

## ISOEM Series Two Wires Signal Isolated transmitter IC (Electromagnetic Isolation)

### General parameter:

- Low cost,small size,SIP 12 re fire UL94V-0 package
- No external component ,needn't "ZERO"and "adj" adjustment.
- Three-port (power/input/output) isolation:3000VDC
- Assistant power:5VDC/12VDC/15VDC/24VDC
- 0-75mV/0-2.5V/0-5V/0-10V voltage signal or 0-10mA/0-20mA/4-20mA current signal isolation and transfer
- Temperature range: -45~+85 °C
- In EMC(electromagnetism disturb) circumstance need adopt shield measure.

### 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 transmit no-distortion
- Electric power,distant control,isolated safe bar
- 4-20mA sensor analog signal transmission
- Ground interference control

### Specification:

SUNYUAN ISOEM series is electromagnetic isolation mixed IC,it is made of isolated DC/DC converters and electromagnetic isolation signal amplifier,it is ideally suited for no special need about EMC(electromagnetism disturb) Compare to photoelectrical isolation,it can not be used in strong electromagnetism,so clients need adopt shield measures,it can reach 5000VDC insulated. Sunyuan ISO EM series it is very easy to use,no external components are required.

★ Products style:weldable to PCB directly 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<0.1%), needn't "ZERO"and "adj" adjustment..

★ Input port isolated power can supply the power to two wires sensor(no-power),also used in input signal former amplify,difference,benchmark etc. circuit.

### Part number and description:

**ISOEM - U(A)  - P  - O  - S**



Input rated current	Accessorial power supply P	Output	Isolated power
U1: 0-5V	P1: DC24V	O1: 4-20mA	S1:12V
U2: 0-10V	P2: DC12V	O2: 0~20mA	S2:15V
U3: 0-75mV	P3: DC5V	O4:0~5V	S3:24V
U4: 0-2.5V	P4: DC15V	O5:0~10V	S4:5V
U5:User-defined	P5: Customer choose	O6:1~5V	S5:Customer
A1: 0-1mA			
A2:0-10mA			
A3:0-20mA			
A4:4-20mA			
A5:User-defined			

### Examples:

(1)Input:0-5VDC      Output:0-5VDC      Power:24VDC      Isolated Power:24V

Model:ISOEM-U1-P1-O4-S3

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

Model:ISOEM-A4-P1-O1-S3

**Max operation range:**

Continue isolation voltage value	3000VDC
Power Vin range:	$\pm 25\% V_{in}$
Jointing temperature(10sec.)	+300°C
Vout signal load(MIN)	2K $\Omega$

If over above range,maybe cause products damaged permanently.

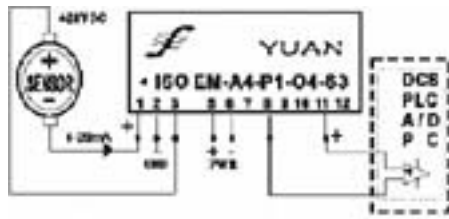
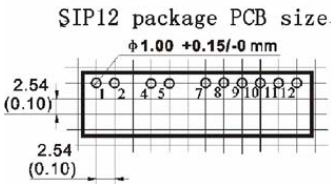
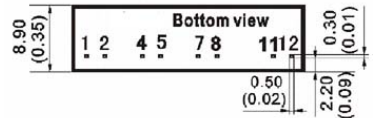
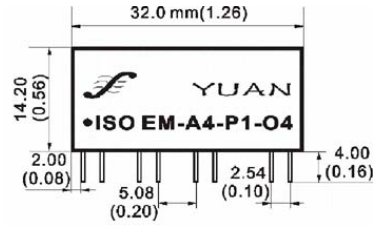
**Technic parameter:**

Parameter	Test Condition	Mix	Type	Max	Unit
Isolated voltage	AC,50Hz,1min		3000		VDC
Adj			1		V/V
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	$\Omega$
Power output	Voltage	5		24	V
	Current		20		mA
	Ripple		50		mV
	Accuracy		2		%
Output signal	Voltage	0		15	V
	Current	0		20	mA
Load capability	Voltage	Vout=10V	2		k $\Omega$
	Current		0	500	750 $\Omega$
Frequency response			10		KHz
Signal output ripple			10	20	mV <sub>RMS</sub>
Signal voltage temperature				1	mV/°C
Assistant power	Voltage	User-defined	3.3	12	24 VDC
	Power		0.5	1	W
Operating temperature		-45		85	°C
Storage temperature		-55		105	°C

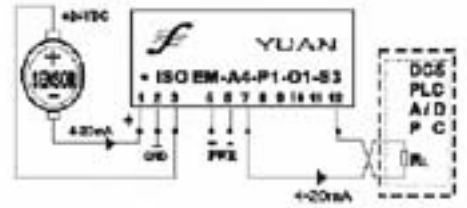
Note:If need special load capability of voltage/current signal,please explain.

Output	Output load capability	Response Time
4-20mA	$\leq 350\Omega$ ( If need 650 $\Omega$ ,please explain)	$\leq 1\text{mS}$
0-20mA		
0-5V		
0-10V	$\geq 2\text{K}\Omega$	
1-5V		

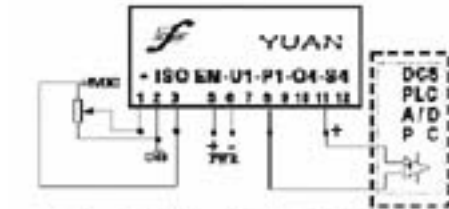
Physical Dimensions and Pin Description:



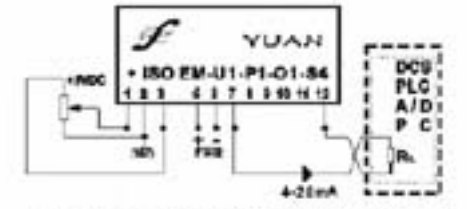
two wires Iin/Iout converter



two wires Iin/Iout isolated

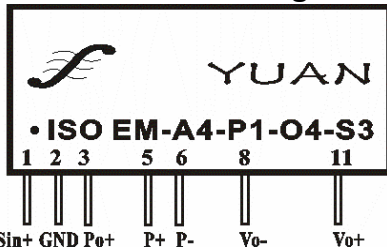


regulated Vin/Vout isolated



regulated Vin/Iout converter

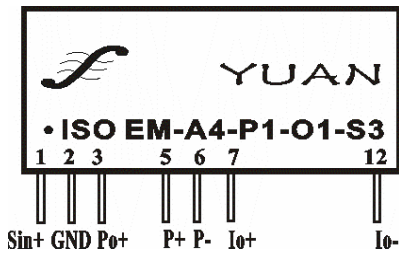
(1)0-5V/0-10V etc. voltage output PIN



Single-line straight insert(SIP 12Pin) ,needn' t "ZERO"and "adj" adjustment.

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

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



Single-line straight insert(SIP 12Pin) ,needn' t "ZERO"and "adj" adjustment.

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