Pressure-strain bridge Isolation amplifier module IC

Features:

●low cost, small size, DIP24 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：5V、12V、15V、24V

● 0~2mV/0~10mV/0~20mV/0~±10mV/0~±20mV/0~100mV Etc. differential voltage signal input, conversion and amplification

●Converting the pressure, tension, gravity sensor signal into international standard current or voltage signals, such as 4-20mA/0-20mA/0-10V/1-5V/0-5V

● Provides 5VDC or 10VDC reference voltage to the Pressure-strain bridge sensor

● 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 ℃)

● Various sensor interface match (acquisition, amplification, remote transmission)

Applications:

●weighing sensor signal acquisition amplification and conversion

●Analog signal ground interference suppression and signal isolation, acquisition and remote transmission

● Industrial field signal remote transmission without distortion

● non-power signal transmission

● power isolation monitoring industrial field

● Analog signal data isolation, acquisition and conversion

● Industrial field signal isolation and conversion, and remote transmission without distortion

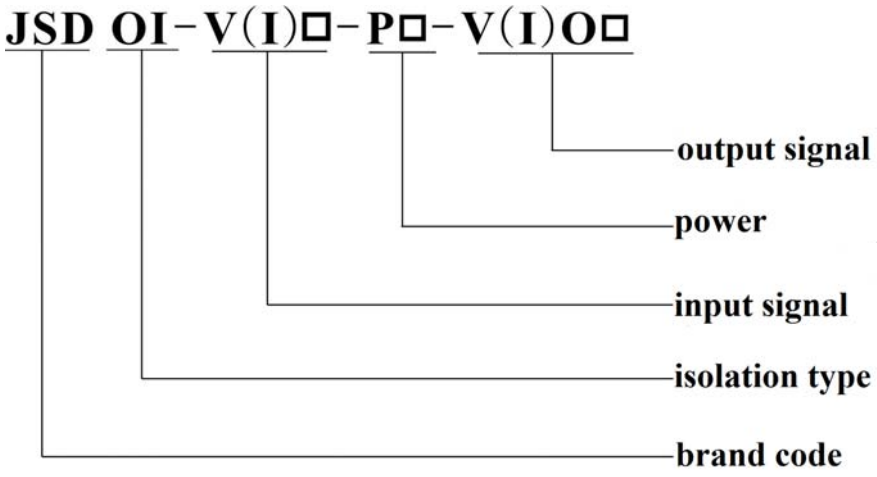
● overcome EMC electromagnetic interference in industrial field

General Description:

Jie Shengda Technology JSD OI-Bx-Px-V(I)Ox Series Pressure-strain bridge isolation amplifier is a Hybrid integrated circuit by witch the differential signal Proportionally isolate amplifier, convert into DC signal output , The pressure-strain bridge isolation amplifier IC provides a set of efficient micro-power voltage reference source to the pressure sensor , and output an international standard current (voltage) signal ,The chip integrates a set of multi-channel high-isolation DC / DC micro power supply and several high-performance signal isolation converter to supply for the internal amplifier circuit, its four-port isolation(input, power supply, output and power distribution),and the isolation voltage between them is up to 2500 VDC, JSD OI-Bx-Px-V(I)Ox series Isolation Amplifiers has strong anti-electromagnetic EMC interference capability, Isolation amplifier using a photoelectric isolation technology, compared to the magnetic isolation transform EMC appliance strong anti-interference and high anti-frequency signal space electromagnetic interference products widely used in electrical, instrumentation, medical equipment, weighing instruments, industrial automation and other industries fields.

JSD OI-Bx-Px-V (I) Ox series isolation amplifier products have PCB board soldering and standard DIN 35 rail mounting, rail mounting can achieve analog 1-input-1-output, the user simply by wiring can be used。Product very easy to use, just add a 50KΩ multi-turn potentiometer ADJ correction, you can achieve signal isolation, transmission and transformation capabilities, and to achieve long-term signals without distortion transmission. The product simplifies the user's design, greatly improves the PCB board space utilization.

Selections and Definitions：



Product Selection Parameter List:

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JSD	OI	Bx	Px	V(I)Ox	**Detailed description**
Code					Brand code
Isolation code					Optical Isolation
Pressure-strain bridge inputting signal code		B1：			B1：2mV/V power distribution 5VDC
		B2：			B2：2mV/V power distribution 10VDC
		B3：			B3：0~10mV
					B4：0~30mV
		B4：			B5：0~50mV
		B5：			B6：0~75mV
		B6：			B7：0~100mV
		Bud：			Bud： User-defined
Power supply code			P1：		24VDC
			P2：		15VDC
			P3：		12VDC
			P4：		5VDC
			Pud：		Pud： User-defined
Current (voltage)outputting signal code				IO1：	4~20mA
				IO2：	0~20mA
				IO3：	-- -- --
				VO4：	0~5V
				VO5：	0~10V
				VO6：	1~5V
				VO7：	0~±5V
				VO8：	0~±10V
				V(I)Oud	V(I)Oud： User-defined
Note 1:	**When ordering ,please determine input 、 output and power , special can customize**				

