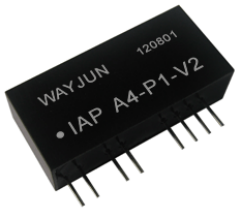
IAP series Analog Signal Isolated Converter

(Optical isolation)



General characteristic:

>>Small size, SIP 12 anti- fire UL94V-0 package

>>Can be adjusted Zero and Gain

>>Three-port (power/input/output) isolation: 3000VDC

>>Assistant power supply: 5VDC/12VDC/15VDC/24VDC

>>0-5V/0-10V/0-±100mV voltage signal or 0-10mA/0-20mA/4-20mA current signal

>>Temperature range: -45~+85 ℃

>>Good anti-jamming capability

>>Extremely high linearity (nonlinearity<2%)

Applications：

>> DC current/voltage signal isolation/transmitter/amplifier

>> No distortion in long distance signal transmission

>> Analog signal data acquisition

>> 4-20mA (0-20mA) 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

Selection Guide:

Input Signal				Power Supply		Output Signal			
Voltage	**Code**	**Current**	**Code**	Power	**Code**	**Current**	**Code**	**Voltage**	**Code**
0-5V	V1	0-1mA	A1	24VDC	P1	0-20ma	A3	0-5V	V1
0-10V	V2	0-10mA	A2	12VDC	P2	4-20ma	A4	0-10V	V2
0-75mV	V3	0-20ma	A3	5VDC	P3	User-defined	A8	1-5V	V6
0-2.5	V4	4-20mA	A4	15VDC	P4			User-defined	V8
User-defined	V8	User-defined	A8						

Samples:

1. Input 0-5V, power supply: 24VDC, Output 4-20mA
   Part number: IAP-V2-P1-A4
2. Input: 0-3V, power supply: 24VDC, Output: 4-20ma
   Part Number: IAP-V8-P1-A4(V8:0-3V)
3. Input: 0-75mV, power supply: 24VDC, Output: 4-20ma
   Part Number: IAP-V3-P1-A4
4. Input: 4-20ma, power supply: 24VDC, Output: 4-20ma
   Part Number: IAP-A4-P1-A4
5. Input: 4-20ma, power supply: 5VDC, Output: 0-5V
   Part Number: IAP-A4-P3-V1
5. Input: 4-20ma, power supply: 24VDC, Output: 0-10V
   Part Number: IAP-A4-P1-V2

Products Absolute Maximum Ratings:

Continuous Isolation Voltage: 3000VDC

Junction Temperature: +85 ° C

Storage Temperature: +150 ° C

Lead Temperature: +300 ℃ (10 sec)

Supply voltage range: ± 10% Vin

Note: If you exceed this range, the product may cause permanent damage.

General parameter:

Parameter		Test Condition	Mix.	Type.	Max.	Unit
Isolation voltage		1min	3000			VDC
Gain				1		V/V
Gain temperature drift				100		ppm/℃
Non-linearity				0.1	0.2	%FSR
Input signal	Voltage		0		50	V
	Current		0		30	mA
Input maladjusted voltage				2	5	mV
Input impedance	Voltage		0.3	1		M
	Current			250		Ω
Output signal	Voltage		-10		10	V
	Current		-20		20	mA
Load capability	Voltage	Vout=10V		2	Note *3	kΩ
	Current		0	350	Note *4	Ω
Frequency response		-3DB		1		KHz
Signal output ripple		No-filter		10	20	mVRMS
Signal voltage temperature drift					0.2	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	℃

Note: All specifications measured at TA=25° C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.

*1 Note: when Input signal is **0-xV**, output is **4-20mA**, need be connected to Gain adj. potentiometer and Zero adj. potentiometer.

*2 Note: If input and output signal:**0-xV/0-xmA** , this product does not need be adjusted ZERO.

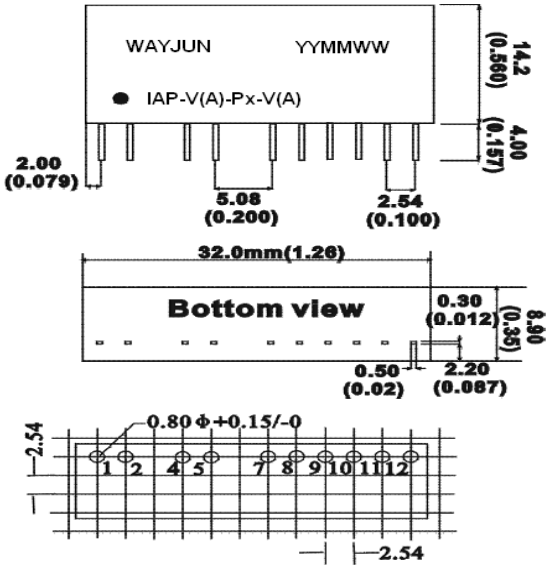
Input parameters:

