

General Specifications

Models WS1A, WS1V Potentiometer Converter (Free Range Type)

JUXTA

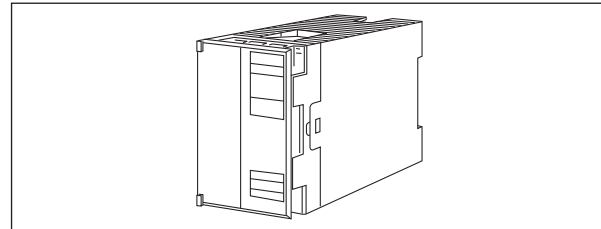
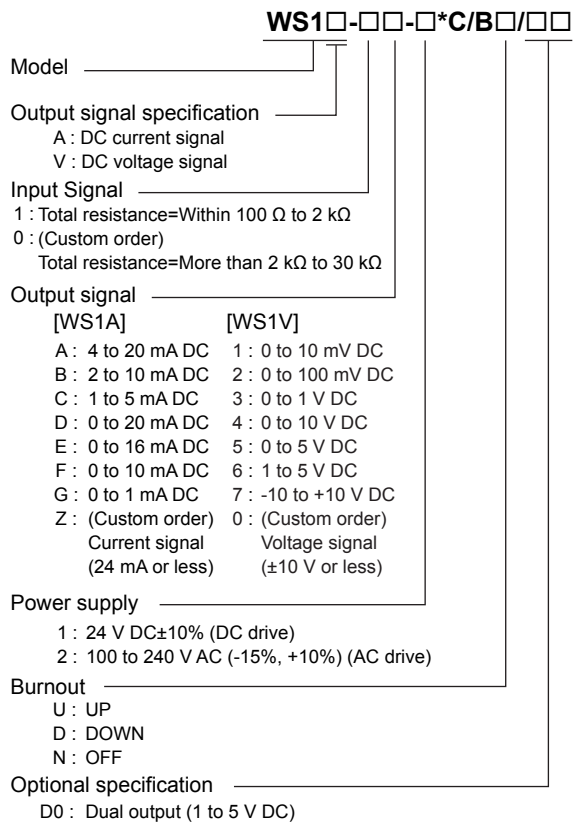
GS 77J09S01-01E

■ General

The WS1A/WS1V is a compact, front terminal connection type potentiometer converter that is used in combination with an instrument such as a control valve which outputs the change in resistance of potentiometer. It converts the change in resistance into isolated DC current or DC voltage signals.

- Input range setting, burnout setting, I/O monitoring, and zero/span adjustment can be made using the optional Parameter Setting Tool (VJ77) or Handy Terminal (JHT200).
- Dual output and 2000 V AC withstand voltage specifications are available upon requests.

■ Model and Suffix Codes



■ Input/Output Specifications

Input signal: Potentiometer resistance change (3-wire type)
 Total resistance: 100 to 2000 Ω
 Measuring span: 80 to 2000 Ω
 (50% of the total resistance or more)
 Zero elevation: 50% of total resistance or less
 Allowable leadwire resistance: 150 Ω or less per wire
 (Each resistance of the 3 lines should be equal.)
 Burnout detection current: 0.1 μA
 Output signal: DC voltage or DC current signal
 Allowable load resistance:

DC current output	Allowable load resistance	DC voltage output	Allowable load resistance
4 to 20 mA	750 Ω or less	0 to 10 mV	250 kΩ or more
2 to 10 mA	1500 Ω or less	0 to 100 mV	250 kΩ or more
1 to 5 mA	3000 Ω or less	0 to 1 V	2 kΩ or more
0 to 20 mA	750 Ω or less	0 to 10 V	10 kΩ or more
0 to 16 mA	900 Ω or less	0 to 5 V	2 kΩ or more
0 to 10 mA	1500 Ω or less	1 to 5 V	2 kΩ or more
0 to 1 mA	15 kΩ or less	-10 to +10 V	10 kΩ or more

Output adjustment: ±10% of span (Zero/span)
 In the case of the output specification code 7, it is ±5% of span.

■ Standard Performance

Accuracy rating: ±0.1% of span
 Accuracy is not guaranteed for output level less than 0.5% of the span of a 0 to X mA output range type.

Dual output (optional): Relative error between output 1 and 2 is within ±0.2%. These outputs are not insulated.

