General Specifications

Model DM1
Isolator
(mV Input, Free Range Type)

JUXTA

GS 77J05M01-01E

■ General

The DM1 is a nest-mounting type DCS-supported isolator that receives DC mV signals, and converts them into various isolated DC current or DC voltage signals.

- Input range setting, zero and span adjustment, burnout selection, and I/O monitoring can be easily performed from the host system or parameter setting tool (VJ77) via the communication interface card.

■ Model and Suffix Codes

DM1-16□*B/B□

Model

Input Signal
- 1 : mV DC potential difference signal
  Input signal range: -100 to 150 mV DC
  Input span: 3 mV minimum

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 (24 mA or less)	Voltage signal (±10 V or less)

Burnout
- U : UP
- D : DOWN
- N : OFF

Power supply: 24 V DC±10%

■ Ordering Information

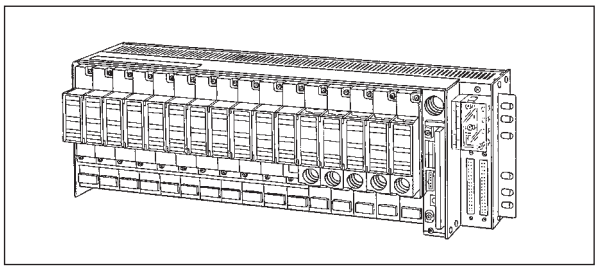
Specify the following when ordering.

- Model and suffix codes: e.g. DM1-16A*B/BU
- Input range: e.g. 0 to 100 mV DC

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

■ Input/Output Specifications

Input signal: mV DC potential difference
Measuring range: -100 to +150 mV DC
Measuring span: 3 mV DC or more
(Note that the accuracy is limited if the span is less than 10mV.)
Input resistance: 1 MΩ during power on, 10 kΩ during power off
Burnout detective current: 0.1 μA
Zero elevation: Within ±300% of the measuring span
Maximum allowable input: -0.5 to +4.0 V DC
Allowable leadwire resistance: 1 kΩ or less
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

Input adjustment: ±1% of span (Zero/Span)
Output adjustment: ±10% of span (Zero/Span)
In the case of the output 2 specification code 7, it is ±5% of span.

■ Standard Performance

Accuracy rating:
Output 1: ±0.1% of span or 10 μV, whichever is greater.
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: ±0.2% of span or less for a temperature change of 10°C.
Current consumption: 24 V DC 75 mA (4 to 20 mA), 50 mA (1 to 5 V)

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■ 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)×23.6(W)×126(D) mm
Weight: Approx. 120 g

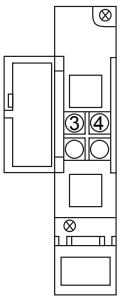
■ Standard Accessories

Tag number label: 1, Range label: 1

■ Custom Order Specifications

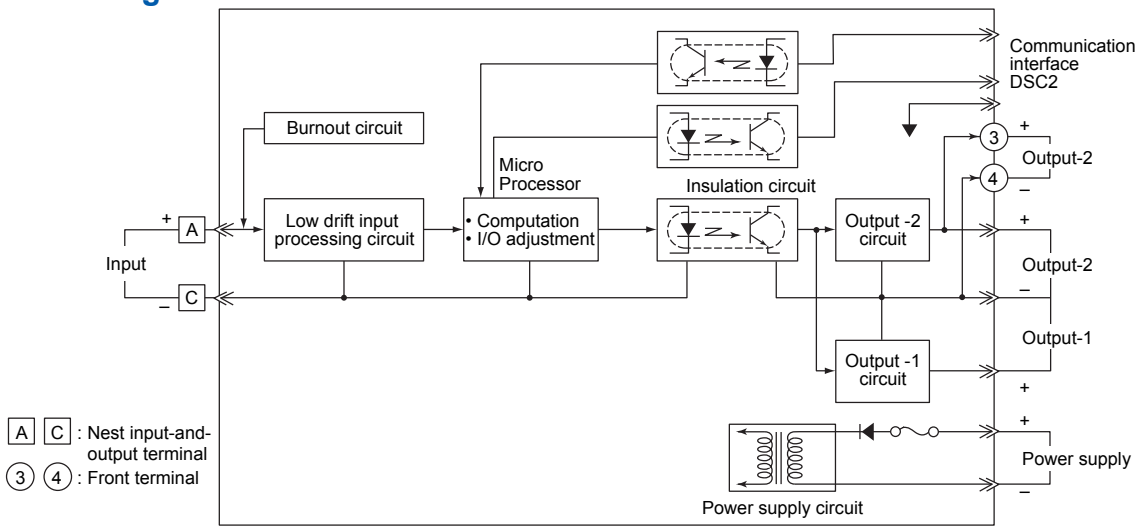
	Current signal	Voltage signal
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



