



JSD OI series DC signal optical isolation amplifier

Features:

- ◆ Low cost、small size、SIP package with UL94-V0 flame retardant standard
- ◆ Achieve Zero and gain adjustment by Adding multi-turn potentiometer
- ◆ Three-port isolation (input, output and power supply)
- ◆ Isolation voltage (2500VDC/60s)
- ◆ Power supply: 5VDC、12VDC、15VDC、24VDC
- ◆ 0~5V/0~10V/1~5V/0~100mV/0~20mA/0~10mA/4~20mA etc. voltage or current signal conversion amplification
- ◆ High accuracy: (0.1% F.S,0.2% F.S);
- ◆ Full scale high linearity (non-linearity<0.1%)
- ◆ Strong anti-interference and Anti-high-frequency signal interference
- ◆ Wide operation temperature (-45~+85°C)
- ◆ Passed CE Certificate

Applications:

- ◆ DC current/voltage signal isolation, conversion and amplification
- ◆ Analog signal ground interference suppression
- ◆ 4~20mA/0~20mA/0~10mA/0~5V/0~10V/1~5V etc. signal isolation and conversion, can achieve 1-input-2-output、1-input-3-output、1-input-4-output、2-input-2-output、3-input-3-output etc. signal isolation.
- ◆ Instrumentation and sensor signal transceiver
- ◆ Industrial Power isolation and control
- ◆ Analog signal data isolation, acquisition and conversion
- ◆ Industrial field signal isolation and Remote lossless transmission
- ◆ Power monitoring, medical equipment isolation barrier

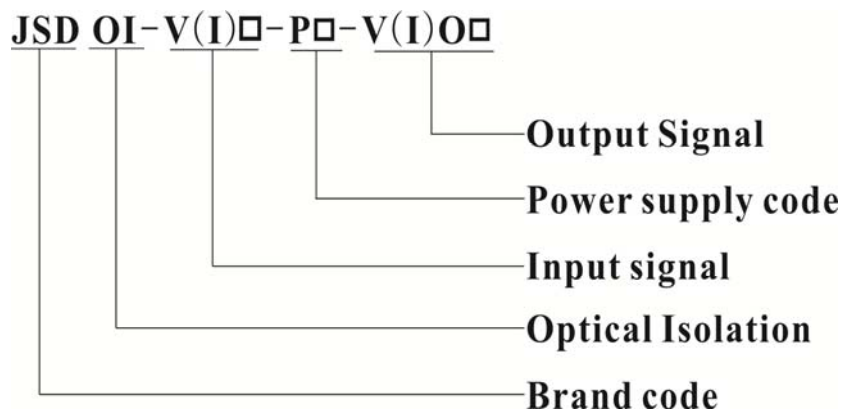
General Description:

JIE Sheng da Technology **JSD OI series** isolation amplifier is a hybrid integrated circuit which make the input signal isolation amplifier, converting into a DC signal proportional output, the isolation amplifier module front stage is the voltage (current) signal input, Backend is a current (voltage) signal output, Integrated on the same chip a multi-isolated micro-power supply to the internal signal processing circuitry, make the chip achieve three-port isolation(input, output and power supply),and the isolation voltage between them is up to 2500 VDC, **JSD OI series** isolation amplifier uses optical isolation technology, compared with the magnetic isolation transform has strong anti-interference and anti-high-frequency .

JIE Sheng da Technology **JSD OI series** isolation amplifiers have PCB board soldering and standard DIN 35mm rail slot fixed installation of two rail mounting can be achieved 1-input-2-output、1-input-3-output、2-input-2-output、3-input-3-output、 the user simply by wiring can be used.

Products very easy to use, you can achieve signal isolation and transmission without any external components, The product simplifies the user's design, greatly improves the PCB board space utilization.

