THP-IP Series Current/Voltage Input Distribution Isolators

- DC24V or AC220V power supply, providing isolated power distribution for on-site transmitters, and realizing conversion of various signals such as voltage, current, and mv.

- Input interface current source, two-wire system and three-wire system transmitter are universal, and efficient magneto-electric isolation technology is adopted internally. Input, output and power supply are isolated from each other, with high accuracy, high linearity, low temperature drift and other characteristics.

SELECTION TABLE

THP-IP/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

THP-IPXXX
Eg: THP-IP111,Current input,1 IN 1 OUT,both input and output are DC 4-20mA.
THP-UXXX
Eg: THP-U141,Voltage input,1 IN 1 OUT,both input:0-75mv, output:DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA;0-20mA;0-75mA,0-5v,0-10v etc.
Distribution voltage:24V DC (max driving current 30mA)
Input impedance: Current input≤50Ω;voltage input:≥300KΩ

Output

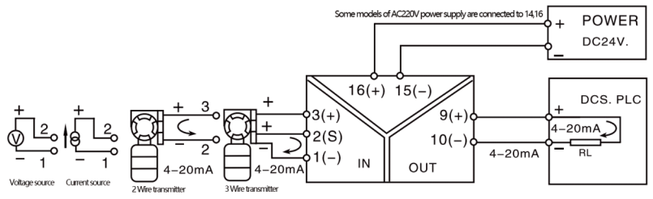
Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL≤500Ω (Output is current signal)
RL≥10KΩ (Output is voltage signal)

Basic Parameter

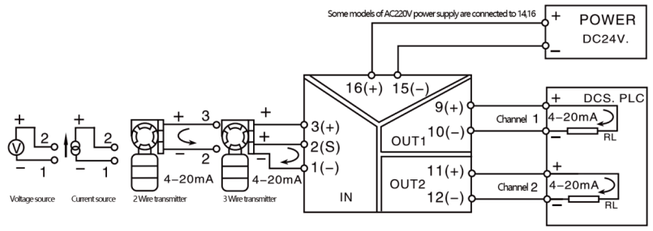
Power supply: DC24V±10%
Consumption current: ≤50mA (1 IN 1 OUT,DC24V,when 20mA output)
≤70mA (1 IN 2 OUT,DC24V,when 20mA output)
≤100mA (2 IN 2 OUT,DC24V,when 20mA output)
Basic accuracy: ≤0.1%F.S
Temperature drift:0.005%F.S/℃ (-20℃~+55℃)
Response time:≤10mS(0-90%)(TYP)
Insulation strength:1500VAC/1min(Between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

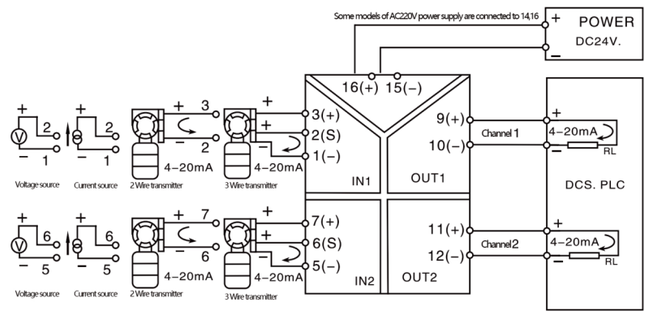
WIRING DIAGRAM



THP-IP/U1XX 1 IN 1 OUT

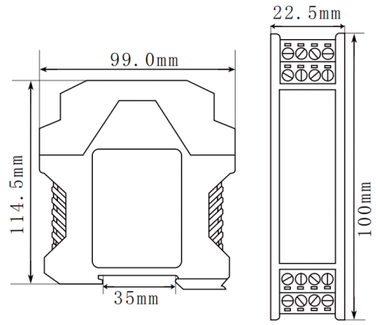


THP-IP/U2XX 1 IN 2 OUT



THP-IP/U5XX 2 IN 2 OUT

OVERALL DIMENSION



THP-IP Series Current/Voltage Input Distribution Isolators (Loop power supply)

- The THP-IP series passive isolator is used to connect to on-site two wire transmitters, provide power to them, and receive 4-20mA current signals from the two wire equipment output. After isolation, it outputs a 4-20mA current signal. Adopting a two wire loop power supply method, there is no need for external power supply.

