

General Specifications

Model DS1 Potentiometer Converter (Free Range Type)

JUXTA

GS 77J05S01-01E

■ General

The DS1 is a nest-mounting type DCS-supported potentiometer converter 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.

- On-site zero/span adjustment and I/O monitoring etc. can be performed from the host system or a handy terminal via the communication interface.

■ Model and Suffix Codes

DS1-□6□*B/B□

Model _____

Input Signal _____

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

Output 1 Signal _____

6 : 1 to 5 V DC

Output 2 signal _____

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
(24 mA or less)	(±10 V or less)

Burnout _____

U : UP
D : DOWN
N : OFF

Power supply: 24 V DC±10%

■ Ordering Information

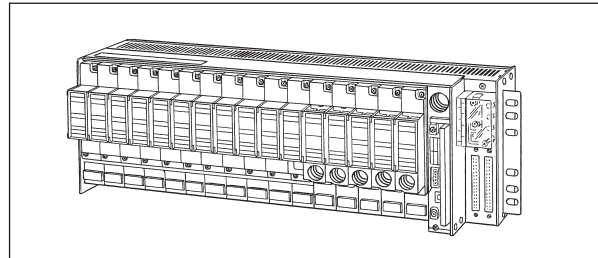
Specify the following when ordering.

- Model and suffix codes: e.g. DS1-16A*B/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.

■ 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 detective current: 0.1 μA



Output 1 signal: 1 to 5 V DC

Output 2 signal: DC current or DC voltage signal
(DC current can be outputted from either the front terminals 3-4 or the connector.)

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:

Output 1: ±0.1% of span

Output 2: Relative error between output-1 and 2 is within ±0.2%.

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; the maximum burnout time is specified as 60 seconds.

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%
(ripple content 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: $\pm 0.2\%$ of span or less for a temperature change of 10°C .
 Effect of leadwire resistance change: $\pm 0.1\%$ or less for a resistance change of $10\ \Omega$ / leadwire
 Current consumption: 24 V DC 75 mA (4 to 20 mA), 50 mA (1 to 5 V)

■ Mounting and Dimensions

Mounting method: Nest-mounting (Signals and power supply are connected through back board and connector)

Connection method:

External wiring; connection to M4 screw terminals of the dedicated nest

Connection to I/O card; via dedicated cable (connector)

External dimensions: 130.6(H) \times 23.6(W) \times 126(D) mm

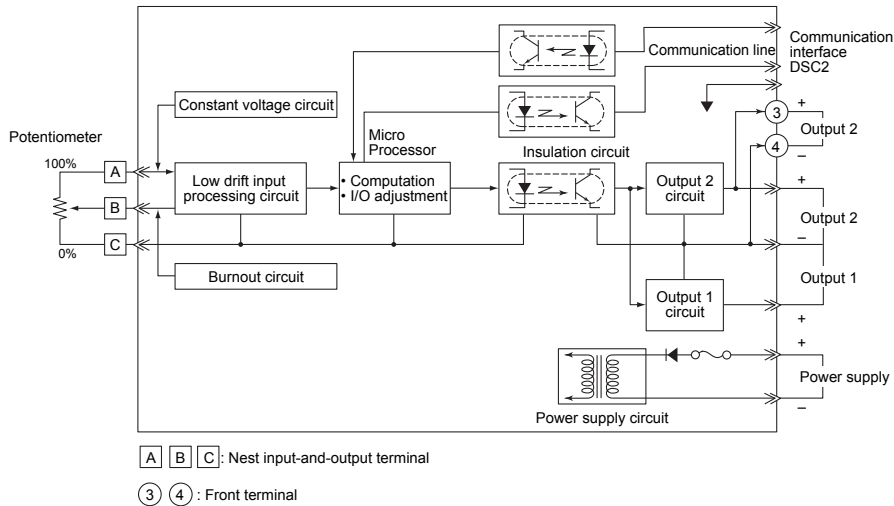
Weight: Approx. 120 g

■ Standard Accessories

Tag number label: 1

Range label: 1

■ Block Diagram

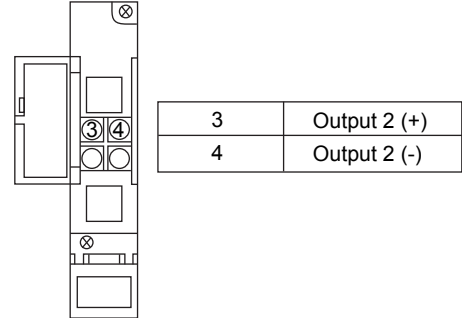


■ Custom Order Specifications

Total resistance	2k Ω to 30 k Ω
Measuring span	50% or more of the total resistance
Zero elevation	50% or less of the total resistance

	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



■ External Dimensions

