JSD NI series analog unidirectional signal non-isolated amplifier

Features:

- Low cost、small size、SIP8 package with UL94-V0 flame retardant standard
- Corrected internally, without external zero and gain potentiometer
- Mutual common ground between input, output and power supply
- Power supply：5VDC、12VDC、15VDC、24VDC
- 0~75mV/0~2.5V/0.4~2V/0~5V/1~5V/0~10V/4~20mA/0~20mA/0~10mA/0~20mA/0~10mAetc. voltage/current signal conversion amplification
- Wide operation temperature (-45~+85℃)
- High accuracy:（0.05% F.S ,0.1% F.S,0.2% F.S）;
- Full scale high linearity (non-linearity<0.2%)
- Passed CE Certificate

Applications:

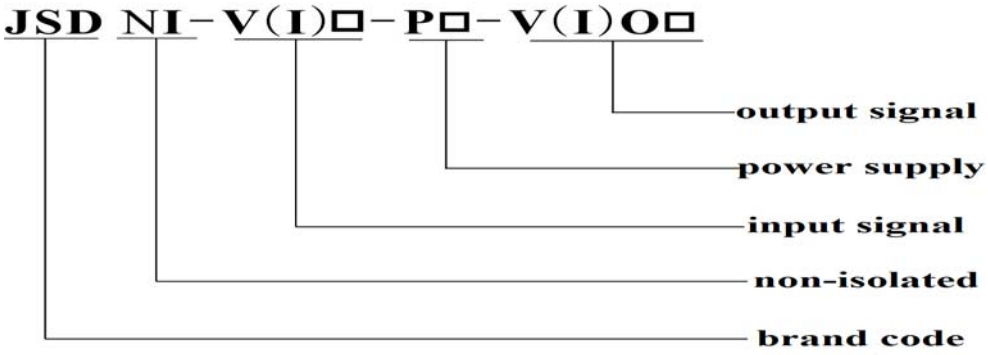
- DC current/voltage signal isolation, conversion and amplification
- Industrial field signal isolation and Remote lossless transmission
- Analog signal data isolation, acquisition and conversion
- 4~20mA/0~20mA/0~5V/0~10V/0~75mV/0~2.5V/0.4~2V tc. sensor signal amplifier and conversion
- Instrumentation and sensor signal transceiver
- Non-power signal transmission
- Industrial Power isolation and control
- Power monitoring, medical equipment isolation barrier
- Instrumentation signal acquisition, conversion and amplification

General Description:

Jie Sheng da Technology **JSD NI-V(I)x-Px-V(I)Ox** series analog unidirectional signal non-isolated amplifier is a hybrid integrated circuit which make the input signal isolation amplifier, converting ,the analog unidirectional signal non-isolated amplifier module is a non-isolated DC-DC power supply circuit and a set of amplified analog signal output circuit, widely used in electric power, telecommunications equipment, petrochemical, medical electronic equipment, instrumentation, industrial automation and control. **JSD NI-V (I) x-Px-V (I) Ox** series non-isolated analog unidirectional signal amplifiers very easy to use, without any external components, can achieve the industrial field signal acquisition and conversion functions, since the non-isolated amplifiers with the characters of low cost, high accuracy, small size . The product is designed to simplify the user, saving development and design cycle and improve the PCB board space utilization . The products are non-isolated amplifier chip soldered to the PCB mounting, internal circuitry has been corrected, the customers buy directly soldered to the PCB can be used.

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				

Selections and Definitions：



Selection example:

Example 1: signal input: 0-5V; Output signal: 0-10V; Power Supply: 5VDC; non-isolated: NI; Model NO: JSD NI-V1-P4-VO5

Example 2: Input signal: 4-20mA; signal output: 4-20mA; Power Supply: 24VDC; non-isolated: NI; Model NO: JSD NI-I4-P1-IO1

