

WJ17 series contact resistance, conducting resistance, four wire milliohm resistance, signal isolation converter

Product features:

- Four line measurement method with built-in high-precision constant current source
- 1mS high-speed conversion, conversion accuracy within 0.5%
- Industrial temperature range: -40~+85 °C
- Power supply and signal: Input/output 3000VDC three isolation
- 5VDC, 12VDC, 15VDC, 24VDC \pm 10% single power supply
- Products with a power supply greater than 5V have internal reverse protection.
- 0-100m Ω /0-200m Ω /0-500m Ω /0-1 Ω /0-10 Ω and other resistance signal inputs
- International standard signal 0-5V/0-10V/4-20mA output
- Has strong resistance to EMC electromagnetic interference and suppression of high-frequency signal spatial interference characteristics
- Standard DIN35 installation
- Dimensions 79x69.5x25mm



Figure 1 Product Appearance

Product application

- Measurement of Contact Resistance Signal
- Measurement of on resistance
- Convert resistance signal into voltage signal
- High precision resistance measurement
- Measurement of connector resistance
- Relay conduction resistance measurement
- Measurement of switch on resistance
- Low resistance product quality testing

Product Overview:

The WJ17 series four wire milliohm resistance signal isolation amplifier is a DC signal rail mounted transmission module that isolates and amplifies small resistance signals, converting them into proportional outputs. The product is widely used in industries such as machinery and equipment, connector production lines, mechanical relay production lines, instruments and meters, medical equipment, industrial automation, etc. This series of modules is internally embedded with an efficient low-power power supply, providing isolated power supply to the input and output terminals, and an optoelectronic coupling isolation amplifier for analog signal output. The input resistance adopts the four wire measurement method, eliminating the resistance error caused by measurement wires. The product integrates a high load

capacity reference current source output to provide measurement current for the measured resistance. Due to the use of linear optoelectronic isolation technology internally, it has better resistance to EMC interference and spatial electromagnetic interference compared to electromagnetic isolation.

Product Selection Guide

WJ17 - RM□ - P□ - V/A□

Enter model:		Power supply: P		Output model:	
	code	P	code	Current: A	code
0-100m Ω	RM1	24VDC	P1	0-20mA	A3
0-200m Ω	RM2	12VDC	P2	4-20mA	A4
0-500m Ω	RM3	5VDC	P3	User defined	Au
0-1 Ω	RM4	15VDC	P4		
0-5 Ω	RM5	User defined	Pu	0-5V	V1
0-10 Ω	RM6			0-10V	V2
User defined	RMu			User defined	Vu

Example of product selection:

