

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



General characteristic:

- Low cost, small size, SIP 12 anti-fire UL94V-0 package
- No external component, needn't "ZERO" and "G.adj" adjustment.
- Three-port (power/input/output) isolation: 3000VDC
- Assistant power: 5VDC/12VDC/15VDC/24VDC
- 0-75mV/0-2.5V/0-5V/0-10V/0-±100mV/0-±5V/0-±10V voltage signal or 0-10mA/0-20mA/4-20mA/0-±10mA/0-±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

Part number and description:

ISOEM - U(A) ☐ - P ☐ - O ☐

Input rated current	Accessorial 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	P5:220VAC(DIN Rail-mounted)	O6:1~5V
U6:0~±10V	P6:User-defined	O7:0~±5V
U7:0~±100V		O8:0~±10V
U8:User-defined		O9:-20~+20mA
A1:0-1mA		O10:User-defined
A2:0-10mA		
A3:0-20mA		
A4:4-20mA		
A5:0~±1mA		
A6:0~±10mA		
A7:0~±20mA		
A8: User-defined		

Examples:

- (1) Input: 0-5VDC Output: 0-5VDC Power: 24VDC
Model: ISOEM-U1-P1-O4
- (2) Input: 4-20mA Output: 4-20mA Power: 24VDC
Model: ISOEM-A4-P1-O1

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 < 2%), need not "ZERO" and "G.adj" adjustment..

Max operation range:

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

If over above range, maybe cause products damaged permanently.

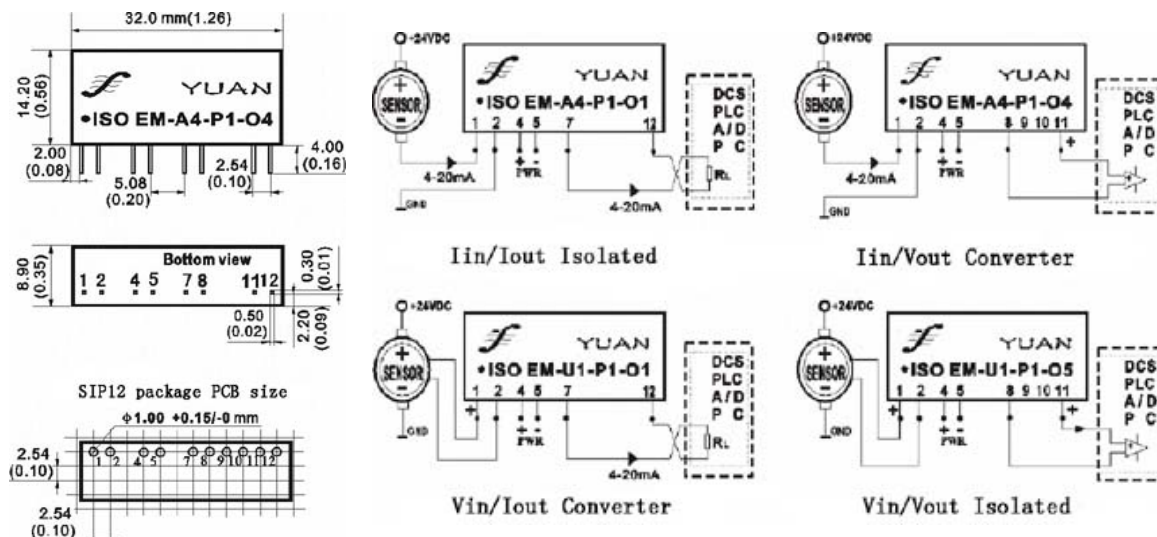
Technic parameter:

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

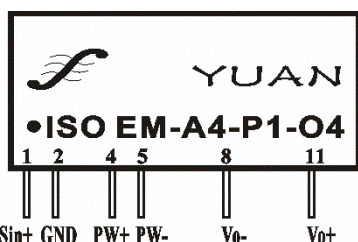
Parameter		Test Condition	Mix	Type	Max	Unit
Isolated voltage		AC, 50Hz, 1min	3000			V(rms)
Adj				1		V/V
Adj temperature drift				25		ppm/℃
Non-linearity				0.1	0.2	%FSR
Input signal	Voltage		0		15	V
	Current		0		30	mA
Input maladjusted voltage				2	5	mV
Input impedance	Voltage			1		M
	Current				50	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		10		KHz
Signal output ripple		No-filter		10	20	mVRMS
Signal voltage temperature drift					1	mV/℃
Assistant power	Voltage	User-defined	3.3	12	24	VDC
	Power loss			0.5	1	W
Operating temperature			-45		85	℃
Storage temperature			-55		105	℃

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:



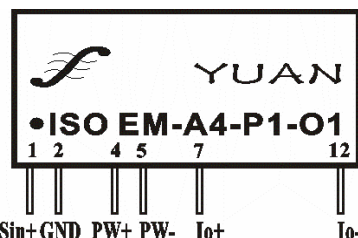
(1) 0-2.5V/0-5V etc. voltage output



Single-line straight insert(SIP 12Pin),need not "ZERO"and "G.Adj" adjustment.

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 straight insert(SIP 12Pin),need not "ZERO"and "G.Adj" adjustment.

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: The transmitter should not be used in environments with strong electromagnetic interference.