

## Differential signal conversion to single ended NPN or PNP, differential encoder grating ruler PLC acquisition WJ852

### Product features:

- Convert the differential encoder grating ruler into a single ended signal and send it to the PLC
- Supports NPN and PNP outputs connected to PLC
- The module can output a 5V power supply to power the encoder
- Wide power supply range: 8~32VDC
- Standard DIN35 rail installation, convenient for centralized wiring
- Dimensions: 106 mm x 59mm x 37mm

### Typical applications:

- Encoder differential signal acquisition and transformation
- Grating ruler differential signal converted to 24V square wave pulse
- Differential signal transmission from servo encoder to PLC



Figure 1 Appearance of WJ852 module

### Product Overview:

The WJ852 product converts differential signals into single ended signals, mainly used for differential encoders to convert grating rulers into single ended signals for PLC acquisition.

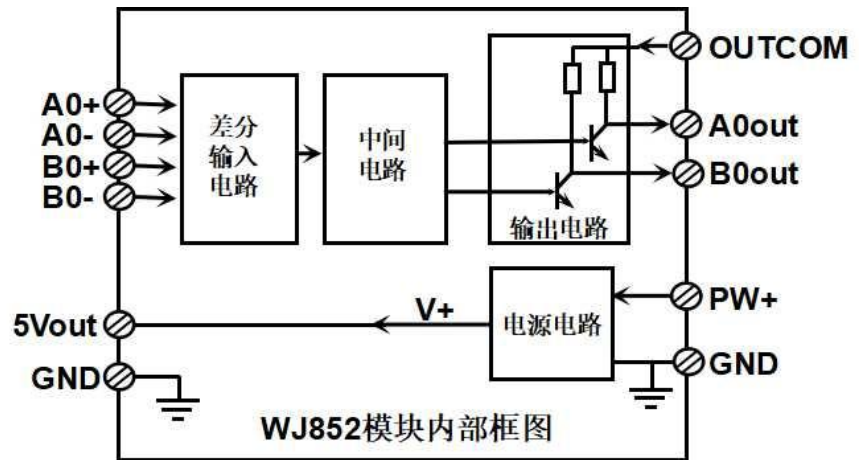


Figure 2 Internal Block Diagram of WJ852 Module

The WJ852 series products are designed and manufactured according to industrial standards, with strong anti-interference ability and high reliability. The working temperature range is -45 °C to +85 °C.

### WJ852 General Parameters:

(Typical @+25 °C, Vs is 24VDC)

Input type: 5V differential signal input. Differential signal range  $\pm 200\text{mV} \sim \pm 7\text{V}$ .

Output type: NPN or PNP output, can be directly connected to the X input point of the PLC, please refer to the wiring diagram for details.

Conversion frequency: 0~100KHz

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)  
 Dimensions: 106 mm x 59mm x 37mm

