

# General Specifications

Models DH2  
Isolator (Free Range Type)

JUXTA

GS 77J05H02-01E

## General

The DH2 is a nest-mounting type DCS-supported isolator that converts DC current or DC voltage signals into isolated DC current or DC voltage signals.

- Input range setting, zero/span adjustment, 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

DH2-□6□\*B

Model

Input Signal

- A : 0 to 50 mA DC, span is 1 mA or more
- B : 0 to 20 mA DC, span is 0.1 mA or more
- Z : (Custom order) Current signal
- 1 : -10 to +10 V DC, span is 0.1 V or more
- 2 : -2 to +2 V DC, span is 10 mV or more
- 0 : (Custom order) Voltage signal

Output 1 Signal

- 6 : 1 to 5 V DC

Output 2 signal

- A : 4 to 20 mA DC
- B : 2 to 10 mA DC
- C : 1 to 5 mA DC
- D : 0 to 20 mA DC
- E : 0 to 16 mA DC
- F : 0 to 10 mA DC
- G : 0 to 1 mA DC
- Z : (Custom order) Current signal (24 mA or less)
- 1 : 0 to 10 mV DC
- 2 : 0 to 100 mV DC
- 3 : 0 to 1 V DC
- 4 : 0 to 10 V DC
- 5 : 0 to 5 V DC
- 6 : 1 to 5 V DC
- 7 : -10 to +10 V DC
- 0 : (Custom order) Voltage signal (±10 V or less)

## Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. DH2-16A\*B
- Input range: e.g. 1 to 5 V DC

## Input/Output Specifications

Input signal: DC current or DC voltage

Input signal code	Setting range (DC)
A	0 to 50 mA, span is 1 mA or more
B	0 to 20 mA, span is 0.1 mA or more
1	-10 to +10 V, span is 0.1 V or more
2	-2 to +2 V, span is 10mV or more

Input resistance: Input signal code

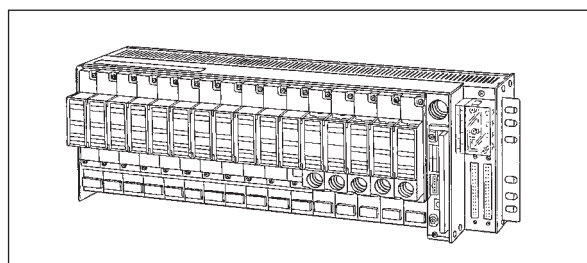
- A, B: 100 Ω
- 1: 1 MΩ during power on, 800 kΩ during power off
- 2: 1 MΩ during power on, 10 kΩ during power off

Maximum allowable input:

- Current input: 70 mA DC or less
- Voltage input: Within ±15 V DC

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

The accuracy is limited by the input range setting.

$$\text{Accuracy} = \pm 0.1\% \times a/b$$

If the obtained value is less than ±0.1%, ±0.1% is the accuracy.

Input signal		a	b
A	0 to 50 mA DC	16 (mA)	Span
B	0 to 20 mA DC	4 (mA)	
1	-10 to +10 V DC	2 (mA)	
2	-2 to +2 V DC	0.4 (V)	

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%)

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 $\pm$ 10%  
(ripple content 5% p-p or less)

Effect of power supply voltage fluctuations:  $\pm$ 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.

Current consumption: 24 V DC 80 mA (4 to 20 mA),  
50 mA (1 to 5 V)

	Current signal	Voltage signal
Input range (DC)	0 to 50 mA	-30 to +30 V
Span (DC)	0.1 to 50 mA	10 mV to 60 V
Zero elevation	-----	-50 to +50%
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:

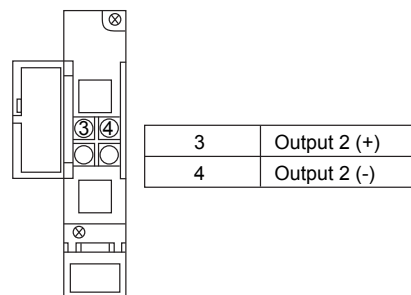
External wiring; connection to M4 screw terminals of the dedicated nest

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

## ■ Terminal Assignments

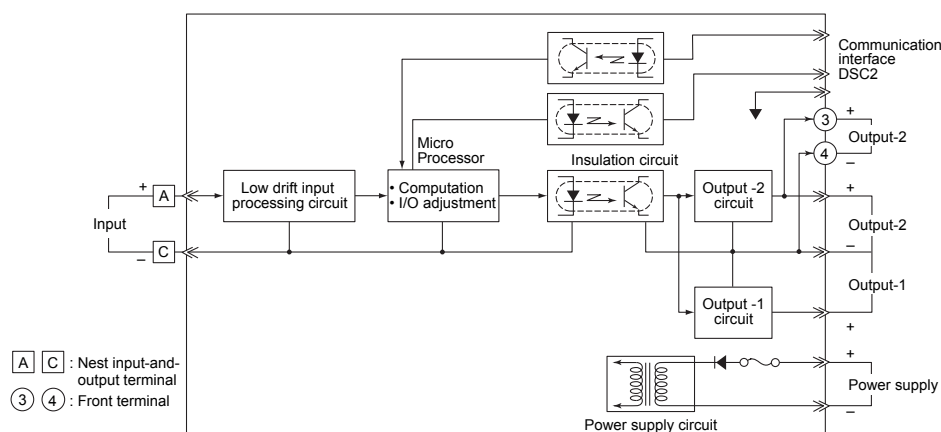


## ■ Standard Accessories

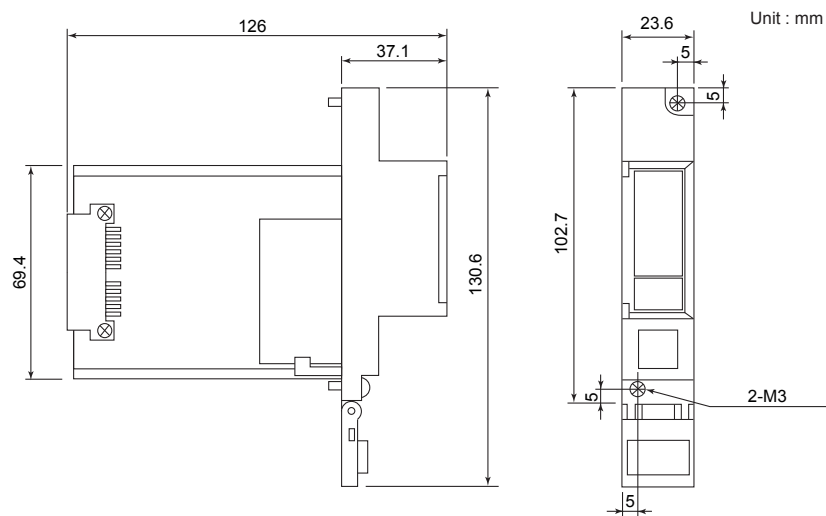
Tag number label: 1

Range label: 1

## ■ Block Diagram



## ■ External Dimensions



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## ■ 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.