

General Specifications

Model JS12 Potentiometer Converter (2-output, Free Range Type)

JUXTA

GS 77J03S01-02E

General

The JS12 is a plug-in type potentiometer converter that is used in combination with an instrument to transmit information for displacement of valve, etc. by resistance change of potentiometer. It converts the resistance changes into isolated DC current or DC voltage signals.

- Input range setting, burnout setting, output adjustment, and output monitoring can be made through a PC (VJ77) or Handy Terminal (JHT200).
- The operation indicating lamp shows the operating status, abnormal setting and the like.
- Adjustment (input range 0%, 100% setting) of combination with potentiometer can be made using a switch on the front of the JS12 without a setting tool such as Handy Terminal.

Model and Suffix Codes

JS12 - ☐ ☐ - ☐ ☐ ☐ ☐

Model _____

Usage _____
1: General use

Power supply _____
3: 24V DC $\pm 10\%$
4: 100-130 V AC/DC (Operating range: 85 to 150V AC/DC)
5: 200-240 V AC (Operating range: 170 to 264V AC)

Input signal _____
1: Potentiometer resistance
(Total resistance: 100 Ω to 10 k Ω)
0: (Custom order) Potentiometer resistance
(Total resistance exceeds 10 k Ω and it is 30 k Ω or less)

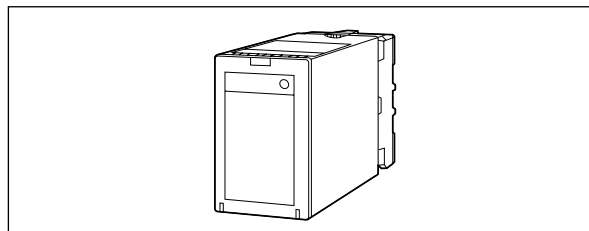
Output-1 signal _____
A: 4 to 20mA DC 1: 0 to 10mV DC
B: 2 to 10mA DC 2: 0 to 100mV DC
C: 1 to 5mA DC 3: 0 to 1V DC
D: 0 to 20mA DC 4: 0 to 10V DC
E: 0 to 16mA DC 5: 0 to 5V DC
F: 0 to 10mA DC 6: 1 to 5V DC
G: 0 to 1mA DC 7: -10 to +10V DC
Z: Customized current signals* 0: Customized voltage signals*
* See Customized Signal Specifications

Output-2 signal _____
A: 4 to 20mA DC 6: 1 to 5V DC

Burnout function _____
U: Up
D: Down
N: Off

Items to be Specified when Ordering

- Model and Suffix Codes: e.g. JS12-14-1A6U
- Total resistance: e.g. 2 k Ω
- Input range: e.g. 0 to 1 k Ω



Input/Output Specifications

Input signal: Potentiometer resistance change (3-wire type)

Measuring range:

Total resistance: 100 Ω to 10 k Ω

Span: 80 Ω to 10 k Ω (50% minimum of total resistance)

Zero elevation: 50% maximum of total resistance)

Allowable leadwire resistance: 150 Ω maximum per wire
(Resistance of 3 wires must be the same.)

Output signal: DC voltage or DC current signal

Allowable load resistance:

Output-1 Range	Allowable Load Resistance	Output-1 Range	Allowable Load Resistance
4 to 20 mA DC	750 Ω maximum	0 to 10 mV DC	250 k Ω minimum
2 to 10 mA DC	1500 Ω maximum	0 to 100 mV DC	250 k Ω minimum
1 to 5 mA DC	3000 Ω maximum	0 to 1 V DC	2 k Ω minimum
0 to 20 mA DC	750 Ω maximum	0 to 10 V DC	10 k Ω minimum
0 to 16 mA DC	900 Ω maximum	0 to 5 V DC	2 k Ω minimum
0 to 10 mA DC	1500 Ω maximum	1 to 5 V DC	2 k Ω minimum
0 to 1 mA DC	15k Ω maximum	-10 to +10 V DC	10 k Ω minimum
Output-2 Range	Allowable Load Resistance	Output-2 Range	Allowable Load Resistance
4 to 20 mA DC	350 Ω maximum	1 to 5 V DC	2 k Ω minimum

Output adjustment: $\pm 5\%$ of span minimum (Zero/Span)

Standard Performance

Accuracy rating: $\pm 0.1\%$ of span; accuracy is not guaranteed for output levels less than 0.1mA for the output codes D, E, and F, and for output levels less than 0.0125mA for the output code G.

