THG-IP Series Current Input Distribution Isolator

- DC24V power supply provides isolated distribution power for on-site transmitters, while transmitting the current signal generated by the transmitter from the on-site isolation to the control room, PLC, DCS, etc

- Input interface current source, universal for two wire and three wire transmitters; Internally, efficient magnetoelectric isolation technology is used, with input, output, and power sources isolated from each other, featuring high accuracy, high linearity, and low temperature drift.

- DIN rail independent installation method; Adopting a plug-in structure, the host and base can be equipped with electric plug and unplug for easy installation and maintenance.

SELECTION TABLE

THG-IP	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		1		4-20mA
		2		0-20mA
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

THG-IPXXX
Eg: THG-IP111,1 IN 1 OUT,both input and output are DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA;0-20mA
Distribution voltage:24V DC (max driving current 30mA)
Input impedance: ≤50Ω

Output

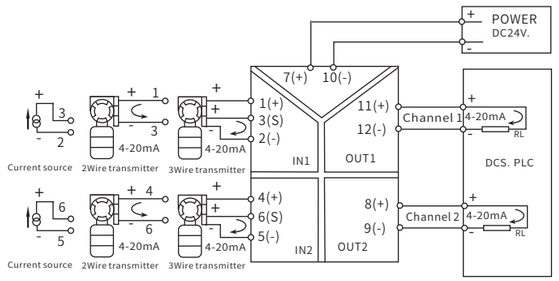
Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL≤500Ω (Output is current signal)
RL≥10KΩ (Output is voltage signal)

Basic Parameter

Power supply: DC24V±10%
Consumption current: ≤50mA (1 IN 1 OUT,DC24V,when 20mA output)
≤70mA (1 IN 2 OUT,DC24V,when 20mA output)
≤100mA (2 IN 2 OUT,DC24V,when 20mA output)
Basic accuracy: ≤0.1%F.S
Temperature drift:0.005%F.S/℃ (-20℃~+55℃)
Response time:≤10mS(0-90%)(TYP)
Insulation strength:1500VAC/1min(Between input,output and power)
Insulation resistance:≥100MΩ(Between input,output and power)

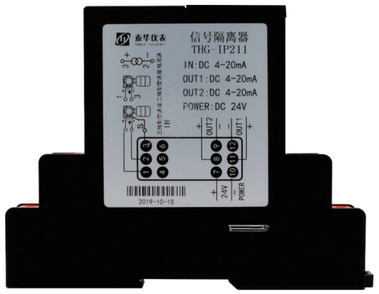
Working temperature range:-20~+55℃
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)
Applicable Field Equipment: 2Wire,3wire transmitter,current source

WIRING DIAGRAM

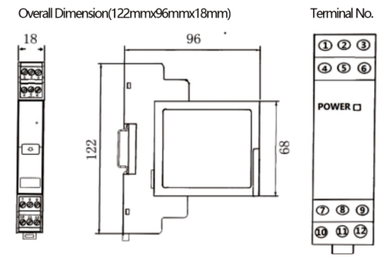


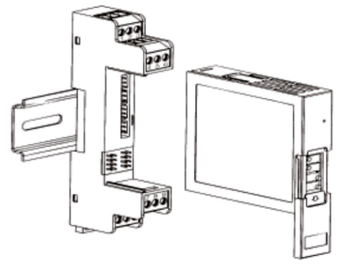
THG-IP511,2 IN 2 OUT

Note:1 IN 1 OUT,THG-IP111,only include channel 1 part
THG-IP211,1 IN 2 OUT,only include input of channel 1 part



OVERALL DIMENSION





THG-I/U Series Current/Voltage Input Isolator

- DC24V power supply converts current or voltage signals from industrial sites into standard signals through isolation and transmission to control rooms, PLC, DCS, etc.

- Internally, efficient magnetoelectric isolation technology is used, with input, output, and power sources isolated from each other, featuring high accuracy, high linearity, and low temperature drift.

- DIN rail independent installation method; Adopting a plug-in structure, the host and base can be equipped with electric plug and unplug for easy installation and maintenance.