Selections and Definitions:





Product Selection Parameter List:				
signal input code:		Power supply code:	output signal code:	
Voltage(VDC)	Current(mA)	Power(VDC)	Current (mA)	voltage(VDC)
V1: 0~5V	I1: 0~1mA	P1: 24VDC	IO1: 4~20mA	VO4: 0~5V
V2: 0~10V	I2: 0~10mA	P2: 15VDC	IO2: 0~20mA	VO5: 0~10V
V3: 0~75mV	I3: 0~20mA	P3: 12VDC	IO3: --- --- ---	VO6: 1~5V
V4: 0~2.5V	I4: 4~20mA	P4: 5VDC	V(I)Oud: User-defined	
V(I)ud: User-defined		Pud: User-defined		
Note1: When ordering ,please determine input、 output and power , special can customize				

Selection Example:

Example 1: Signal input: 0-5V; signal output: 0-5V; power supply:5VDC; Model: JSD OI-V1-P4-VO4

Example 2: Signal input: 4-20mA; signal output :4-20mA; power supply: 24VDC; Model: JSD OI-I4-P1-IO1

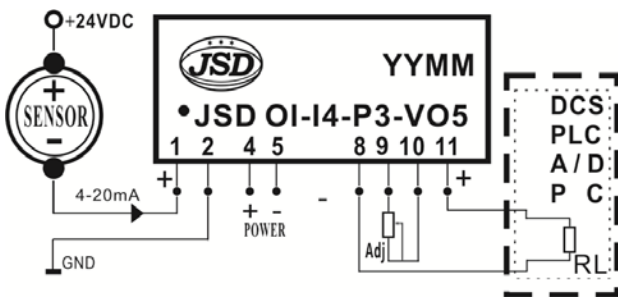
Electrical Characteristics:

Signs	Item	Test condition	Min	Type	Max	Units	
Isolation characteristics	Isolation voltage	AC,50Hz,(Tested for 1 minute humidity<70% ,leakage current < 1mA,)		2500		V(rms)	
	Transmission characteristics	Gain			1		V/V
Gain drift				100		ppm/°C	
Gain adjustment potentiometer				50		kΩ	
Zero adjustment potentiometer				2		kΩ	
Non-linearity				0.1	0.2	%FSR	
Input characteristics	Signal input	Voltage	0		50	V	
		Current	0		30	mA	
	Input offset voltage			2	5	mV	
	Input impedance	Voltage		0.3	1		M
Current				250	1000	Ω	
Output characteristics	Signal output	Voltage	0		10	V	
		Current	0		20	mA	
	Load capacity	Voltage	Vout=10V		2		kΩ
		Current		0	350	650	Ω
	Frequency Response	-3DB		1		KHz	
	Response time			≤ 1		mS	
	Signal output ripple	Unfiltered		10	20	mVRMS	
	Voltage signal drift	-45~+85 Operating temperature			0.2	mV/°C	
Power input characteristics	Power supply	Voltage	3.3	12	24	VDC	
		Power loss		0.5	1	W	
		Range	-10		+10	%	
Other characteristics	Soldering Temperature	Solder from the shell 1.5mm,			300	°C	
	Operating temperature		-45		85	°C	
	storage temperature		-55		105	°C	
	Weight		7.5	8		g	
Note 2:	Normal load ≤ 350Ω, if required load 650Ω, please note when ordering .						

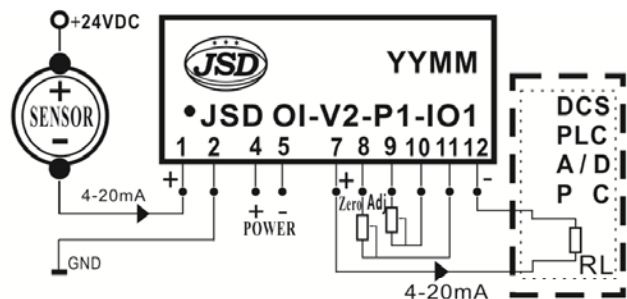
Pin function:

Signal output type	Pin	Function	Pin	Function	Storage
Voltage output pin function	1	Signal input +	7	No pin	Single Inline 12Pin
	2	Signal input GND	8	Signal output -	
	3	No pin	9	Gain adjustment	
	4	Power supply +	10	Gain adjustment	
	5	Power supply -	11	Signal output +	
	6	No pin	12	No pin	
Current output pin function	1	Signal input +	7	Signal output +	Single Inline 12Pin
	2	Signal input GND	8	Zero adjustment/No pin	
	3	No pin	9	Gain adjustment	
	4	Power supply +	10	Gain adjustment	
	5	Power supply -	11	Zero adjustment/No pin	
	6	No pin	12	Signal output -	

