

Signal Isolator

Signal isolator adopts DIN rail structure. It can input 1 or 2 channels of current/voltage/thermocouple/RTD/potentiometer signal, and output 1/2/3/4 channels of isolation linear current/voltage signal (4-20mA/0-20mA/0-10mA/0-5V/0-10V/1-5V). Signal isolator can also improve the electrical isolation performance between the input, output, and power supply. The signal isolator can suppress interference to the equipment, and protect input, output, and communication interface of transmitter, instrument, VFD (variable frequency drive), solenoid valve, PLC/DCS, etc.

Analog Signal Isolator, External powered / Loop powered

Specification:



Model	ATO-SINIR-210E	ATO-SINIR-502E	ATO-SINIR-602S
Dimension	108*13*121.2mm	96*18*122mm	110*12.7*118.9mm, 110*17.7*118.9mm
Type of signal	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V	4-20mA, 0-20mA, 0-5V, 0-10V	4-20mA, 0-20mA, 0-10mA, 0-5V, 0-10V, 1-5V
Power supply	DC 24V±10%	DC 24V±10%	DC 18-32V
Accuracy	0.15%F.S.	0.1%F.S.	0.1%F.S.
No. of Channels	1 input & 1 output, 1 input & 2 output, 2 input & 2 output	1 input & 1 output, 1 input & 2 output, 1 input & 3 output, 1 input & 4 output, 2 input & 2 output	1 input & 1 output, 1 input & 2 output, 2 input & 2 output
Power dissipation	1 input & 1 output: <0.8W, 1 input & 2 output: <1.5W	1 input & 1 output: <1.2W, 1 input & 2 output: <1.8W, 2 input & 2 output: <2.4W	1 input & 1 output: <0.6W, 1 input & 2 output: <1.5W
Work environment	Temperature: -10~+50℃, humidity: 25%-85%RH	Temperature: -10~+50℃, humidity: 25%-85%RH	Temperature: -20~+60℃, humidity: 10%-90%RH
Power supply mode of input signal	External powered, loop powered (customizable)	Loop powered (switch up) and external powered (switch down)	Loop powered (switch up) and external powered (switch down)
Installation	35mm DIN rail	35mm DIN rail	35mm DIN rail

★External powered signal isolator needs an independent DC 20-35V switching power supply. The signal isolator samples 4-wire current signal and outputs 4-wire current signal after isolation. The advantage of this approach is high accuracy of isolation transmission. Power, input and output are completely isolated. Multi channel system power supply does not need isolation, thus ensuring a high anti-interference performance. The input signal can be converted to other types of signal.

★Loop powered signal isolator provides working power supply to the 2-wire transmitter and samples the 2-wire current signal output by the transmitter. It converts the 2-wire current signal to 4-wire current signal after isolation and then output. In this way, it not only retains the superior performance of the external powered signal isolator, but also meets the requirements of the output loop powered interface.

Thermocouple / RTD / Potentiometer Signal Isolator

Specification:



Model	ATO-SINIR-503E	ATO-SINIR-504E	ATO-SINIR-505E
Dimension	96*18*122mm	96*18*122mm	96*18*122mm
Input signal	Thermocouple: K, S, E, B, R, T, J, N type	CU50, PT100, CU100, PT50	Potentiometer: 0-100Ω, 0-1kΩ, 0-5kΩ, 0-10kΩ, 0-20kΩ
Output signal	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V
Power supply	DC 24V±10%	DC 24V±10%	DC 24V±10%
Accuracy	±0.2%F.S. ($\Delta V > 10\text{MV}$), ±0.4%F.S. ($5\text{MV} \leq \Delta V \leq 10\text{MV}$)	±0.2%F.S. ($\Delta R > 40\Omega$), ±0.4%F.S. ($20\Omega \leq \Delta R \leq 40\Omega$)	0.2%F.S.
No. of Channels	1 input & 1 output, 1 input & 2 output	1 input & 1 output, 1 input & 2 output	1 input & 1 output, 1 input & 2 output, 2 input & 2 output
Power dissipation	1 input & 1 output: <1W, 1 input & 2 output: <1.5W	1 input & 1 output: <1W, 1 input & 2 output: <1.5W	1 input & 1 output: <1W, 1 input & 2 output: <1.5W
Work environment	Temperature: -10~+50℃, humidity: 25%-85%RH	Temperature: -10~+50℃, humidity: 25%-85%RH	Temperature: -10~+50℃, humidity: 25%-85%RH
Power supply mode of input signal	Loop powered (switch up) and external powered (switch down)	Loop powered (switch up) and external powered (switch down)	Loop powered (switch up) and external powered (switch down)
Installation	35mm DIN rail	35mm DIN rail	35mm DIN rail

