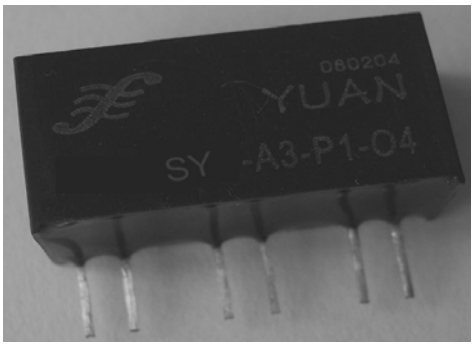
Non-isolated Signal converter/amplifier. Low cost and ultra small in size. No calibration needed.



SY-A(U)-P-O is a non-isolated signal converter/transmitter, which provide convenience in converting high impedence signals to low impedence ones.

With Sunyuan's unique low cost solution, the device is extremely small in size and very easy to use. No external components are needed to make it operating.

The module integrates DC/DC converter and analog amplifier into a single chip. It is mainly used in circumstances where A/V signals nees to convert into each other and isolation is no required.

General characteristic:

- Low cost,small size,SIP 8 anti- fire UL94V-0 package
- No external component,no "ZERO"and "G.adj" adjustment needed.
- Power supply/signal two port isolation:1000VAC
- Assistant power:5VDC/12VDC/15VDC/24VDC
- 0.4-2V/0.5-2.5V/1-5V/2-10V
  voltage signal or 0-10mA/0-20mA/4-20mA current signal
- 0-20mA/4-20mA/0-5V/0-10V signal output
- Temperature range: -45~+85 ℃

Applications:

- Can make sensor resistance change from high to low
- No distortion in long distance signal transmission
- Analog signal data acquisition
- 4-20mA/0-5V signal isolation and transfer
- Equipment and sensor signal acquisition
- Signal transmit no-distortion
- Ground interference control

Max operation range:

Continue isolation voltage value	1500VDC
Power Vin range:	±10%Vin
Jointing temperature(10sec.)	+300℃
Vout signal load(MIN)	2KΩ

Ordering Information:

SY- A(U)□- P□- O□

Input rated voltage（or current）	Accessorial power supply	Output
U1：0-5V	P1： DC24V	O1：4-20mA
U2：0-10V	P2： DC12V	O2：0-20mA
U3：0.4-2V	P3： DC5V	O3：4-12-20mA
U4：0-2.5V	P4： DC15V	O4：0-5V
U5：User define 2	P5： User define 2	O5：0-10V
A2：0-10mA		O6：1-5V
A3：0-20mA		O7：User define
A4：4-20mA		
A5：User define 2		

Example:

input：0.4-2V	Aux power supply：5VDC	Output：4-20mA	Type: SY-U3-P3-O1
input：4-20mA	Aux power supply：5VDC	Output：0-5V	Type: SY-A4-P3-O4
Input：0-5V	Aux power supply：24VDC	Output：0-20mA	Type: SY-U1-P1-O2
input：4-20mA	Aux power supply：24VDC	Output：0-10V	Type: SY-A4-P1-O5

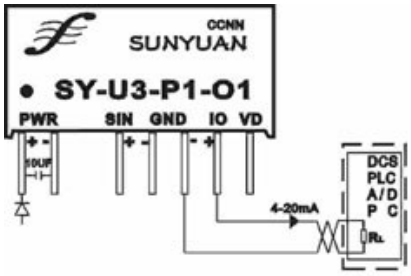
Note: 1.Because of limited size,there is no zero deflection circuit,so can not have the instance of zero deflection circuit when output is current signal. Example:If input :0-20mA,output:4-20mA or input:0-5V,output :4-20ma you can not choose SIP 8 ISOEMM series,you can choose our SIP12 SY Series.