SELECTION TABLE

THG-I/U	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		1		4-20mA
		2		0-20mA
		4		0-75mA
		5		0-5V
		7		0-10V
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

THG-IXXX

EG:THG-I111,1 IN 1 OUT,Input&output are DC 4-20mA.

THG-UXXX

EG:THG-U141，I IN 1 OUT，Input:0-75mV、output:4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA;0-20mA

Distribution voltage: 24V, (maximum driving current 30mA)

Input impedance: current input ⩽ 50 Ω;

voltage input ⩾ 300K Ω

Output

Output signal:4-20mA;0-20mA;0-5v;0-10v

Output load resistance:RL⩽500Ω (Output is current signal)

RL⩾10KΩ (Output is voltage signal)

Basic Parameter

Power supply: DC24V±10%

Consumption current: ⩽50mA (1 IN 1 OUT,DC24V,when 20mA output)

⩽70mA (1 IN 2 OUT,DC24V,when 20mA output)

⩽100mA（2 IN 2 OUT,DC24V,when 20mA output）

Basic accuracy: ⩽0.1%F.S

Temperature drift:0.005%F.S/℃ (-20℃~+55℃)

Response time:⩽10mS(0-90%)(TYP)

Insulation strength:1500VAC/1min(Between input,output and power)

Insulation resistance:⩾100MΩ(Between input,output and power)

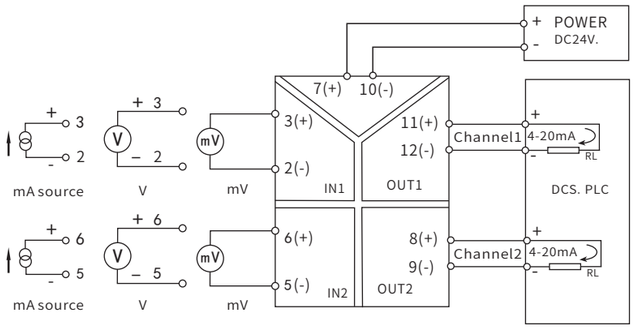
Working temperature range:-20~+55℃

Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)

Applicable Field Equipment: Voltage signal output equipment;

Current source

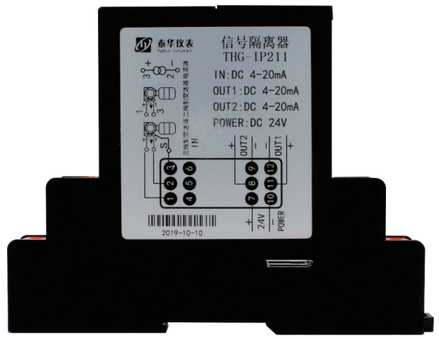
WIRING DIAGRAM



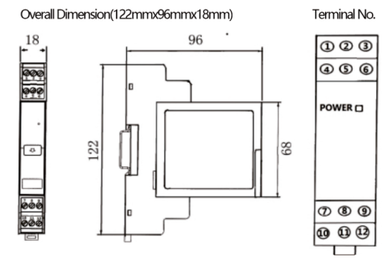
THG-I511,2 IN 2 OUT

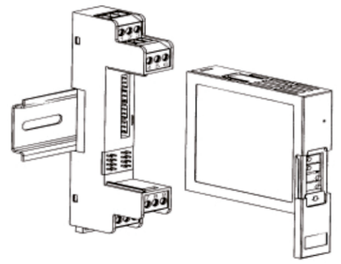
Note: 1 In 1 out THG-I111 only includes the part of channel 1

THG-IP11 1In 2 out, nly includes channel 1 input



OVERALL DIMENSION





THG-I Series Passive Isolator

- The THG series passive isolators do not require external power supply, and are powered from the input side to isolate and output the 4-20mA DC current signals of various equipment in the industrial field after interference suppression.

- DIN rail independent installation method; Adopting a plug-in structure, the host and base can be equipped with electric plug and unplug for easy installation and maintenance.

