General **Specifications**

Model DH5 Isolator (with Square Root Extractor)

NTXUL

GS 77J05H05-01E

■ General

The DH5, a nest-mounting type DCS-supported isolator, extracts the square root of 1 to 5 V DC signals and converts them into isolated DC current or DC voltage signals.

Zero/span adjustment, I/O monitoring, etc. can be easily performed from the host system or the parameter setting tool (VJ77) via the communication interface card.

■ Model and Suffix Codes

DH5-66□*B Model Input Signal 6:1 to 5 V DC 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

(±10 V or less)

(24 mA or less) Power supply: 24 V DC±10%

Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. DH5-66A*B
- Lowcut point: e.g. 0.3%

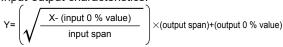
(If not specified, the low cut point is set to 0.6%.)

Input/Output Specifications

Input signal: 1 to 5 V DC

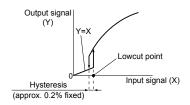
Input resistance: 1 M Ω during power on, 100 k Ω during power off

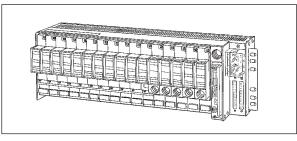
Maximum allowable input: ±9 V DC or less Input-output characteristics:



X: Input value, Y: Output value Lowcut point setting range: 0.3 to 100%

Output characteristic: Output for lowcut point or less is cramped with straight line proportional to input.





Output 1 signal: 1 to 5 V DC

Output 2 signal: DC current or DC voltage signal (In the case of DC current, only either from the front terminals 3-4 or from the connector can be output)

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

Accuracy is ±1% of span for input level

2%or less.

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 M Ω 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 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 80 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)×23.6(W)×126(D) mm Weight: Approx. 120 g

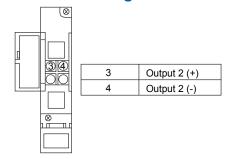
■ Standard Accessories

Tag number label: 1

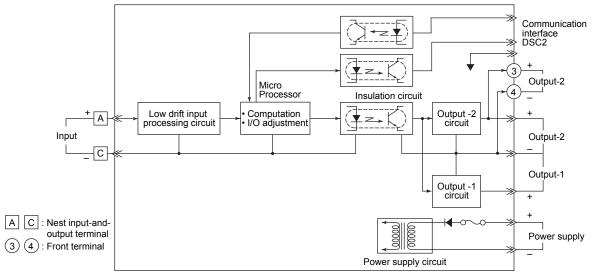
■ Custom Order Specifications

	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%

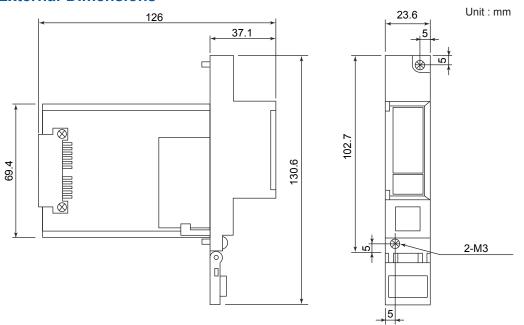
■ Terminal Assignments



■ Block Diagram



■ External Dimensions



■ 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.