- The THP-I/U series passive isolator receives DC current or DC voltage signals from the site, and after interference suppression, isolates and outputs a 4-20mA current signal. Adopting a two wire loop power supply method, there is no need for external power supply.

SELECTION TABLE

THP-IP/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

THP-IXXX
EG:THP-I510,1 IN/1 OUT,Loop power supply,Input:0-5V,output 4-20mA.
THP-IPXXX
EG:THP-IP110,Distribution type,1 IN/1 OUT,Loop power supply,Input&output: 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA;0-20mA;0-75mA,0-5v,0-10v etc.
Input impedance: Current input:⩽100Ω;voltage input:⩾300KΩ

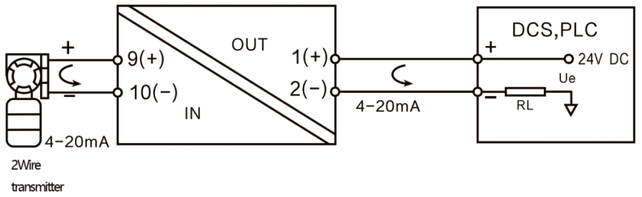
Output

Output signal:4-20mA
Output load resistance:RL⩽500Ω(Output is current signal)

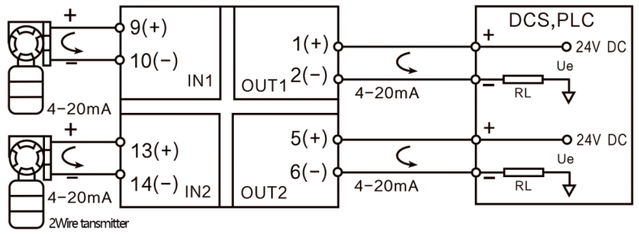
Basic Parameter

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: 2Wire transmitter,current source，voltage output equipment.

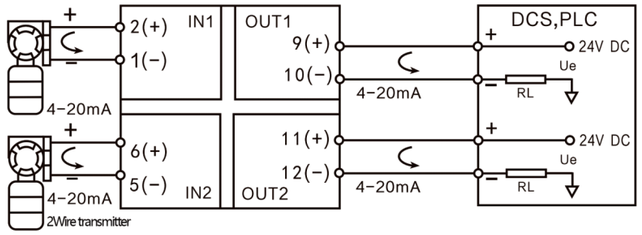
WIRING DIAGRAM



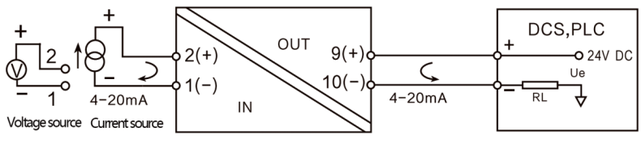
THP-IP110 1 IN 1 OUT



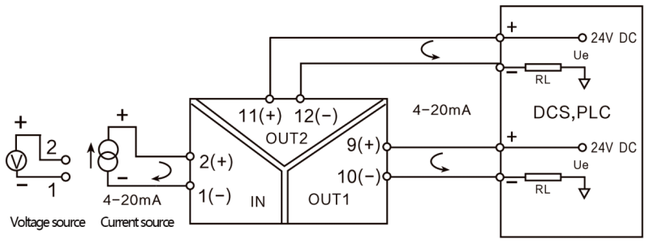
THP-IP510 2 IN 2 OUT



THP-IP510L 2 IN 2 OUT

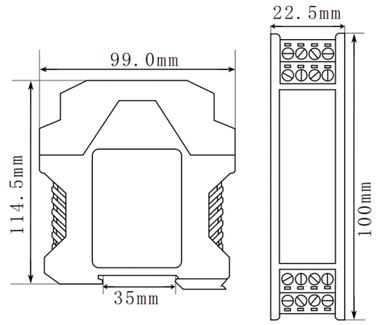


THP-I110 1 IN 1 OUT



THP-I210 1 IN 2 OUT

OVERALL DIMENSION



THP-IP/U Series Current/Voltage Input Signal Isolator Distributor

● DC24V Power supply, providing isolated power distribution for on-site transmitters, and realizing conversion of various signals such as voltage, current, and mv,and has a signal distribution function. It has various output types such as one input, three outputs, one input, four outputs, and two input, four outputs.

