General Specifications

Models FS1A, FS1V
Potentiometer Converter
(Free Range Type)

JUXTA

GS 77J08S01-01E

■ General

The FS1A/FS1V 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).

■ Model and Suffix Codes

FS1□-□□*B/B□

Model

Output signal specification
A : DC current signal
V : DC voltage signal

Input Signal
1 : Total resistance=Within 100 Ω to 2 kΩ
0 : (Custom oder)
Total resistance=More than 2 kΩ to 30 kΩ

Output signal

[FS1A]	[FS1V]
A : 4 to 20 mA DC	1 : 0 to 10 mV DC
B : 2 to 10 mA DC	2 : 0 to 100 mV DC
C : 1 to 5 mA DC	3 : 0 to 1 V DC
D : 0 to 20 mA DC	4 : 0 to 10 V DC
E : 0 to 16 mA DC	5 : 0 to 5 V DC
F : 0 to 10 mA DC	6 : 1 to 5 V DC
G : 0 to 1 mA DC	7 : -10 to +10 V DC
Z : (Custom order)	0 : (Custom order)
Current signal*	Voltage signal*

*See "Custom Order Specifications"

Burnout
U : UP
D : DOWN
N : OFF

Power supply
24 V DC±10%

■ Ordering Information

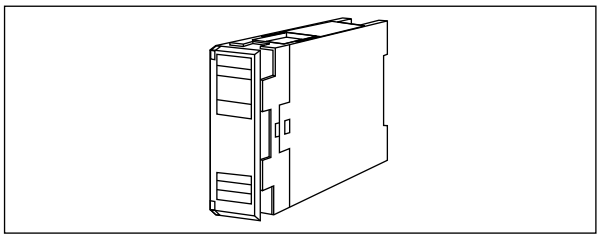
Specify the following when ordering.

- Model and suffix codes :e.g. FS1V-16*B/BU
- Total resistance :e.g. 2000 Ω
- Input range :e.g. 0 to 2000 Ω

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

■ 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: 0.2 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

Zero adjustment: ±10% of span
Span adjustment: ±10% 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.
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, output and power supply, and input and power supply.
Withstand voltage: 1500 V AC/min. between input and (output and power supply).
500 V AC/min. between output and power supply.

■ Environmental Conditions

Operating temperature range: 0 to 50°C
Operating humidity range: 5 to 90% RH (no condensation)
Power supply voltage: 24 V DC±10% (percentage ripple is 5%p-p or less)
Effect of power supply voltage fluctuations: ±0.1% of span or less for the 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.

YOKOGAWA

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1st Edition July 17, 2007

Effect of leadwire resistance change: ±0.1% or less
for a change of 100Ω/leadwire
Current consumption:
24 V DC 85 mA (FS1A), 50 mA (FS1V)

■ Mounting and Dimensions

Mounting method: Rack, Wall or DIN rail mounting
Connection method: M4 screw terminals
External dimensions: 72 (H) × 24 (W) × 127 (D) mm
Weight: Approx. 130g

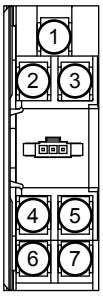
■ Standard Accessories

Material: ABS resin (Case body)
Tag number label: 1
Mounting block: 2
Mounting screw: M4 screw x 2

■ Custom Order Specifications

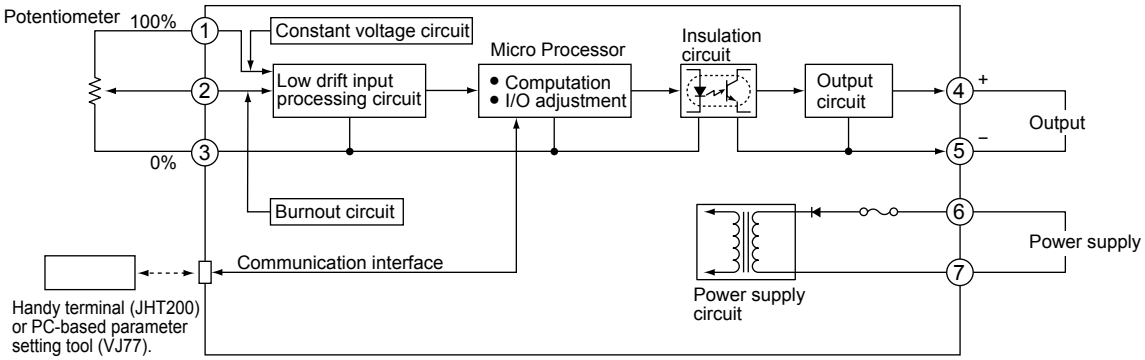
Total resistance	100 Ω to 30 kΩ	
Span	80 Ω to 30 kΩ (50% of total resistance or more)	
Zero elevation	50% of total resistance or less	
	Current signal	**Voltage signal**
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



1	Input	(100%)
2	Input	(Center)
3	Input	(0%)
4	Output	(+)
5	Output	(–)
6	Supply	(+)
7	Supply	(–)

■ Block Diagram



■ External Dimensions

Unit: mm