

Positive and negative bidirectional high current output type proportional regulation control isolation amplifier

Analog positive and negative output linear regulation control isolation amplifier: DIN 1X1 ISO PN-U(A)-P-O Series

Product Features

- Accuracy, linearity error level: 0.2, 0.5 level
- Standard analog input such as 4-20mA/0-5V/0-10V/0-±5V
- Current signal output such as 0-±50mA/0-±200mA/0-±500mA
- 0~±5V/0~±10V(max 500mA) etc. voltage signal output
- Signal input with auxiliary power supply and output 3000VDC two isolated
- Auxiliary power supply: 12V, 15V or 24V DC single power supply
- Standard DIN35 industrial rail mounting method
- Applicable to industrial grade working environment temperature range: - 40 ~ + 85 °C

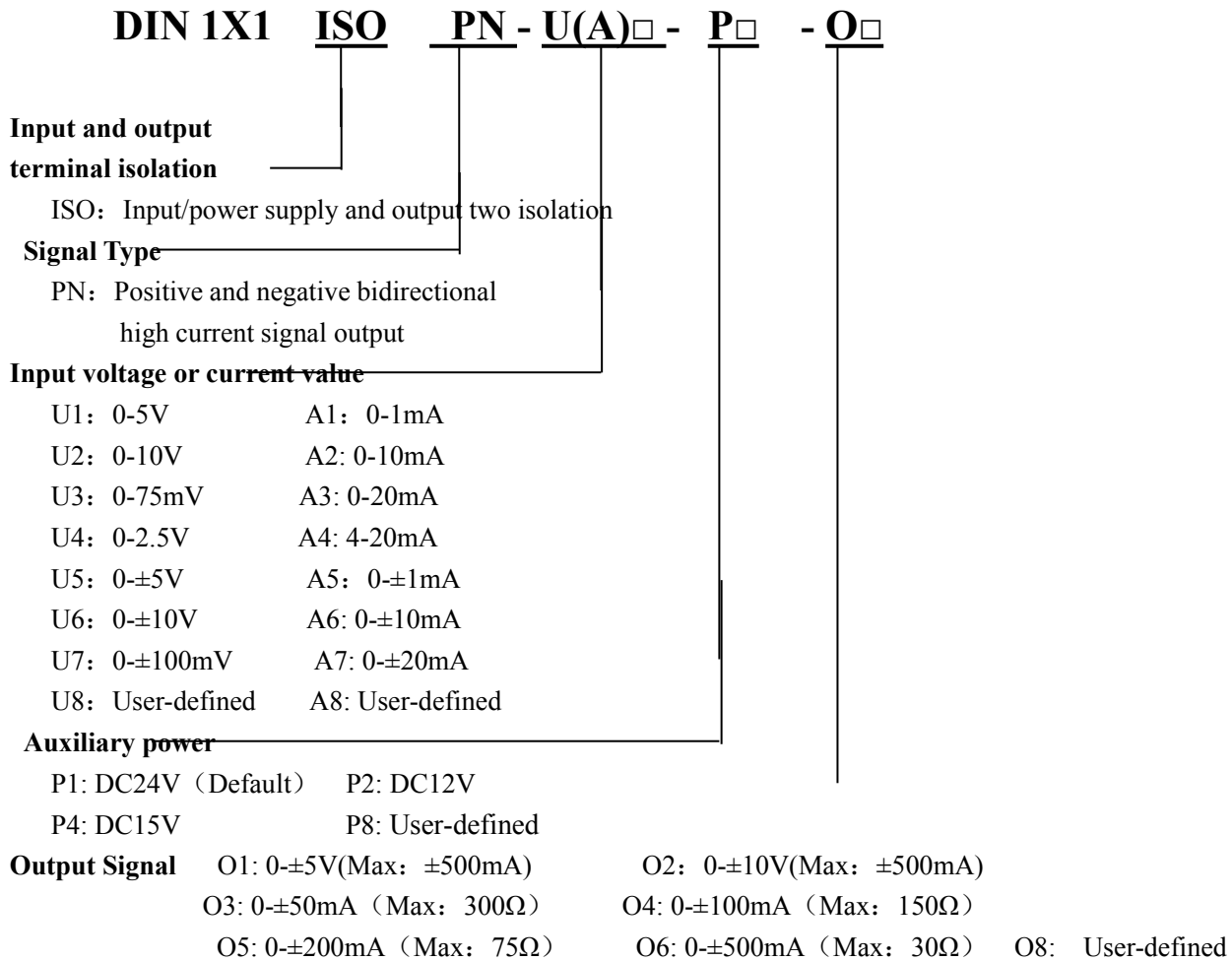
Typical Applications

- Industrial field analog isolated amplification and proportional regulation control
- Enhanced current signal amplification or voltage signal drive capability
- Stepper motor, solenoid valve, proportional valve linear drive control
- PID output analog linear amplifier control
- Linear control of electromagnetic drives or high power loads
- Analog signal ground interference suppression and isolated acquisition and transmission
- Distortion-free remote analog transmission control and transfer of signals
- Analog positive and negative bi-directional proportional control and transmission

Overview:

SunYuan DIN 1X1 ISO PN-U/A-P-O series positive and negative bi-directional high current output type proportional regulation and control isolation amplifier is a kind of positive and negative bi-directional high current signal output type amplifier that isolates and amplifies the input unidirectional or positive and negative bi-directional voltage and current signals and converts them into linear proportional output. It mainly realizes the linear proportional conversion and isolation amplification of the input signal to solve the problem of insufficient input signal matching and driving capability. The product consists of a set of high-efficiency regulated power conversion circuit, a set of