

# General Specifications

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

**JUXTA**

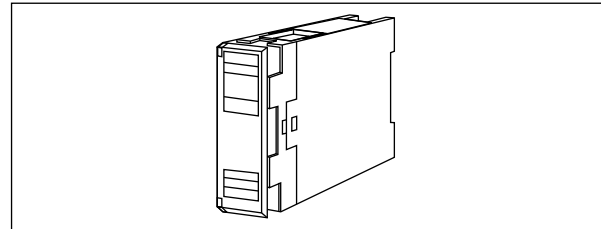
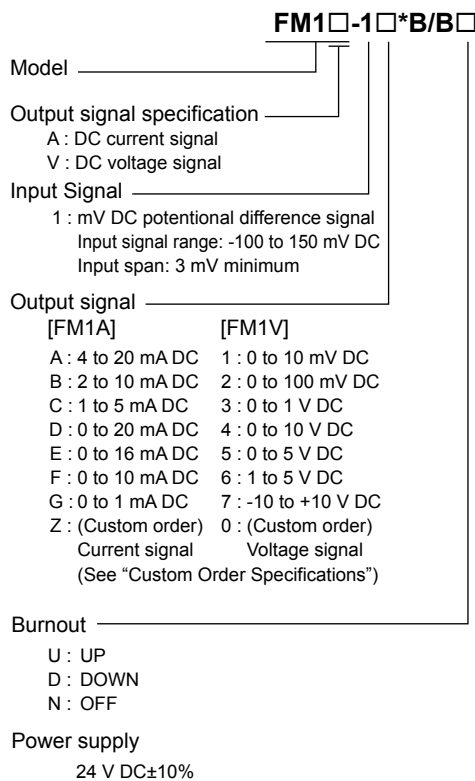
GS 77J08M01-01E

## ■ 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 signal source 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)  
 Span adjustment: ±10% (zero/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\*B/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 3 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 10mA.)

## ■ 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 85 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

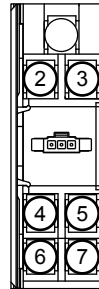
### ■ Standard Accessories

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

### ■ Custom Order Specifications

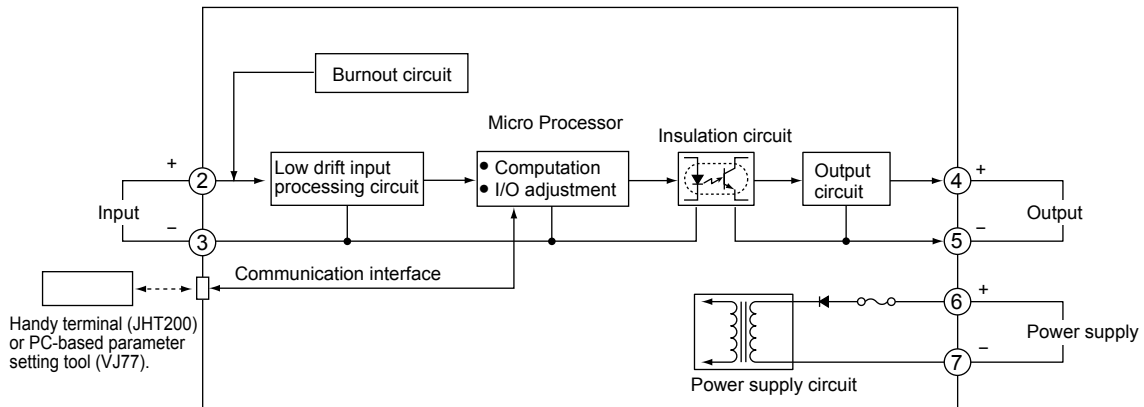
|                   | Current signal | Voltage signal |
|-------------------|----------------|----------------|
| Output range (DC) | 0 to 24 mA     | -10 to +10 V   |
| Span (DC)         | 1 to 24 mA     | 10 mV to 20 V  |
| Zero elevation    | 0 to 200%      | -100 to +200%  |

### ■ Terminal Assignments



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

### ■ Block Diagram



### ■ External Dimensions