Response speed: 200 ms, 63% response (10 to 90%)

Burnout: Up, Down or Off; the maximum burnout time is specified as 60 seconds.

Insulation resistance: 100 M Ω minimum at 500 V DC between input, output-1, output-2, power supply and grounding terminals mutually

Withstanding voltage: 2000 V AC for one minute between input, (output-1, output-2), power supply and grounding terminals mutually
1000 V AC for one minute between output-1, output-2 terminals mutually

Operating temperature range: 0 to 50°C

Operating humidity range: 5 to 90% RH (no condensation)

Supply voltage range: 24 V DC $\pm 10\%$
 100 to 130 V AC/DC ($\pm 15\%$)
 200-240 V AC (-15% , $+10\%$)

Effects of power line regulation: Up to $\pm 0.1\%$ of span
 for the regulation within allowable range of
 each supply voltage range

Effects of ambient temperature variations: Up to
 $\pm 0.2\%$ of span per 10°C

Effects of leadwire resistance variations: Up to
 $\pm 0.1\%$ per 100 Ω /wire

Power consumption:
 2.6 W at 24 V DC; 2.5 W at 110 V DC;
 5.0 VA at 100 V AC; 7.0 VA at 200 V AC

■ Mounting and Appearance

Material: Case body; ABS resin (black), UL94 V-0
 Socket; Modified polyphenylene oxide,
 including glass fiber (black), UL94 V-1

Mounting method: Wall or DIN rail mounting
 More than 5 mm interval is required for
 side-by-side close mounting.

Connection method: M3.5 screw terminals

External dimensions: 86.5 (H) \times 51 (W) \times 133 (D) mm
 (including a socket)

Weight: Approx. 200 g (main unit), approx. 80 g (socket)

■ Accessories

Spacer: One (used for DIN rail mounting)
 Range labels: Two

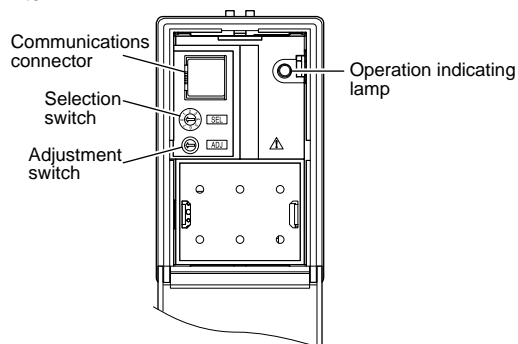
■ Customized Signal Specifications

	Current Signal	Voltage Signal
Output range (DC)	0 to 20 mA	-10 to +10 V
Span (DC)	1 to 20 mA	10mV to 20 V
Zero elevation	0 to 150 %	-125 to +400 % *

* -50 to +25% for the span of 20 mV DC or less.

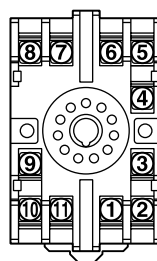
■ Front Panel

Output adjustment and input range setting are
 available using selection switch and adjustment
 switch.



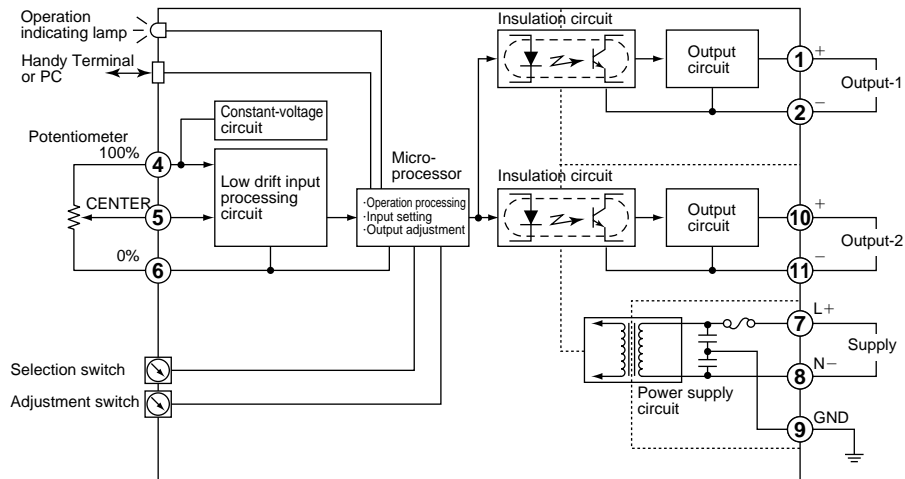
The position of a selection switch	Adjustment item
0	No function
1	Output-1 zero adjustment
2	Output-1 span adjustment
3	Output-2 zero adjustment
4	Output-2 span adjustment
5	Input setting (0% value)
6	Input setting (100% value)