SELECTION TABLE

THG-I	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		0		4-20mA (Input side power supply)
Output Signal			1	4-20mA

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

THG-XXX

EG:THG-101,1 IN 1 OUT,Input side power supply，Input&output are DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA

Pressure drop: 3V, (When input is 20mA)

Input impedance: ⩽150 Ω+output load resistance(THG-101);

Output

Output signal:4-20mA

Output load resistance:RL⩽350Ω (THG-101)

Basic Parameter

Power supply: None

Basic accuracy: 0.2%F.S

Temperature drift:0.005%F.S/℃ (-20℃~+55℃)

Response time:⩽10mS(0-90%)(TYP)

Insulation strength:1500VAC/1min(Between input,output and power)

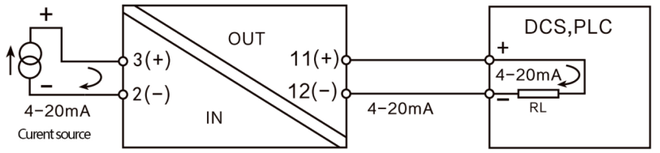
Insulation resistance:⩾100MΩ(Between input,output and power)

Working temperature range:-20~+55℃

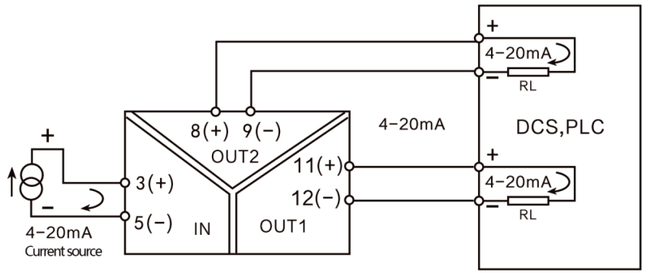
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)

Applicable Field Equipment: Current source

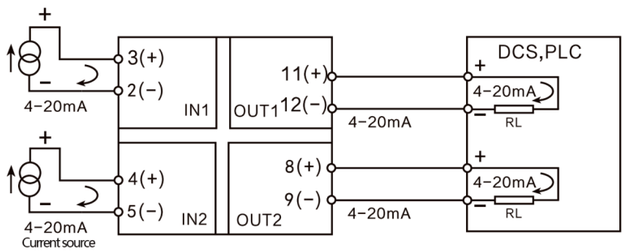
WIRING DIAGRAM



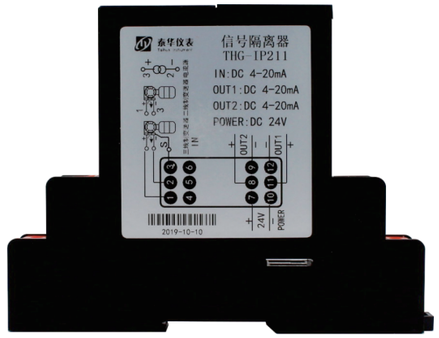
THG-101,1 IN 1 OUT



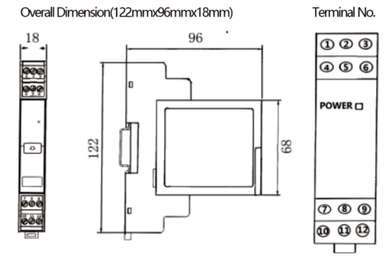
THG-201,1 IN 2 OUT

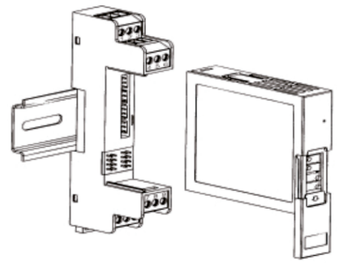


THG-501,2 IN 2 OUT



OVERALL DIMENSION





THG-RP Potentiometer Signal Isolator

- Receive the sliding resistance signal on site, transform it into standard signals such as 4-20mA, 0-5V with linear resistance values, and output it to DCS or other secondary instruments. Contains a sensor constant voltage source.