Example 1: Input: 0-100 m Ω Auxiliary power supply: 24V Output: 4-20mA

Product model: **WJ17-RM1-P1-A4**

Example 2: Input: 0-200 m Ω Auxiliary power supply: 12V Output: 0-5V

Product model: **WJ17-RM2-P2-V1**

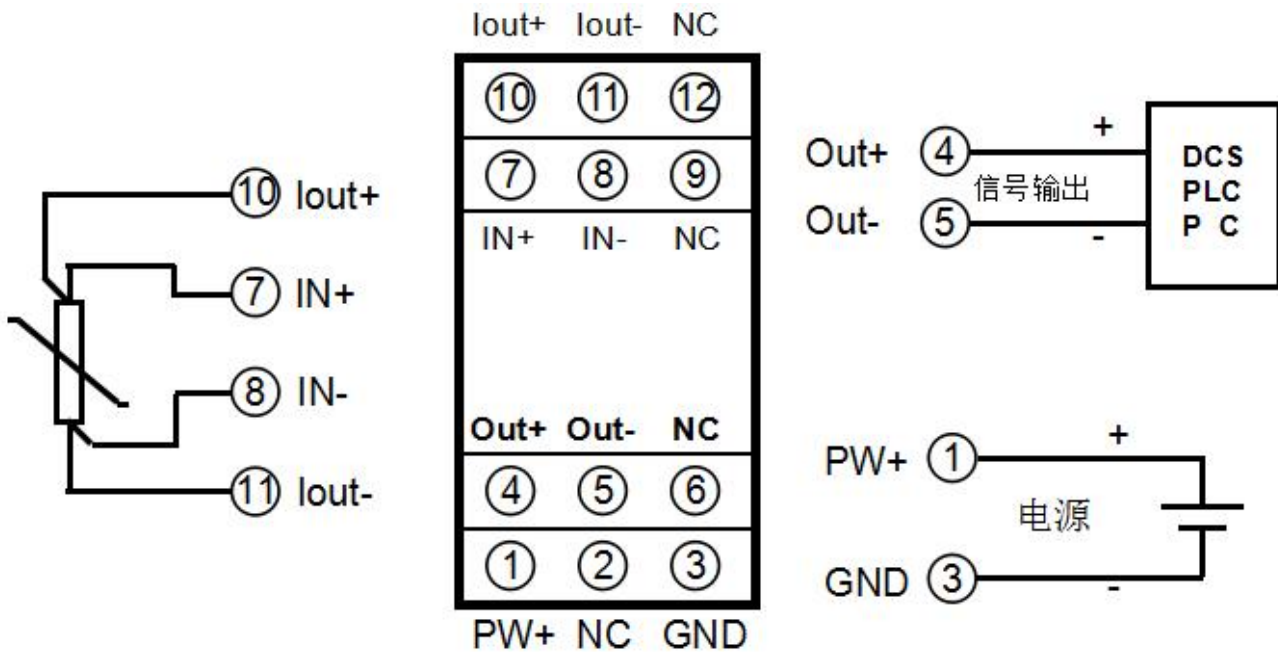
Product Technical Parameters

Parameter Name	Test conditions	minimum	Typical values	maximum	Compan	
Isolation voltage	1min		three thousand		VDC	
Gain temperature drift			one hundred		ppm/°C	
Nonlinearity			zero point one	zero point five	%FSR	
Signal input		0	two hundred	ten thousand	mΩ	
Constant current source			forty	one hundred	mA	
Input offset voltage			fifty		uV	
Input impedance		10M			Ω	
signal output	Voltag	0		fifteen	V	
	electri	0		thirty	mA	
Load capacity	Voltag	Vout=10V	one		kΩ	
	electri		0	two hundred	three hundred	Ω
frequency response	-3DB		one		mS	
Signal output ripple	No filtering		ten	twenty	mVRMS	
Signal voltage				zero point two	mV/°C	
Auxiliary power supply	Volta	User defined	five	twelve	twenty-four	VDC
	powe			zero point four	one	W

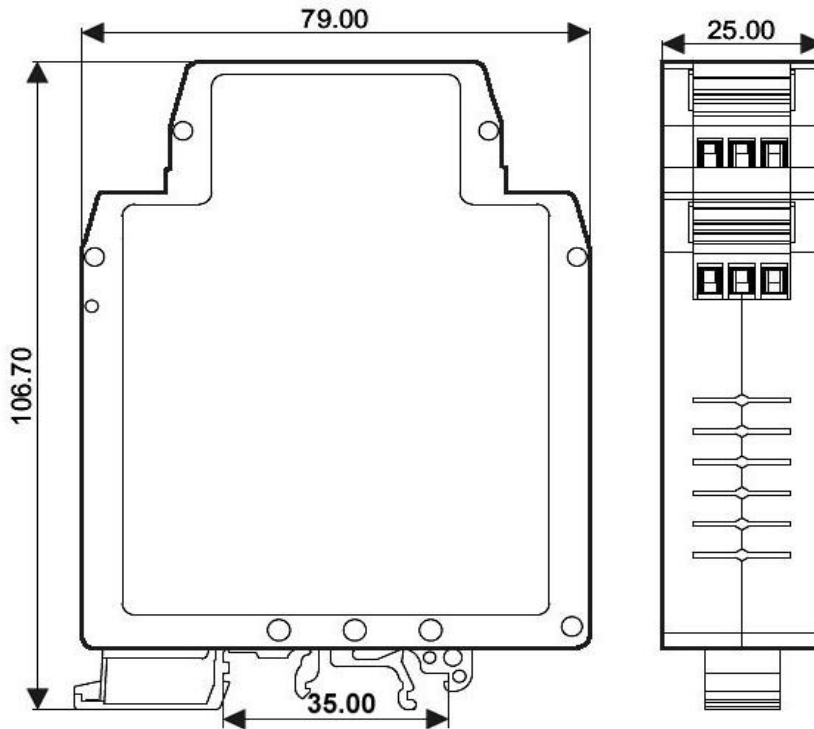
Working environment		-40		eighty-five	°C
Storage temperature		-40		eighty-five	°C

Pin definition:

Pin	name	Description	Pin	name	Description
one	PW+	Positive end of power supply	seven	IN+	Resistance signal input positive terminal
two	NC	Empty feet	eight	IN-	Resistance signal input negative terminal
three	GND	Negative end of power supply	nine	NC	Empty feet
four	Out+	Analog signal output positive terminal	ten	Iout+	Positive end of constant current source
five	Out-	Analog signal output negative terminal	eleven	Iout-	Negative terminal of constant current source
six	NC	Empty feet	twelve	NC	Empty feet



Dimensions: (Unit: mm)



Can be installed on standard DIN35 rails

matters needing attention:

1. Before use, carefully check and confirm the quantity, model, and specifications of the product according to the packing list and product label.
2. When using, it is necessary to follow the wiring reference diagram corresponding to the selected product model, correctly connect the signal input, output, and power lines, check for errors, and then connect the power and signal.
3. When measuring signals directly with probes, please tighten the terminals.
4. The usage environment should be free of conductive dust and corrosive gases that can damage insulation and metals.
5. When installing centrally, the installation spacing should be $\geq 10\text{mm}$.
6. The product has been calibrated before leaving the factory, please do not adjust it arbitrarily. If on-site calibration is necessary, please contact our company.
7. The product is an integrated structure that cannot be disassembled, and collision and falling should be avoided. This product comes with a 2-year warranty, during which our company provides free maintenance or replacement. Any label on the product that is intentionally damaged, altered, or torn off will not be returned or exchanged.

8. There is no lightning protection circuit installed inside the product. When the input and output feeders of the product are exposed to harsh outdoor weather conditions, please take lightning protection measures.
9. Product specifications may be updated without prior notice.

guarantee:

Within two years from the date of sale, if the user complies with the storage, transportation, and usage requirements and the product quality is lower than the technical specifications, it can be returned to the factory for free repair. If damage is caused due to violation of operating regulations and requirements, device fees and maintenance fees shall be paid.

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Version number: V1.0

Date: October 2021