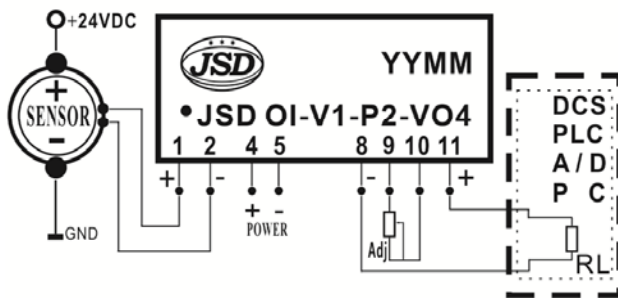
Wiring and PCB board layout diagram:



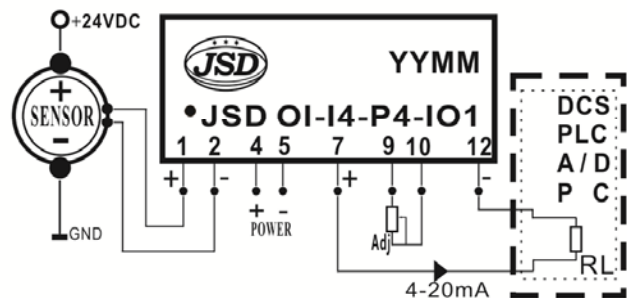
Current In/Voltage Out (I/V Convert)



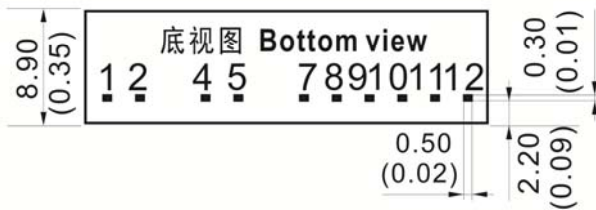
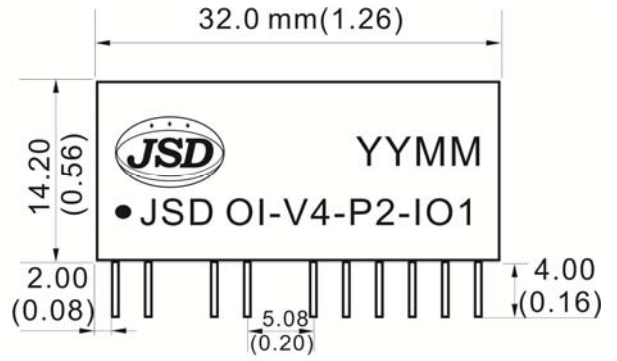
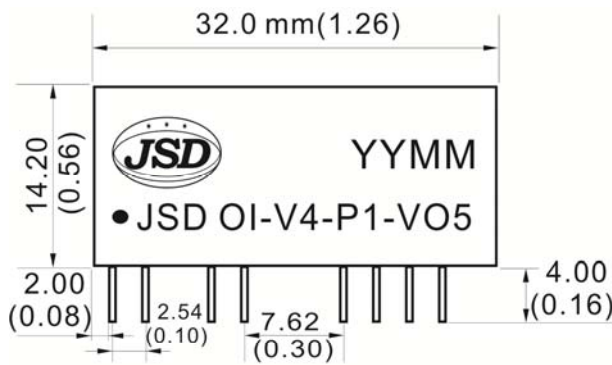
Current In/Current Out (I/I Isolation)



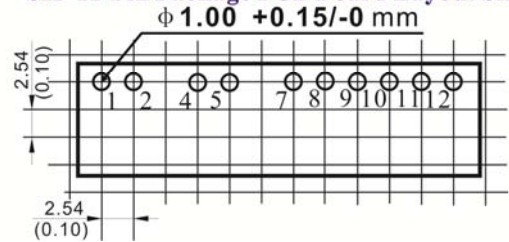
Voltage In/Voltage Out (V/V Isolation)



Current In/Current Out (V/I Convert)



SIP 12 Pin Package PCB Board Layout Size



Notes

- 1、 Please read the user manual carefully before using. If any question please contact our technical support department.
- 2、 Please do not use this product in hazardous area. The power supply of this product should be 24VDC power source. It is forbidden to use 220VAC power supply.
- 3、 Calculating from the date of delivery, during normal use of the product, any quality problems are free repair or replacement by Company during 3 years warranty,
- 4、 To avoid invalid, or any failure, users disassemble this product is forbidden
- 5、 the product is strictly forbidden demolish without permission for not damage
- 6、 All specifications measured at $T_a=25^\circ\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- 7、 In this datasheet, all the test methods of indications are based on corporate standards.