

General Specifications

VJH1 Isolator (Isolated Single-output and Isolated Dual-output Models)



GS 77J1H01-01E

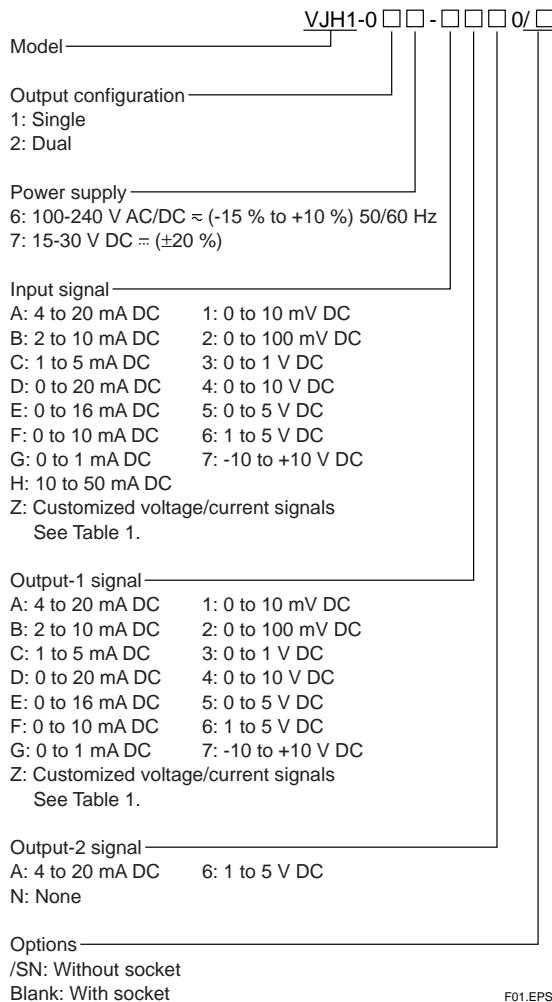
General

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

The VJH1 isolator features:

- a wide choice of input and output signal ranges;
- four isolated ports (input, output-1, output-2, power supply and grounding) on a dual-output model;
- a withstanding voltage of 2000 V AC;
- a wide supply voltage range - supporting both 100 V and 200 V power lines of AC or DC;
- close side-by-side mounting; and
- capability for fast-response model.

Model and Suffix Codes



Input/Output Specifications

Type of input: DC voltage or DC current signal

Input resistance:

- Voltage input: approx. 1 M Ω (or 100 k Ω when turned off)
- Current input: 250 Ω for 4 to 20 mA range
500 Ω for 2 to 10 mA range
1 k Ω for 1 to 5 mA range
250 Ω for 0 to 20 mA range
250 Ω for 0 to 16 mA range
500 Ω for 0 to 10 mA range
1 k Ω for 0 to 1 mA range
100 Ω for 10 to 50 mA range

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

Allowable load resistance:

- Output 1

Output Range	Output Range
4 to 20 mA DC: 750 Ω maximum	0 to 10 mV DC: 250 k Ω minimum
2 to 10 mA DC: 1500 Ω maximum	0 to 100 mV DC: 250 k Ω minimum
1 to 5 mA DC: 3000 Ω maximum	0 to 1 V DC: 2 k Ω minimum
0 to 20 mA DC: 750 Ω maximum	0 to 10 V DC: 10 k Ω minimum
0 to 16 mA DC: 900 Ω maximum	0 to 5 V DC: 2 k Ω minimum
0 to 10 mA DC: 1500 Ω maximum	1 to 5 V DC: 2 k Ω minimum
0 to 1 mA DC: 15 k Ω maximum	-10 to +10 V DC: 10 k Ω minimum
- Output 2

Output Range	Output Range
4 to 20 mA DC: 350 Ω maximum	1 to 5 V DC: 2 k Ω minimum

Zero and span adjustment: Within $\pm 5\%$ of span for both zero and span adjustment

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 on current-input models); accuracy is not guaranteed for output levels less than 0.5% of the span of a 0-X mA output range type.
- Response: 150 ms for a 63% response (10 to 90% change of range)
- 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 input, (output-1, output-2), power supply and grounding terminals mutually;
1000 V AC for one minute between output-1 and output-2 terminals
- Operating temperature range: 0 to 50°C
- Operating humidity range: 5 to 90% RH (no condensation)
- Supply voltage range: 100-240 V AC/DC \approx (-15, +10%)
50/60 Hz or 15-30 V DC \approx ($\pm 20\%$)
- Effects of power line regulation: Up to $\pm 0.1\%$ of span for a supply voltage range of 85 to 264 V AC (47 to 63 Hz), 85 to 264 V DC or 12 to 36 V DC
- Effects of ambient temperature variations: Up to $\pm 0.2\%$ of span per 10°C
- Current consumption: 118 mA at 24 V DC
- Power consumption: 5.3 VA at 100 V AC; 7.4 VA at 200 V AC

■ Conformance to EMC Standards

- Applicable EMC standard: EN55011: 1991 Class A Group 1 for EMI (emission) regulations
EN50082-2: 1995 for EMS (immunity) regulations
CE-certified models mean those which are CE certified on condition that they be operated over a supply voltage range of 15-30 V DC \approx ($\pm 20\%$) only.

