

# General Specifications

Models FH3A, FH3V  
Isolator  
(High Speed Response Type)



GS 77J08H03-01E

## General

The FH3A/FH3V is a compact, front terminal connection type isolator that converts DC current or DC voltage signals into isolated DC current or DC voltage signals.

- Max. 63% response, 15 ms high speed conversion.

## Model and Suffix Codes

**FH3□-□□\*B**

Model \_\_\_\_\_

Output signal specification \_\_\_\_\_

A : DC current signal  
V : DC voltage signal

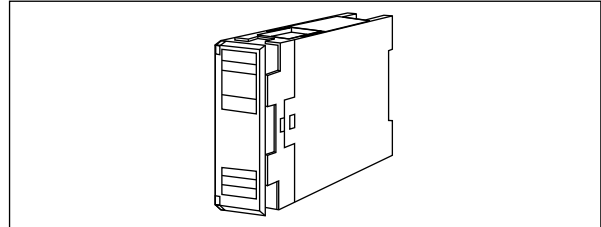
Input Signal \_\_\_\_\_

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)	0 : (Custom order)
Current signal	Voltage signal
(See "Custom Order Specifications")	

Output signal \_\_\_\_\_

[FH3A]	[FH3V]
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
(See "Custom Order Specifications")	

Power supply  
24 V DC±10% (DC drive)



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.

Response speed: 15 ms, 63% response (10 to 90%)

Insulation resistance: 100 MΩ or more at 500 V DC

between input and output, output and power supply, and input and power supply.

Withstand voltage: 1500 V AC/min. between input and (output and power supply).

500 V AC/min. between output and power supply.

## Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. FH3V-66\*B

## Input/Output Specifications

Input signal: DC current or DC voltage signal

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: 24 V DC±10% (percentage ripple is 5%p-p or less)  
 Effect of power supply voltage fluctuations: ±0.1% or less for the 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 (FH3A), 80 mA (FH3V)

**■ Mounting and Dimensions**

Material: ABS resin (Case body)  
 Mounting method: Rack, Wall or DIN rail mounting  
 Connection method: M4 screw terminals  
 External dimensions: 72 × 24 × 127 mm (H x W x D)  
 Weight: Approx. 130 g

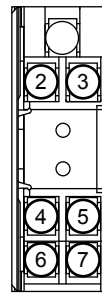
**■ Standard Accessories**

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

**■ Custom Order Specifications**

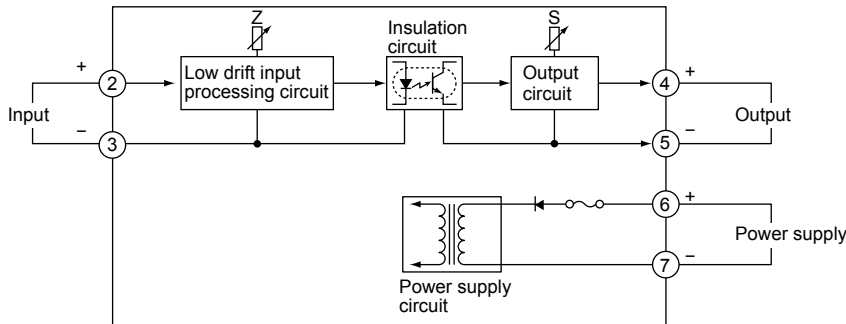
	Current signal	Voltage signal
Input range (DC)	0 to 150 mA	-300 to +300 V
Span (DC)	100 µA to 150 mA	10 mV to 600 V
Zero elevation	0 to 73%	-80 to +73%
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

**■ Terminal Assignments**



2	Input	(+)
3	Input	(-)
4	Output	(+)
5	Output	(-)
6	Supply	(+)
7	Supply	(-)

**■ Block Diagram**



**■ External Dimensions**

