC35C	TKX-HPC35C
Sensing distance	5.0mm		10.0mm		35.0mm		
Stipulate distance	0~4.0mm		0~8.0mm		0~28.0mm		
Power supply	DC 10~30V		DC 10~30V		DC 10~30V		
Frequency	≤400Hz		≤200Hz		≤50Hz		
Output current	≤200mA(DC24V)		≤200mA(DC24V)		≤200mA(DC24V)		
Mounting type	Non-flush						

3. Metal shell inductive proximity sensor

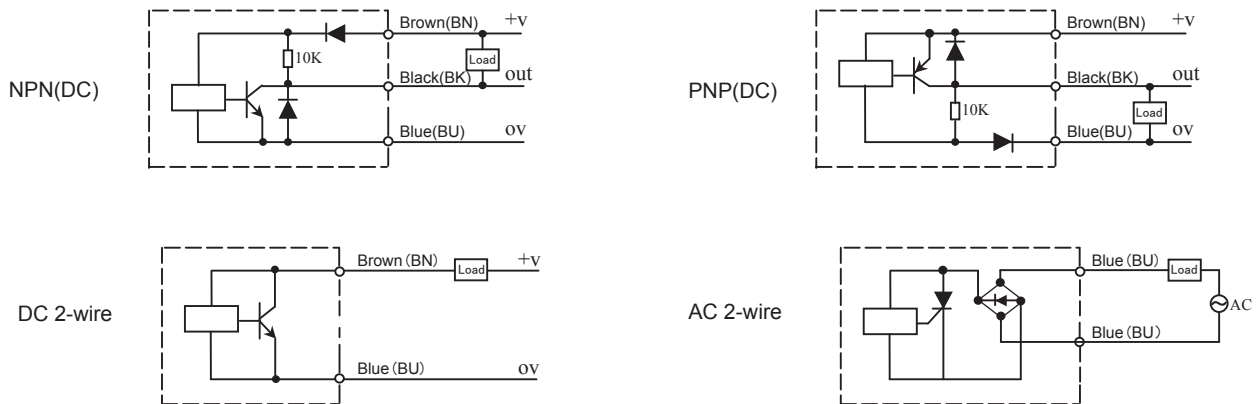
Code	TKX-8□2B (customized)		TKX□-12□□C		TKX□-18□□C		
Dimension							
Output mode	DC(3-wire)		DC(3-wire)		DC(3-wire)		
	NPN	PNP	NPN	PNP	NPN	PNP	
Model	NO	TKX-8N2B	TKX-8P2B	TKX(I, L)-12N2(4)C	TKX(I, L)-12P2(4)C	TKX(I, L)-18N5(8)C	TKX(I, L)-18P5(8)C
	NC	TKX-8NC2B	TKX-8PC2B	TKX(I, L)-12NC2(4)C	TKX(I, L)-12PC2(4)C	TKX(I, L)-18NC5(8)C	TKX(I, L)-18PC5(8)C
Sensing distance	2mm		2mm/4mm		5mm/8mm		
Stipulate distance	0~1.6mm		2mm:0~1.6mm 4mm:0~3.2mm		5mm:0~4.0mm 8mm:0~6.4mm		
Power supply	DC 10~30V		DC 10~30V		DC 10~30V		
Frequency	≤800Hz		2mm≤600Hz 4mm≤400Hz		5mm≤400Hz 8mm≤200Hz		
Output current	≤100mA		≤200mA(DC24V)		≤200mA(DC24V)		
Mounting type	Non-flush		2mm:flush 4mm: non-flush		5mm:flush 8mm: non-flush		

### 3. Metal shell inductive proximity sensor

Code	TKX□-30□□C		
Dimension			
Output mode	DC(3-wire)		
	NPN	PNP	
Model	NO	TKX(I, L)-30N10(15)C	TKX(I, L)-30P10(15)C
	NC	TKX(I, L)-30NC10(15)C	TKX(I, L)-30PC10(15)C
Sensing distance	10.0mm/15.0mm		
Stipulate distance	10mm:0~8.0mm 15mm:0~12.0mm		
Power supply	DC 10~30V		
Frequency	≤200Hz		
Output current	≤200mA(DC24V)		
Mounting type	10mm:flush 15mm: non-flush		

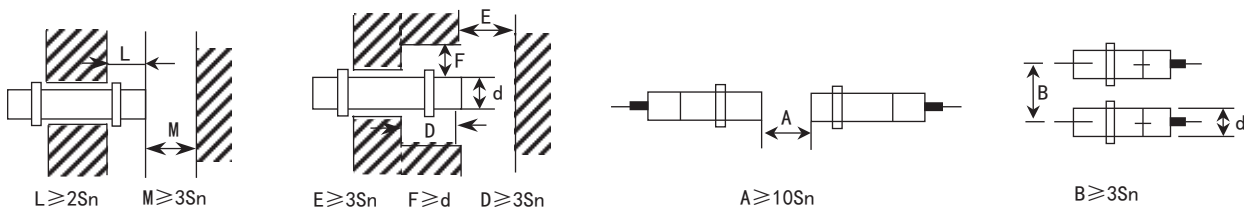
Note: The numbers in parentheses means the sensing distance, straight or angle connector. dimensions with ★ in parentheses indicate AC type proximity sensor dimensions.

#### ■ Wiring diagram



#### ■ Installation

During installation, when there is metal around them, and the proximity sensors are placed oppositely or side by side, please install them with a size larger than the size shown in the figure to avoid affecting the reliable operation.(Sn:sensing distance)



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction



## 4. TC Series Capacitive Proximity Sensor

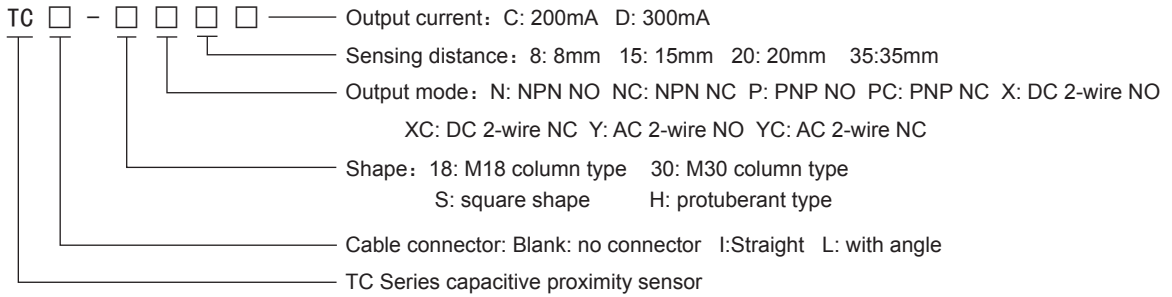
### ■ Photos and Features



#### Features:

- ★ Capacitive non-contact detecting, long service life.
- ★ Accurated sensing distance, and strong anti-interference ability.
- ★ Optional model:3/2wires, DC/AC type,NC/NO type.
- ★ Connector type and direct line type selectable.
- ★ Optional mounting type, sensing distance,control mode.
- ★ Transistor driven design with abnormal protection circuit.
- ★ Optimal designed sensing detection circuit for better performance.

### ■ Model Illustration



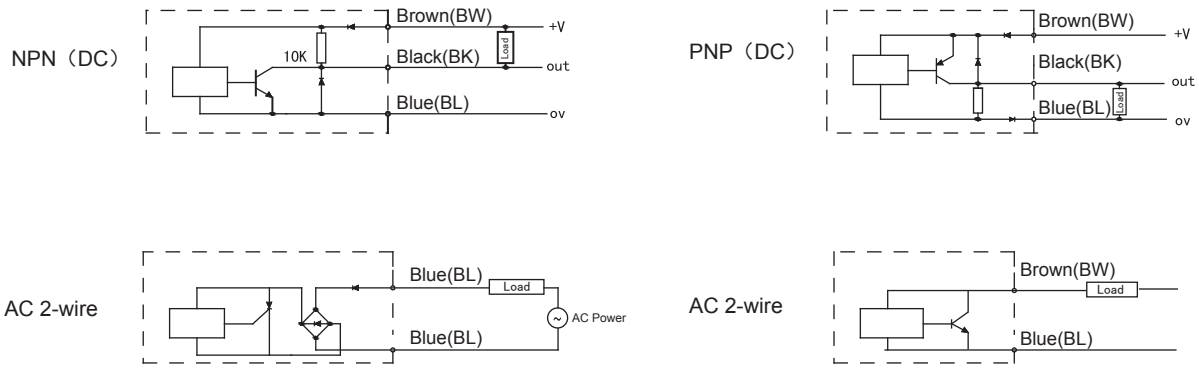
### ■ Ordering Information

Model	Output mode	Mounting Type	Sensing distance	Effective distance	Frequency	Protection level	Code
TC-18P(PC)8C/TC-18N(NC)8C	NPN/PNP NO(NC)	Non-flush	8mm	1~6.4mm	50HZ	IP66(IEC)	B0130TK01
TC-30P(PC)15C/TC-30N(NC)15C	NPN/PNP NO(NC)	Non-flush	15mm	1~12mm	20HZ	IP66(IEC)	B0173TK01
TC-18Y8C/TC-18YC8C	AC NO(NC)	Non-flush	8mm	1~6.4mm	50HZ	IP66(IEC)	B0193TK01
TC-30Y15C/TC-30YC15C	AC NO(NC)	Non-flush	15mm	1~12mm	20HZ	IP66(IEC)	B0215TK01