- DIN rail independent installation method; Adopting a plug-in structure, the host and base can be equipped with electric plug and unplug for easy installation and maintenance.

SELECTION TABLE

THG-RP	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		A		0-500Ω
		B		0-1KΩ
		C		0-5KΩ
		D		0-10KΩ
Output Signal			1	4-20mA
			2	0-20mA
			5	0-5V
			7	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

THG-RP1XX
EG:THG-RP1D1,1 IN 1 OUT,Input:0-10KΩ, output：DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: Potentiometer signal, Input total resistance value：500Ω-10KΩ
Excitation voltage:2.5V or 5V

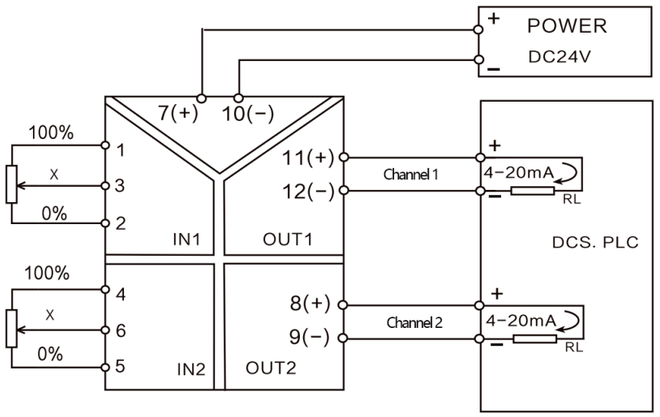
Output

Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL≤500Ω (Output is current signal)
RL≥10KΩ (Output is voltage signal)

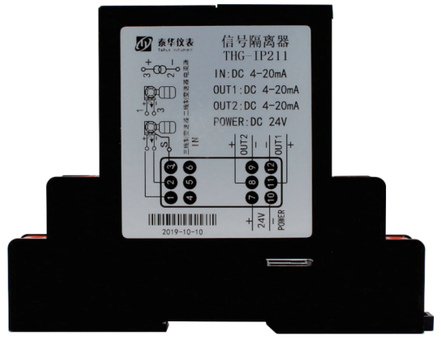
Basic Parameter

Power supply: DC24V±10%
Consumption current: ≤30mA (1 IN 1 OUT,DC24V,when 20mA output)
≤50mA (1 IN 2 OUT,DC24V,when 20mA output)
≤60mA（2 IN 2 OUT,DC24V,when 20mA output）
Basic accuracy: 0.1%F.S
Temperature drift:0.005%F.S/℃ (-20℃~+55℃)
Response time:≤10mS(0-90%)(TYP)
Insulation strength:1500VAC/1min(Between input,output and power)
Insulation resistance:≥100MΩ(Between input,output and power)
Working temperature range:-20~+55℃
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)
Applicable Field Equipment: Potentiometer

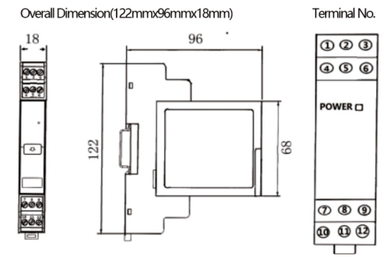
WIRING DIAGRAM

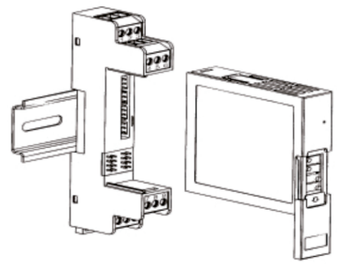


THG-RP5X1,2 IN 2 OUT
Note: 1 In 1 out THG-RP1X1 only includes the part of channel 1
THG-RP2X1 1 In 2 out, only include channel 1 input



OVERALL DIMENSION





TSG-RP SeriesUniversal Signal Isolator (Intelligent)

● The TSG-TP series universal signal input isolator is used for inputting signals such as current, voltage, millivolts, thermal resistors, thermocouples, potentiometers, etc. After isolation, it outputs standard current/voltage signals to the control room, PLC, DCS, and display instruments.

