

# General Specifications

Models WH1A, WH1V  
Isolator

JUXTA

GS 77J09H01-01E

## General

The WH1A/WH1V is a compact, front terminal connection type isolator that converts DC current or DC voltage signals into isolated DC current or DC voltage signals.

- Dual output and 2000 V AC withstand voltage specifications are available upon requests.

## Model and Suffix Codes

WH1□-□□-□\*C/□□

Model \_\_\_\_\_

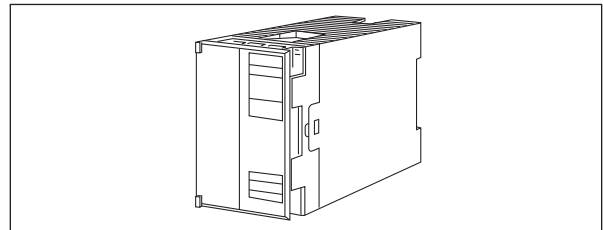
Output signal specification \_\_\_\_\_  
 A : DC current signal  
 V : DC voltage signal

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 \_\_\_\_\_  
 [WH1A]                [WH1V]  
 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)



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		

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 input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

Withstand voltage:

DC drive 1500 V AC/min. between input and (output and power supply). 500 V AC/min. between output and power supply.

AC drive 1500 V AC/min. input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

## Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. WH1V-A6-2\*C

## Input/Output Specifications

Input signal: DC current or DC voltage signal

Input resistance: See table on next page

Maximum allowable input:

Voltage input: ±30 V DC or less

Current input: Any level that satisfies the following condition.

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

Output signal: DC current or DC voltage signal

### ■ 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±10%  
 Effect of power supply voltage fluctuations: ±0.1% or less for fluctuation within the operating range of power supply voltage specification  
 Effect of ambient temperature change: ±0.2% of span or less for a temperature change of 10°C  
 Current consumption: 24 V DC 102 mA (WH1A-xx-1), 80 mA (WH1V-xx-1)  
 Power consumption: 100 V AC 10 VA (WH1A-xx-2), 6 VA (WH1V-xx-2)

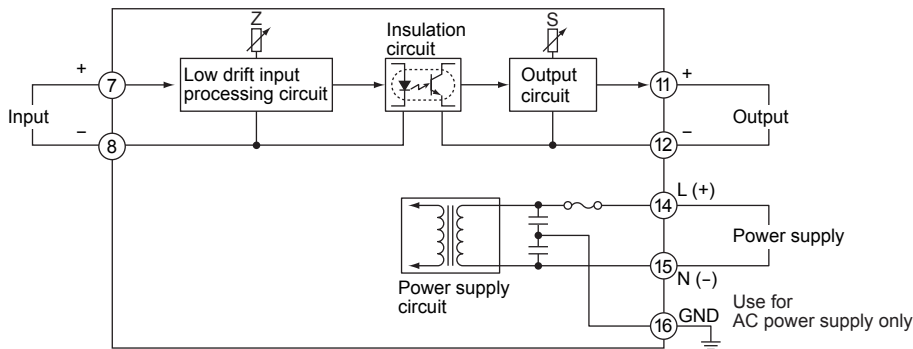
### ■ Mounting and Dimensions

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 x W x D)  
 Weight: DC; Approx. 150 g, AC; Approx. 300 g

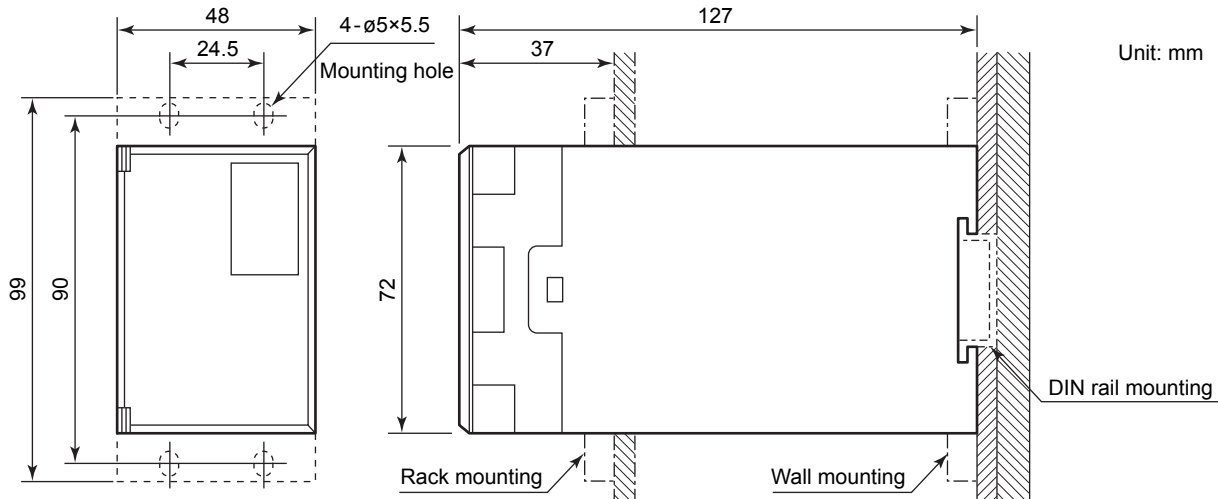
### ■ Standard Accessories

Tag number label: 1  
 Mounting block: 2  
 Mounting screw: M4 screw x 4

### ■ Block Diagram



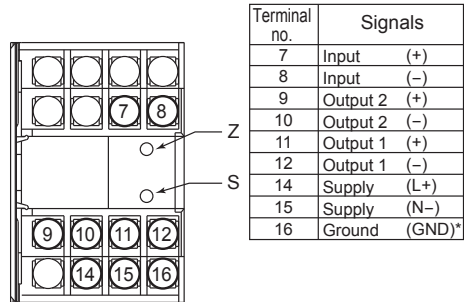
### ■ External Dimensions



### ■ Custom Order Specifications

	Current signal	Voltage signal
Input range (DC)	0 to 150 mA	-300 to +300 V
Span (DC)	100 µA 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



Terminal no.	Signals
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

Z: Zero-adjustment volume

S: Span-adjustment volume