### ■ Technical Specifications

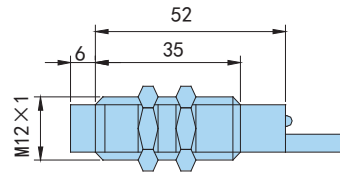
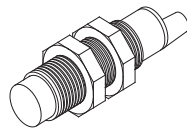
Type	DC 3-wire						AC 2-wire	
Model	TC-18N8C	TC-18NC8C	TC-22N15C	TC-22NC15C	TC-30N15C	TC-30NC15C	TC-18Y8C	TC-30Y15C
	TC-18P8C	TC-18PC8C	TC-22P15C	TC-22PC15C	TC-30P15C	TC-30PC15C	TC-18YC8C	TC-30YC15C
Dimension	M18x53(L)		M22x63(L)		M30x63(L)		M18x53(L)	M30x63(L)
Detected object	Iron:18×18×1mm		Iron:22×22×1mm		Iron: 30×30×1mm		Iron: 18×18×1mm	Iron: 30×30×1mm
Sensing distance	8mm		15mm		15mm		8.0mm	15.0mm
Stipulate distance	0~6.4mm adjustable		2~15mm adjustable		3~15mm adjustable		0~6.4mm adjustable	0~12.0mm adjustable
Frequency	≤50Hz				≤20Hz			
Current consumption/ Leakage current	Current consumption<15mA						Leakage currents≤2.2mA	
Power supply	DC 12~30V						AC 90~260V	
Hysteresis	<20% of the sensing distance						<20% of the sensing distance	
Control output	pure resistance load≤200mA induction load≤100mA						pure resistance load≤200mA induction load≤100mA	
Voltage drop	≤2V (At DC 24V 200mA)						≤10V(At AC 220V 200mA)	
Leakage	≤0.5mA (At DC 24V )						≤0.5mA(At AC 220V )	
Insulation resistance	≥100MΩ (At DC 500V )							
Insulation strength	AC 1000V 1min (At 50/60HZ)							
LED	Yellow							
Protection level	IP66(IEC)							
Work environment	-25°C-70°C							
Output wire length	Standard 2m							

■ Wiring Diagram

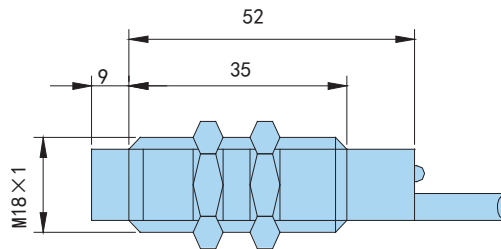
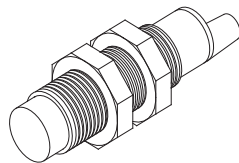


■ Dimension

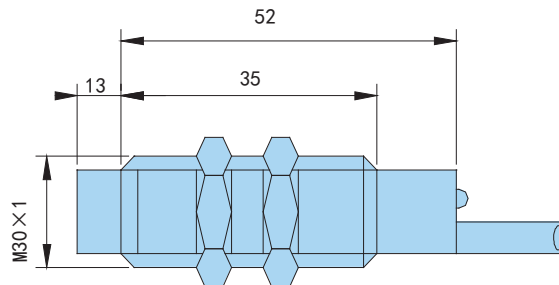
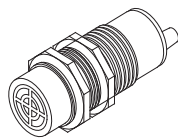
M12



M18








M30



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## Solid State Relay Function Comparison Table

	No	Model Function	RMA	RUA	RSA	RTA	RSYA	RTYA
								
Panel Meter								
Sensor Indicator								
Temperature Controller	1	Category	Economical	Long shell normal	Normal	Normal	Voltage regulating module	Voltage regulating module
Counter	2	SCR	Bi-direction SCR	Bi-direction SCR chip	Bi-direction SCR chip	Bi-direction SCR chip	Bi-direction SCR chip	Bi-direction SCR chip
Timer Relay	3	Application	AC, single phase	AC, single phase	AC, single phase	AC, three phase	AC, single phase	AC, three phase
Tacho/Speed/ Pulse Meter	4	Activation type	Zero cross activation Random activation	Zero cross activation Random activation	Zero cross activation Random activation	Zero cross activation Random activation	Zero cross activation	Zero cross activation
	5	Control signal	5-32V DC 90-280VAC 0-500KΩ	4-32V DC 90-280VAC	4-32V DC 90-280VAC	4-32V DC 90-280VAC	0-5V/0-10V/ 4-20mA	0-5V/0-10V/ 4-20mA
Recorder	6	Loading voltage range	24-230VAC 24-400VAC	24-530VAC	48-440VAC 48-530VAC	48-530VAC	176-280VAC 300-530VAC	180-530VAC
Signal Isolator	7	Rated current	15A/25A/40A/ 60A/80A	30A/50A/75A	25A/40A/60A/ 80A/100A	25A/40A/ 60A/80A	25A/40A/ 60A/80A	25A/40A/ 60A/80A
Rotary Encoder	8	Rated voltage	400VAC	480VAC	380VAC 480VAC	480VAC	240VAC 480VAC	480VAC
Proximity Sensor								
Solid State Relay								
Power Meter Introduction								

# 1. RMA/RCA/RFA Solid State Relay



## Photos and Features



RMA系列

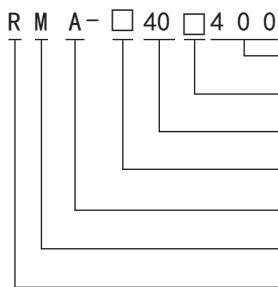
RCA系列

RFA系列

### Features:

- ★ Using photoelectric coupling isolation, compressive strength can reach 2kv between the input - output - heat sink.
- ★ Choose from multiple trigger modes to meet a variety of control requirements.
- ★ RC filter circuit can absorb the instant surge to avoid malfunction occurs and to protect the chip.
- ★ Applied high quality triac devices.
- ★ The input applied constant current circuit to ensure the current constancy of the consumption between 5 ~ 32V.

## Model Illustration



- Rated voltage: 400:24~400V AC 230:24~230V AC
- A: AC load
- Rated current: 15 15Aac 25 25Aac 40 40Aac 60 60Aac 80 80Aac 100 100Aac
- Control type: Blank: DC 5~32V zero-cross activation
- A: Design number
- M: Professional SCR C: Economic SCR F:Imported SCR
- Solid State Relay

## Ordering Information

Type	Model	Rated voltage	Control signal	Activation type	Critical voltage rise rate	Rated current	Code
DC control AC ★	RMA-15A400	400V/AC	5~32VDC	Zero-cross activation	500V/ μ S	15Aac	C0032RMA01
	RMA-25A400					25Aac	C0034RMA01
	RMA-40A400					40Aac	C0037RMA01
	RMA-60A400					60Aac	C0056RMA01
	RMA-80A400					80Aac	C0075RMA01
DC control AC ▲	RCA-15A400	400V/AC	5~32VDC	Zero-cross activation	500V/ μ S	15Aac	D0028RCA01
	RCA-25A400					25Aac	D0031RCA01
	RCA-40A400					40Aac	D0033RCA01
	RCA-60A400					60Aac	D0055RCA01
	RCA-80A400					80Aac	D0068RCA01
DC control AC ●	RFA-15A400	400V/AC	5~32VDC	Zero-cross activation	500V/ μ S	15Aac	D0085RFA01
	RFA-25A400					25Aac	D0095RFA01
	RFA-40A400					40Aac	D0110RFA01

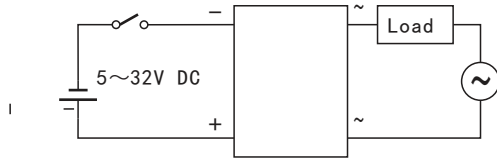
## Technical Specifications

Compression strength input-output	≥500MΩ	Output rated current (Arms)	15, 25, 40, 60, 80A AC
Insulation strength input-output	2000Vrms	Off-stateleakage current (Max)	≤10mA AC
Insulation strength input/output-shell	2000Vrms	Power supply	24~400VAC
Input control range	5~32Vdc	Peak voltage	800Vp-p
Input current	≤10mA(DC)	Weight	110g
Min trigger voltage	≥4.5Vdc	Closed state saturation & voltage drop	1.8V/25°C
Min open-circuit voltage	≤3Vdc	Action response time	ON<10ms , OFF<10ms
Material	ABS+PC(flame retardance)	Ambient temperature	-20°C~80°C / -40°C~100°C

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/ Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

**■ Connection**

1. DC control AC connection



2. Installation Precautions

- ◇ Use a heat sink (accessory) to protect the solid state relay, and the heat sink must be grounded.
- ◇ Must install high speed fuse.
- ◇ The radiator must be correctly selected according to the working environment temperature and load current.
- ◇ When installing the radiator, the contact distance between the heat sink and radiator should not be greater than 0.05mm, and the surface roughness should not be greater than 0.02mm.

