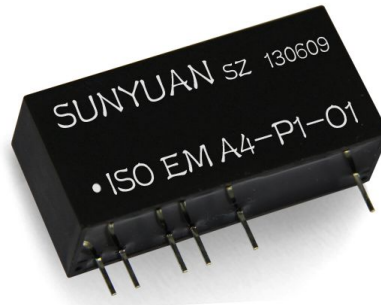


DC Current/Voltage Single/Dual Signal Isolated Amplifier IC
(Electromagnetic Isolation) ISOEM Series



Features

- Low cost, small size, SIP 12Pin, anti- fire UL94V-0 package
- External components, “ZERO” “G.adj” adjustment are not required
- Three-port (power/input/output) isolation: 3000VDC
- Auxiliary power supply: 5VDC/12VDC/15VDC/24VDC
- 0-75mV/0-2.5V/0-5V/0-10V/0-±100mV/0-±5V/0-±10V voltage signal
0-10mA/0-20mA/4-20mA/0-±10mA/0-±20mA current signal isolation and amplification.
- Temperature range: -45~+85 °C
- In EMC (electromagnetism interference) circumstance, need to take shielding measures.

Applications

- DC current/voltage signal isolated/transfer/amplifier
- No distortion in long distance signal transmission
- Analog signal data acquisition
- 4-20mA(0-20mA)/0-5V signal isolation and transfer
- Equipment and sensor signal acquisition
- Signal isolated transmission and conversion
- Electric power, distant control, isolated safe bar
- 4-20mA sensor analog signal transmission
- Ground interference control

Model Selection

ISOEM - U(A) - P - O

Input signal	Power supply P	Output
U1:0-5V	P1:DC24V	O1:4-20mA
U2:0-10V	P2:DC12V	O2:0~20mA
U3:0-75mV	P3: DC5V	O4:0~5V
U4:0-2.5V	P4:DC15V	O5:0~10V
U5:0-±5V	P8:User-defined	O6:1~5V
U6:0-±10V		O7:0~±5V
U7:0-±100V		O8:User-defined
U8:User-defined		O9:-20~+20mA
A1:0-1mA		O10:0~±10V
A2:0-10mA		
A3:0-20mA		
A4:4-20mA		
A5:0-±1mA		
A6:0-±10mA		
A7:0-±20mA		
A8: User-defined		

Model Selection Examples

(1)Input:0-5VDC Output:0-5VDC Power:24VDC Model No: ISOEM-U1-P1-O4

(2)Input:4-20mA Output:4-20mA Power:24VDC

Model No: ISOEM-A4-P1-O1

Introduction

SUNYUAN ISOEM series is a kind of electromagnetic isolation integrated IC, it is made of isolated DC/DC converters and electromagnetic isolation signal amplifier, it is ideally applied in the field with no special requirements on EMC(electromagnetism disturb). Compared to photoelectric isolation converter, it cannot be used in strong magnetic field, so clients need to adopt shielding measures, it can reach 5000VDC insulated. Sunyuan ISO EM series it is very easy to use,no external components are required.

★ Products package: PCB Mounted type and DIN 35 1x2 or DIN35 2x2 Rail-Mounted

★ 0-5V/0-10V/0-75mV/0-2.5V/0-1mA/0-10mA/0-20mA/4-20mA isolated signal of international standard signal input and output

Accuracy grade:0.1/0.2,Extremely high linearity in whole process(non-linearity<2%), need not "ZERO"and "G.adj" adjustment..

Max operation range

Continue isolation voltage value	3000VDC/min.
Power Vin range:	±25%Vin
Jointing temperature(10sec.)	+300°C
Vout signal load(MIN)	2KΩ

If over above range, maybe cause products damaged permanently.

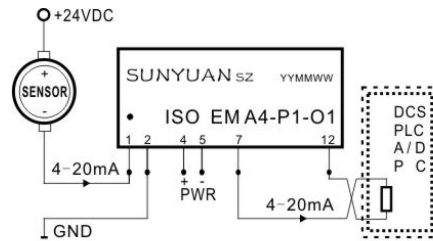
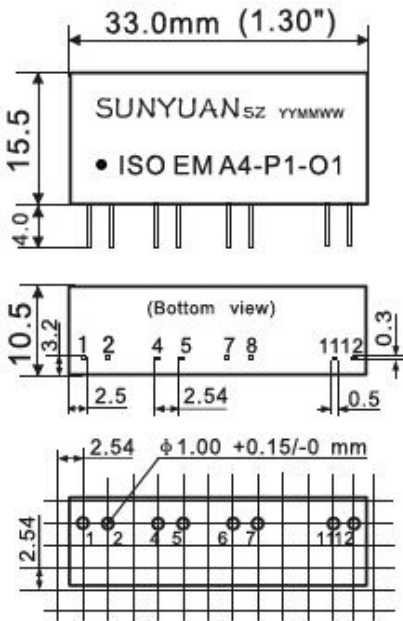
Technical parameters