Selection table:

Model	
ATO-SINIR- (210E / 502E / 602S / 503E / 504E / 505E)	
	No. of input & output channels
	1 input & 1 output, 1 input & 2 output, 1 input & 3 output, 1 input & 4 output, 2 input & 2 output
	Input signal
	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V, K, S, E, B, R, T, J, N, CU50, PT100, CU100, PT50, 0-100Ω, 0-1kΩ, 0-5kΩ, 0-10kΩ, 0-20kΩ, other signal
	Output signal
	4-20mA, 0-20mA, 0-5V, 0-10V, 1-5V, other signal
e.g.: ATO-SINIR-502E / 1 input & 2 output / 4-20mA / 4-20mA	

P.S.: For model ATO-SINIR-504E, you should write down the temperature range you want.

Signal Isolator with USB / LCD Display / RS485

Signal isolator has pluggable terminals, external USB interface, optional LCD display and RS485 communication. USB interface can be connected with external programming device (HART) to set type of input signal, transmitter range and other parameters. LCD display can show the parameters of different channel, actual measured value, theoretical output value, unit and channel number by buttons.

Specification:



Model	ATO-SINIR-506E
Dimension	109*18.5*116.5mm
Input signal	4-20mA, 0-20mA, 0-10mA, (4-20mA) ^{0.5} , (0-10mA) ^{0.5} , 0-5V, 0-10V, 1-5V, ±5V, (0-5V) ^{0.5} , (1-5V) ^{0.5}
Input impedance	Current output: ≤250Ω, voltage output: ≥500kΩ
Output signal	4-20mA, 0-20mA, 1-10mA, 0-5V, 1-5V
Output load	Current RL≤500Ω, voltage RL≥250kΩ
Relay alarm output	Capacity: DC 30V/2A, AC 125V/0.6A
Communication	MODBUS-RTU protocol, RS485
Power supply	DC 24V±10%, AC 100-265V/50-60Hz
Accuracy	0.2%F.S.±1 digit
No. of Channels	1 input & 1 output, 1 input & 2 output, 2 input & 2 output
Power dissipation	DC 24V 1 output channel: ≤1.7W, DC 24V 2 output channels: ≤2.2W, AC 100-265V 1 output channel: ≤2.5W, AC 100-265V 2 output channels: ≤3W
Work environment	Temperature: 0~50℃, humidity: ≤85%RH, far away from caustic gas
Installation	35mm DIN rail

Selection table:

Model	
ATO-SINIR-506E	
	No. of input & output channels
	1 input & 1 output, 1 input & 2 output, 2 input & 2 output
	Input signal
	4-20mA, 0-20mA, 0-10mA, (4-20mA) ^{0.5} , (0-10mA) ^{0.5} , 0-5V, 0-10V, 1-5V, ±5V, (0-5V) ^{0.5} , (1-5V) ^{0.5}
	Output signal
4-20mA, 0-20mA, 1-10mA, 0-5V, 1-5V	
	Additional function
	LCD display, RS485
e.g.: ATO-SINIR-506E / 1 input & 2 output / 4-20mA / 4-20mA / LCD display	

P.S.: ATO can also customize different products according to your requirements.