General Specifications

GS 77J01A01-01E

Model VJA1
Distributor
(Isolated Single-output and
Isolated Dual-output Types)

JUXTA

■ General

The VJA1 is a compact, plug-in type distributor that is used in combination with a two-wire type transmitter to convert the transmitter's 4 to 20 mA DC signals into isolated DC current or DC voltage signals.

• Supports BARD-800.

■ Model and Suffix Codes

VJA1-0 □ □ -A □ □ 0/ □

Model

Output configuration
1: Single
2: Dual

Power supply
6: 100-240 V AC/DC (Operating range: 85-264 V)
7: 15-30 V DC (Operating range: 12-36 V)

Input signal
A: 4 to 20 mA DC

Output-1 signal
A: 4 to 20 mA DC
B: 2 to 10 mA DC
C: 1 to 5 mA DC
D: 0 to 20 mA DC
E: 0 to 16 mA DC
F: 0 to 10 mA DC
G: 0 to 1 mA DC
1: 0 to 10 mV DC
2: 0 to 100 mV DC
3: 0 to 1 V DC
4: 0 to 10 V DC
5: 0 to 5 V DC
6: 1 to 5 V DC
7: -10 to +10 V DC
Z: Customized voltage/current signal
See Table 1.

Output-2 signal
A: 4 to 20 mA DC
N: None
6: 1 to 5 V DC
Z: Customized voltage/current signal
See Table 1.

Options
/SN: Without socket
Blank: With socket

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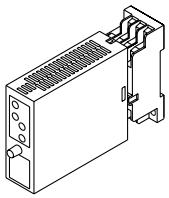
● Items to be specified when ordering

• Model and Suffix Codes: e.g. VJA1-026-AAA0



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■ Input/Output Specifications

Input signal: 4 to 20 mA DC signal from two-wire type transmitter
Input resistance: 250 Ω
Transmitter power supply: 25.25±0.25 V DC (provided with a current limiter to keep the current between 25 and 35 mA)
Allowable conductor resistance (RL): Up to [(20 – transmitter's minimum operating voltage) V/0.02 A] Ω
Maximum allowable input current: 40 mA DC
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	15k Ω 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

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Zero adjustment: –5 to +5%
Span adjustment: 95 to 105%

■ Standard Performance

Accuracy rating: ±0.1% of span; 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 ±0.1% of span for the regulation within allowable range of each supply voltage range
Effects of ambient temperature variations: Up to ±0.15% of span per 10°C

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■ Conformance to EMC Standards

Applicable EMC standard: EN61326
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 ⎓ (±20%) only.

■ Power Supply and Isolation

Supply rated voltage range: 100-240 V AC/DC ≂ 50/60 Hz or 15-30 V DC ⎓
Supply input voltage range: 100-240 V AC/DC ≂ (–15, +10%) 50/60 Hz or 15-30 V DC ⎓ (±20%)
Power consumption: 3.2 W at 24 V DC ; 3.1 W at 110 V DC; 6.1 VA at 100 V AC; 8.3 VA at 200 V AC
Insulation resistance: 100 MΩ 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)×29.5 (W)×124.5 (D) mm (including a socket)
Weight: Approx. 120 g (main unit), approx. 51 g (socket)

■ Accessories

Tag number label: One

■ Customized Signal Specifications

Table 1 Manufacturable Ranges

	Current Signal	Voltage Signal
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%

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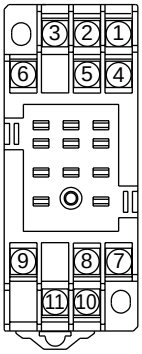
■ Terminal Assignments



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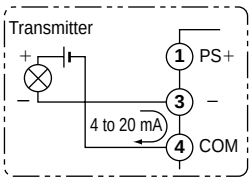
1	INPUT	(PS+)
2	OUTPUT-2	(+)
3	INPUT	(–)
4	INPUT	(COM)
5	OUTPUT-2	(–)
6	N.C.	
7	OUTPUT-1	(+)
8	GND	
9	OUTPUT-1	(–)
10	SUPPLY	(L+)
11	SUPPLY	(N–)

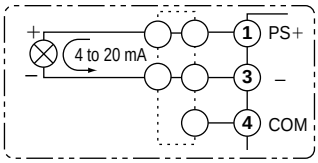
Note: For single-output type, OUTPUT-2 is N.C.

■ Block Diagrams

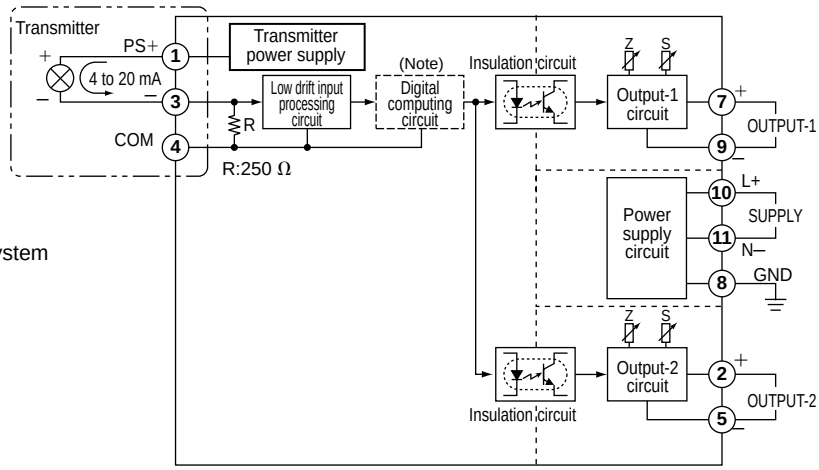
(1) Combination with two-wire type transmitter using external power supply



(2) Example to construct Intrinsically Safe System using Zener Barrier



(3) Combination with two-wire type transmitter using internal power supply



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

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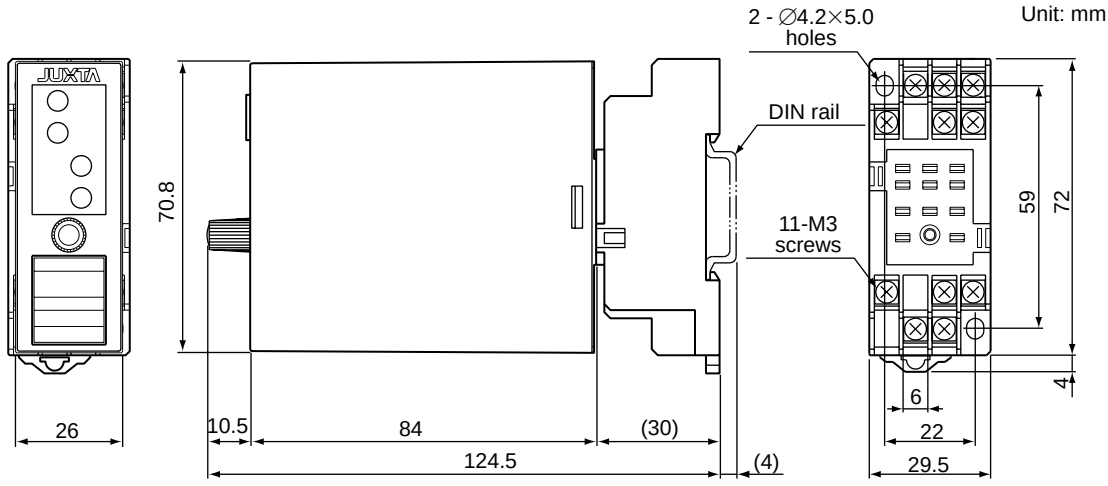
■ External Dimensions



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