



Single-channel frequency pulse signal to analog signal isolation transmitter (F/V、F/I frequency pulse signal converter)

Features:

- ◆ Low cost, thin design, international standards DIN35mm rail mounting
- ◆ Three-port isolation (input, output and power supply)
- ◆ Passed CE Certificate
- ◆ High accuracy (0.1% F.S, 0.2% F.S)
- ◆ High linearity (0.1% F.S),
- ◆ High isolation voltage (3000VDC/60S)
- ◆ Low temperature drift (80PPM/°C)
- ◆ Industrial class operation temperature (-45~+85°C)
- ◆ Ultra-wide range power supply design (9-36VDC single power)
- ◆ International standard signal input (0-200KHz/0-100KHz/0-50KHz/0-20KHz/0-10KHz/0-5KHz etc.)
- ◆ International standard signal output(0-3.3V/ 0-5V/0-10V/1-5V/2-10V/0-10mA/0-20mA/4-20mA etc.)

Application:

- ◆ Converting the square wave, sine wave, sawtooth ,wave into international standards analog signals
- ◆ Converting unit pulse signal into DC voltage (current) signal
- ◆ Signal ground interference suppression and analog isolation, acquisition, conversion, and long-distance transmission
- ◆ Industrial signal isolation and long-distance transmission without distortion
- ◆ Instrumentation and sensor signal transceiver
- ◆ Motor speed monitoring and testing
- ◆ Power monitoring and signal acquisition
- ◆ Overcome interference and analog signal acquisition between various devices, isolation, transformation and long-distance transmission
- ◆ Monitoring and measuring various frequency pulse signal equipment

General Description:

Jieshengda Technology(JSD) JSD TFA-1001 series 1-in-1-out frequency pulse signal to analog signal converter(F/V converter) is a high accuracy isolation transmitter. it can isolate and transform the inputting pulse signal (square wave, sine wave, sawtooth wave) into international standards analog current/voltage signal and long-distance transmission without distortion to the control room(such as: PLC,DCS,AD,PC acquisition cards) with corresponding digital pulse frequency signal. its internal integrated multiple low-power high precision high efficiency DC-DC converter to supply power to the input and output, the pulse signal converter is adopted SMD chip technology and modular design makes its isolation voltage between input/output and power supply is up to 3000VDC, JSD TFA-1001series F/V pulse signal converter is adopted high-voltage clamp to the inputting frequency signal. current mode convert into frequency signal has a higher Anti-jamming performance compare to voltage mode, the pulse converter uses two input forms: pulse signal input and open collector input for compatible with more frequency pulse sensor, instrumentation equipment. Pulse converter is adopted international standards DIN35mm rail installation for user-friendly control panel installed.

For Single channel input dual-channel output F/V frequency pulse converter Please choose: JSD TFA-1002 series; dual-channel F/V frequency pulse converter Please choose JSD TFA-2002 series, Analog to frequency pulse signal (V/F frequency pulse converter) please choose ultra-thin series JSD TAF-1001S, conventional series JSD TAF-1001, JSD TAF-1002, JSD TAF-2002 series.

**Selections and Definitions:**

| Product Selection Parameter List: | | | | | | | |
|--|--------------|----------------------|----------------------|-------------------|--------------|--------------------|--------------|
| Frequency input code | | Pulse amplitude code | | Power supply code | | Signal output code | |
| 1: | 0-5KHz | 1: | 5V voltage pulse | W: | 9-36VDC | 1: | 4-20mA |
| 2: | 0-10KHz | 2: | 12V voltage pulse | 1: | 24VDC | 2: | 0-20mA |
| 3: | 1-5KHz | 3: | 15V voltage pulse | 2: | 15VDC | 3: | 0-10mA |
| 4: | 0-20KHz | 4: | 24V voltage pulse | 3: | 12VDC | 4: | 0-5VDC |
| 5: | 0-25KHz | 5: | Open collector (NPN) | 4: | 5VDC | 5: | 0-10VDC |
| 6: | 0-50KHz | | | | | 6: | 1-5VDC |
| 7: | 0-100KHz | | | | | 7: | 0-3.3VDC |
| 8: | 0-200KHz | | | | | | |
| 9: | 0-500KHz | | | | | | |
| U: | user-defined | | | U: | user-defined | U: | user-defined |
| Note: When ordering ,please determine input、 output and power , special can be customized | | | | | | | |

