

General Specifications

Models WH4A, WH4V
DC Converter (Non-isolated)

JUXTA

GS 77J09H04-01E

■ General

The WH4A/WH4V is a compact, front terminal connection type converter that converts DC current or DC voltage signals into DC current or DC voltage signals.

- Dual output specification is available upon requests.

■ Model and Suffix Codes

WH4□-□□-□□*B/□□

Model _____

Output signal specification _____
 A : DC current signal
 V : DC voltage signal

Input 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
 H : 10 to 50 mA DC 0 : (Custom order)
 Z : (Custom order) Voltage signal
 Current signal (±300 V or less)
 (150 mA or less)

Output signal _____
 [WH4A] [WH4V]
 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 : (Custom order) 0 : (Custom order)
 Current signal Voltage signal
 (24 mA or less) (±10 V or less)

Power supply _____
 1 : 24 V DC±10% (DC drive)
 2 : 85 to 264 V AC (AC drive)

Optional specification _____
 D0 : Dual output (1 to 5 V DC)

■ Ordering Information

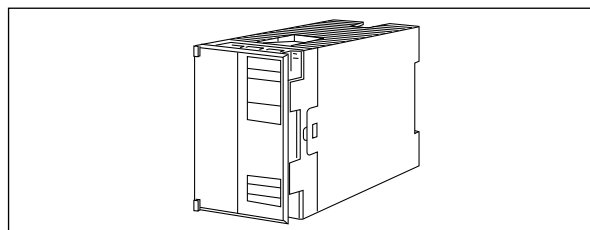
Specify the following when ordering.

- Model and suffix codes :e.g. WH4V-A6-2*B

■ Input/Output Specifications

Input signal: DC current or DC voltage signal

Output signal: DC current or DC voltage signal



Input resistance:

DC current input	Input resistance	DC voltage input	Input resistance
4 to 20 mA	250 Ω	0 to 10 mV	1 MΩ during power on 100 kΩ during power off
2 to 10 mA	500 Ω	0 to 100 mV	
1 to 5 mA	1 kΩ	0 to 1 V	
0 to 20 mA	250 Ω	0 to 10 V	
0 to 16 mA	250 Ω	0 to 5 V	
0 to 10 mA	500 Ω	1 to 5 V	
0 to 1 mA	1 kΩ	-10 to +10 V	
10 to 50 mA	100 Ω		

Maximum allowable input:

Voltage input: ±30 V DC or less

Current input: Any level that satisfies the following condition,

$$(\text{Input current}) \times 2 \times \text{Input resistance} \leq 0.5 \text{ W}$$

Allowable load resistance:

DC current output	Allowable load resistance	DC voltage output	Allowable load resistance
4 to 20 mA	750 Ω or less	0 to 10 mV	250 kΩ or more
2 to 10 mA	1500 Ω or less	0 to 100 mV	250 kΩ or more
1 to 5 mA	3000 Ω or less	0 to 1 V	2 kΩ or more
0 to 20 mA	750 Ω or less	0 to 10 V	10 kΩ or more
0 to 16 mA	900 Ω or less	0 to 5 V	2 kΩ or more
0 to 10 mA	1500 Ω or less	1 to 5 V	2 kΩ or more
0 to 1 mA	15 kΩ or less	-10 to +10 V	10 kΩ or more

Zero adjustment: -5 to +5%

Span adjustment: 95 to 105%

■ Standard Performance

Accuracy rating: ±0.1% 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.

Dual output (optional): Relative error between output-1 and 2 is within ±0.2%. These outputs are not insulated.

Response speed: 150 ms, 63% response (10 to 90%)

Insulation resistance: 100 MΩ or more at 500 V DC between (input and output) and power supply, power supply and ground, and (input and output) and ground.

Withstand voltage:

DC drive; 500 V AC/min. between (input and output) and power supply.

AC drive; 1500 V AC/min. between (input and output) and power supply, power supply and ground, and (input and output) and ground.

■ Environmental Conditions

Operating temperature range: 0 to 50°C

Operating humidity range: 5 to 90% RH (no condensation)

Power supply voltage: 85 to 264 V AC, 47 to 63 Hz or 24 V DC $\pm$ 10%

Effect of power supply voltage fluctuations: $\pm$ 0.1% or less for the fluctuation within the operating range of power supply voltage specification.

Effect of ambient temperature change: $\pm$ 0.2% of span or less for a temperature change of 10°C.

Current consumption: 24 V DC 102 mA (WH4A), 80 mA (WH4V)

Power consumption: 100 V AC 10 VA (WH4A), 6 VA (WH4V)

■ Mounting and Dimensions

Material: ABS resin (Case body)

Mounting method: Rack, Wall or DIN rail mounting

Connection method: M4 screw terminals

External dimensions: 72 × 48 × 127 mm (H × W × D)

Weight: DC; Approx. 150 g, AC; Approx. 300g

■ Standard Accessories

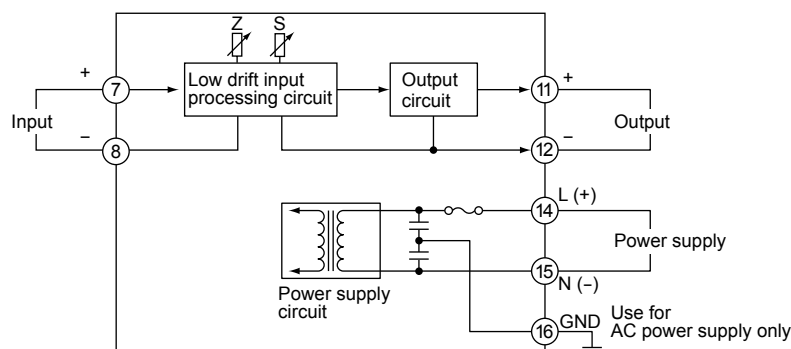
Tag number label: 1

Mounting block: 2

Mounting screw: M4 screw x 4

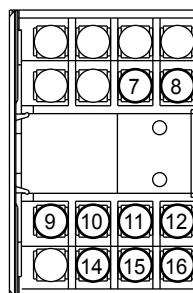
■ Custom Order Specifications

■ Block Diagram



	Current signal	Voltage signal
Input range (DC)	0 to 150 mA	-300 to +300 V
Span (DC)	100 μ A to 150 mA	10 mV to 600 V
Zero elevation	0 to 73%	-80 to +73%
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



7	Input	(+)
8	Input	(-)
9	Output 2	(+)
10	Output 2	(-)
11	Output 1	(+)
12	Output 1	(-)
14	Supply	(L+)
15	Supply	(N-)
16	Ground	(GND)*

Terminals ⑨—⑩ are used for Output 2 in case dual output is specified.

*: Use for AC power supply only

■ External Dimension

