

# DIN3 Series Two-wire Voltage Signal Isolation Transmitter

Standard DIN Rail 35 Package

(Potentiometer, Electric-bridge, etc) Two-wire Sensor Voltage Signal

Isolated Power Distribution and Conversion

## Features:

- Isolated power distribution and conversion on voltage signal from two-wire sensors.
- Precision error grade: 0.1(non-isolation type), 0.2(isolation type)
- Linear processing and long-wire compensation circuits inside (Non-linearity <0.05%).
- Isolation between I/O: 3KVDC full isolation.
- Range of the power supply to sensor: 12-32VDC
- Small input equivalent resistance, high linearity.
- Small size IC package and DIN rail 35 installation
- Industrial operating temp. Range: - 25°C ~ + 70°C

## Applications:

- PLC/DCS collects voltage signals directly from sensors.
- Displacement, potentiometer signals isolated acquisition and control.
- Industrial site ground wire interference inhibition
- Convert weighing signal into standard 4-20mA analog signal
- Pressure sensor signal collection and power distribution.
- Analog signal long-distance transmission without distortion.
- Distribution of voltage signal from electric-bridge (weighing) detecting circuits.

## Introduction

Sunyuan Extra-small high precision standard DIN Rail 35 isolated transmitter is a kind of two-wire voltage signal isolated power distribution module, which can realize the distribution and transmission on voltage signal from two-wire voltage signal input type sensors and electric-bridge (weighing) detecting circuits.

This isolated transmitter is designed to small size standard DIN35 package, inside the transmitter there are current signal modulation circuit, magneto-electric isolated conversion circuit and signal demodulation circuit. The power supply range is 12-32VDC, small input equivalent resistance, high linearity, the withstanding voltage and isolated voltage between signal input and output is up to 3000VDC. The transmitter IC is easy to use to achieve isolated output of voltage signal from two-wire voltage signal input type sensors and electric-bridge (weighing) detecting circuits. In usage, user should refer to the typical application circuits.

SMD technique and high-tech isolated measures used in the transmitter IC makes it can operate well in industrial temperature conditions, humidity, vibration and other extreme conditions.

## Max. Rated Value

(If the product operates in the max. rated value in the long-term, may affect the durability, if exceed the max. values, may cause unrepairable damage.)

Continuous Isolation Voltage (continuous max. voltage in the loop )	36VDC
Power supply Volt. Input Range:	±25%Vdd
Operating Temperature	- 45°C ~ + 85°C
Welding Temperature (<10S)	+300°C

**General parameters**

Precision, linearity error grade ----- 0.1,0.2	Backlash----- < 0.5%
Auxiliary power ----- No	Isolation ----- Signal I/O
Operating temp. ----- -20 ~ +70°C	Insulation resistance ----- ≥20MΩ
Operating humidity ----- 10 ~ 90% (no condensation)	Withstanding volt. ----- 3KVDC(60HZ/S), leakage current 1mA.
Storage Temp. ----- -20 ~ +70°C	Anti-impulse voltage ----- 3KVDC, 1.2/50us (peak value)
Storage humidity ----- 10 ~ 95% (no condensation)	

**Model selection:**
**DIN3      ISO V-4-20mA**

Small size      Magneto-electric isolation  
 din rail 35      two-wire voltage signal isolated acquisition

**Product model selection example:**

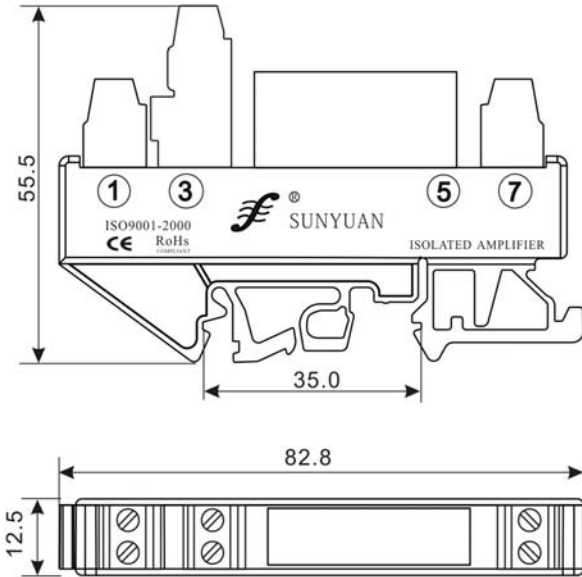
E.g.1:      DIN35 terminal wiring type, voltage signal input, isolated acquisition signal output: 4-20mA.  
 Product model No.:      DIN3      ISO V-4-20mA

