

# General Specifications

Models FM1A, FM1V  
Isolator  
(mV DC Input, Free Range Type)

**JUXTA**

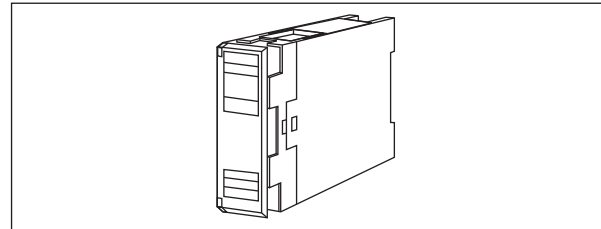
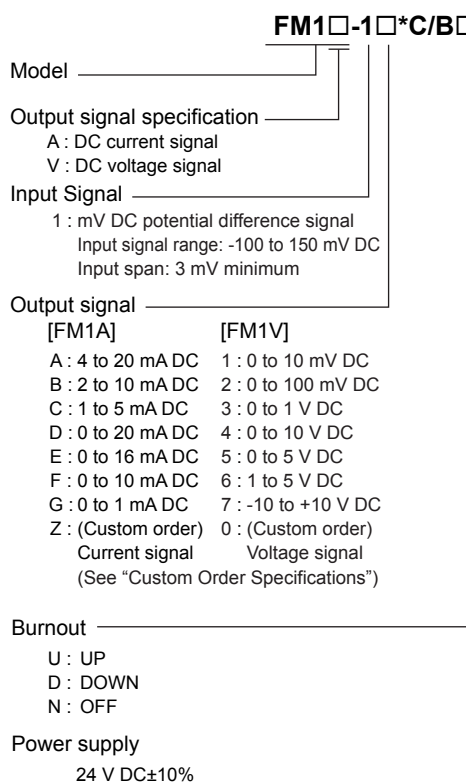
GS 77J08M01-01E

## General

The FM1A/FM1V is a compact, front terminal connection type isolator that converts DC mV signals into isolated DC current or DC voltage signals.

- I/O range setting, zero/span adjustment, burnout setting and I/O monitoring can be made using the optional Parameter Setting Tool (VJ77) or Handy Terminal (JHT200).

## Model and Suffix Codes



Zero elevation: Within ±300% of the measuring span  
 Maximum allowable input: -0.5 to +4.0 V DC  
 Allowable leadwire resistance: 1 kΩ or less  
 Output signal: DC current or DC voltage signal  
 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

Input adjustment: ±1% (zero/span)  
 Out adjustment: ±10% (zero/span)  
 In the case of the output specification code 7, it is ±5% of span.

## Standard Performance

Accuracy rating: ±0.1% of span or 10 μV, whichever is greater.

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: 200 ms, 63% response (10 to 90%)

Burnout: Up, Down or Off; burnout time is 60 sec. or less.

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. FM1A-1A\*C/BU
- Input range :e.g. 0 to 100 mV DC

When the burnout is not specified, the product is manufactured as /BU.

## Input/Output Specifications

Input signal: mV DC potential difference

Measuring range: -100 to +150 mV DC

Input resistance: 1 MΩ during power on, 10 kΩ during power off

Burnout detection current: 0.1 μA

Measuring span: 3 mV DC or more (Note that the accuracy is not guaranteed if the span is less than 10mV.)

## 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% of span 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 65 mA (FM1A), 50 mA (FM1V)

### ■ Mounting and Dimensions

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

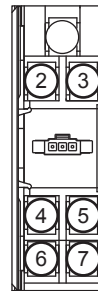
### ■ Standard Accessories

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

### ■ Custom Order Specifications

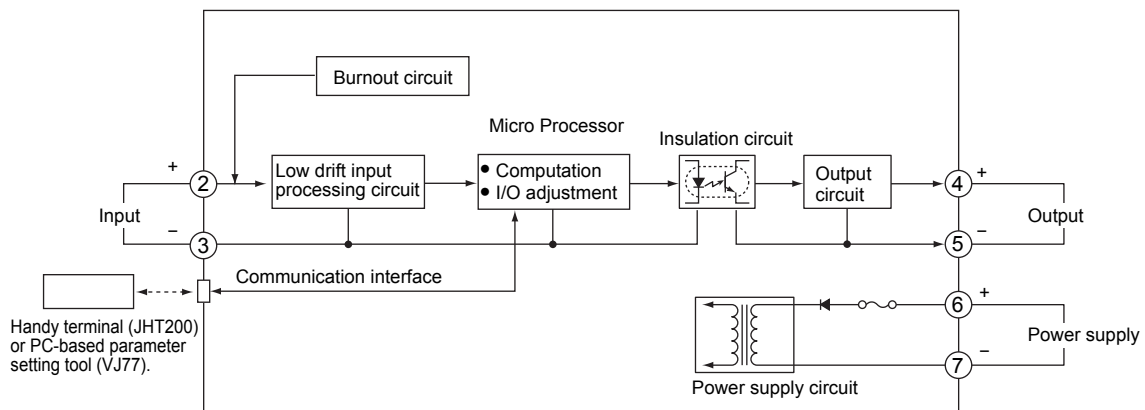
	Current signal	Voltage signal
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

### ■ Terminal Assignments



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

### ■ Block Diagram



### ■ External Dimensions