Selection Example:

Example 1: Signal input：2mV/V power distribution 5VDC； output 1: 0-5V； power supply:5VDC； Model：JSD OI-B1-P4-VO4

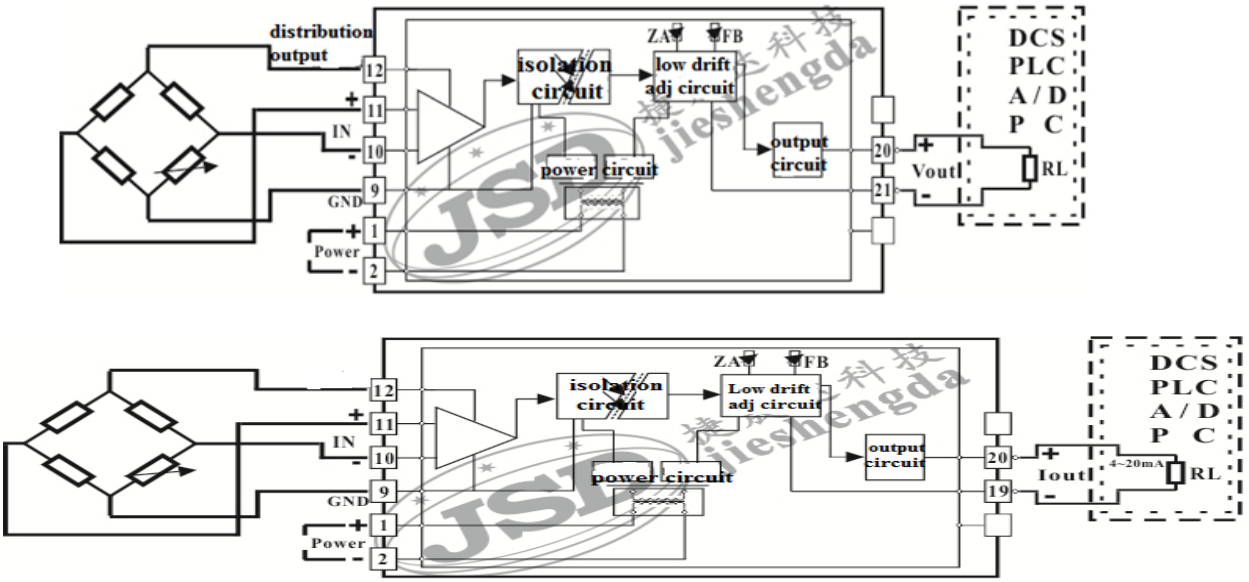
Example 2：Signal input：0-20mV；output :4-20mA；power supply：24VDC；Model：JSD OI-Bud-P1-IO1

Example 3：Signal input：0-100mV；output :0-20mA；power supply：24VDC；Model：JSD OI-B6-P1-IO2

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	Voltage output				2		mV/V
	Current output				1		mV/m
	Gain drift				100		ppm/
	Gain adjustment potentiometer				50		kΩ
	Zero adjustment potentiometer				2		kΩ
	Non-linearity				0.1	0.2	%FSR
Input characteristics	Signal input	voltage		0		100	mV
	Output reference voltage /current				30	65	mA
	Input offset voltage					50	uV
	Input impedance	Voltage		0.3	1		MΩ
Output characteristics	Signal output	Voltage		0	10	15	V
		current		0	20	30	mA
	Adjusting resistance	Zero adjustment	Adjustable multi-turn potentiometer	---	10	---	kΩ
		Gain adjustment		---	50	---	kΩ
	Load capacity	voltage	Vout=10V		5		kΩ
		Current		0	350		Ω
	Response time		-3DB		100		mS
	Signal output ripple		Unfiltered		10	20	mVR
	Voltage signal drift		-45~+85℃ Operating temperature			0.2	mV/℃
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, 10S			300	℃
	Operating temperature			-45		85	℃
	storage temperature			-55		105	℃
	Weight				16		g
Note 2:	**Normal load ≤ 350Ω, if required load 500Ω, please note when ordering 。**						