high-precision isolated amplification conversion circuit and a set of power amplification circuit. Mainly used in the current signal or voltage signal drive capacity requirements of high occasions, can also be used to drive solenoid valves, electromagnetic switches or high-power load, etc.. The product adopts the standard DIN35 industrial rail mounting method, and is widely used in robot control, CNC machine tools, energy saving and environmental protection, petrochemical industry, water industry, hydraulic transmission, industrial automation and other fields.

Models and Definitions



Note: The above voltage output type products need to indicate the output current requirement, and the current output type products need to indicate the load carrying requirement, and the selected value cannot exceed the maximum value (Max).

Example of product selection

Example 1: Input signal: 4-20mA; Output signal: 0-±50mA, RL: 200Ω; Auxiliary power supply: 12VDC
Product Model: DIN 1X1 ISO PN-A4- P2-O3; Remarks Load 200Ω

Example 2: Input signal: 0-5V; Output signal: 0-±5V, Max±500mA; Auxiliary power supply: 24VDC
Product Model: DIN 1X1 ISO PN-U1-P1-O1

Example 3: Input signal: 0-10V; Output signal: 0-±200mA, RL: 50Ω; Auxiliary power supply: 15VDC
Product Model: DIN 1X1 ISO PN-U2-P4-O5; Remarks Load 50Ω

Example 4: Input signal: 0-±5V; Output signal: 0-±10V, Max±500mA; Auxiliary power supply: 24VDC
Product Model: DIN 1X1 ISO PN-U5-P1-O2

General parameters

Accuracy ----- 0.2% 0.5%	Response time ----- ≤ 100mS
Auxiliary power supply ----- 12V, 15V, 24V	Product power consumption ----- < 10W
Input ----- Voltage signal / current signal	Temperature drift ----- 200ppm/° C
Load capacity ----- ≤5W	Isolation ----- signal input/auxiliary power and signal output

Operating temperature ----- -40 ~ +85°C	Insulation resistance ----- $\geq 20M\Omega$
Operating humidity ----- 10 ~ 90% (no condensation)	Withstanding Voltage ----- Signal Input/Signal Output and Auxiliary Power 3000VDC, 1 minute, leakage current 1mA
Storage temperature ----- -45 ~ +90°C	
Storage humidity ----- 10 ~ 95% (no condensation)	