● Input interface current source, two-wire system and three-wire system transmitter are universal, and efficient magneto-electric isolation technology is adopted internally. Input, output and power supply are isolated from each other, with high accuracy, high linearity, low temperature drift and other characteristics.

SELECTION TABLE

THP-IP/U	X	X	X	Instructions
Channel	3			1 IN 1 OUT
	4			1 IN 4 OUT
	7			2 IN 4 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

THP-IPXXX
EG:THP-IP311,Current input,1 IN/3 OUT,Both input and output are DC 4-20mA.
THP-UXXX
EG:THP-U451,Voltage input,1 IN/4 OUT,Input:0-5V,output 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: 4-20mA;0-20mA;0-75mA,0-5;0-10V etc
Distribution voltage: 24V, (maximum driving current 30mA)
Input impedance: current input ⩽ 50 Ω;
voltage input ⩾ 300K Ω

Output

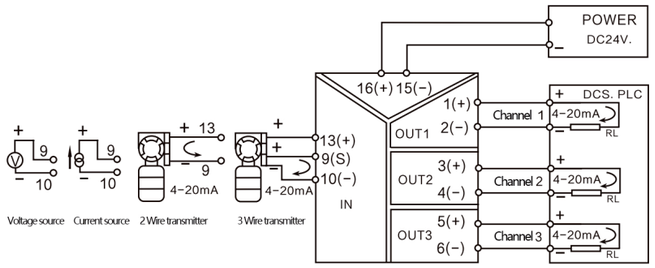
Output signal:4-20mA;0-20mA;0-5v;0-10v
Output load resistance:RL⩽500Ω (Output is current signal)
RL⩾10KΩ (Output is voltage signal)

Basic Parameter

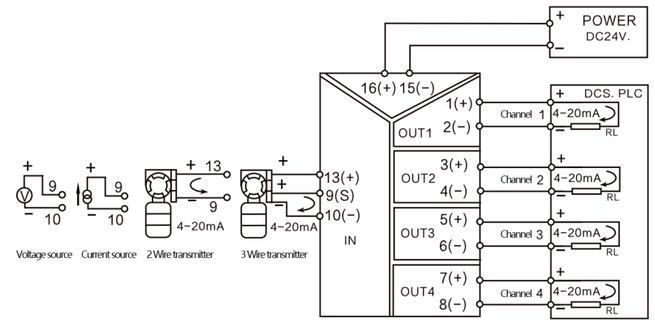
Power supply: DC24V±10%
Consumption current: ⩽120mA（1 IN 1 OUT,DC24V,when 20mA output）
⩽140mA（1 IN 2 OUT,DC24V,when 20mA output）
⩽160mA（2 IN 2 OUT,DC24V,when 20mA output）
Basic accuracy: ⩽0.1%F.S
Temperature drift:0.005%F.S/℃（-20℃~+55℃）
Response time:⩽10mS(0-90%)(TYP)

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, voltage source

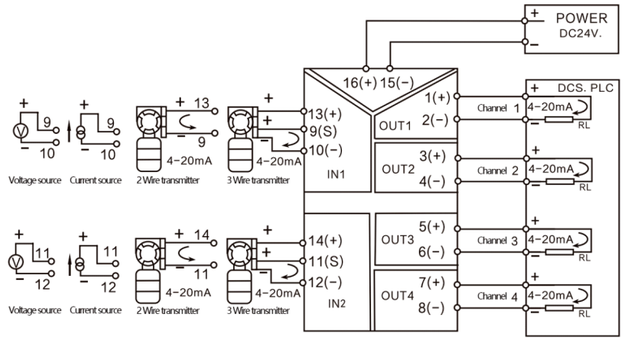
WIRING DIAGRAM



THP-IP311,1 IN 3 OUT

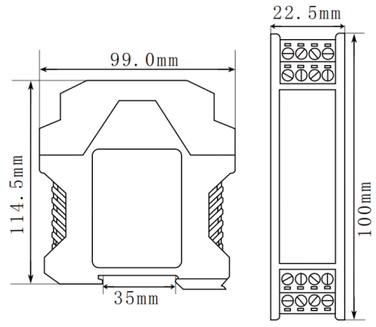


THP-IP411,1 IN 4 OUT



THP-IP711,2 IN 4 OUT

OVERALL DIMENSION



THP-I Series Passive Isolator

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

- DIN rail independent installation.