Response speed: 200 ms, 63% response (10 to 90%)
 Burnout: Up, Down or Off; burnout time is 60 sec. or less.

Insulation resistance: 100 MΩ or more at 500 V DC between input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

Withstand voltage:
 DC drive 1500 V AC/min. between input and (output and power supply). 500 V AC/min. between output and power supply.
 AC drive 1500 V AC/min. between input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

■ Ordering Information

Specify the following when ordering.

- Model and suffix codes :e.g. WS1V-16-2*C/BU
- Total resistance :e.g. 2000 Ω
- Input range :e.g. 0 to 1000 Ω

When the burnout is not specified, the product is manufactured as /BU.

■ Environmental Conditions

Operating temperature range: 0 to 50°C
 Operating humidity range: 5 to 90% RH (no condensation)
 Power supply voltage: 100 to 240 V AC, (-15%, +10%) 50/60 Hz or 24 V DC±10%
 Effect of power supply voltage fluctuations: ±0.1% of span or less for fluctuation within the operating range of power supply voltage specification.
 Effect of ambient temperature change: ±0.2% of span or less for a temperature change of 10°C.
 Effect of leadwire resistance change: ±0.1% or less for a resistance change of 10Ω/leadwire
 Current consumption: 24 V DC 65 mA (WS1A), 50 mA (WS1V)
 Power consumption:
 100 V AC 4 VA (WS1A), 3 VA (WS1V)
 200 V AC 5.5 VA (WS1A), 4.5 VA (WS1V)

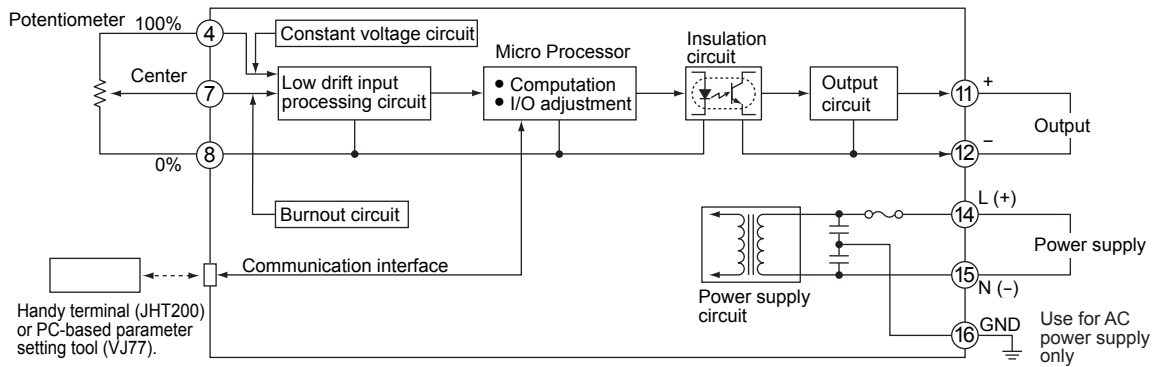
■ Mounting and Dimensions

Material: ABS resin (Case body)
 Mounting method: Rack, Wall or DIN rail mounting
 Connection method: M4 screw terminals
 External dimensions: 72 (H) × 48 (W) × 127 (D) mm
 Weight: DC; Approx. 150g, AC; Approx. 300g

■ Standard Accessories

Tag number label: 1, Mounting block: 2
 Mounting screw: M4 screw x 4

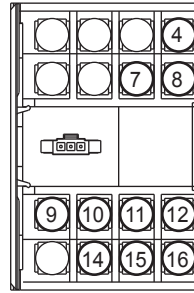
■ Block Diagram



■ Custom Order Specifications

Total resistance	2 kΩ to 30 kΩ	
Span	50% of total resistance or more	
Zero elevation	50% of total resistance or less	
	Current signal	Voltage signal
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



4	Input	(100%)
7	Input	(CENTER)
8	Input	(0%)
9	Output 2	(+)
10	Output 2	(-)
11	Output 1	(+)
12	Output 1	(-)
14	Supply	(L+)
15	Supply	(N-)
16	Ground	(GND)*

* Use for AC power supply only.

Terminal ⑨-⑩ are used for output-2 in case dual output is specified.

■ External Dimensions

