

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

Model VJA1-0 □ □ -A □ □ 0/□

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

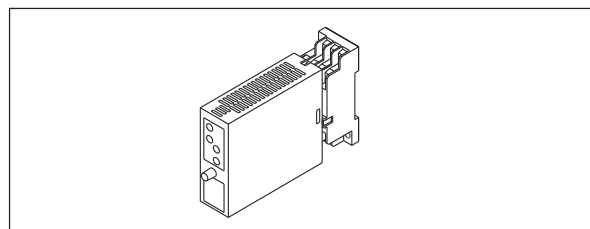
Output-2 signal □
A: 4 to 20 mA DC 6: 1 to 5 V DC
N: None Z: Customized voltage/current signal
See Table 1.

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-AA0



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 \pm 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 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 adjustment: -5 to +5%

Span adjustment: 95 to 105%

Standard Performance

Accuracy rating: \pm 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 \pm 0.1% of span for the regulation within allowable range of each supply voltage range

Effects of ambient temperature variations: Up to \pm 0.15% of span per 10°C

■ Power Supply and Isolation

Supply rated voltage range: 100-240 V AC/DC \approx
50/60 Hz or 15-30 V DC \approx
Supply input voltage range: 100-240 V AC/DC \approx
(-15, +10%) 50/60 Hz or 15-30 V DC \approx
($\pm 20\%$)
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 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 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) \times 29.5 (W) \times 124.5 (D)
mm
(including a socket)
Weight: Approx. 120 g (main unit), approx. 51 g
(socket)

■ Accessories

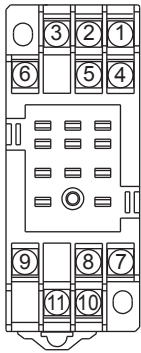
Tag number label: One

■ 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%

■ Terminal Assignments



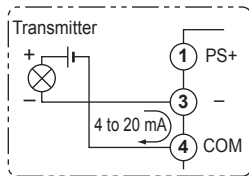
1	INPUT	(PS+)
2	OUTPUT-2	(+)
3	INPUT	(-)
4	INPUT	(COM)
5	OUTPUT-2	(-)
6	N.C.	
7	OUTPUT-1	(+)
8	GND	
9	OUTPUT-1	(-)
10	SUPPLY	(L+)
11	SUPPLY	(N-)

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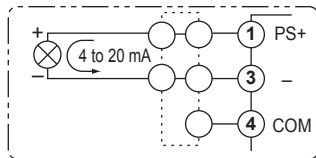
Note: For single-output type, OUTPUT-2 is N.C.

■ Block Diagrams

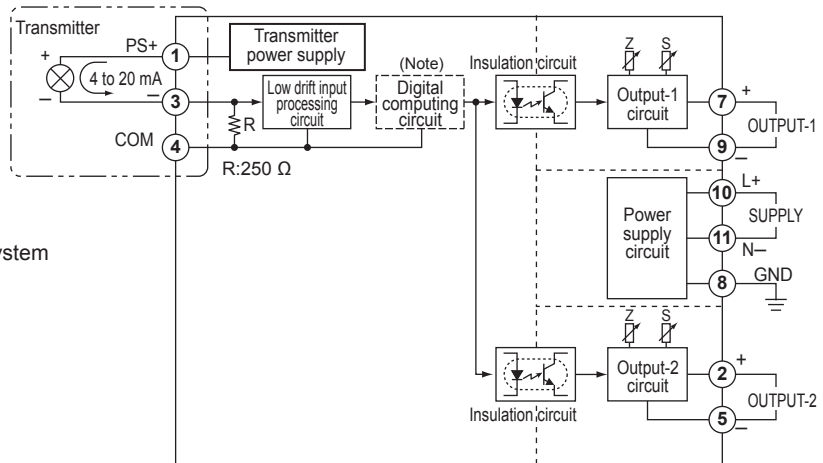
(1) Combination with two-wire type transmitter using external power supply



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



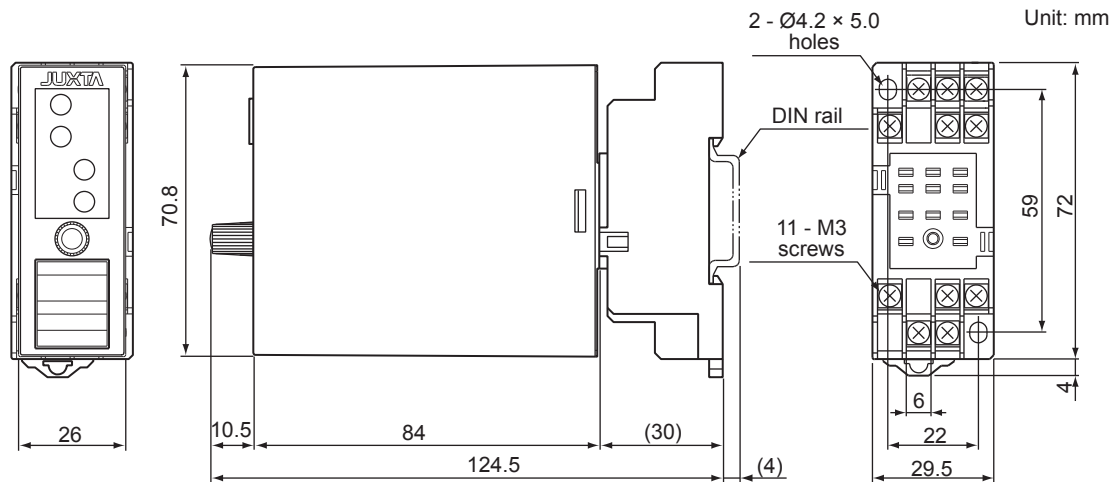
(3) Combination with two-wire type transmitter using internal power supply



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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