SELECTION TABLE

THP-I	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 4 OUT
	5			2 IN 4 OUT
	9			4 IN 4 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

THP-IXXX

EG:THP-I101,1 IN/1 OUT,Power on input side,Both input and output are DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

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

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

Input impedance: 150Ω+output load resistance

Output

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

Output load resistance:RL≤350Ω

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)

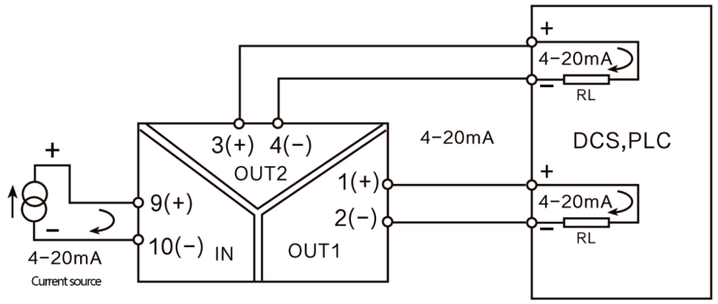
Insulation resistance:≥100MΩ(Between input,output and power)

Working temperature range:-20~+55℃

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

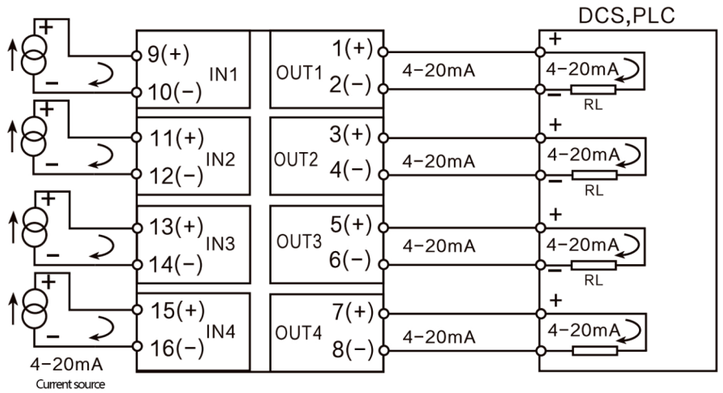
Applicable Field Equipment: 2Wire transmitter;Current source

WIRING DIAGRAM



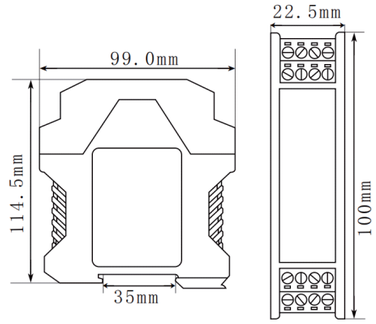
THP-I201,1 IN 2 OUT

Note: For the one in two out specification, if one output channel is idle and not in use, the idle output terminals must be short circuited with wires, otherwise the other channel cannot output normally.



THP-I901,4 IN 4 OUT

OVERALL DIMENSION



THP-RP Series Potentiometer Signal Isolator

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

- DIN rail independent installation.

SELECTION TABLE

THP-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			0	4-20mA (Output side power supply)
			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

THP-RP1XX

EG:THP-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

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

RL≥10KΩ（Output is voltage signal）

Basic Parameter

Power supply: DC24V±10%,or AC85-265V

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)