Selection Example:

Example 1: Signal Input: 0-10KHz; 5V voltage pulse; Signal Output : 0-10VDC; Power Supply: 12VDC;
Model: JSD TFA-1001-2133

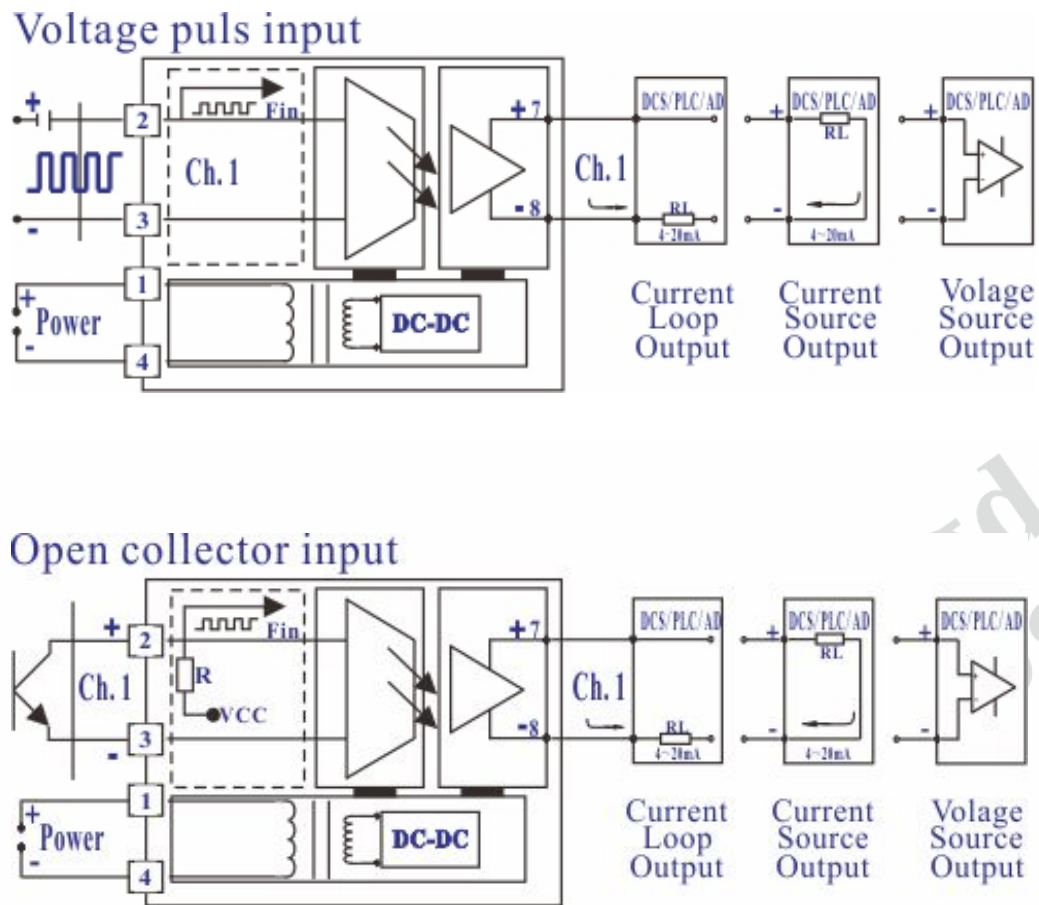
Example 2: Signal Input: 0-5KHz; Open collector; Signal Output : 4-20mA; Power Supply: 24VDC;
Model: JSD TFA-1001-5511

Example 3: Signal Input: 0-15KHz; 24V voltage pulse; Signal Output : 0-20mA; Power Supply: 9-36VDC;
Model: JSD TFA-1001-U4W2