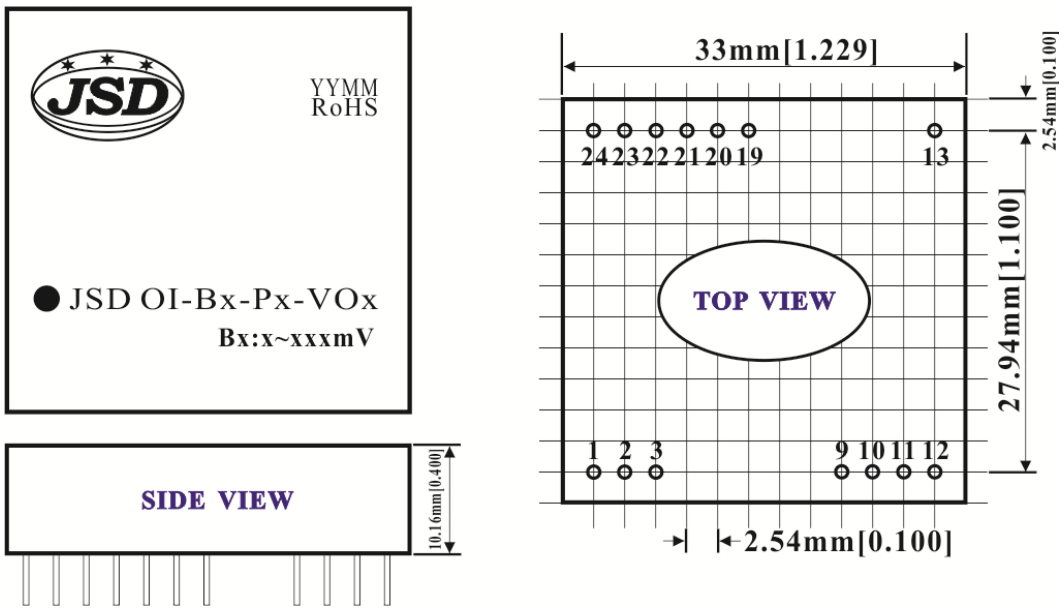
Wiring diagram



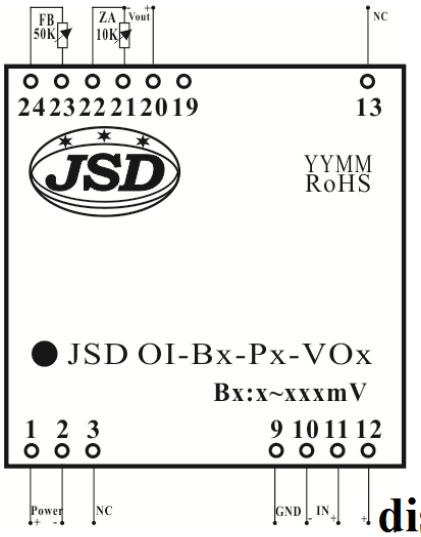
Pin Function Description:

Signal Type	Pin	Function	Pin	Function	Package
Voltage output	1	Power +	13	NO PIN	PCB board soldering (Single Inline 12Pin)
	2	Power -	14~18	NO PIN	
	3	NO PIN	19	NO PIN	
	4~8	NO PIN	20	Signal Out +	
	9	strain Bridge distribution voltage	21	Zero adjustment interface Signal Out -	
	10	Signal Out -	22	Gain adjustment interface	
	11	Signal Out +	23	Gain adjustment interface	
	12	strain Bridge distribution voltage	24	Gain adjustment interface	
Current output	1	Power +	13	NO PIN	PCB board soldering (Single Inline 12Pin)
	2	Power -	14~18	NO PIN	
	3	NO PIN	19	Signal Out -	
	4~8	NO PIN	20	Signal Out +	
	9	strain Bridge distribution voltage	21	Zero adjustment interface	
	10	Signal Out -	22	Zero adjustment interface	
	11	Signal Out +	23	Gain adjustment interface	
	12	strain Bridge distribution voltage	24	Gain adjustment interface	

Dimensions and PCB board layout diagram:

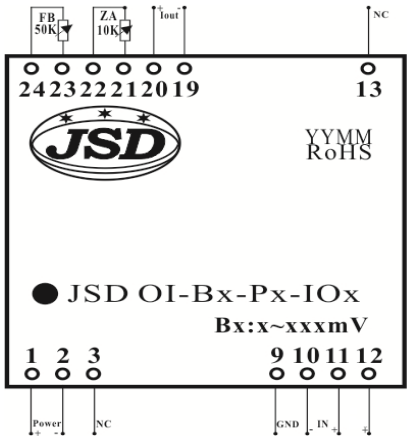


Wiring diagram:



distribution power

(voltage output)



Notes

1．"NC" pin must not be connected to any external circuit, or it will damage the product itself;

2. Please read the user manual carefully before using. If any question please contact our technical support department.

3. 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.

4．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.

5. To avoid invalid, or any failure, users disassemble this product is forbidden.