● Power distribution can be switched through different wiring methods, including current, voltage, millivolts, thermal resistance, thermocouples, potentiometers, and other signal inputs.The signal type, measurement range, alarm parameters, etc. can be programmed through PC software.

● High reliable isolation of input, output, and power ports; DIN rail independent installation method; Adopting a plug-in structure, the host and base can be equipped with electric plug and unplug for easy installation and maintenance.

SELECTION TABLE

TSG-TP	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		U		Universal signals (including signals such as current, voltage, millivolts, thermal resistance, thermocouples, potentiometers, etc.)
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

TSG-TPXX
EG:TSG-TP2U1/PT100,0-100
1 IN 2 OUT,Input:PT100(0-100℃)，output：DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: PT100,Cu50,Ni1000 etc. thermal resistance,B、E、J、K、N、R、S、T etc. thermocouple
Voltage(measurement range:0-10V)
Millivolt(measurement range:0-100mV~+100mV)
Current source(measurement range:0-20mA)
Resistance, potentiometer(Max range:0-5K)
Measurement range:Depending on the type of sensor used

Output

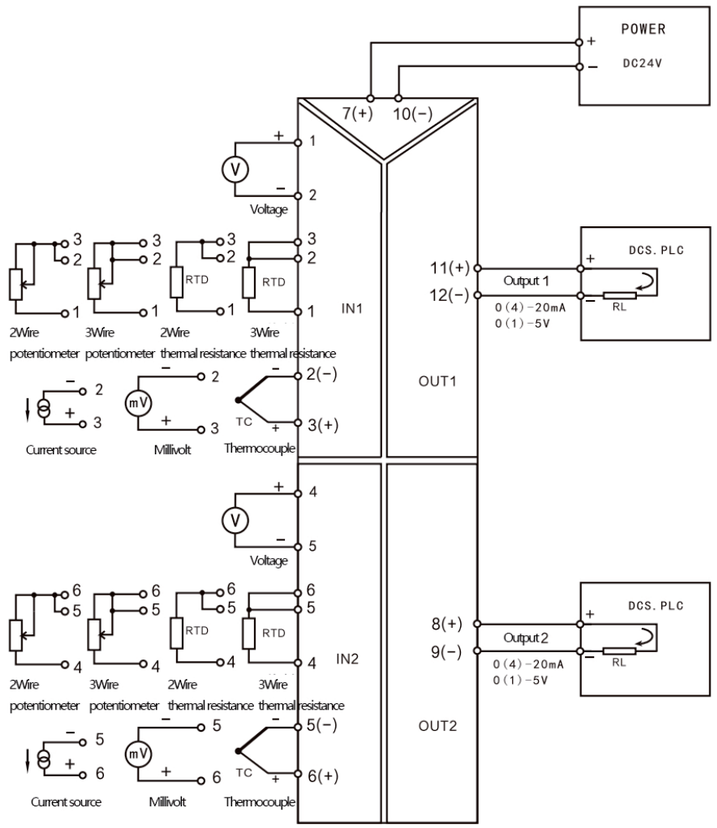
Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL≤500Ω (Output is current signal)
RL≥10KΩ (Output is voltage signal)

Basic Parameter

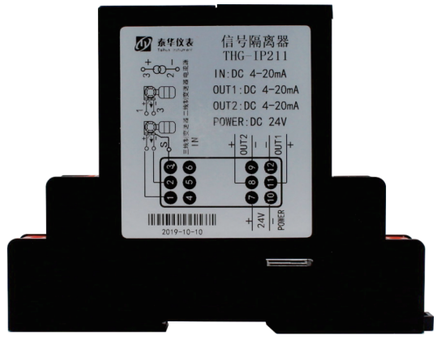
Power supply: DC24V±10%

Consumption current: ≤50mA (1 IN 1 OUT,DC24V,when 20mA output)
≤70mA (1 IN 2 OUT,DC24V,when 20mA output)
Basic accuracy: 0.2%F.S
Response time:≤1S(0-90%)(TYP)
Insulation strength:1500VAC/1min(Between input,output and power)
Insulation resistance:≥100MΩ(Between input,output and power)
Working temperature range:-20~+55℃
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)