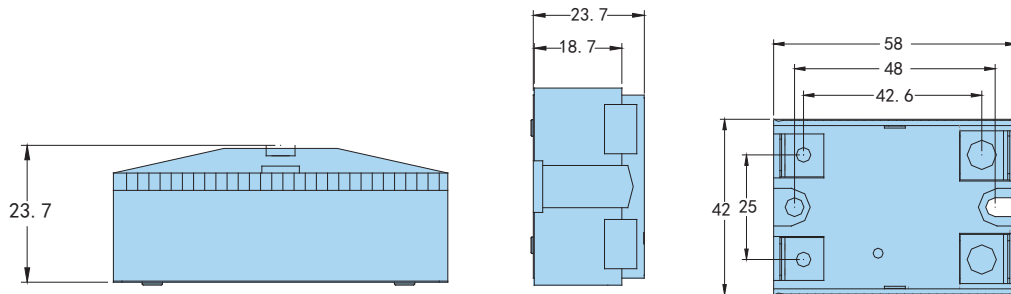
Note:

It can ensure the thermal conductivity without impurities by using a gram of thermal grease to paint on metal surface of heat sink.

Tightening up the 2 nuts in turn, the M4 nut torque of 1.2 NM , the M5 nut torque of 0.75NM.

It is suggested to disassemble and check whether the installation is correct, to ensure no bubbles between the metal coating and heat conduction layer.

**■ Dimension (Unit:mm)**



Panel Meter
Sensor Indicator
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Recorder
Signal Isolator
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Solid State Relay
Power Meter Introduction

## 2. RUA Series Solid State Relay(Single phase AC output)

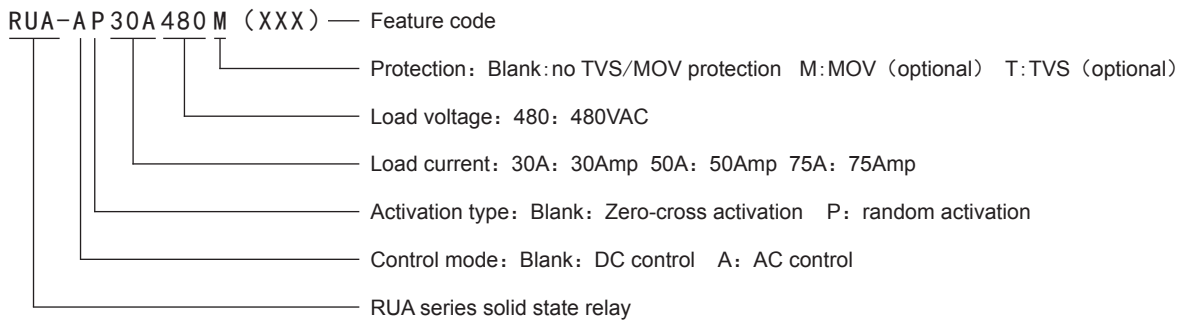
### ■ Photos and Features



#### Features:

- ★ Zero crossing or random turn-on switch.
- ★ Load current: 30A-75A@24-660VAC.
- ★ SCR output.
- ★ DC or AC input.
- ★ Medium withstand voltage 4000VACrms.
- ★ Optional built-in MOV protection or TVS protection.
- ★ Built-in RC protection.

### ■ Model Illustration



### ■ Ordering Information

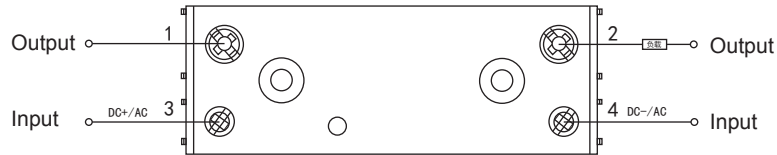
Model	Activation type	Control signal	Rated current	Voltage range	Code
RUA-(P)30A480	Blank: Zero-cross P: Random	4-32VAC	30A	24-530VAC	D0067RUA01
RUA-(P)50A480		4-32VAC	50A	24-530VAC	D0098RUA01
RUA-(P)75A480		4-32VAC	75A	24-530VAC	D0170RUA01

### ■ Technical Specifications

		Input parameters			Output parameters	
Input parameters	Control voltage range	DC control	4~32VDC	Output voltage range	480V	24-530VAC
		AC control	90~280VAC		Max turn-on time	DC control zero-cross
	Min turn-on voltage	DC control	4VDC	DC control random		10ms
AC control		90VAC	AC control	40ms		
Input parameters	Min shutdown voltage	DC control	1VDC	Max surge current [ @10ms ]	30A	460A
		AC control	15VAC		40A	600A
	Max input current	DC control zero-cross	15mA		75A	750A
DC control random		18mA	Max I <sup>2</sup> t value [ @10ms ]	30A	1058A <sup>2</sup> s	
AC control		25mA		40A	1800A <sup>2</sup> s	
		75A		2812A <sup>2</sup> s		
Other parameters	Medium Withstand voltage		4000Vrms	Max transient voltage	480V/600V 1200Vpk	
		Input/output/bottom	2500Vrms		Max off-state leakage current (@under rated voltage)	10mA
	Min power factor	0.5		Max conduction voltage drop (@Under rated current)		1.7Vrms
	Min load current	100mA~			Off-state voltage index rise rate dv/dt	500V/μs
	Environment temperature range	-30 C ~ +80 C				
	Storage temperature range	-30 C ~ +100 C				
	Weight	30A/50A	100g			
		75A	130g			

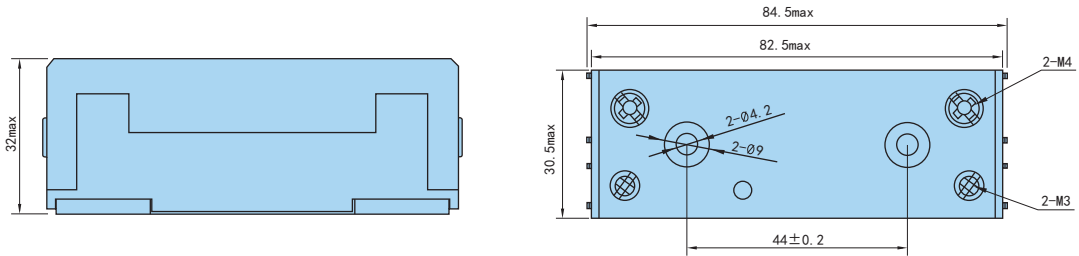
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/ Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

■ Connection

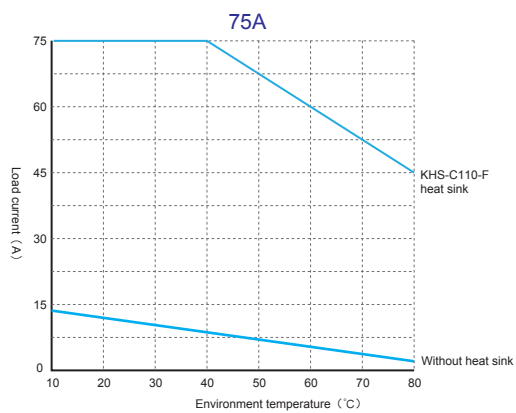
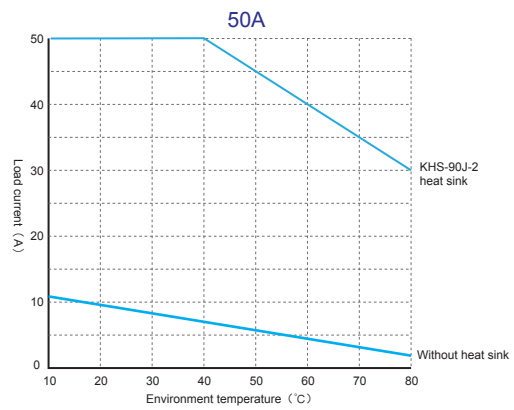
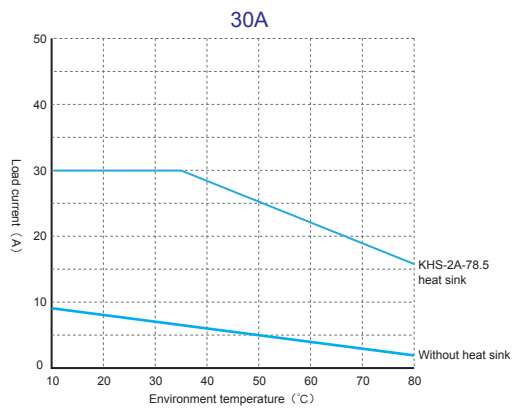


■ Dimension (Unit:mm)