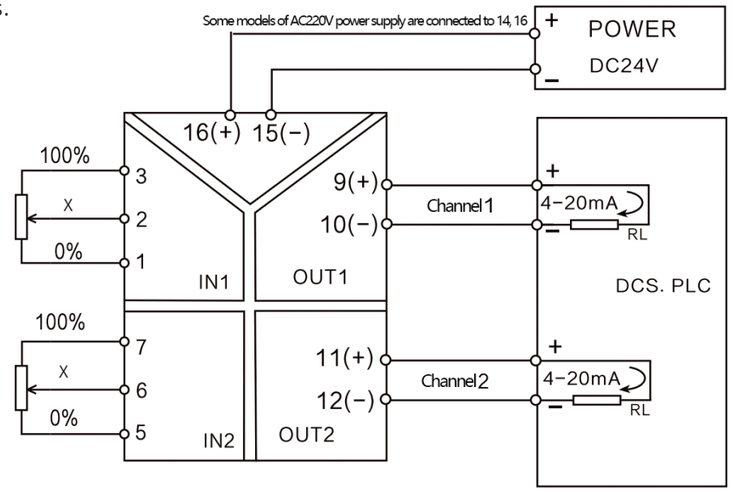
Insulation resistance:≥100MΩ(Between input,output and power)

Working temperature range:-20~+55℃

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

Applicable Field Equipment: Potentiometer

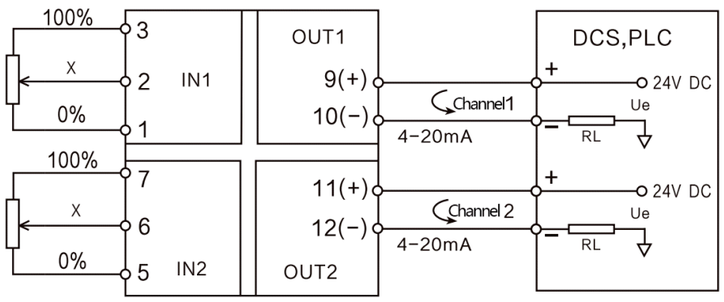
WIRING DIAGRAM



THP-RP5X1 2 IN 2 OUT

Note:THP-RP1X1 1 IN 1 OUT,only include input 1 and output 1 part

THP-RP2X1 1 IN 2 OUT,Input only include channel 1 part

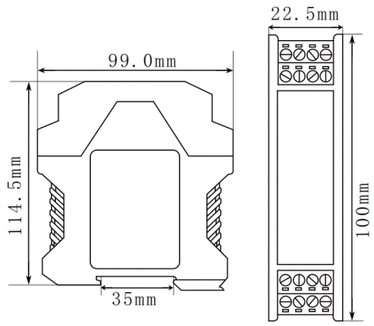


THP-RP5X0 2 IN 2 OUT(Loop power supply)

Note:THP-RP1X0 1 IN 1 OUT,only include input 1 and output 1 part

THP-RP2X0 1 IN 2 OUT,Input only include channel 1 part

OVERALL DIMENSION



THP-R Series Resistance Signal Isolator

- Isolate and convert resistance signals into standard signals such as 4-20mA and 0-5V. Contains precise constant current source excitation.
- DIN rail independent installation.

SELECTION TABLE

THP-R	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			0	4-20mA (Output side power supply)
			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

THP-R1XX

EG:THP-R1D1,1 IN/1 OUT,input:0-10KΩ, output：DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: Resistance signal, Input total resistance value:0-100KΩ

Excitation voltage: Built-in precision constant current source excitation

Output

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

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

RL≥10KΩ（Output is voltage signal）

Basic Parameter

Power supply: DC24V±10%,or AC85-265V

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

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

≤80mA（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)

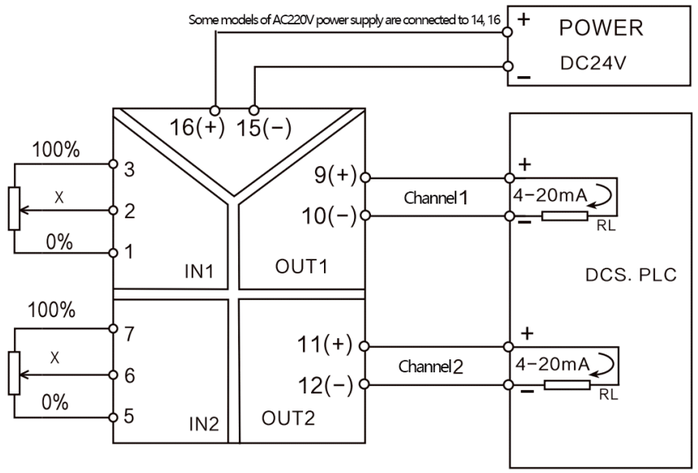
Insulation strength:1500VAC/1min(Between input,output and power)