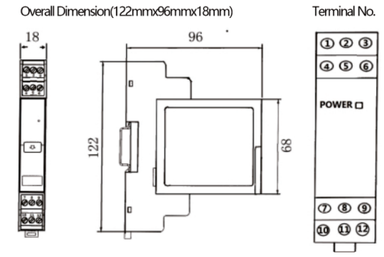
WIRING DIAGRAM

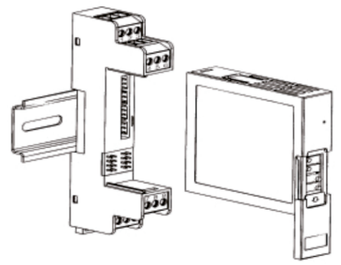


TSG-TP5XX,2 IN 2 OUT
Note: 1 In 1 out TSG-TP1XX only include the part of channel 1
TSG-TP2XX 1 In 2 out, only include the input of channel 1



OVERALL DIMENSION





TSG-TC Thermocouple Temperature Isolation Transmitter

- Receive thermocouple signals from the site, isolate and transmit standard current/voltage signals to the control room, PLC, DCS, and display instruments.
- The signal type, measurement range, alarm parameters, etc. can be programmed through PC software.
- High reliable isolation of input, output, and power ports; DIN rail independent installation method.

SELECTION TABLE				
TSG-TC	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		B		400~+1820℃
		E		-100~+1000℃
		J		-100~+1200℃
		K		-180~+1372℃
		N		-180~+1300℃
		R		-50~+1768℃
		S		-50~+1768℃
		T		-200~+400℃
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

TSG-TCXX
EG:TSG-TC1K1/0-500
1 IN 2 OUT,Input:Model K thermocouple(0-500℃)，output：DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: B、E、J、K、N、R、S、T etc. thermocouple signal
Cold Junction Compensation:Cold end range:-20℃~+60℃
Compensation method：Internal compensation
Cold end compensation accuracy：±1℃

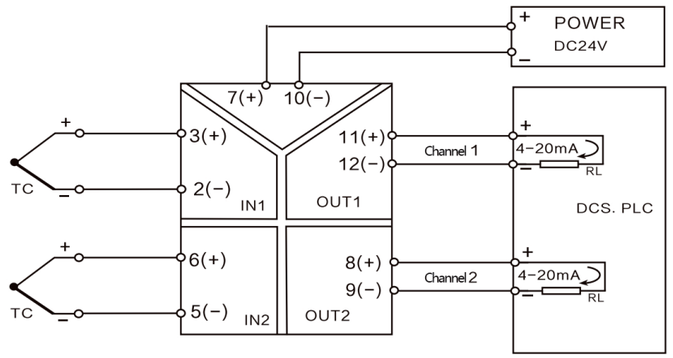
Output

Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL≤500Ω (Output is current signal)
RL≥10KΩ (Output is voltage signal)

Basic Parameter

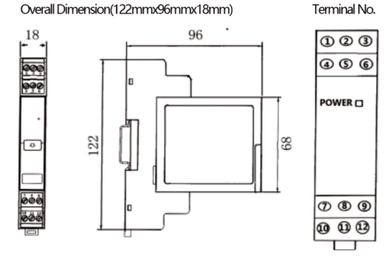
Power supply: DC24V±10%
Consumption current: ≤50mA (1 IN 1 OUT,DC24V,when 20mA output)
≤70mA (1 IN 2 OUT,DC24V,when 20mA output)
Over limit alarm: Below the lower temperature limit, output 3.8mA (at 4-20mA output)
Above the upper temperature limit, output 20.5mA
Break even alarm: Output 22mA (users can set specific values as alarm values within the range of 0-22mA)
Basic accuracy: 0.2%F.S
Temperature drift:0.005%F.S/℃ (-20℃~+55℃)
Insulation strength:1500VAC/1min(Between input,output and power)
Insulation resistance:≥100MΩ(Between input,output and power)
Working temperature range:-20~+55℃
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)
Applicable on-site equipment：Thermocouple