Product technical parameters

Parameter Name		Test conditions	Minimum	Typical values	Maximum	Unit
Isolation Voltage		AC,50Hz,1min		3000		V(rms)
Gain				1		V/V
Gain temperature drift				100		ppm/°C
Non-linearity				0.2	0.5	%FSR
Signal Input	Voltage		- 100		100	V
	Current		- 100		100	mA
Input derating voltage				2	5	mV
Input Impedance	Voltage			1		MΩ
	Current		50		2000	Ω
Signal Output	Voltage		-10		10	V
	Current		-500		500	mA
Load Capacity	Voltage	Vout=±10V	20			Ω
	Current	Iout=±500mA			30	Ω
Frequency Response		-3DB		0.5		KHz
Signal output ripple		No filtering		10	20	mVRMS
Signal voltage temperature drift					0.2	mV/°C
Auxiliary power	Voltage	User-defined	12	24	36	VDC
	Power consumption			<10		W
Working environment temperature			-40		85	°C
Storage temperature			-45		90	°C

Note:

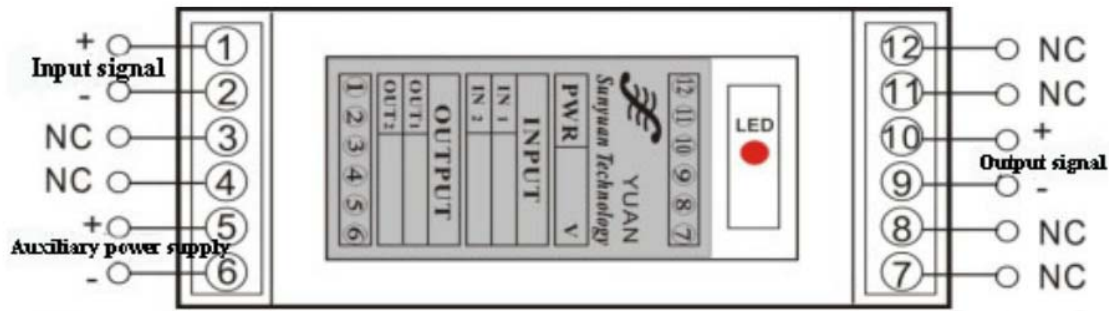
1、Voltage output type: The supply power voltage should be selected higher than the signal output voltage of 3V and above, and the output current size should be specified, which cannot exceed the maximum value (Max), and the output carrying capacity cannot be less than the minimum load requirement, and cannot be short-circuited.

2、Current output type: The larger the output current is selected, the greater the required load carrying capacity, the higher the required supply voltage. In order to reduce the power consumption of the product, please choose according to the actual load size, and specify the load size when placing the order, the selected load size can not exceed the maximum value (Max)

Typical product applications

SunYuan proportional control isolation amplifiers are designed with standard DIN35 industrial rail mountings and have built-in multi-turn precision potentiometers for zero and full scale adjustment, which are factory calibrated for zero and full scale values. Users only need to follow the product pin function description wiring can achieve a variety of analog signal isolation amplification conversion and positive and negative bidirectional high current output control.

In the industrial field, due to the different factory standards of various instruments and equipment, there may be a mismatch or deviation of the signal. When the full-scale output deviation occurs in the field, the user can also calibrate the product by adjusting the full-scale adjustment potentiometer on the side of the product.



External Dimensions and Pin Function Description

Pin	Pin Function	
1	Signal in +	Input Signal Positive
2	Signal in -	Input Signal Negative
3	NC	Empty pin
4	NC	Empty pin
5	PWR+	Auxiliary power positive
6	PWR-	Auxiliary power supply negative
7	NC	Empty pin
8	NC	Empty pin
9	Out -	Output signal negative
10	Out+	Output signal positive
11	NC	Empty pin
12	NC	Empty pin