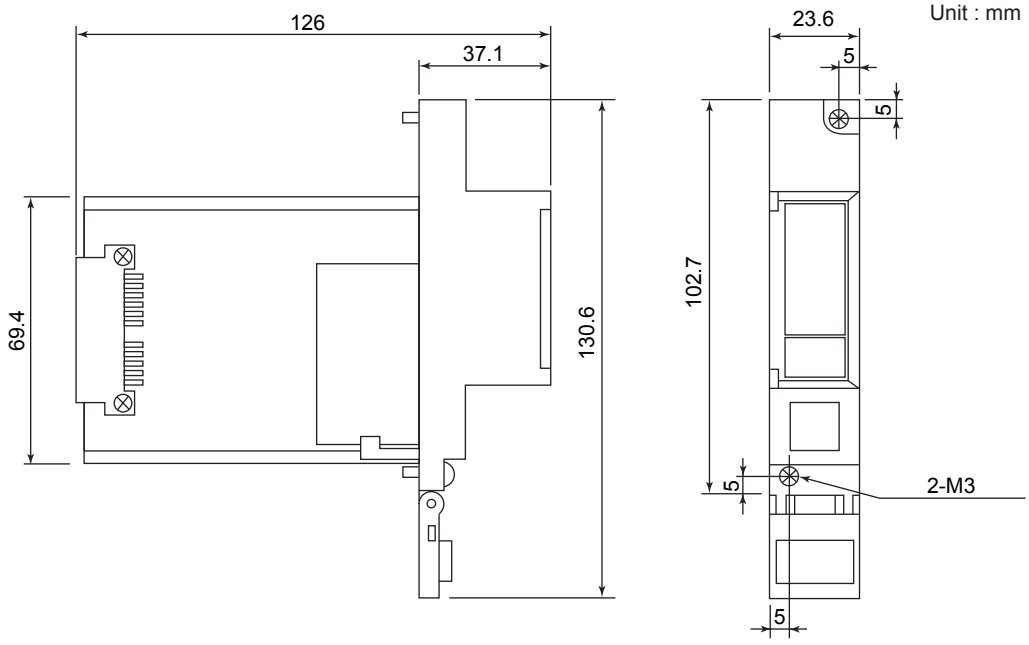
3	Output 2 (+)
4	Output 2 (-)

■ Block Diagram



■ External Dimensions

Unit : mm



■ Basic Conditions and Individual Contracts at the Time of Purchase

The warranty for this product is defined in the basic conditions and individual contracts at the time of purchase. The individual conditions are as follows.

• Firmware warranty conditions

The warranty conditions for the firmware installed in this products are same as that of the hardware.

• Handling of non-conforming products

If Yokogawa verifies a non-conformity of the product that is attributable to Yokogawa within the warranty period, we will deliver an equivalent product.

Yokogawa can not provide a free evaluation of non-conforming products. The investigation of the non-conforming products will be performed at the expense of the customer.