

General Specifications

Model VJB1
CT Converter
(RMS)



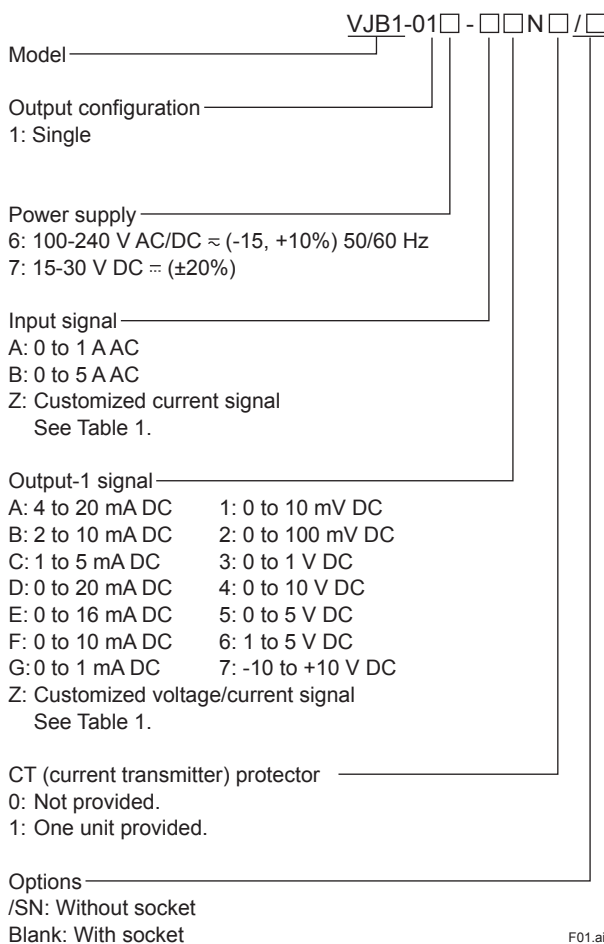
GS 77J01B01-01E

General

The VJB1 is a compact, plug-in CT converter that converts AC current signal from a current transformer (CT) into isolated DC voltage or DC current signals.

- input, output and power supply terminals that are all isolated from each other;
- AC-to-DC conversion based on RMS rectification;
- 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



Items to be specified when ordering

- Model and Suffix Code: e.g. VJB1-016-BAN0

Input/Output Specifications

Type of input: 0 to 1 or 0 to 5 A AC signal
Input loss: 0.5 VA maximum
Input frequency range: 40 Hz to 10 kHz
Maximum allowable overrange input: 120% (continuous); 500% (for five seconds)
Output signal: DC voltage or DC current
Allowable load resistance:

Output Range	Allowable Load Resistance	Output 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

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

Standard Performance

Accuracy rating: \pm 0.5% 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: 175 ms for a 63% response (10 to 90% change of range)
Insulation resistance: 100 M Ω minimum at 500 V DC between input, output, power supply and grounding terminals mutually
Withstanding voltage: 2000 V AC for one minute between input, output, power supply and grounding terminals mutually
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: 87 mA at 24 V DC
Power consumption: 5.5 VA at 100 V AC; 7.4 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) × 29.5 (W) × 124.5 (D) mm
Weight: Main unit = approx. 122 g; socket = approx. 51 g

■ Accessories

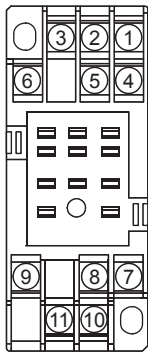
Tag number label: One

■ Customized Signal Specifications

Table 1 Manufacturable Ranges

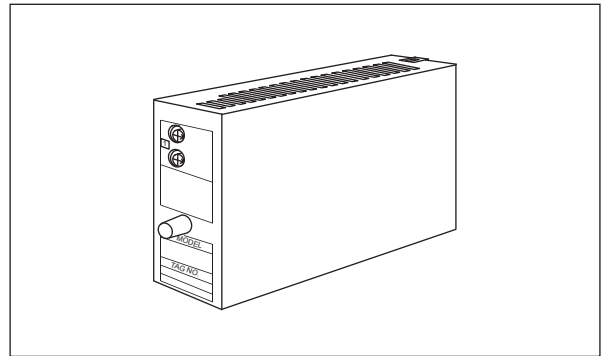
	Current Signal	Voltage Signal
Input range	0 to 5 AAC (where, the value of "5/1 ₁₀₀ [I ₁₀₀ = current for 100% input]" equals a real integer)	—
Span	0.1 to 5 AAC	—
Zero elevation	0% only	—
Output range	0 to 24 mA DC	-10 to +10 V DC
Span	1 to 24 mA DC	10 mV to 20 V DC
Zero elevation	0 to 200%	-100% to +200%