**Technical parameters:**

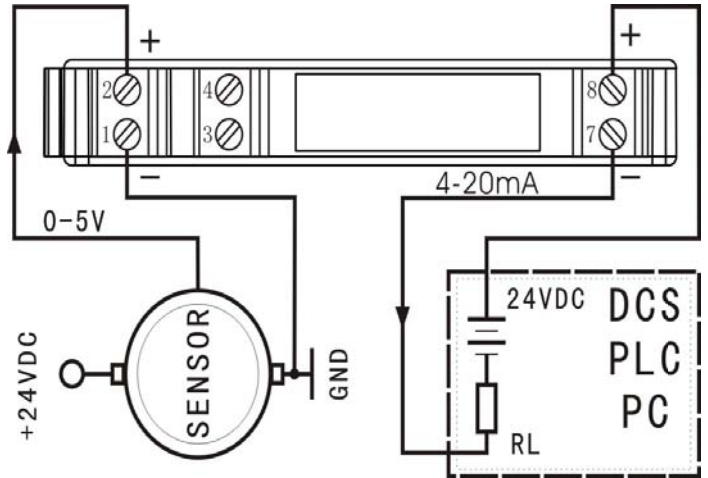
Parameters	Testing Conditions	Min.	Typical Value	Max.	Unit
Isolated volt. AC, 50Hz	10S	3000			VDC
Insulation resistance			10 <sup>12</sup>    1		Ω    Pf
Leakage current	240Vrms, 50Hz		0.5		uA
Temp. drift			±50	±100	PPm/°C
Non-linearity			±0.2	±0.5	%FSK
Load capacity	24VDC		750		Ω
Input signal voltage range		0.75	5	10	VDC
Output signal voltage range	RL:250Ω	13	24	36	VDC
Output linearity range			4	24	mA
Output current: I <sub>o</sub>		0.5		40	mA

**Dimension & Typical Applications**

Unit:mm



(Dimension)



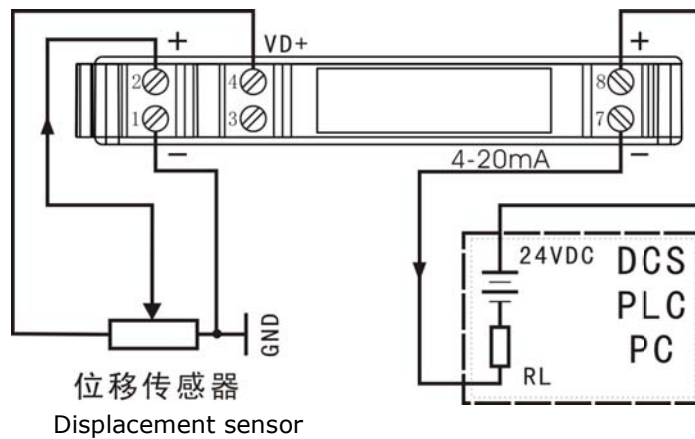
(Application circuits)

**DIN3 ISO V-4-20mA Terminal definition** (without zero and gain adjustment)

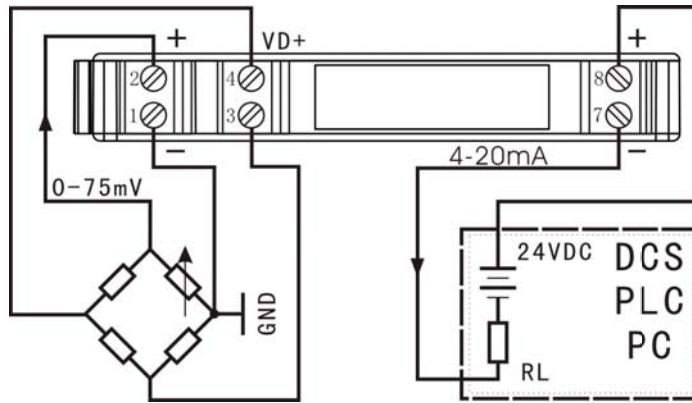
1	2	3	4	5 ~ 6	7	8
Signal input ground GND1	Signal input positive VIN+	Differential input negative -	+5V power distribution output VD+	NC	Two-wire current output terminal I <sub>o</sub>	Power input positive V+

**Typical applications:**

**1. Two-wire sensor (angel displacement, electric-scale) voltage signal isolated power distribution**



2. Electric-bridge (weighing) detecting circuits voltage signal isolated power distribution



External View:



ISO V--20mA IC inside



Top view

ISO9001:2008



Side view

ISO9001:2008