Electrical Characteristics:

| Signs | Item | | Test Condition | MIN | TYP | MAX | UNIT |
|------------------------------|-----------------------|----------------|--|--------------|------|-----|-------------------|
| Isolation characteristics | Isolation voltage | | AC,50Hz,(Tested for 1 minute,humidity<70%leakage current< 1mA) | | 3000 | | V(rms) |
| | Insulation resistance | | | ≥20 | | | MΩ |
| Transmission characteristics | Gain drift | | | | 80 | | ppm/℃ |
| | Non-linearity | | | | 0.1 | 0.2 | %FSR |
| Input characteristics | Signal input | | | 0 | 10 | 200 | KHz |
| | Pulse voltage | | High level: 3.0-5.5V Low level: < 0.5V | | | | V |
| | Input impeda | pulse | | 100 | | | K Ω |
| | | Open collector | | 100 | | | K Ω |
| Output characteristics | Signal out | voltage | | 0 | 10 | | V |
| | | current | | 0 | 20 | | mA |
| | Load capacit | voltage | Vout=10V | | 2 | | k Ω |
| | | current | | 0 | 350 | 500 | Ω |
| | output ripple | | Signal output ripple | | 10 | 20 | mV _{RMS} |
| | Response time | | | | ≤50 | | mS |
| Power input characteristics | Power supply | voltage | | 3.3 | 24 | 36 | VDC |
| | | Power loss | | | 1 | | W |
| | | range | | -10 | | +10 | % |
| Other | operating temperature | | | -45 | | 85 | ℃ |
| | storage temperature | | | -55 | | 105 | ℃ |
| | weight | | | | 120 | | g |
| | size | | | 115x100x17.5 | | | mm |

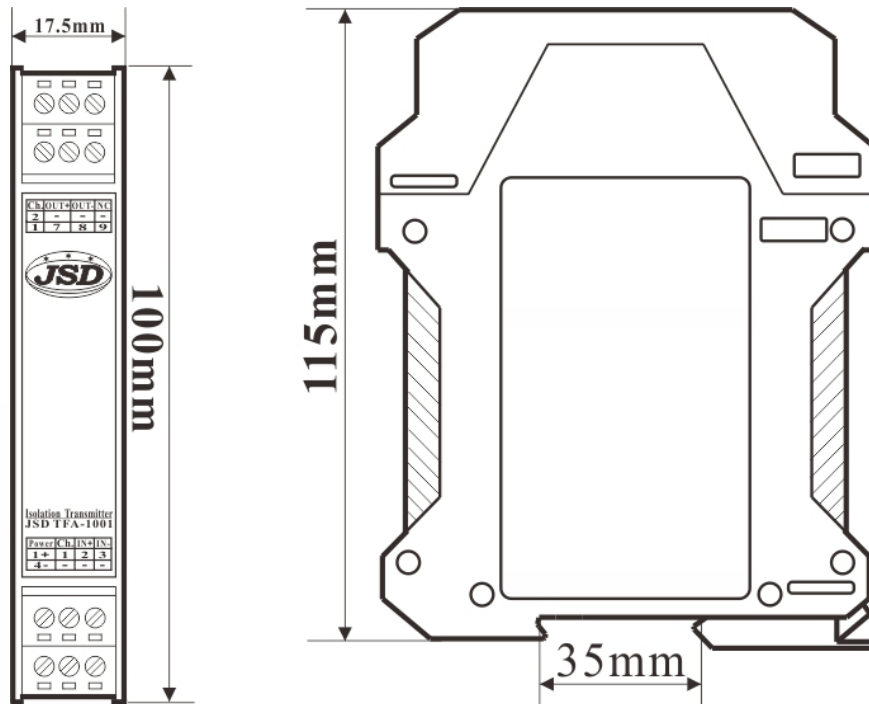
Application Wiring Diagram:



Pin Function Description:

| Pin | Function Description | Pin | Function Description | package |
|-----|----------------------|-----|----------------------|--|
| 1 | Power+ | 7 | Signal Out + | International Standard DIN35 Rail Mounting |
| 2 | Signal In + | 8 | Signal Out - | |
| 3 | Signal In - | 9 | No pin(NC) | |
| 4 | Power - | 10 | No pin (NC) | |
| 5 | No pin (NC) | 11 | No pin (NC) | |
| 6 | No pin (NC) | 12 | No pin (NC) | |

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 DC power source. It is forbidden to use 220VAC power supply. "NC" pin must not be connected to any external circuit, otherwise it will damage the product itself;
- 3、 This product layout dimension are "mm" and "inch" as the unit, within "[]" are inch;
- 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、 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.

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