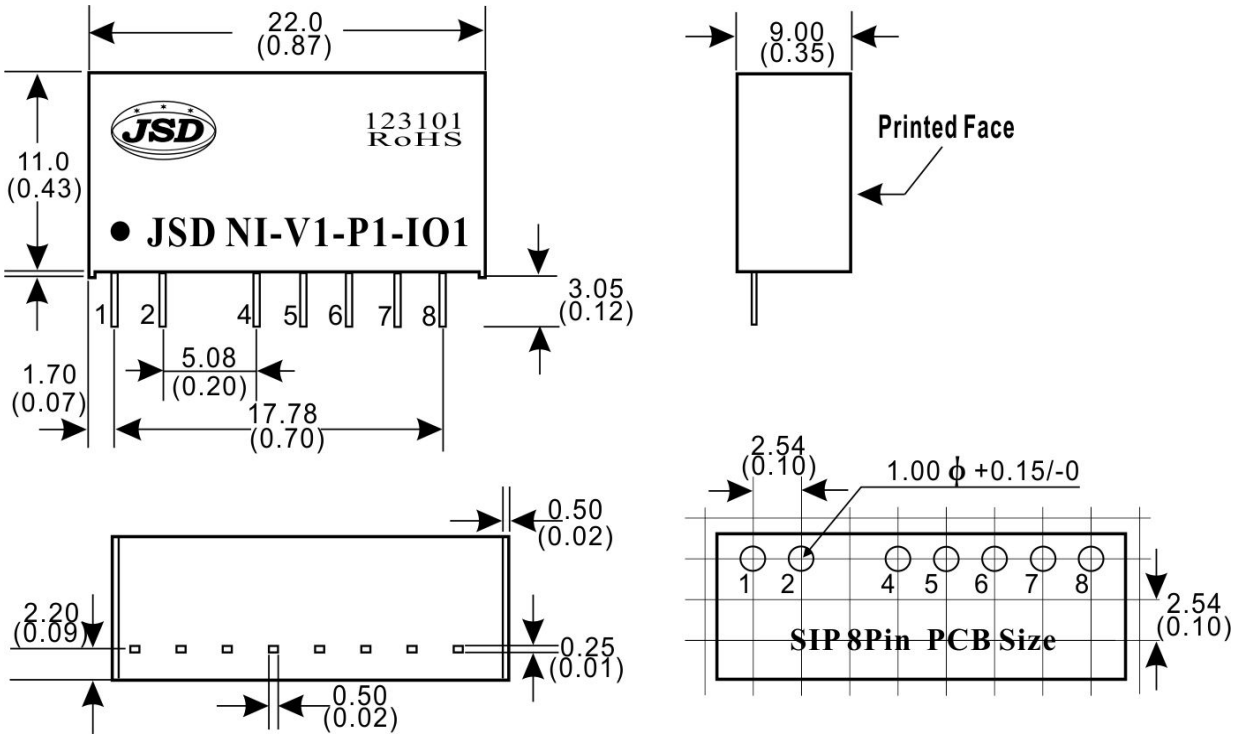
Electrical Characteristics：

Signs	Item		Test condition	Min	Type	Max	Units
Isolation characteristics	Isolation voltage		AC,50Hz,(Tested for 1 minute humidity<70% ,leakage current < 1mA,)	0	NO		V(rms)
Transmission characteristics	Gain				1		V/V
	Gain drift				100		ppm/℃
	Non-linearity			0.05	0.1	0.2	%FSR
Input characteristics	Signal input	Voltage		0		50	V
		Current		0		50	mA
	Input offset voltage				2	5	mV
	Input impedance	Voltage		300	1		M
		Current	When Input 0~1mA is 250Ω	20	100	250	Ω
Output characteristics	Signal output	Voltage		0		15	V
		Current		0		30	mA
	Load capacity	Voltage	Vout=10V		5		kΩ
		Current			350		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/℃
Power input characteristics	Power supply	Voltage		3.3	12	24	VDC
		Power loss			0.3	0.5	W
		Range		-10		+10	%
Other characteristics	Soldering temperature		Solder from the shell 1.5mm,			300	℃
	Operating temperature			-45		85	℃
	storage temperature			-55		105	℃
	Weight			7.5	8		g
Note 2:	**Normal load ≤ 350Ω, if special requirement, please note when ordering 。**						

Pins function description:

Signal output type	Pin	Function	Pin	Function	Storage
voltage output pin function	1	Signal input +	5	GND	Single Inline 8Pin
	2	Signal input GND	6	Signal input GND	
	3	No pin	7	Signal output Vo+	
	4	Signal input +	8	POWER+	
Current output pin function	1	Signal input +	5	GND	Single Inline 8Pin
	2	GND	6	GND	
	3	No pin	7	Signal output Io+	
	4	Signal input +	8	POWER+	

PCB layout and dimensions:



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 Ta=25°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.