Input item	Input impedance	Input over load
0-1mA	≥1KΩ	1.5 times of rated: Continuous
0-10mA	250 ohm(if need other impedance, such as 100 ohm, please note)	3.0 times of rated: 1S
0-20mA		
4-20mA		
Voltage signal	≥1MΩ	2.0 times of rated: Continuous
User-defined	User-defined	User-defined

Input parameters:

Output item	Input over load	Response time
4-20mA	⩽350Ω (If need others, such as 550 ohm, please note or choose our large current products)	⩽1mS
0-20mA		
4-20mA		
0-5V	> 2Kohm	
0-10V		
1-5V		

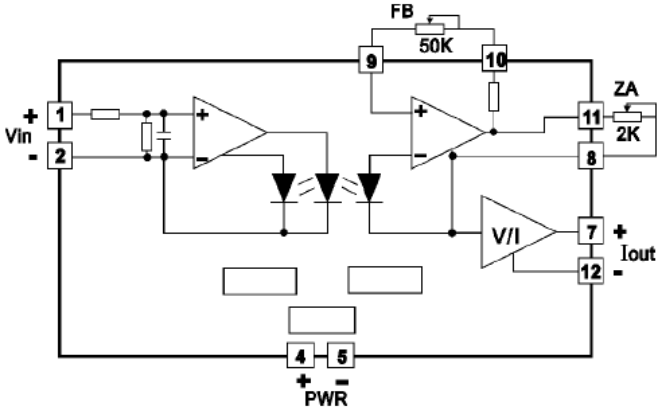
Physical Dimensions and Footprint Description (unit:mm)



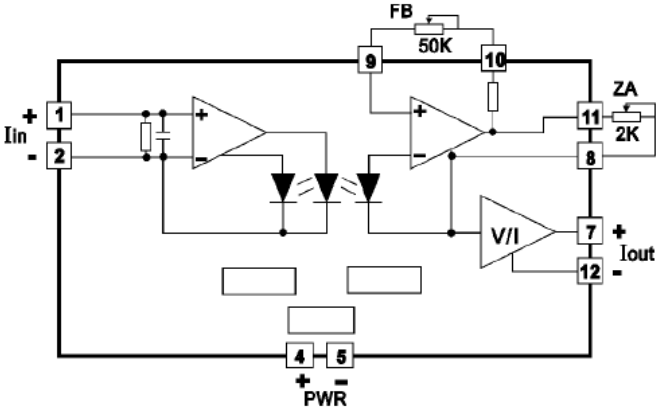
Printed Board

Current signal output footprint description

1	2	3	4	5	6	7	8	9	10	11	12
Vin+	GND	NO PIN	PW+	PW-	NO PIN	Iout+	ZA or NO PIN	G.Adj	G.Adj	ZA or NO PIN	Iout-



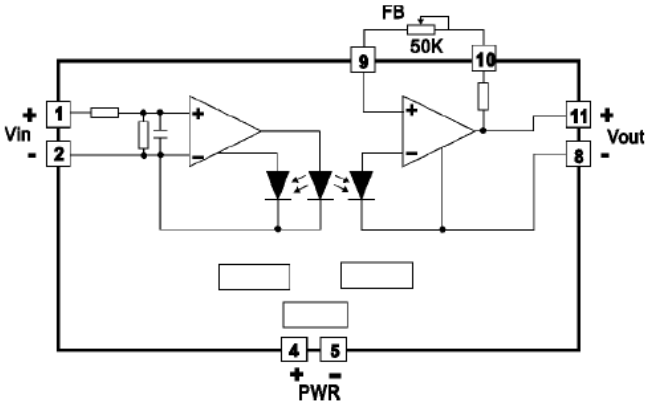
Vin/Iout Wring Diagram



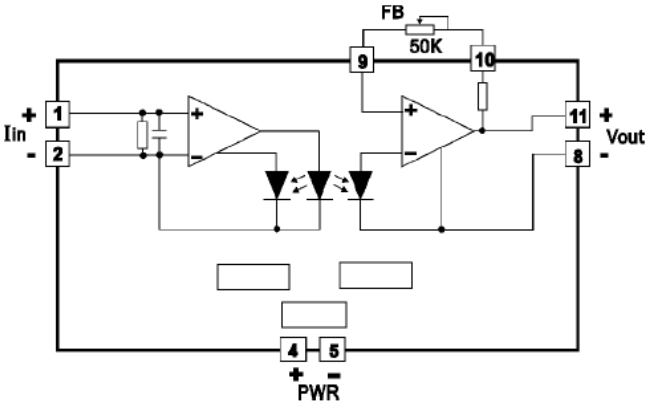
Iin/Iout Wring Diagram

Voltage signal output footprint description

1	2	3	4	5	6	7	8	9	10	11	12
Vin+	GND	NO PIN	PW+	PW-	NO PIN	NO PIN	Vout-	G.Adj	G.Adj	Vout+	NO PIN



Vin/Vout Wring Diagram



Iin/Vout Wring Diagram

Note:Please inform us if need longer PIN length.