Installation dimension

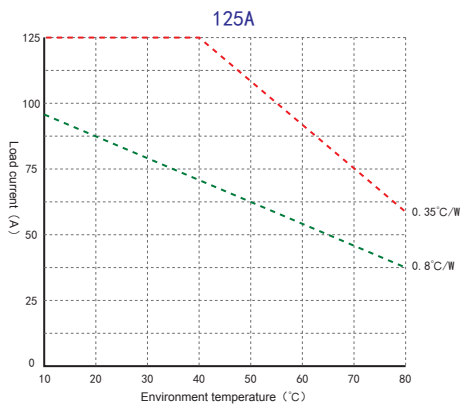
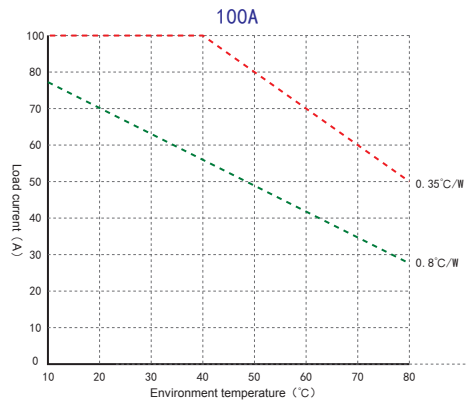
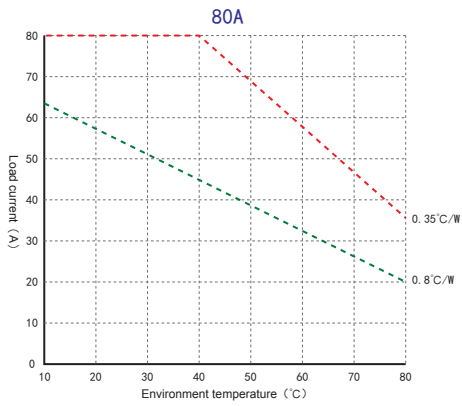
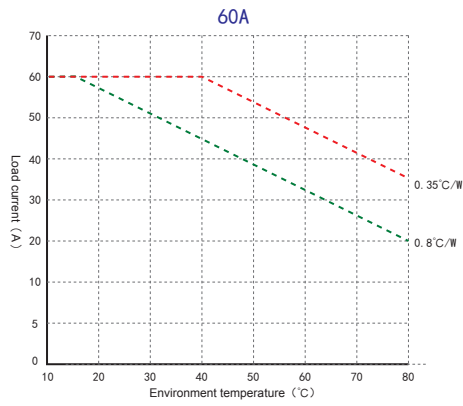
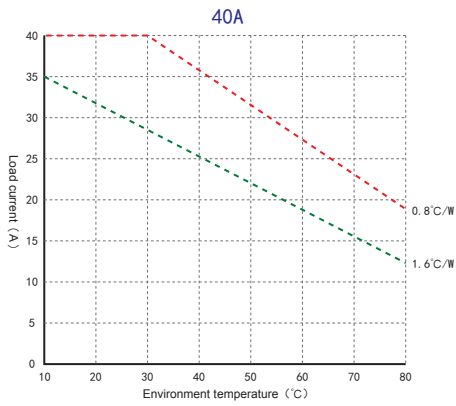
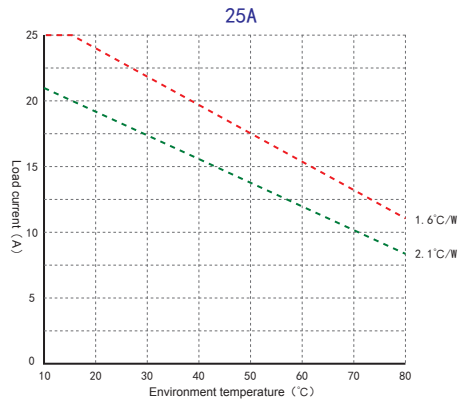
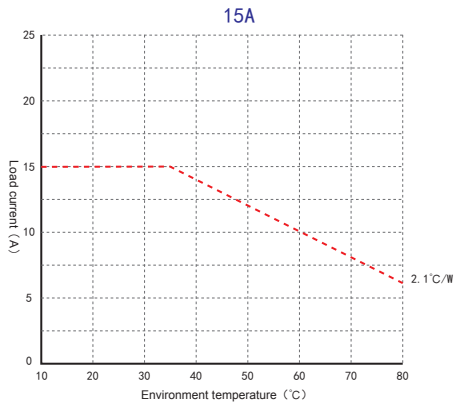


■ Temperature curve



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

■ Temperature curve



Panel Meter
Sensor Indicator
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Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction





## 4. RTA Series Solid State Relay (3-phase AC output)

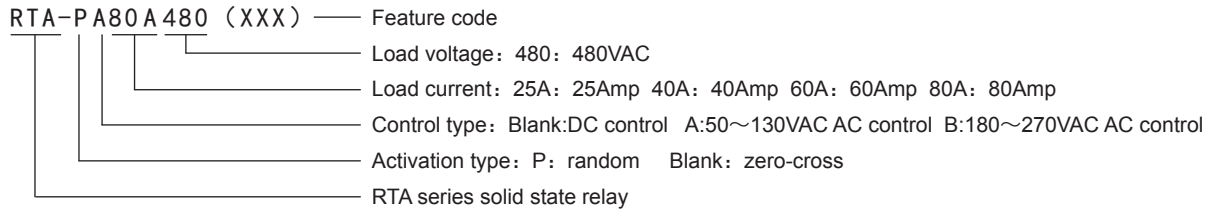
### ■ Photos and Features



#### Features:

- ★ Zero crossing or random conduction switch.
- ★ Load current: 25A, 40A, 60A, 80A.
- ★ SCR output.
- ★ Built-in RC circuit and MOV protection.
- ★ Optical isolation.
- ★ Suitable for three-phase motor control; furnace temperature control system; large ovens, etc.

### ■ Model Illustration



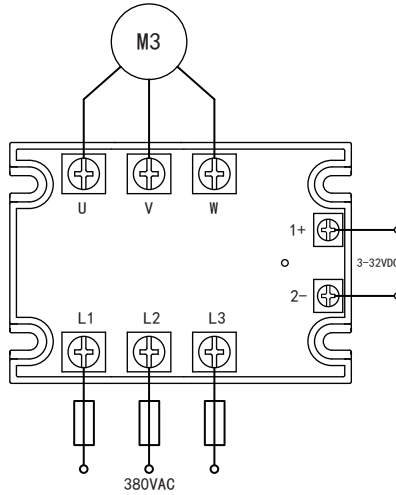
### ■ Ordering Information

Model	Activation type	Control signal	Rated current	Voltage range	Code	
RTA-(P)25A480	Blank: Zero-cross activation	4-32VDC	25A	24-530VAC	D0310RTA01	
RTA-(P)40A480		4-32VDC	40A	24-530VAC	D0380RTA01	
RTA-(P)60A480		4-32VDC	60A	24-530VAC	D0490RTA01	
RTA-(P)80A480		4-32VDC	80A	24-530VAC	D0630RTA01	
RTA-(P)A25A480		P: Random activation	90-130VDC	25A	24-530VAC	D0320RTA01
RTA-(P)B25A480			180-270VDC	25A	24-530VAC	D0320RTA01
RTA-(P)A40A480	90-130VDC		40A	24-530VAC	D0400RTA01	
RTA-(P)B40A480	180-270VDC		40A	24-530VAC	D0400RTA01	
RTA-(P)A60A480	90-130VDC		60A	24-530VAC	D0500RTA01	
RTA-(P)B60A480	180-270VDC		60A	24-530VAC	D0500RTA01	
RTA-(P)A80A480		90-130VDC	80A	24-530VAC	D0640RTA01	
RTA-(P)B80A480		180-270VDC	80A	24-530VAC	D0640RTA01	

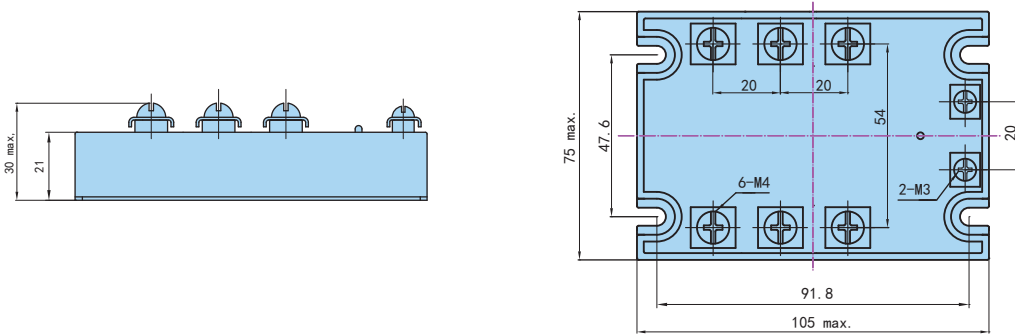
### ■ Technical Specifications

	Input Parameters	Control Voltage Range	AC Control	90~280VAC	Output Parameters	Output voltage range	480	48~530VAC	
			DC Control	4~32VDC			Max Conducting Time	AC control	40ms
	Mini conduction voltage	AC Control	90VAC			AC control(zero-cross)	10ms		
		DC Control	4VDC			DC control(random)	1ms		
	Minimum turn-off voltage	AC Control	15VAC		Max Closing time	AC control	40ms		
		DC Control	1VDC			DC control	10ms		
	Max reverse polarity voltage	DC Control	32VDC		Max impulse current [ @10ms ]	20A	300A		
	Max Input Current	AC Control	30mA@280VAC			40A	500A		
		DC Control	35mA@32VDC			60A	860A		
						80A	1280A		
				Max transient voltage	480V	1200Vpk			
	Other Parameters	Medium Withstand voltage [50/60Hz]	Input / output	4000Vrms	Max I <sup>2</sup> t value [ @10ms ]	25A	450A <sup>2</sup> s		
			Input/output/bottom	2500Vrms		40A	1250A <sup>2</sup> s		
		Working Temperature Range		-30°C~+80°C		60A	3698A <sup>2</sup> s		
		Storage Temperature Range		-30°C~+100°C		80A	8192A <sup>2</sup> s		
		Weight	25A/40A	385g		Max off-state leakage current (@under rated voltage)		5mA	
	60A/80A		530g	Max turn-on voltage drop (@under rated current)		1.6Vrms			
				Off-state voltage index rise rate dv/dt		500V/μs			

