

General Specifications

GS 77J01H01-01E

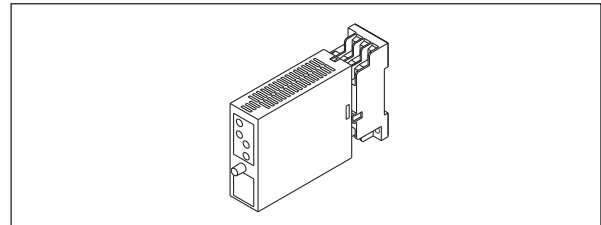
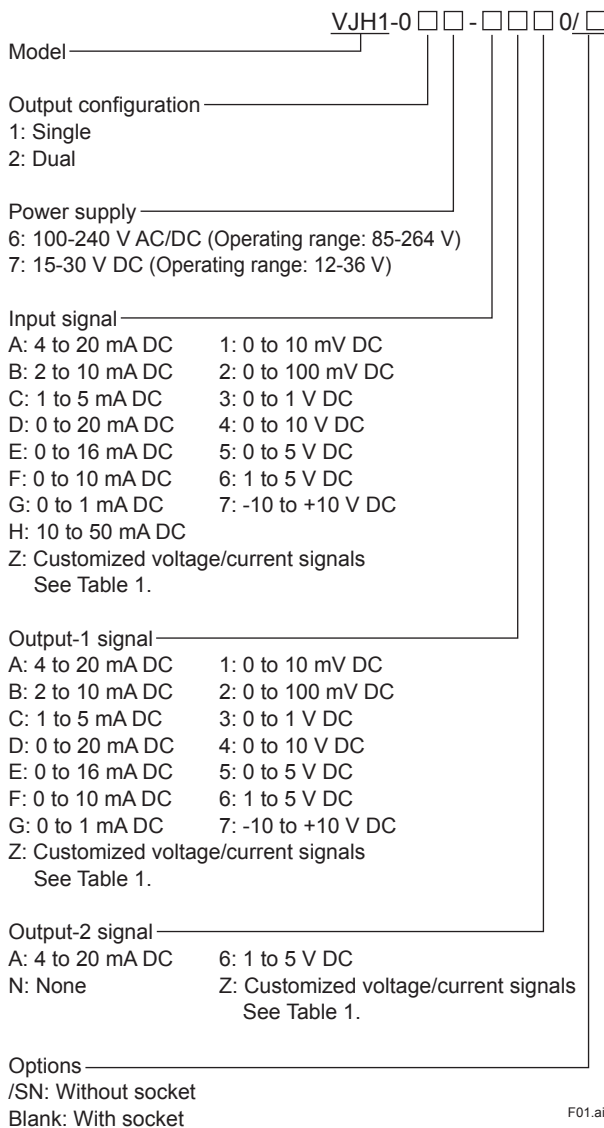
Model VJH1
Isolator
(Isolated Single-output and
Isolated Dual-output Types)

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General

The VJH1 is a compact, plug-in type isolator that converts DC current or DC voltage signals into isolated DC current or DC voltage signals.

Model and Suffix Codes



Input/Output Specifications

Input signal: DC voltage or DC current signal
Input resistance: Attach an external resistor for current input.

Input Range	Input Resistance	Input Range	Input Resistance
4 to 20 mA DC	250 Ω	0 to 10 mV DC	1 MΩ during power on 10 kΩ during power off
2 to 10 mA DC	500 Ω	0 to 100 mV DC	
1 to 5 mA DC	1 kΩ	0 to 1 V DC	
0 to 20 mA DC	250 Ω	0 to 10 V DC	1 MΩ during power on 800 kΩ during power off
0 to 16 mA DC	250 Ω	0 to 5 V DC	
0 to 10 mA DC	500 Ω	1 to 5 V DC	
0 to 1 mA DC	1 kΩ	-10 to +10 V DC	
10 to 50 mA DC	100 Ω		

Allowable input level:

- 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 signal: DC voltage or DC current signal

Allowable load resistance:

Output-1 Range	Allowable Load Resistance	Output-1 Range	Allowable Load Resistance
4 to 20 mA DC	750 Ω maximum	0 to 10 mV DC	250 kΩ minimum
2 to 10 mA DC	1500 Ω maximum	0 to 100 mV DC	250 kΩ minimum
1 to 5 mA DC	3000 Ω maximum	0 to 1 V DC	2 kΩ minimum
0 to 20 mA DC	750 Ω maximum	0 to 10 V DC	10 kΩ minimum
0 to 16 mA DC	900 Ω maximum	0 to 5 V DC	2 kΩ minimum
0 to 10 mA DC	1500 Ω maximum	1 to 5 V DC	2 kΩ minimum
0 to 1 mA DC	15 kΩ maximum	-10 to +10 V DC	10 kΩ minimum
Output-2 Range	Allowable Load Resistance	Output-2 Range	Allowable Load Resistance
4 to 20 mA DC	350 Ω maximum	1 to 5 V DC	2 kΩ minimum

Zero adjustment: -5 to +5%

Span adjustment: 95 to 105%

Items to be specified when ordering

- Model and Suffix Code: e.g. VJH1-026-1A60

■ Standard Performance

Accuracy rating: $\pm 0.1\%$ of span (aside from the $\pm 0.1\%$ accuracy of the external resistor for current input); accuracy is not guaranteed for output levels 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%)

Effects of power line regulation: Up to $\pm 0.1\%$ of span for the regulation within allowable range of each supply voltage range

Effects of ambient temperature variations: Up to $\pm 0.15\%$ of span per 10°C

■ Power Supply and Isolation

Supply rated voltage range: 100-240 V AC/DC \approx 50/60 Hz or 15-30 V DC \approx

