

General Specifications

Model DH1 Isolator

JUXTA

GS 77J05H01-01E

■ General

The DH1 is a nest-mounting type DCS-supported isolator that converts DC current or DC voltage signals into isolated DC current or DC voltage signals.

- Output 1 (the first output) is 1 to 5 V and connectable with the host control system.
- Output 2 (the second output) follows the output 1. It can be connected to a recorder or an indicator, without any disturbances to the control system.

■ Model and Suffix Codes

DH1-□6□*B

Model

Input 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
H: 10 to 50 mA DC	0: (Custom order)
Z: (Custom order)	Voltage signal
Current signal	(± 300 V or less)
(150 mA or less)	

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)

Power supply: 24 V DC \pm 10%

■ Ordering Information

Specify the following when ordering.

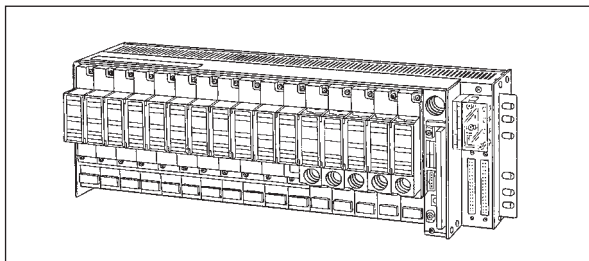
- Model and suffix codes: e.g. DH1-A6A*B

■ Input/Output Specifications

Input signal: DC current or DC voltage signal

Measuring span: -10 to +10 V DC

Zero elevation: within $\pm 50\%$ of span



Input resistance:

DC current input	Input resistance	DC voltage input	Input resistance
4 to 20 mA	250 Ω	0 to 10 mV	1 M Ω during power on 100 k Ω during power off
2 to 10 mA	500 Ω	0 to 100 mV	
1 to 5 mA	1 k Ω	0 to 1 V	
0 to 20 mA	250 Ω	0 to 10 V	
0 to 16 mA	250 Ω	0 to 5 V	
0 to 10 mA	500 Ω	1 to 5 V	
0 to 1 mA	1 k Ω	-10 to 10 V	
10 to 50 mA	100 Ω		

Maximum allowable input:

Voltage input: Within ± 30 V DC

Current input: Any level that satisfies the following condition,

$$(\text{Input current})^2 \times \text{Input resistance} \leq 0.5 \text{ W}$$

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 k Ω or more
2 to 10 mA	1500 Ω or less	0 to 100 mV	250 k Ω or more
1 to 5 mA	3000 Ω or less	0 to 1 V	2 k Ω or more
0 to 20 mA	750 Ω or less	0 to 10 V	10 k Ω or more
0 to 16 mA	900 Ω or less	0 to 5 V	2 k Ω or more
0 to 10 mA	1500 Ω or less	1 to 5 V	2 k Ω or more
0 to 1 mA	15 k Ω or less	-10 to +10 V	10 k Ω or more

Zero adjustment: -5 to +5%

Span adjustment: 95 to 105%

■ Standard Performance

Accuracy rating:

Output 1: $\pm 0.1\%$ of span

Output 2: Relative error between output-1 and 2 is within $\pm 0.2\%$.

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: 150 ms, 63% response (10 to 90%)

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.

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

External dimensions: 130.6(H)×23.6(W)×126(D) mm
Weight: Approx. 120 g

■ 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 85 mA (4 to 20 mA),
55 mA (1 to 5 V)

■ Standard Accessories

Tag number label: 1

■ Custom Order Specifications

	Current signal	Voltage signal
Input range (DC)	0 to 150 mA	-300 to +300 V
Span (DC)	100 μ A to 150 mA	10 mV to 600 V
Zero elevation	0 to 73%	-80 to 73%
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%

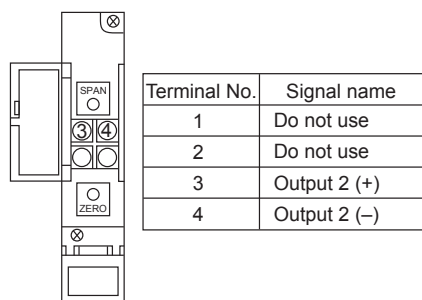
■ Mounting and Dimensions

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

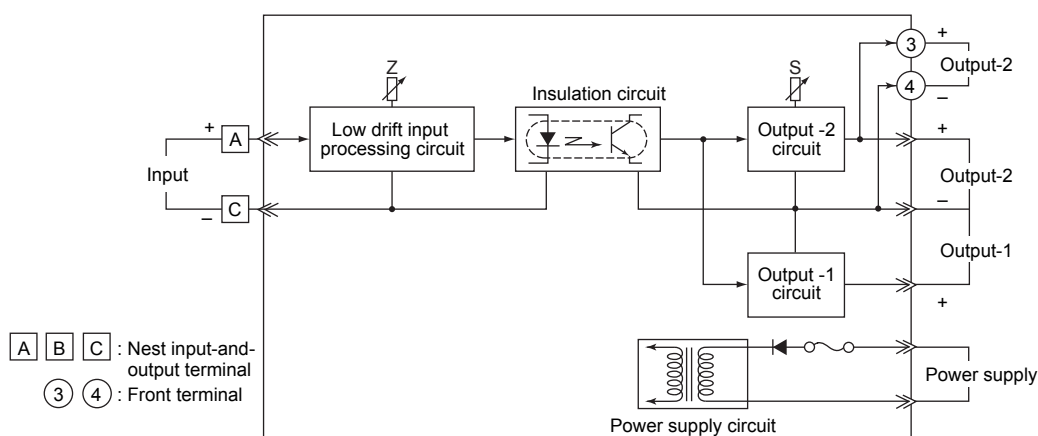
Connection method:

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

■ Terminal Assignments



■ Block Diagram



Note: If the input signal is customized for more than ±30 V DC, the signal connection will be 1 and 2 of the front terminals.



- **Firmware warranty conditions**

- **Handling of non-conforming products**

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.