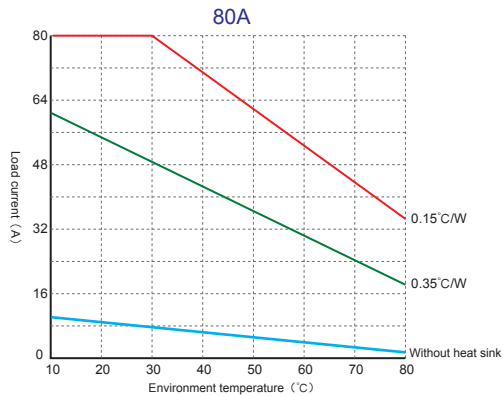
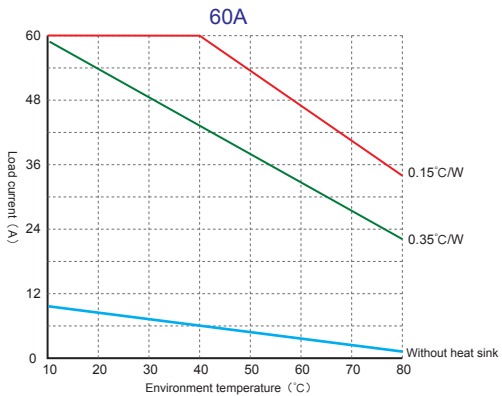
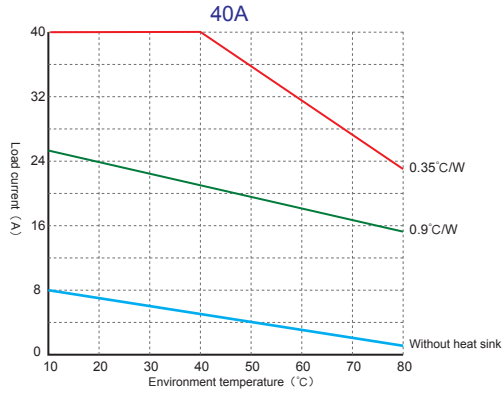
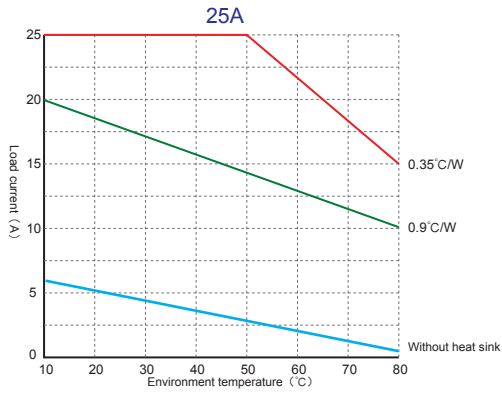
■ Connection



■ Dimension (Unit:mm)



■ Temperature curve



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## 5. RSYA Series Solid State Relay(Single phase AC output)

### ■ Photos and Features

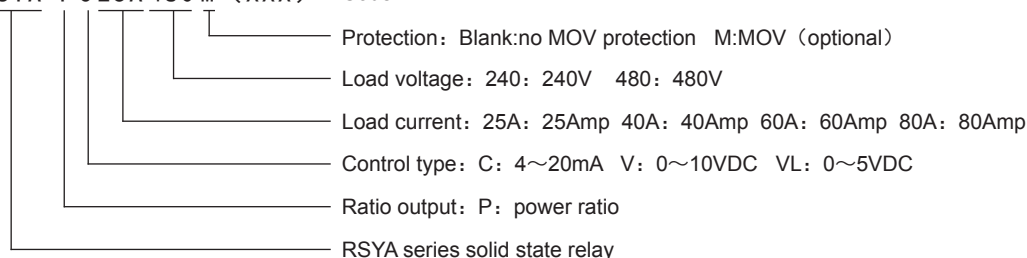


#### Features:

- ★ Load current: 25A,40A,60A,80A.
- ★ SCR output.
- ★ Control signal: 0~5VDC,0~10VDC,4~20mA.
- ★ Phase shift control output.
- ★ Optional built-in MOV protection

### ■ Model Illustration

RSYA-PC25A480M(XXX) - Code



### ■ Ordering Information

Model	Control signal	Rated current	Voltage range	Code
RSYA-PC25A240	4~20mA	25A	176~280VAC	D0180RSYA01
RSYA-PC40A240		40A	176~280VAC	D0210RSYA01
RSYA-PC60A240		60A	176~280VAC	D0240RSYA01
RSYA-PC80A240		80A	176~280VAC	D0290RSYA01
RSYA-PC25A480		25A	300~530VAC	D0190RSYA01
RSYA-PC40A480		40A	300~530VAC	D0230RSYA01
RSYA-PC60A480		60A	300~530VAC	D0270RSYA01
RSYA-PC80A480		80A	300~530VAC	D0310RSYA01
RSYA-PV25A240	0~10VDC	25A	176~280VAC	D0180RSYA01
RSYA-PV40A240		40A	176~280VAC	D0210RSYA01
RSYA-PV60A240		60A	176~280VAC	D0240RSYA01
RSYA-PV80A240		80A	176~280VAC	D0290RSYA01
RSYA-PV25A480		25A	300~530VAC	D0190RSYA01
RSYA-PV40A480		40A	300~530VAC	D0230RSYA01
RSYA-PV60A480		60A	300~530VAC	D0270RSYA01
RSYA-PV80A480		80A	300~530VAC	D0310RSYA01
RSYA-PVL25A240	0~5VDC	25A	176~280VAC	D0180RSYA01
RSYA-PVL40A240		40A	176~280VAC	D0210RSYA01
RSYA-PVL60A240		60A	176~280VAC	D0240RSYA01
RSYA-PVL80A240		80A	176~280VAC	D0290RSYA01
RSYA-PVL25A480		25A	300~530VAC	D0190RSYA01
RSYA-PVL40A480		40A	300~530VAC	D0230RSYA01
RSYA-PVL60A480		60A	300~530VAC	D0270RSYA01
RSYA-PVL80A480		80A	300~530VAC	D0310RSYA01

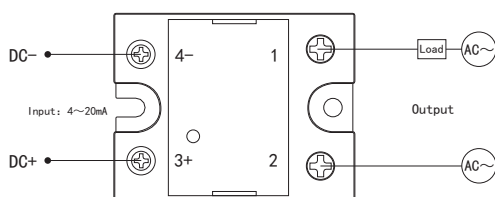
Technical Specifications

Input Parameters	Voltage control	Auxiliary power voltage range	10~32VDC	Output Parameters	Load voltage range	240	176~280VAC	
		Control voltage range	VL			0~5VDC	480	300~530VAC
			V		0~10VDC	Max surge current [ @10ms]	25A	250A
		Conduction voltage	VL		0.1VDC max		40A	400A
			V		0.2VDC max		60A	600A
		Turn-off voltage	VL		0.05VDC min		80A	800A
	V		0.1VDC min		Max transient voltage	600Vpk		
	Current control	Input resistance	VL			30kΩTYP.	1200vpk	
			V		60kΩTYP.	Output power	0~99%	
		Control voltage range	4~20mA		Frequency range	47~63Hz		
Conduction current		4.6mA max	Max off-state leakage current (Under rated voltage)	5mA				
Other Parameters	Medium Withstand voltage [50/60Hz]	Input / output	4000Vrms	Off-state voltage index rise rate dv/dt	500V/μs			
		Input/output/bottom	2500Vrms	Storage Temperature Range	-30°C~+100°C			
	Insulation resistance(@500VDC)	1000MΩ	Weight (typical value)	120g				
	Working Temperature Range	-30°C~+80°C	LED indicator	Switching indication				
				LED introduction	LED(green)when item switched on, LED on			

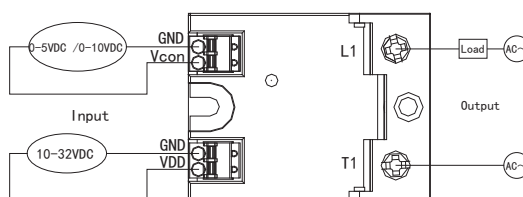
Remark: (1) During current control, the drive voltage capability must be above 10V.