Supply input voltage range: 100-240 V AC/DC \approx (-15, +10%) 50/60 Hz or 15-30 V DC \approx ($\pm 20\%$)

Power consumption: 2.2 W at 24 V DC; 2.1 W at 110 V DC; 4.2 VA at 100 V AC; 6.1 VA at 200 V AC

Insulation resistance: 100 M Ω minimum at 500 V DC between input, output-1, output-2, power supply and grounding terminals mutually

Withstanding voltage: 2000 V AC for one minute between input, (output-1 and output-2), power supply and grounding terminals mutually;
1000 V AC for one minute between output-1 and output-2 terminals

■ Environmental Conditions

Operating temperature range: 0 to 50°C

Operating humidity range: 5 to 90% RH (no condensation)

Operating conditions: Avoid installation in such environments as corrosive gas like sulfide hydrogen, dust, sea breeze and direct sunlight.

Installation altitude: 2000 m or less above sea level.

■ Mounting and Appearance

Material: Modified polyphenylene oxide (casing)

Mounting method: Wall, DIN rail or dedicated VJ mounting base (VJCE) mounting

Connection method: M3 screw terminals

External dimensions: 76 (H) \times 29.5 (W) \times 124.5 (D) mm (including a socket)

Weight: Approx. 116 g (main unit), approx. 51 g (socket)

■ Accessories

Tag number label: One

Resistor (Shunt resistor): One (attached for current input)

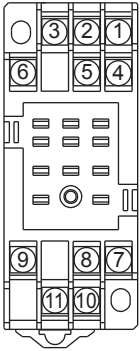
Resistance	Part No.	Resistance	Part No.
100 Ω	E9786WD	500 Ω	E9786WF
250 Ω	E9786WE	1 k Ω	E9786WG

■ Customized Signal Specifications

Table 1 Manufacturable Ranges

	Current Signal	Voltage Signal
Input range (DC)	0 to 150 mA	-300 to +300 V
Span (DC)	100 μA 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%

Terminal Assignments

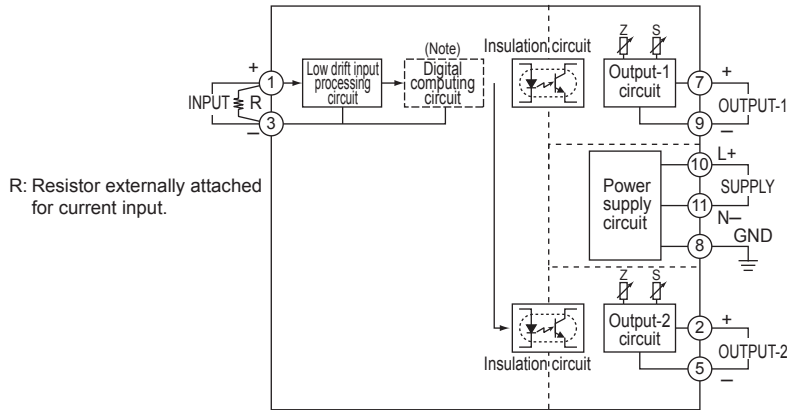


1	INPUT	(+)
2	OUTPUT-2	(+)
3	INPUT	(-)
4	N.C.	
5	OUTPUT-2	(-)
6	N.C.	
7	OUTPUT-1	(+)
8	GND	
9	OUTPUT-1	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)

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Note: For single-output type, OUTPUT2 is N.C.

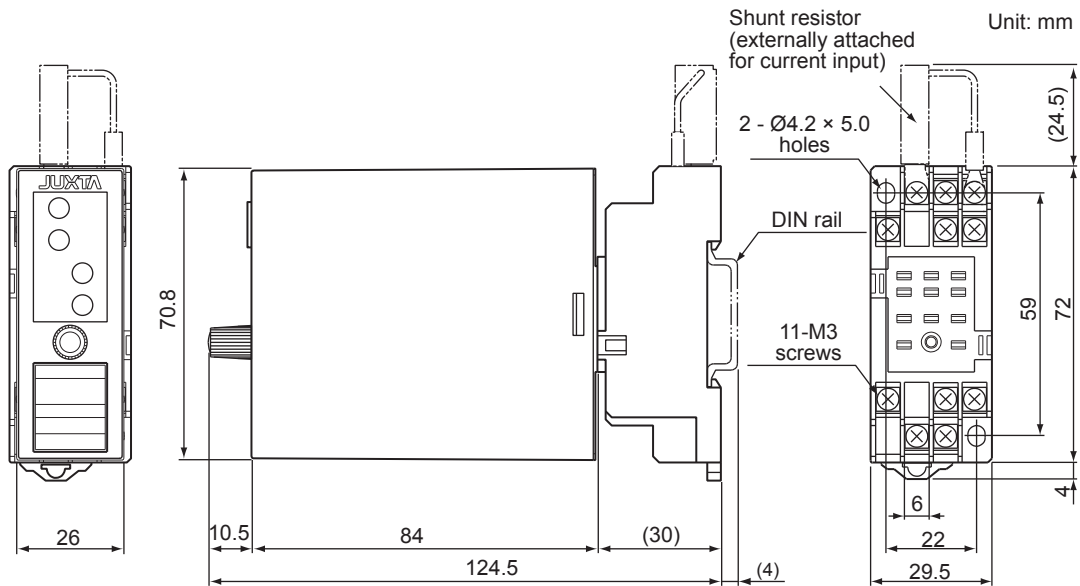
Block Diagram



Note: Digital computing circuit is added for the input/output suffix codes other than "A" and "6".

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External Dimensions



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