

General Specifications

GS 77J01B03-01E

Model VJB3 AC Converter
(RMS)
(Isolated Single-output and Isolated
Dual-output Types)

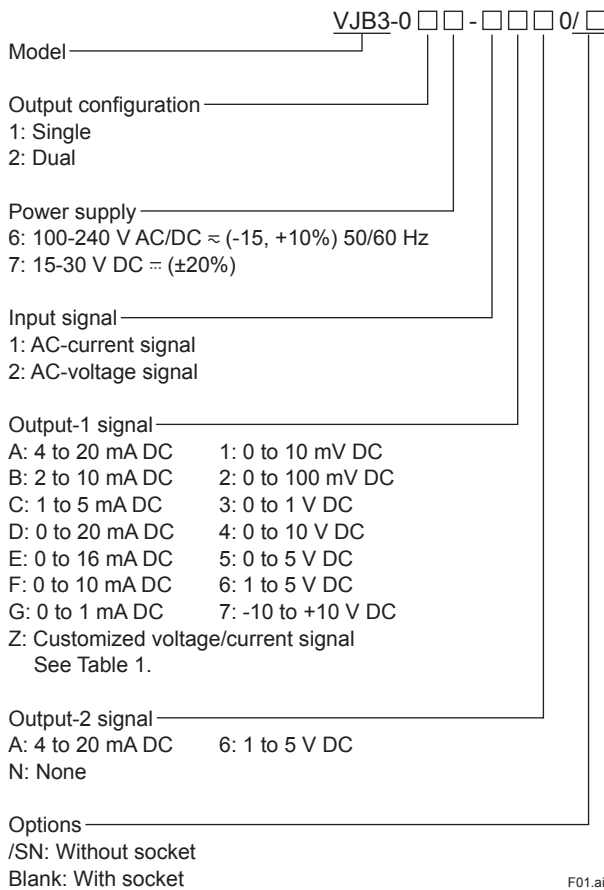


General

The VJB3 is a compact, plug-in converter that receives AC voltage or AC current signal and converts it into DC voltage or DC current signals of various ranges.

- 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; and
- close side-by-side mounting.

Model and Suffix Codes



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Input/Output Specifications

Input signal:

- AC current
0 to I_{100} mA AC (I_{100} : current for 100% input)
where, $4 \leq I_{100} \leq 1000$ mA AC.

- AC voltage
0 to V_{100} V AC (V_{100} : voltage for 100% input)
where, $0.1 \leq V_{100} \leq 150$ V AC.

Input resistance:

- AC current signal
25 Ω maximum, where $4 \leq I_{100} \leq 10$ mA AC;
10 Ω maximum, where $10 \leq I_{100} \leq 100$ mA AC;
and
1 Ω maximum, where $100 \leq I_{100} \leq 1000$ mA AC.

- AC voltage signal
Approx. 1 M Ω

Input frequency range: 40 Hz to 1 kHz
Maximum allowable overrange input: 120%
(continuous); 200% (for one minute)

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 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 Range	Allowable Load Resistance	Output-2 Range	Allowable Load Resistance
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. VJB3-026-1AA0
- Input signal: e.g. 0-100 mA 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 type.
- Response: 300 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 between 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: 95 mA at 24 V DC
- Power consumption: 5.4 V A at 100 V AC; 7.5 V A 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. 114 g; socket = approx. 51 g

■ Accessories

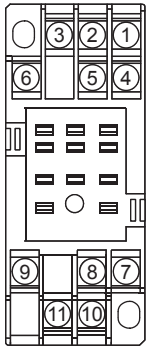
- Tag number label: One

■ Customized Signal Specifications

Table 1 Manufacturable Ranges

	Current Signal	Voltage Signal
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%

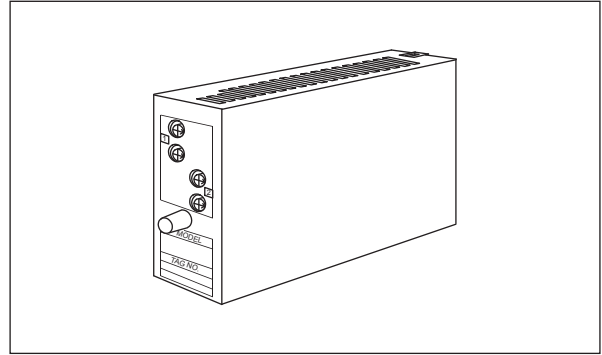
Terminal Assignment



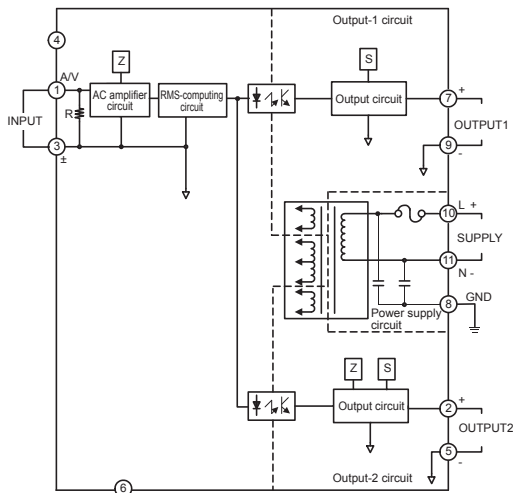
1	INPUT	(AV)
2	OUTPUT 2	(+)
3	INPUT	(±)
4	N.C.	
5	OUTPUT 2	(-)
6	N.C.	
7	OUTPUT 1	(+)
8	GND	
9	OUTPUT 1	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)

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

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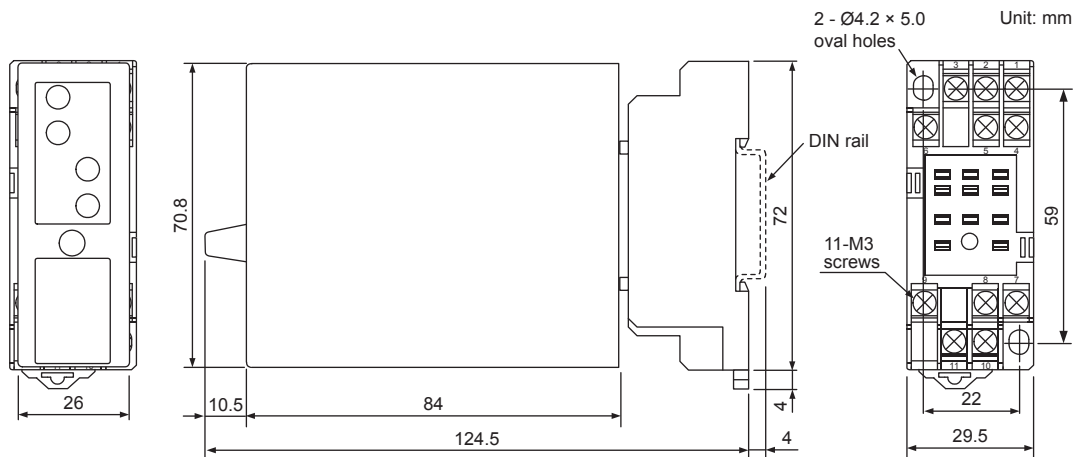
Block Diagram



Note: Single-output models do not contain the output-2 circuit.
R: Effective for AC current input only.

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External Dimensions



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