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

Working temperature range:-20~+55℃

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

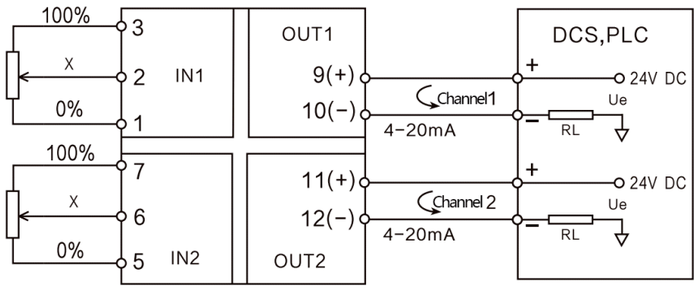
WIRING DIAGRAM



THP-R5X1 2 IN 2 OUT

Note:THP-R1X1 1 IN 1 OUT,only include input 1 and output 1 part

THP-R2X1 1 IN 2 OUT,Input only include channel 1 part

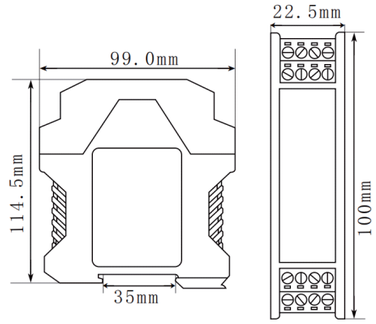


THP-R5X0 2 IN 2 OUT(Loop power supply)

Note:THP-R1X0 1 IN 1 OUT,only include input 1 and output 1 part

THP-R2X0 1 IN 2 OUT,Input only include channel 1 part

OVERALL DIMENSION



TSP-F Series Frequency Signal Isolator

- Isolate and convert industrial site frequency signals into standard signals such as 4-20mA and 0-5v.
- DIN rail independent installation.

SELECTION TABLE

TSP-F	X	X	X	Instructions
Channel	1			1 IN 1 OUT
Input Signal		A		0-60Hz
		B		45-55Hz
		C		0-1KHz
		D		0-10KHz
Output Signal			1	4-20mA
			2	0-20mA
			5	0-5V
			7	0-10V

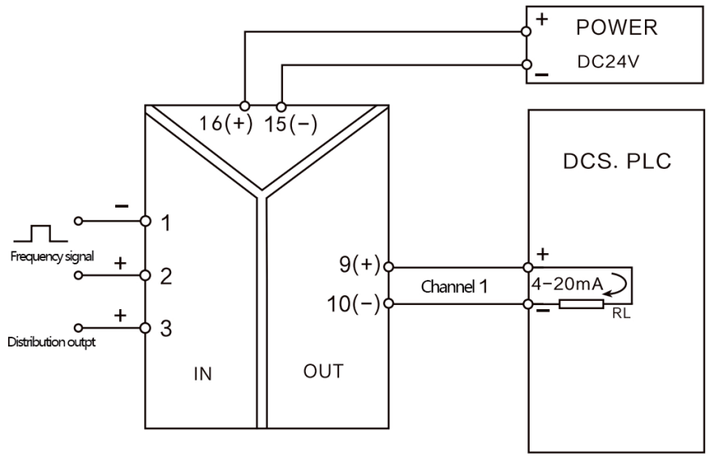
Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

TSP-F1XX

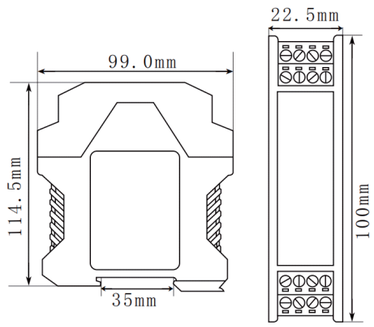
EG:TSP-F1D1,1 IN/1 OUT,input:0-10KHz，output：DC 4-20mA.