2.If do not need isolation between power supply to signal,please add –B,Type is SY-U(A)-P-O-B

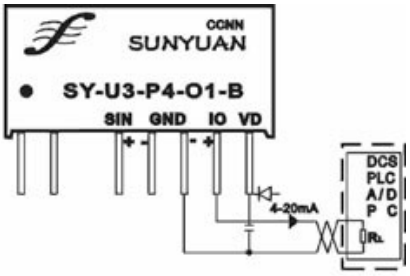
General Params:

Parameter		Test Condition	Min	Type	Max	Unit
Isolated voltage		AC,50Hz,1min		1000		V(rms)
Adj				0.25		mA/mA
Adj temperature drift				25		ppm/℃
Non-linearity				0.1	0.2	%FSR
Input signal			0		20	mA
Current input resistance					50	Ω
Output signal	Voltage		0		10	V
	Current		0		20	mA
Load capability	Voltage	Vout=10V	2			kΩ
	Current		0	350	500	Ω
Frequency response				1		KHz
Signal output ripple		No-filter			10	mVRMS
Signal voltage temperature drift					0.01	mV/℃
Assistant power	Voltage	User-defined	3.3	12	24	VDC
	Power loss			0.6	0.5	W
Operating temperature			-45		85	℃
Storage temperature			-55		105	℃

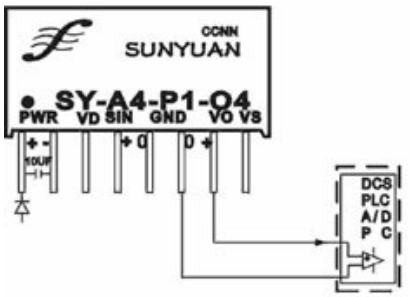
Wiring Examples and Dimensions:



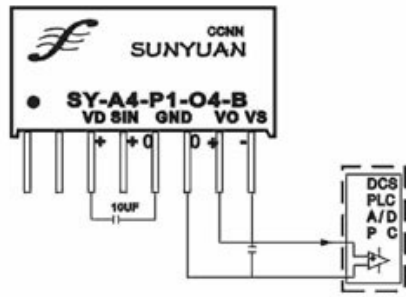
V/I Converter 1



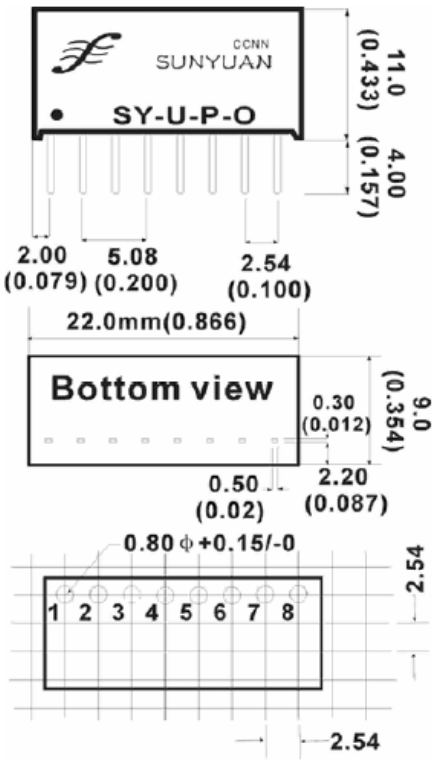
V/I Converter 2



I/V Converter 1

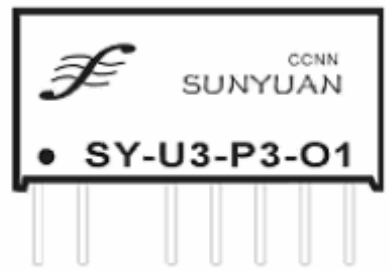


I/V Converter 2



Pin Description:

PIN 1~8 is from left to right.



1	2	3	4	5	6	7	8
power PW+	power PW-	omitted	Signal input Sin+	Signal input GND	Signal output GND	Signal output Io+	Signal Power VD

Note: when signal and its power supply is not isolated, and supply>12VDC, the supply can link to PIN8 directly (refer to wiring example, V/I converter 2). When PIN1 and PIN2 is used, PIN8 should **NOT** be linked to any other components.

1	2	3	4	5	6	7	8
power PW+	power PW-	Signal Power+ VD	Signal input Sin+	Signal input GND	Signal output GND	Signal output Vo+	Signal Power- VS

Note: when signal and its power supply is not isolated, supply>9VDC, and output range within 0-5V, the supply can link to PIN3 and PIN8 directly (refer to wiring example, I/V converter 2). When PIN1 and PIN2 is used, PIN3 or PIN8should **NOT** be linked to any other components.