Parameter	Test Conditions	Mix	Type	Max	Unit	
Isolated voltage	AC,50Hz,1min	3000			V(rms)	
G.Adj			1		V/V	
G.Adj temperature drift			25		ppm/°C	
Non-linearity			0.1	0.2	%FSR	
Input signal	Voltage	0		15	V	
	Current	0		30	mA	
Input maladjusted voltage			2	5	mV	
Input impedance	Voltage		1		M	
	Current			50	Ω	
Output signal	Voltage	-10		10	V	
	Current	-20		20	mA	
Load capability	Voltage	Vout=10V	2		kΩ	
	Current		0	350	650	Ω
Frequency response	-3DB		1		KHz	
Signal output ripple	No-filter		10	20	mVRMS	
Signal voltage temperature drift				1	mV/°C	
Assistant power	Voltage	User-defined	3.3	12	24	VDC
	Power loss			0.5	1	W
Operating temperature		-45		85	°C	
Storage temperature		-55		105	°C	

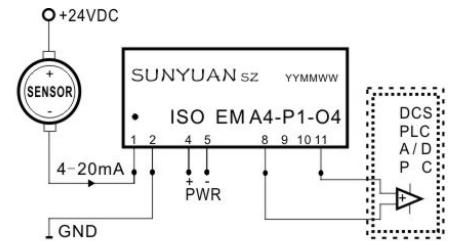
Note: If need special load capability of voltage/current signal, please notify us.

Output	Output load capability	Response Time
4-20mA	≤350Ω (If need 650Ω,please explain)	≤1mS
0-20mA		
0-5V	> 2KΩ	
0-10V		
1-5V		

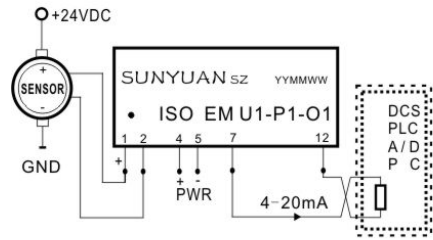
Physical Dimensions and Pin Description



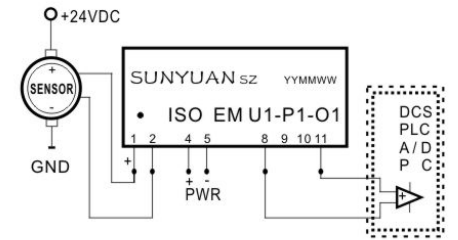
Current In, Current Out (I/I) Isolation



Current In, Voltage Out (I/V) Conversion

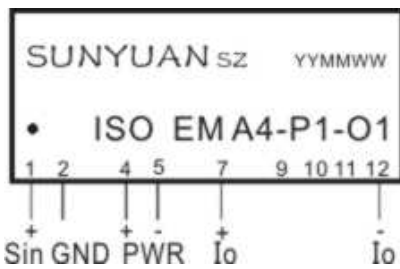


Voltage In, Current Out (V/I) Conversion



Voltage In, Voltage Out (V/V) Isolation

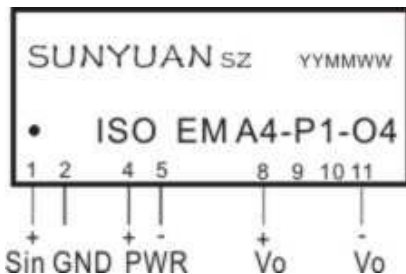
(1) 0-2.5V/0-5V etc. Voltage output



Single-line PCB-mounted (SIP 12Pin), "ZERO" and "G.Adj" adjustment are not required.

1	2	3	4	5	6	7	8	9	10	11	12
Signal input Sin+	Signal input GND	omitted	power PW+	power PW-	omitted	omitted	Signal output Vo-	omitted	omitted	Signal output Vo+	omitted

(2) 0-20mA/4-20mA etc. Current output



Single-line PCB-mounted (SIP 12Pin), "ZERO" and "G. Adj" adjustment are not required..

1	2	3	4	5	6	7	8	9	10	11	12
Signal input Sin+	Signal input GND	omitted	power PW+	power PW-	omitted	Signal output Io+	omitted	omitted	omitted	omitted	Signal output Io-

Note: That isolation amplifier cannot be used in the field of strong electromagnetic interference.