■ Mounting and Appearance

- Material: ABS resin (casing)
- Mounting: Wall mounting, DIN rail mounting, or mounting on a side-by-side multiple mounting base
- Connection: Terminals with M3 size screws
- External dimensions: 76 (H) \times 29.5 (W) \times 124.5 (D) mm
- Weight: Main unit = approx. 116 g; socket = approx. 51 g

■ Accessories

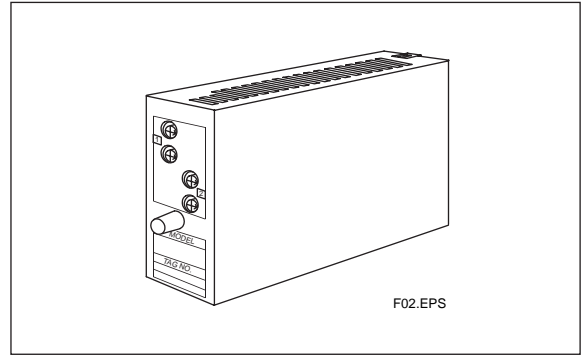
- Tag number label: One
- Resistor module: One (for current-input models)

Customized Signal Specifications

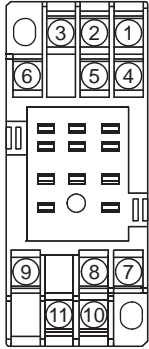
Table 1 Manufacturable Ranges

	Current Signal	Voltage Signal
Input range	0 to +150 mA DC	-300 to +300 V DC
Span	100 μ A to 150 mA DC	10 mV to 600 V DC
Zero elevation	0% to +73%	-80% to +73%
Output range	0 to 24 mA DC	-10 to +10 V DC
Span	1 to 24 mA DC	10 mV to 20 V DC
Zero elevation	0 to 200%	-100% to +200%

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Terminal Assignments

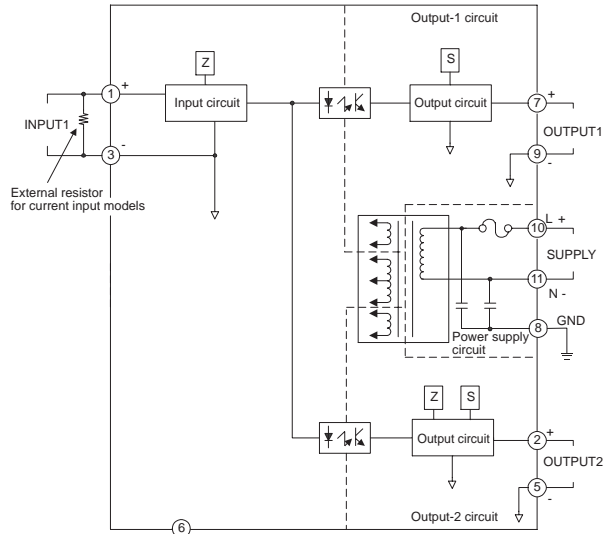


1	INPUT	(+)
2	OUTPUT 2	(+)
3	INPUT	(-)
4	N.C.	
5	OUTPUT 2	(-)
6	N.C.	
7	OUTPUT 1	(+)
8	GND	
9	OUTPUT 1	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)

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

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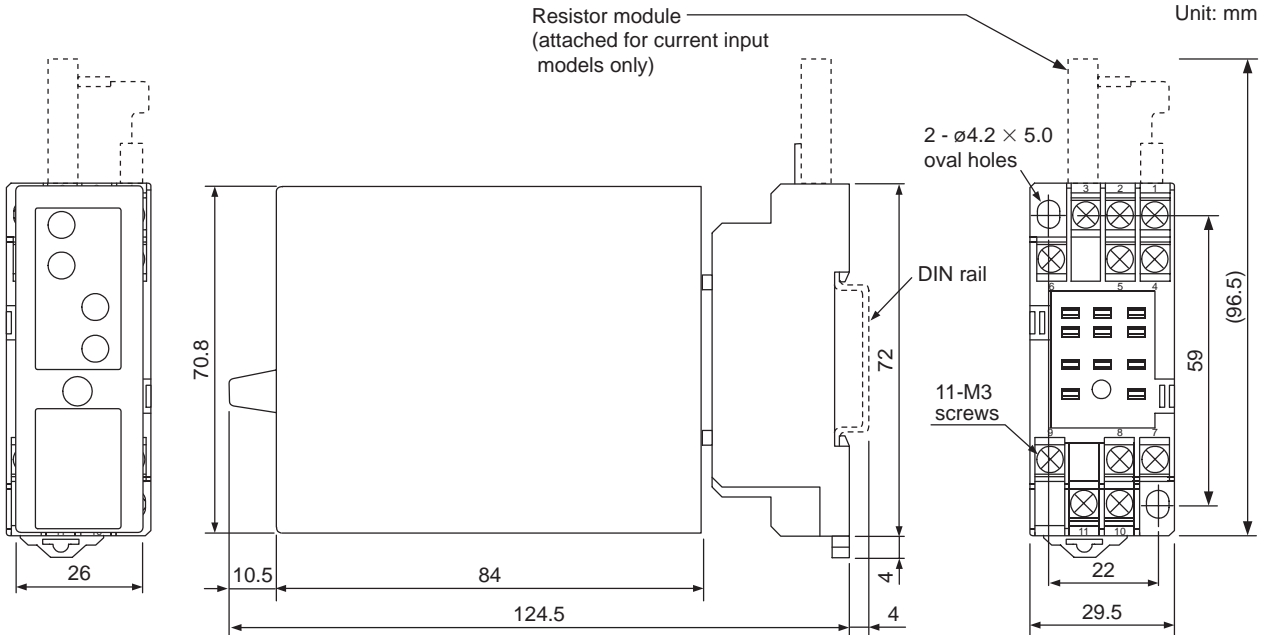
Block Diagram



Note: Single-output models do not contain the output-2 circuit.

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External Dimensions



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- The information covered in this document is subject to change without notice for reasons of improvements in quality and/or performance.