

General Specifications

Model VJD1
Tachometer
(Isolated Single-output and Isolated Dual-output Types)



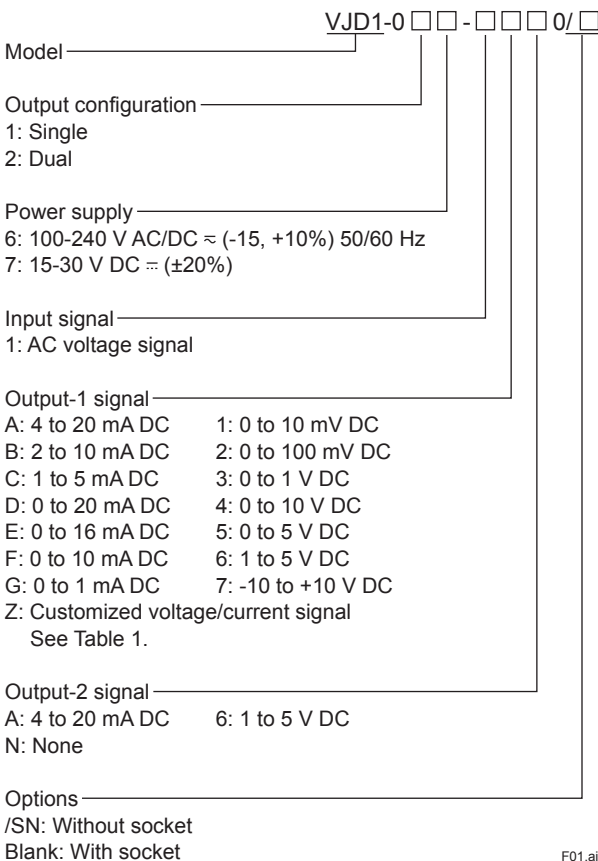
GS 77J01D01-01E

General

The VJD1 is a compact, plug-in tachometer converter that receives single-phase, AC voltage signal from an electric tachometer and converts it into isolated DC voltage or DC current signals.

- AC-to-DC conversion based on mean-value rectification;
- 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; and
- Close side-by-side mounting.

Model and Suffix Codes



Input/Output Specifications

Type of input: 0 to V_{100} V AC (V_{100} : voltage for 100% input)

where, $16 \leq V_{100} \leq 150$ V AC.

Input frequency range: $15 \text{ Hz} \leq F_{100} \leq 1 \text{ kHz}$ (F_{100} : frequency for 100% input)

Maximum allowable overrange input: 120% (continuous)

Output signal: DC voltage or DC current

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 and span adjustment: Within ±5% of span for both zero and span adjustment

Items to be specified when ordering

- Model and Suffix Code: e.g. VJD1-026-1AA0
- Input range: e.g. 0 to 35 V AC

■ Standard Performance

- Accuracy rating: $\pm 0.3\%$ of span; accuracy is not guaranteed for output level less than 0.5% of the span of a 0 to X mA output range types.
- Response: 2.4 sec. 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 $\pm 0.2\%$ 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: 122 mA at 24 V DC
- Power consumption: 5.4 VA at 100 V AC; 7.5 VA at 200 V AC

■ 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. 110 g; socket = approx. 51 g

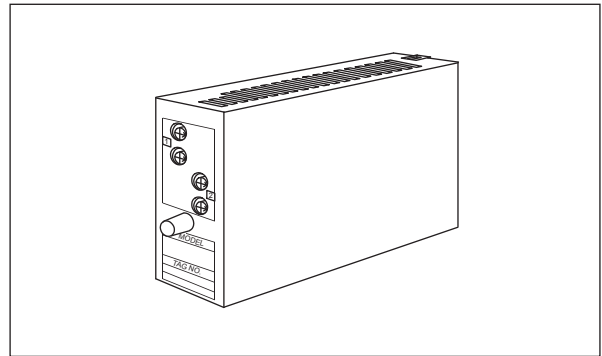
■ Accessories

- Tag number label: One

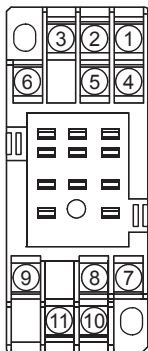
■ Customized Signal Specifications

Table 1 Manufacturable Ranges

	Current Signal	Voltage Signal
Input range	—	0 to 150 V AC
Span	—	16 mV to 150 V AC
Zero elevation	—	0% only
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%