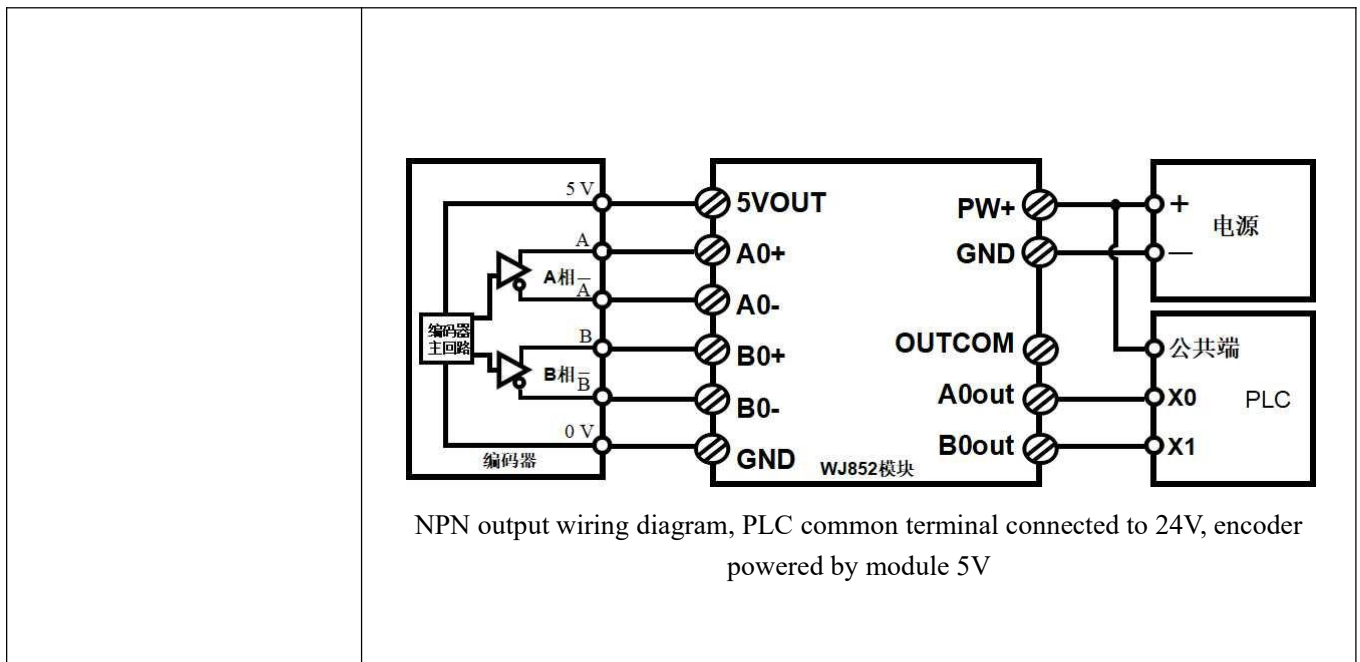
**Pin definition:**

Pin	name	Description	Pin	name	Description
one	A0out	Single ended signal A0 output	seven	GND	Distribution output ground
two	B0out	Single ended signal B0 output	eight	5Vout	5V output power distribution
three	GND	Signal negative terminal	nine	B0-	Differential signal B0 input negative terminal
four	OutCom	Single ended signal output common terminal	ten	B0+	Differential signal B0 input positive terminal
five	PW+	Positive end of power supply	eleven	A0-	Differential signal A0 input negative terminal
six	GND	Negative end of power supply	twelve	A0+	Differential signal A0 input positive terminal

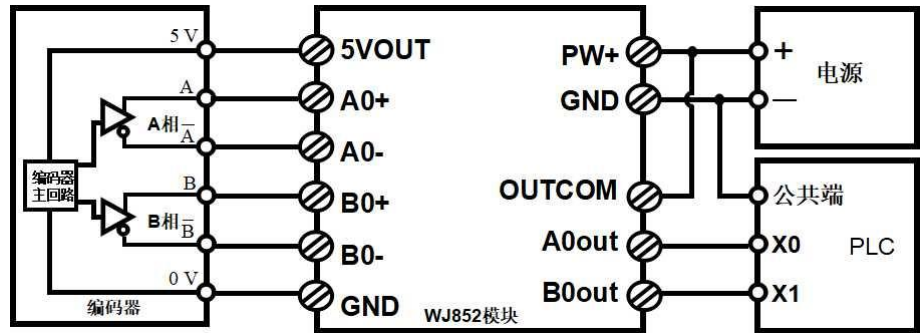
Note 1: If the differential encoder is already powered, 5Vout cannot be connected to the encoder.

Note 2: All GND terminals with the same name are internally conductive.

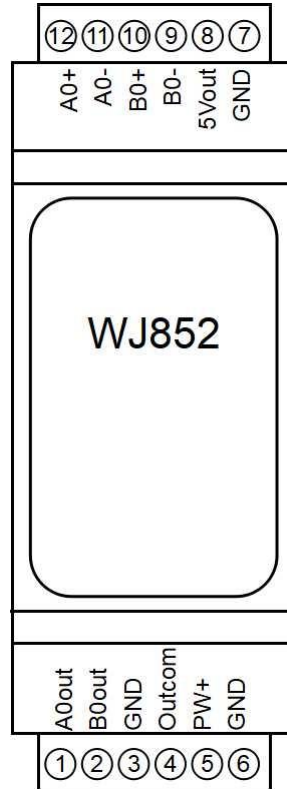
Table 1 Pin Definition



WJ852 wiring terminal diagram

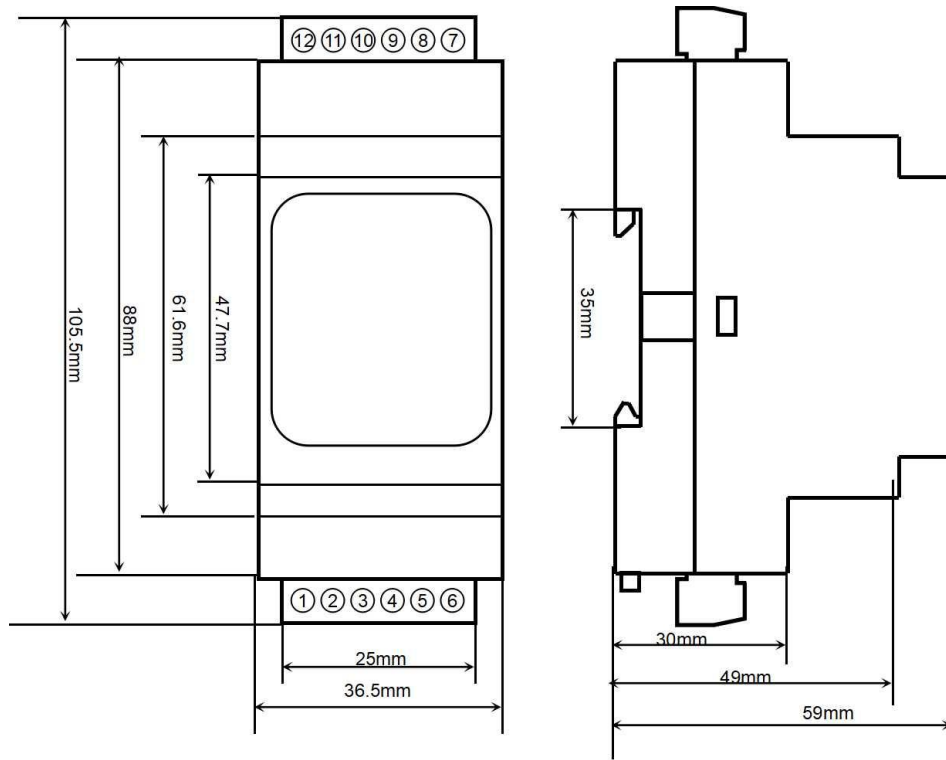


PNP output wiring diagram, PLC common terminal connected to 0V, encoder powered by module 5V



**Figure 3** Wiring diagram of WJ852 module

Dimensions: (Unit: mm)



Can be installed on standard DIN35 rails

**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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