Connection

Current controlled items



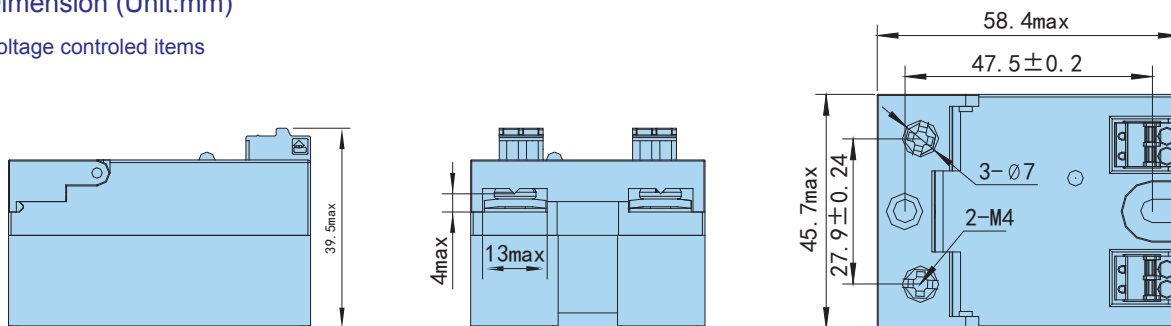
(2) Voltage controlled items



Remark:(2) The auxiliary power supply GND and the control signal GND are internally short-circuited and use one terminal together. If the external control signal and the power supply are not connected through same terminal, then the GND signals of both need to be connected separately.

Dimension (Unit:mm)

Voltage controlled items

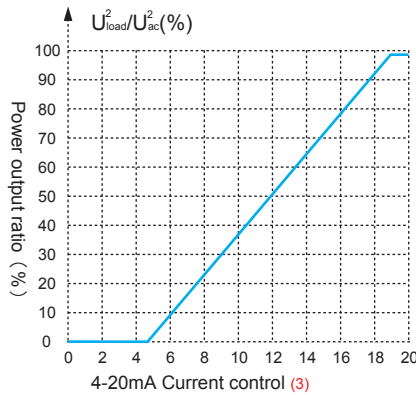
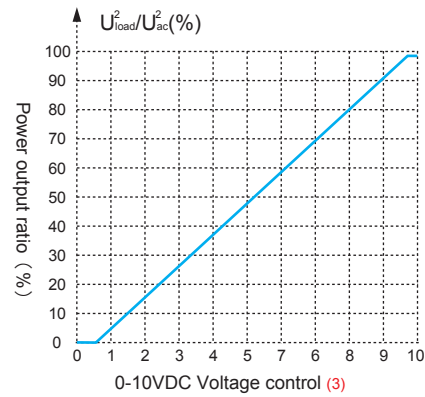
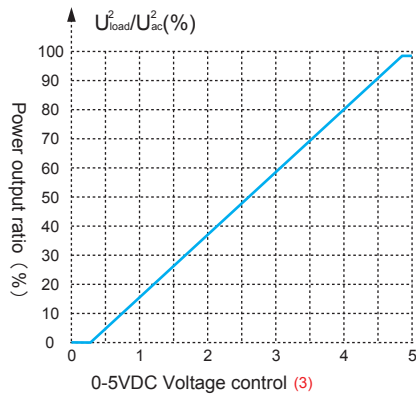


Use copper terminal for wiring	
Input::W=12mm max	
Wire size	Input:max 1.5mm <sup>2</sup>
	Output:max 7mm <sup>2</sup>
Recommended installation torque	Output:0.98-1.37N·m

Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/ Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

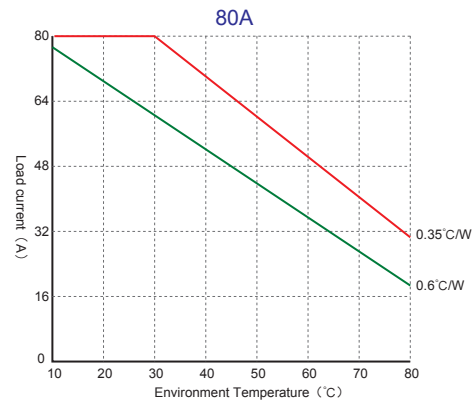
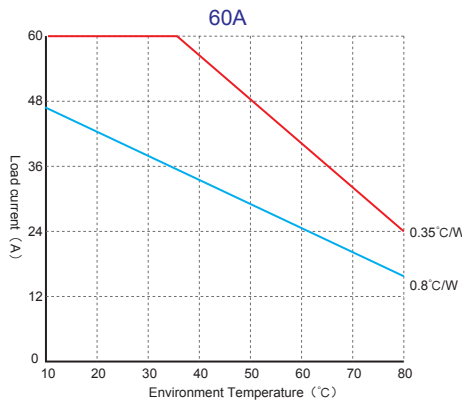
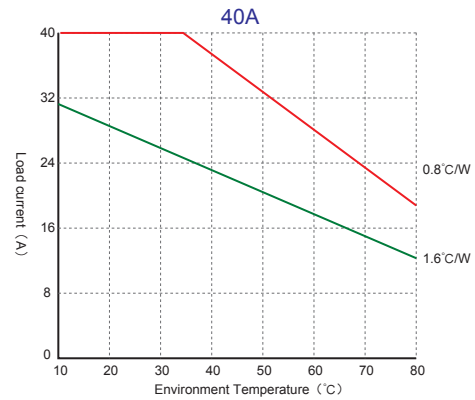
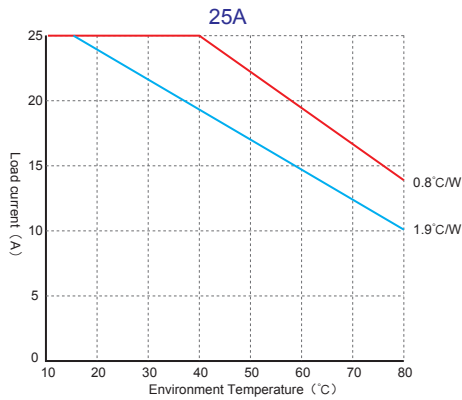
Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

■ Output/Ratio control characteristics



Remarks: (3) The output curves are all measured under 50Hz conditions.

■ Temperature Curve



## 6. RTYA Series Solid State Relay (3-phase)

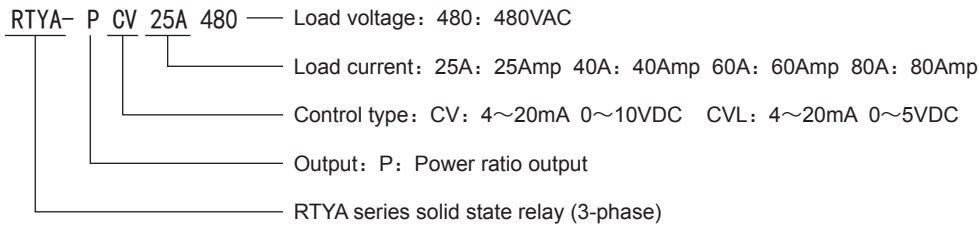
### ■ Photos and Features



#### Features:

- ★ SCR output is suitable for heavy industrial loads.
- ★ Control input mode 0-5V, 0-10V, 4-20mA.
- ★ Built-in RC protection, MOV protection.
- ★ High impulse group immunity, surge immunity design.
- ★ Phase shift control output.
- ★ IP20 protection design.

### ■ Model Illustration



### ■ Ordering Information

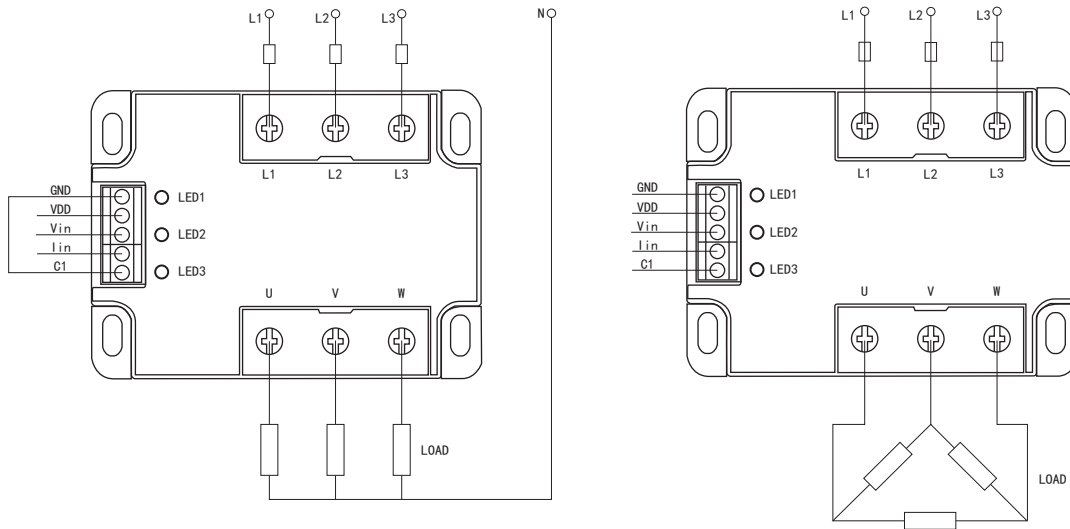
Model	Control signal	Rated current	Voltage range	Code
RTYA-PCV/CVL 25A480	CV: 4~20mA 0~10VDC CVL: 4~20mA 0~5VDC	25A	180-530VAC	D1110RTYA01
RTYA-PCV/CVL 40A480		40A	180-530VAC	D1200RTYA01
RTYA-PCV/CVL 60A480		60A	180-530VAC	D1300RTYA01
RTYA-PCV/CVL 80A480		80A	180-530VAC	D1620RTYA01