■ Terminal Assignments

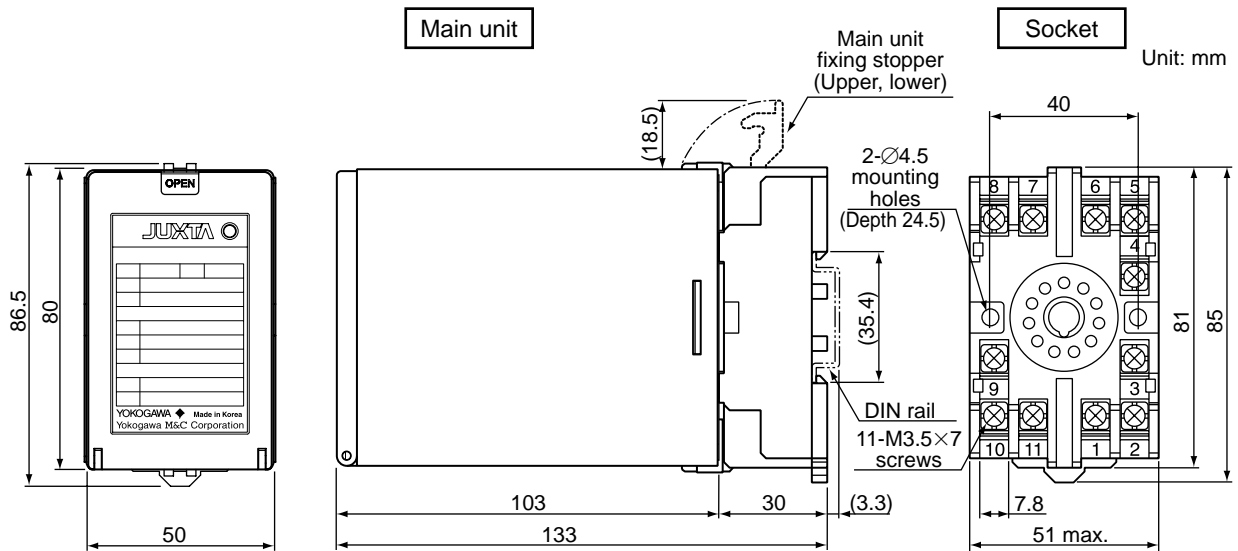


1	OUTPUT-1	(+)
2	OUTPUT-1	(-)
3	N.C.	
4	INPUT	(100%)
5	INPUT	(CENTER)
6	INPUT	(0%)
7	SUPPLY	(L+)
8	SUPPLY	(N-)
9	GND	
10	OUTPUT-2	(+)
11	OUTPUT-2	(-)

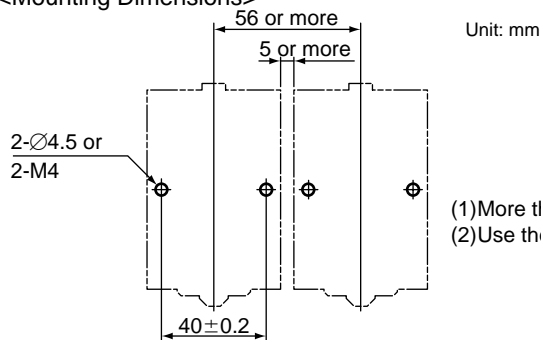
■ Block Diagrams



■ External Dimensions



<Mounting Dimensions>



- (1) More than 5 mm interval is required for side-by-side close mounting.
- (2) Use the supplied spacer for DIN rail mounting to keep 5 mm interval.

• The information covered in this document is subject to change without notice for reasons of improvements in quality and/or performance.