Terminal Assignments



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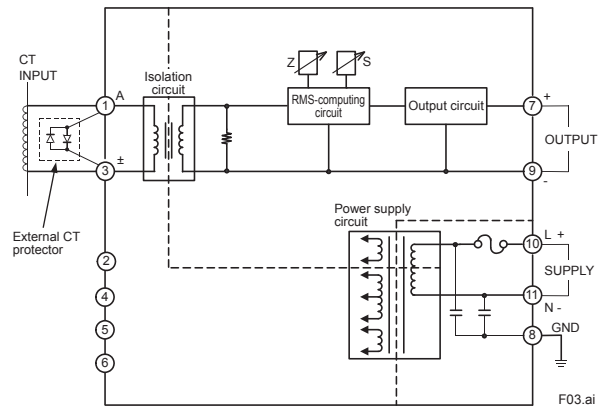
1	INPUT	(A)
2	N.C.	
3	INPUT	(±)
4	N.C.	
5	N.C.	
6	N.C.	
7	OUTPUT	(+)
8	GND	
9	OUTPUT	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)



CAUTION

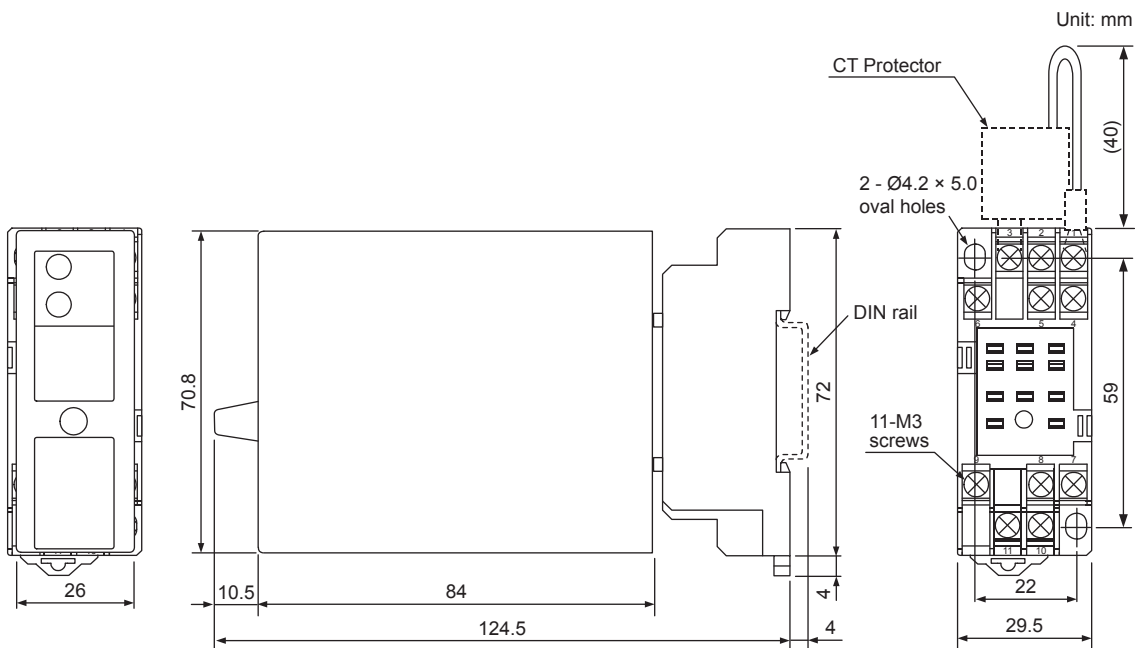
It is recommended that CT protector (CTG-5) be attached to the current input terminals connected to the secondary stage of the CT. Since a high potential develops over the secondary stage, the CT may burn and break if you unplug the main unit from the socket while the transmitter is turned on and it has no CT protector.

Block Diagram



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External Dimensions



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