### ■ Technical Specifications

Input Parameters	Control voltage range	VL	0~5VDC	Output Parameters	Load voltage range	480VAC	180~530VAC
		V	0~10VDC			Load current range [@10ms]	25A
	Control current range		4-20mA		40A	400A	
	Input resistance [Typical value]	0-5V	110kΩ	Max I <sup>2</sup> t value [@10ms]	60A	600A	
		0-10V	22kΩ		80A	1250A	
	Conduction voltage	4-20mA	200kΩ		25A	450A <sup>2</sup> s	
		VL	≤0.2VDC		40A	800A <sup>2</sup> s	
	V	≤0.4VDC	60A	1800A <sup>2</sup> s			
	Conduction current		≤4.5mA	80A	7800A <sup>2</sup> s		
	Turn-off voltage		≥0.1VDC	Max transient voltage	480VAC	1200Vpk	
	Turn-off current		≥3.9mA	Max off-state leakage current (Under rated voltage)		5mA	
	External power supply range		10~32VDC	Max conduction voltage drop (@Under rated current)		1.6Vrms	
Other Parameters	Medium Withstand voltage [50/60Hz]	Input / output	4000Vrms	Off-state voltage index rise rate dv/dt		500V/μs	
		Output/bottom	2500Vrms	Insulation resistance (@500VDC)		1000MΩ	
	Pulse group immunity level	IEC61000-4-4	2kV/100kHz	Working Temperature Range		-30°C~+80°C	
	Surge immunity level	IEC61000-4-5	2kV 1kV	Storage Temperature Range		-30°C~+100°C	
Electrostatic discharge immunity level	IEC61000-4-6	4kV/contact discharge, 8kV/air discharge		Weight (Typical value)	25A/40A	360g	
					60A/80A	560g	

Panel Meter
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Power Meter Introduction

■ Connection



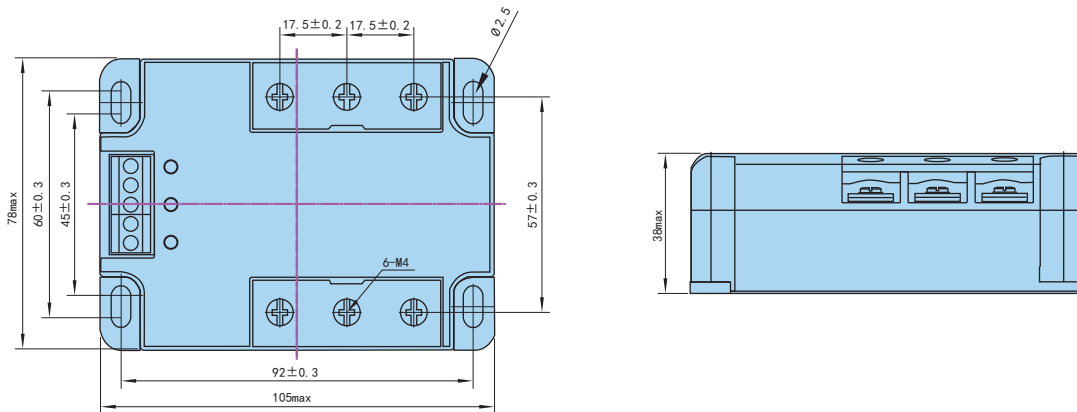
GND: Common negative terminal  
VDD: positive power supply

C1: Load type selection, C1 floating or connected to VDD means the load is not connected to the neutral line, C1 connected to GND means the load is connected to the neutral line.

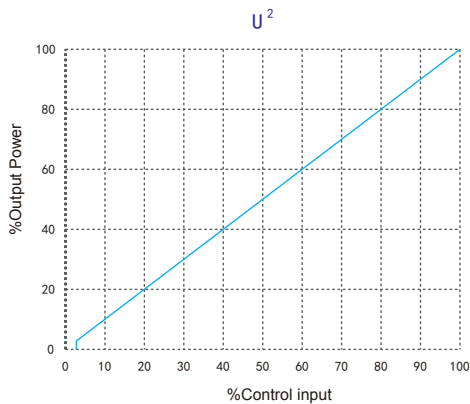
VIN: Voltage control input  
IIN: Current control input

LED1: The LED light is on when the power supply is connected  
LED2: The LED is on when there is output  
LED3: The LED is on when 3-phase undervoltage fault occurs

■ Dimension (Unit:mm)

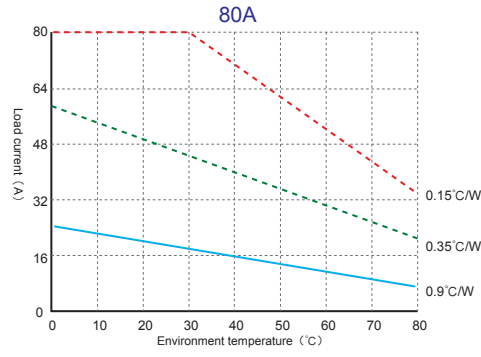
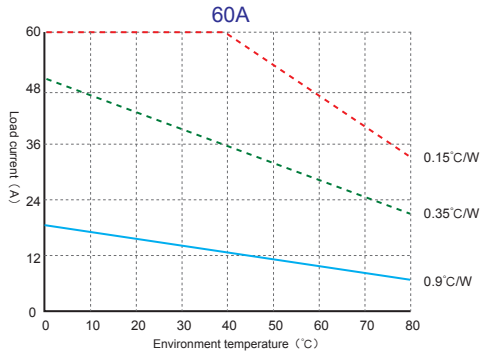
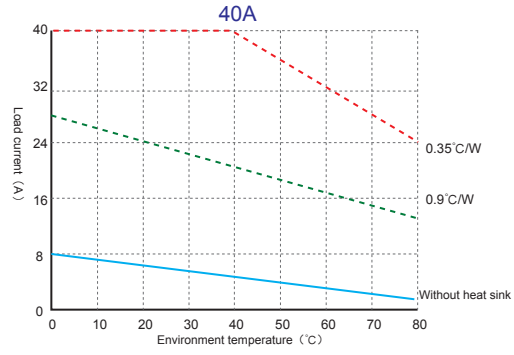
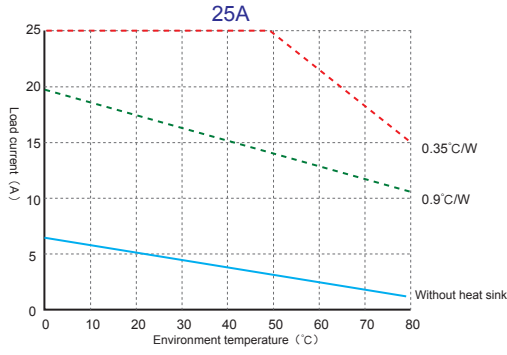


■ Output/ratio and mode control characteristics





■ Temperature curve



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
Solid State Relay
Power Meter Introduction

## Power meter introduction (please contact TOKY sales for catalogue)

### 1. Multi function power meter series

Panel Meter
Sensor Indicator
Temperature Controller
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Recorder
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Proximity Sensor
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Power Meter Introduction

#### DR9 3 Phase Multi-function Power Recorder

- ★ 3.5" 320\*240 TFT display, Chinese and English display
- ★ Measure the true RMS voltage, current, frequency, active power, reactive power, power factor, active power value, reactive power value and other parameters in the three-phase AC circuit.
- ★ Real-time curve recording of voltage, current, active power, reactive power, power factor, active power value, and reactive power value can generate various data reports.
- ★ Data storage and transfer via USB, SD card, Data viewing, table analysis, graph analysis, etc. through PC software.



#### DW9T TFT 3 Phase Multi-function Power Meter

- ★ 3.5" 320\*240 TFT display, Chinese and English display.
- ★ Standard three phase voltage and current, total harmonic measurement, and 32 harmonic measurement ( read through communication).
- ★ Optional 8 time periods, 4 kinds of rate statistics functions
- ★ With max demand statistics function, including current, active & reactive power.
- ★ 32 events record function, modify parameters and alarm actions and other events.
- ★ Measure 28 electrical parameters such as voltage, current, active power, reactive power/frequency/power factor, etc.
- ★ RS485 communication interface (up to 2 channels), modbus RTU protocol.
- ★ Up to 4 channels of switch input & output, input & output fully isolated, with DI & DO function.
- ★ Optional 1 channel or 2 channels 4 ~ 20mA analog transmission output.