■ Terminal Assignments

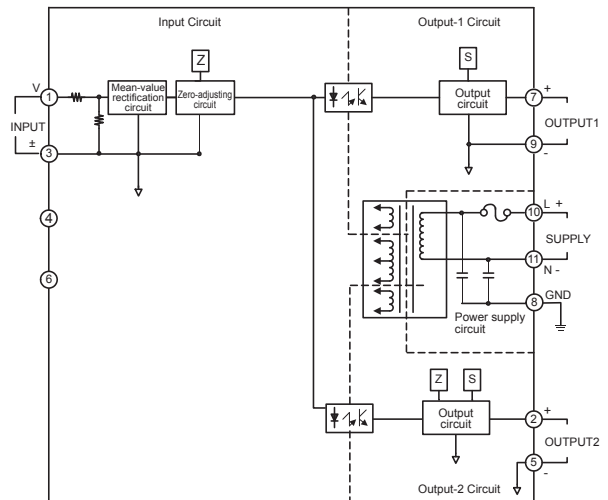


1	INPUT	(V)
2	OUTPUT 2	(+)
3	INPUT	(±)
4	N.C.	
5	OUTPUT 2	(-)
6	N.C.	
7	OUTPUT 1	(+)
8	GND	
9	OUTPUT 1	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)

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

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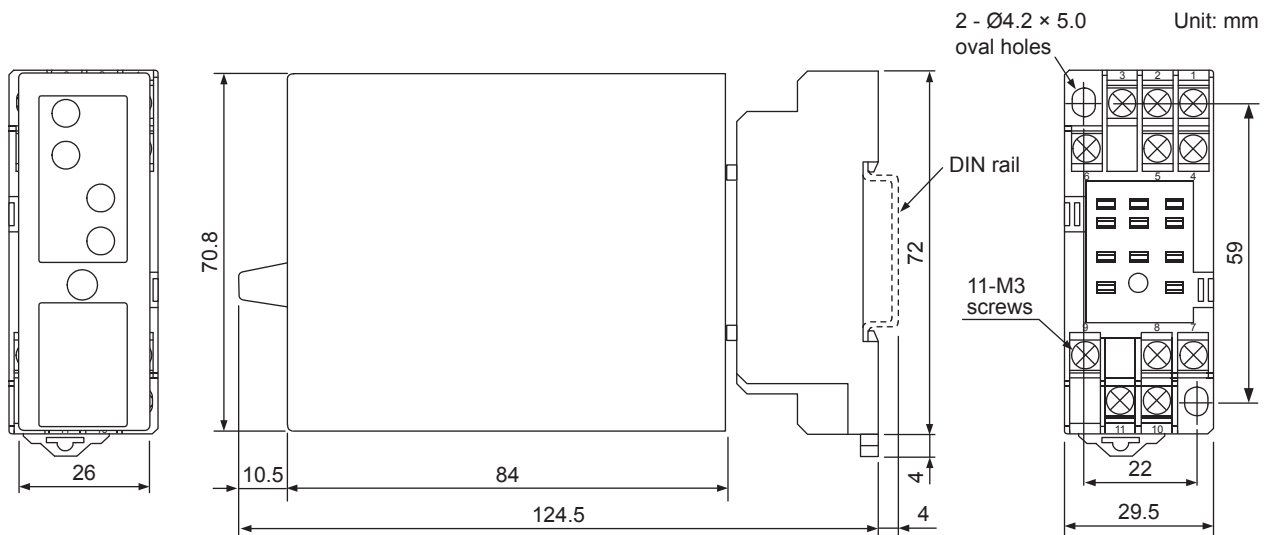
■ Block Diagram



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

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■ External Dimensions



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