

Industrial grade RS-485 isolated repeater amplifier module, WJ100

Product features:

- Compatible with RS-485 TIA/EIA standards
- Supports baud rates from 300 to 115200BPS
- Automatic adjustment of communication baud rate
- Automatic adjustment of data transmission and reception
- Transparent transmission without changing the communication protocol
- Wide range working power supply 8-32VDC
- 3000V isolation between RS-485 and RS-485

Typical applications:

- Remote transmission of serial signal
- Used for on-site equipment communication
- Intelligent building control, security engineering and other application systems
- Industrial automation control system
- Industrial site signal isolation and long-distance transmission
- Equipment operation monitoring and control
- Conversion and transmission of sensor signals
- Acquisition and conversion of industrial field data
- RS485 signal conversion

Product Overview:

WJ100 is an industrial grade RS-485 isolated repeater amplifier developed by Weijunrui Technology. The product is compatible with the RS485 industry standard. Used for extending the communication distance and isolating RS485 differential communication signals, achieving transparent data transmission, stable and reliable communication, suitable for high demand industrial applications.

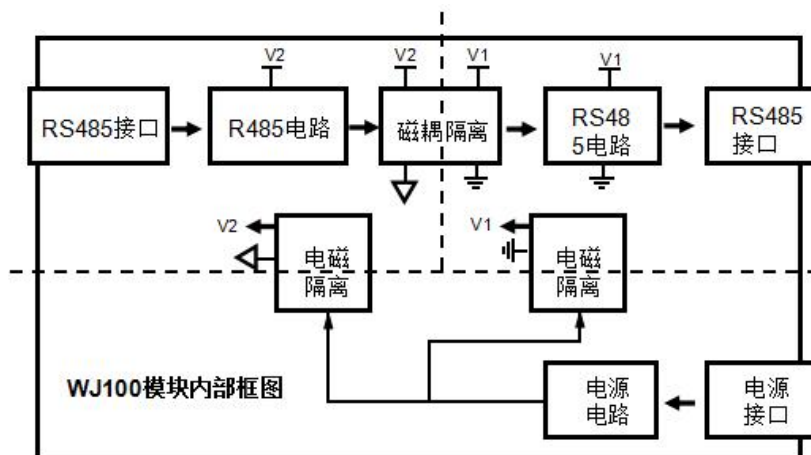


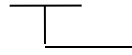
Figure 2 Internal Block Diagram of WJ100 Module

The WJ100 series products include power conditioning, RS485 input interface communication, and RS485 output interface communication. Wide range power supply 8-32VDC, power supply, RS485 input interface and RS485 output interface are isolated at three ends, input and output interface are isolated at 3000V, and the power supply has anti reverse protection function. RS485 communication interface with high anti-interference design and $\pm 15\text{KV}$ ESD protection. The product is designed according to industrial standards, with a working temperature range of $-45\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$.

Product model:

WJ100 – 485

Communication interface



485: for RS-485 interface

WJ100 General Parameters:

(Typical @+25 °C, Vs is 24VDC)

Transmission distance: RS485 to 1000 meters (1200BPS)

Communication: RS-485 signal isolation, amplification, transparent transmission

Baud rates: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps adaptive

Working mode: Asynchronous half duplex

Driver capability: Each module can support up to 255 RS485 devices

Working power supply: +8~32VDC wide power supply range, with internal anti reverse and overvoltage protection circuits

Power consumption: less than 1W

Working temperature: -45~+80 °C

Working humidity: 10~90% (no condensation)

Storage temperature: -45~+80 °C

Storage humidity: 10~95% (no condensation)

Isolation and voltage resistance: 3000VDC triple isolation between input, output, and power supply

Interface protection: RS-485 interface with 15KV ESD protection and lightning and surge protection functions.

Dimensions: 79 mm x 69.5mm x 25mm

Pin definition and wiring:

Pin	name	Description	Pin	name	Description
one	PW+	Positive end of power supply	seven	IN+	485 data input interface A
two	NC	Empty feet	eight	IN-	485 data input interface B
three	GND	Negative end of power supply	nine	NC	Empty feet
four	Out+	485 data output interface A	ten	NC	Empty feet
five	Out-	485 data output interface B	eleven	NC	Empty feet
six	NC	Empty feet	twelve	NC	Empty feet

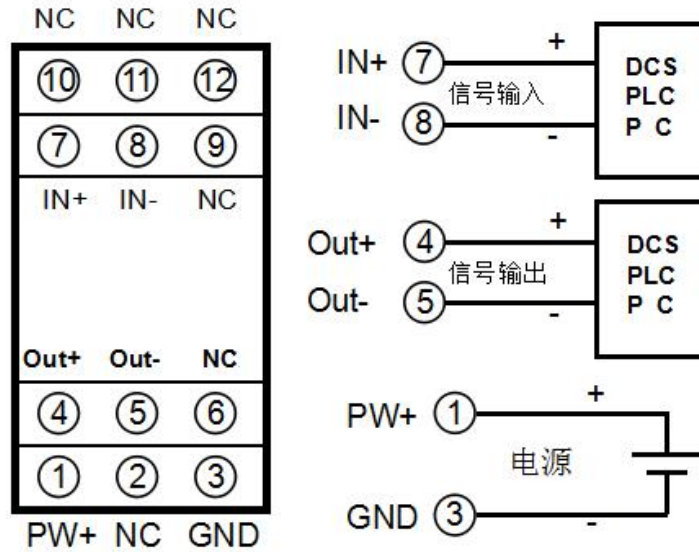
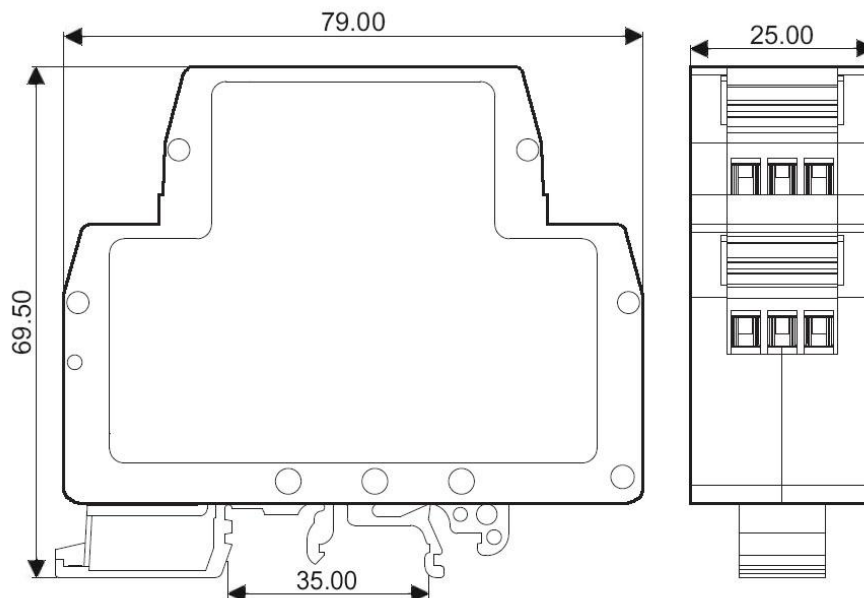


Figure 3 Wiring diagram of WJ100 module

Dimensions: (Unit: mm)



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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