#### DW9L 3 phase multi-function power meter

- ★ Segment LCD display (white backlight)
- ★ Measure 28 parameters such as voltage, current, active power, frequency, power factor.
- ★ Active energy, reactive energy, four-quadrant reactive energy metering function, and pulse output port
- ★ Standard RS485 communication interface, Modbus RTU protocol.
- ★ Standard 4 switch inputs and 2 switch outputs, input & output fully isolated, with DI & DO function.
- ★ Optional 1 channel 4 ~ 20mA analog transmission output.
- ★ Standard 3 phase voltage and current sub-harmonic measurement (2 ~ 32 times)
- ★ Standard 8 time periods, 4 kinds of rate statistics function (multiple rate function)



#### DW9E 3 phase multi-function power meter

- ★ Measure 28 parameters such as voltage, current, active power, reactive power, frequency, power factor.
- ★ 4 switch inputs and 2 alarm outputs, input & output fully isolated, with remote control and telemetry functions.
- ★ Measure voltage, current, active power, reactive power, frequency, power factor, with 4 ~ 20mA analog transmission output.
- ★ 2 Channels energy pulse output.
- ★ 2 Channels programmable alarm.
- ★ Optional 1 channel 4 ~ 20mA transmission output.



#### DS series 3 phase multi-function power meter

- ★ Measure 3 phase voltage, current, active power, frequency, power factor, etc., total 28 parameters.
- ★ 2 switch inputs and 2 switch outputs (optional 4 switch inputs).
- ★ Optional RS485 interface, Modbus RTU protocol.
- ★ Optional 2 channels switch input (DS7L/DS7E).



## 2. Multi-function energy meter series

### DTSD8080/DSSD8080 3 phase energy meter

- ★ Comply with energy meter standard of GB/T 17215.301-2007.
- ★ Comply with the energy accuracy standard of GB/T 17215.322-2008 0.2S.
- ★ The communication protocol compatible with DL/T 645-2007 protocol.
- ★ With functions such as forward/reverse active energy, four-quadrant energy, time-sharing metering, multiple rate metering, etc.
- ★ With complete demand, event recording, freezing function, power outage meter reading, etc.
- ★ With measurement functions of full power parameters, such as voltage, current, power, frequency, power factor, etc.
- ★ With 1 infrared communication interface and 2 RS485 communication interfaces.
- ★ With relay control function, it can be remotely controlled or programmed to control the field signal.



### DDZY8080-L series din rail single-phase energy meter

- ★ Multi active energy accuracy for option (0.5S, 1.0 level)
- ★ When the load current is  $\leq 80A$ , no external current transformer is required (only for 5 (80) A products).
- ★ One RS485 communication interface, MODBUS-RTU or DL/T645-2007 protocol optional.
- ★ Segment LCD, white backlight, display electrical parameters and energy in 2 rows.
- ★ True effective value measurement, electrical parameters, energy information can be fixed display, automatic cycle display or switch display through the panel buttons.
- ★ Comply with the energy meter standard of DL/T 614 and GB/T 17215.
- ★ Optional multi-rate function, up to 12 time periods can be set a day, 4 rates.



### DTSD8080-L series DIN rail 3 phase energy meter

- ★ Multi active energy accuracy for option (0.5S, 1.0 level)
- ★ When the load current is  $\leq 80A$ , no external current transformer is required (only for 5 (80) A products).
- ★ One RS485 communication interface, MODBUS-RTU or DL/T645-2007 protocol optional.
- ★ Segment LCD, white backlight.
- ★ True effective value measurement, electrical parameters, energy information can be fixed display, automatic cycle display or switch display through the panel buttons.
- ★ Comply with the energy meter standard of DL/T 614 and GB/T 17215.
- ★ Optional multi-rate function, up to 12 time periods can be set a day, 4 rates.



### DTSD8080-4L series 3 phase multi-channel energy meter

- ★ Can monitor various parameters such as voltage & current consumption of 4 channels 3 phase circuits, and active energy, reactive energy.
- ★ Wall-mounted fixed installation or standard DIN rail installation.
- ★ With lead-sealable wiring protective cover to prevent random changes to the wiring.
- ★ The wiring terminal is convenient for wiring and reliable connection.
- ★ LCD display shows multi-channel measured parameters at the same time.
- ★ Rated current 3\*1.5 (6) A, convenient to choose 1/5A standard current transformer.
- ★ Convenient installation, flexible wiring. Suitable for the power distribution metering of newly built facilities, transformation of old power distribution systems, large-scale commercial facilities, apartment dormitories, industrial enterprises and residential use.



### DDZY8080-12Q series single-phase multi-channel energy meter

- ★ A single meter connected to 12 single-phase load circuits (measure 3 phase voltage at the same time, and each phase distributes 4 current loads).
- ★ 90mm wide DIN rail installation, standard external transformer for direct input, saving installation space.
- ★ Each channel independently measures voltage, current, power, power factor, and electric energy metering, etc.
- ★ With RS485 communication interface for remote monitoring and data recording.
- ★ Each channel adopts independent A/D measurement chip to effectively ensure the sampling speed and measurement accuracy.
- ★ 0.5S energy measurement accuracy, 0.2% FS voltage & current measurement accuracy.
- ★ Passed industrial grade EMC, safety regulations, environment and other type verification.



Panel Meter
Sensor Indicator
Temperature Controller
Counter
Timer Relay
Tacho/Speed/Pulse Meter
Recorder
Signal Isolator
Rotary Encoder
Proximity Sensor
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Power Meter Introduction

### 3. Power protection devices, APF, SVG

#### DAPF series active filter

- ★ Used to reduce the harmonic energy consumption in the circuit to save energy.
- ★ Effectively suppress the hidden dangers of electromagnetic interference signals from the power grid on weak current equipment or high-precision instruments.
- ★ Avoid the safety impact of system resonance on electrical equipment
- ★ High-speed IGBT response ensures the equipments' efficient tracking compensation.
- ★ Unique optional harmonic compensation function of specific order.
- ★ Harmonic, reactive power and unbalanced load compensation mode.
- ★ >97% work efficiency, low loss.
- ★ 3DSP+CPLD full digital control mode.
- ★ Three-level inverter circuit.
- ★ Fast FFT and instantaneous reactive power algorithm methods.
- ★ Modular design, stable system, can withstand -40%~20% voltage fluctuation.
- ★ 3.8" full-featured LCD monitoring system with PC-side enhanced software.



#### DCP series microcomputer protector

- ★ All-metal body design, with strong anti-interference ability to ensure no malfunction.
- ★ All measurements are processed and calculated by digital filtering to ensure the reliability and safety.
- ★ Complete self-check system, real-time self-check on RAM, ROM, fixed value, relay, AD channel, display OLED.
- ★ Event sequence record, display event and protection action information, automatically accumulate records.
- ★ Lightning protection RS485 communication, MODBUS protocol, with remote unit management function.
- ★ Multi-level password management, the password must be entered when setting, so as to prevent the operator from changing the set value by mistake.
- ★ 2% protection accuracy, the highest level in the industry.
- ★ The quick break time is < 30ms, industry demand is 40ms.



#### QW series intelligent motor protection controller

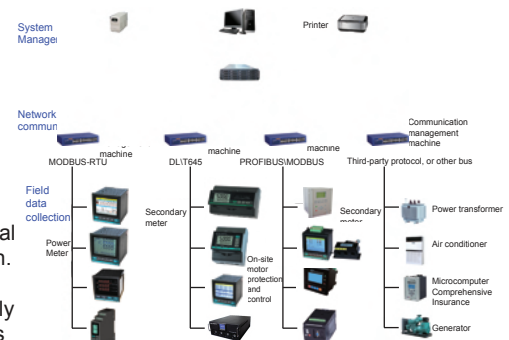
- ★ Color LCD display, rich man-machine interface, intuitive and simple operation.
- ★ Comprehensive motor digital protection function, action recording, communication, analog output, etc.
- ★ With electric shock self-starting function, can realize the batch restart of the motor.
- ★ Start-stop control function, supports almost all start-up methods, and can be controlled by remote communication.
- ★ Ultra-miniature design, split structure.
- ★ 10 switch input monitoring, 64 SOE event recording function.
- ★ 5 channel relays intelligent control output.
- ★ More than 20 three-phase power measurement functions, color interface and simulate various status indication functions.
- ★ With 2 RS-485 interface (MODBUS-RTU protocol), can extend Ethernet and other interfaces.



### 4. Power monitoring system

#### PMS2.0 energy efficiency management and power monitoring system software

- ★ It adopts one or more combination of field bus, optical fiber ring network or wireless communication to realize the optimized networking mode, remote substation and distribution monitoring, energy centralized reading and energy quality management. Rich protocol library supports seamless access of third-party intelligent equipment.
- ★ Through the integrated comprehensive monitoring and management of the power supply and distribution system, while saving labor costs, it also improves the management quality and management efficiency of the power supply and distribution system.
- ★ The system's early warning and alarm functions help users eliminate potential accidents and improve the effectiveness and accuracy of accident resolution.
- ★ Professional and comprehensive real-time data and historical data not only allow users to grasp the current equipment operating status and power supply quality timely and accurately, but also provide users with a strong data basis for optimizing energy consumption distribution and balancing load.



\*Please contact us for detailed power meter catalogue.