WIRING DIAGRAM



TSP-F1X1 1 IN 1 OUT

OVERALL DIMENSION



MAIN TECHNICAL PARAMETERS

Input

Signal type: Pulse or sine wave

Frequency Range: 1Hz-100KHz(The signal below 0.1Hz is cut off as 0Hz)

Electrical Level:VL≤1V；4V≤VH≤12V(Customizable)

Distribution Voltage:24V±2V or 12V±1V

Power Distribution Rate:<0.8W

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）

Basic accuracy: 0.1%F.S

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

Response time:≤0.5S(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 on-site equipment:Frequency signal source

TSP-TR Series Thermal Resistance Temperature Isolation Transmitter

- TSP-TR Series thermal resistance signal isolator receives the thermal resistance signal from the site, and outputs the standard current/voltage signal to the control room, PLC, DCS and display instrument through isolation transmission.

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

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

SELECTION TABLE

TSP-TR	X	X	X	Instructions
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal		C5		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
			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

TSP-TRXX

EG:TSP-TR1P11/0-100,Input:Pt100(0~100℃),output:DC 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Signal type: PT100,Cu50,Ni1000 etc Thermal resistance signal

Allowable 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：DC 18-36V

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: 0.2%F.S

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

Response time:⩽0.5S(0-90%)(TYP)

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

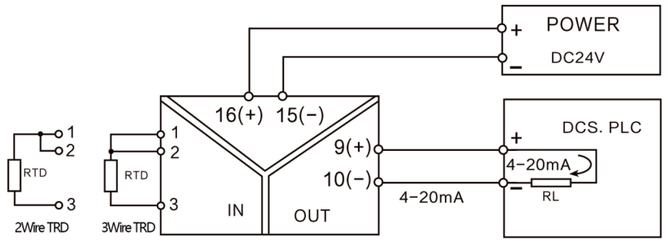
Insulation resistance:⩾100MΩ(Between input,output and power)

Working temperature range:-20~+55℃

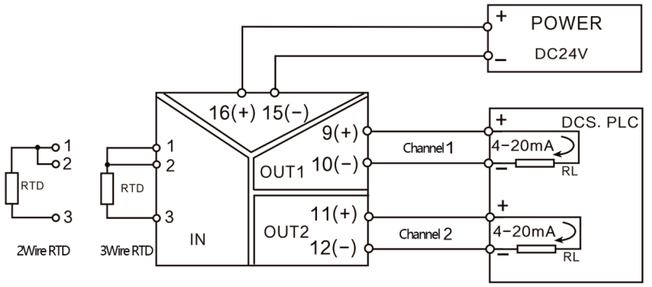
Electromagnetic Compatibility: According to GB/T 18268.1(IEC61326-1)

Applicable on-site equipment:Two wire,three wire thermal resistance

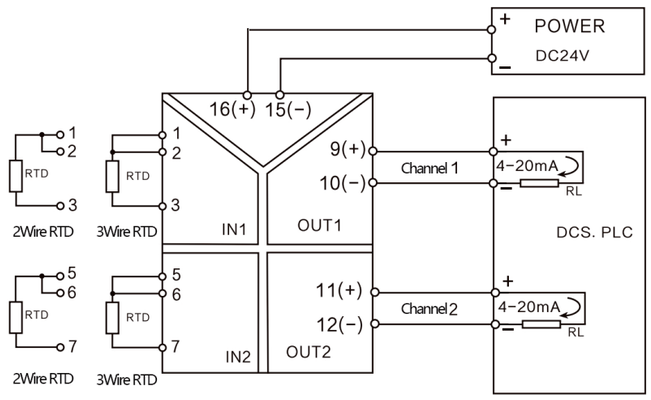
WIRING DIAGRAM



TSP-TR1XX1 1 IN 1 OUT



TSP-TR2XX1 1 IN 2 OUT



TSP-TR5XX1 2 IN 2 OUT

Note:

Two-wire heating resistor, when potentiometer signal is input, terminal 1.2; 5.6 (2 in and 2 out) must be short-circuited.

When the three-wire heating resistor and potentiometer signal are input, try to ensure that the resistance values of the three wires are equal.

OVERALL DIMENSION