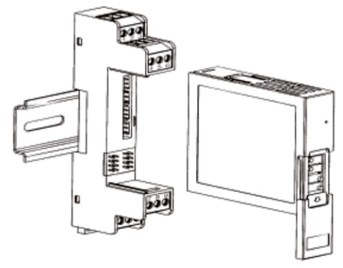
WIRING DIAGRAM



TSG-TC5X1,2 IN 2 OUT
Note: 1 In 1 out TSG-TC1X1 only include the part of channel 1
TSG-TC2X1 1 In 2 out, only include the input of channel 1

OVERALL DIMENSION





TSG-TR Thermal Resistance Temperature Isolation Transmitter

- Receive the thermal resistance signal from the site, isolate and transmit the output standard current/voltage signal to the control room, PLC, DCS, and display instruments.

- The signal type, measurement range, alarm parameters, etc. can be programmed through PC software.

- High reliable isolation of input, output, and power supply terminals; DIN rail independent installation method.

SELECTION TABLE

TSG-TR	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		Cu		Cu50(-50~+150℃)
		C1		Cu100(-50~+150℃)
		P1		Pt100(-200~+850℃)
		P2		Pt1000(-200~+250℃)
		N1		Ni100(-60~+180℃)
		N2		Ni1000(-60~+150℃)
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

TSG-TRXX
EG:TSG-TR1P1/0-100
Input signal:Pt100(0-100℃), output: DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: Pt100,Cu50,Ni1000 etc. thermal resistance signal.
Allow line resistance:⩽22Ω

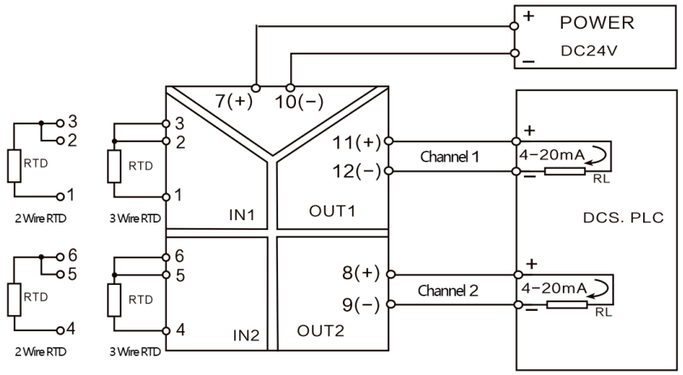
Output

Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL⩽500Ω (Output is current signal)
RL⩾10KΩ (Output is voltage signal)

Basic Parameter

Power supply: DC24V, voltage range :DC18-36V
Consumption current: ⩽50mA (1 IN 1 OUT,DC24V,when 20mA output)
⩽70mA (1 IN 2 OUT,DC24V,when 20mA output)
Over limit alarm: Below the lower temperature limit, output 3.8mA (at 4-20mA output)
Above the upper temperature limit, output 20.5mA
Break even alarm: Output 22mA (users can set specific values as alarm values within the range of 0-22mA)
Basic accuracy: 0.2%F.S
Temperature drift:0.005%F.S/℃ (-20℃~+55℃)
Insulation strength:1500VAC/1min(Between input,output and power)
Insulation resistance:⩾100MΩ(Between input,output and power)
Working temperature range:-20~+55℃
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)
Applicable on-site equipment: Two wire,three wire thermal resistance

WIRING DIAGRAM



TSG-TR5XX1,2 IN 2 OUT

Note: 1 In 1 out TSG-TR1XX1 only include the part of channel 1
TSG-TR2XX1 1 In 2 out, only include the input of channel 1

Note: When the signal of the two wire heating resistor is input, terminals 2 and 3; 5,6 (when 2 in and 2 out) must be short circuited. When inputting the signal of the three wire heating resistor, it is necessary to ensure that the resistance values of the three wires are equal as much as possible.

OVERALL DIMENSION