JUXTA G Series Instruction Manual

Model GM1
DC Voltage Transmitter, Isolated

JUXTA

1. GENERAL

The Model GM1 mV Input transmitter amplifies a field generated DC millivolt or voltage signal and transforms it into a normalized output signal which is electrically isolated from the input. The transmitter can treat seven different types of output signals and any type of them can be selected. (See Figure 4.)

Accessories:

Spare fuse; 0.5A, 1 (Part number G9055ZF)
Tag number label ; 4 sheets

2. INSTALLATION AND WIRING

2.1 Installation

Since the transmitter is used to detect minute signals, install it to the site with least temperature variation and least heat radiation and convection.

CAUTION

When the transmitter is driven by 30V or more power supply, for the safety of operating personnel, install it so that the power supply terminals and printed circuit boards do not touch the body.

(1) When installing in the HB-16 Rack mounting enclosure, follow the Model HB-16 instruction manual.

(2) When installing directly on an instrumentation panel, prepare mounting angles referring to Figure 2. When the transmitter is shielded with a metallic case, ground the case.

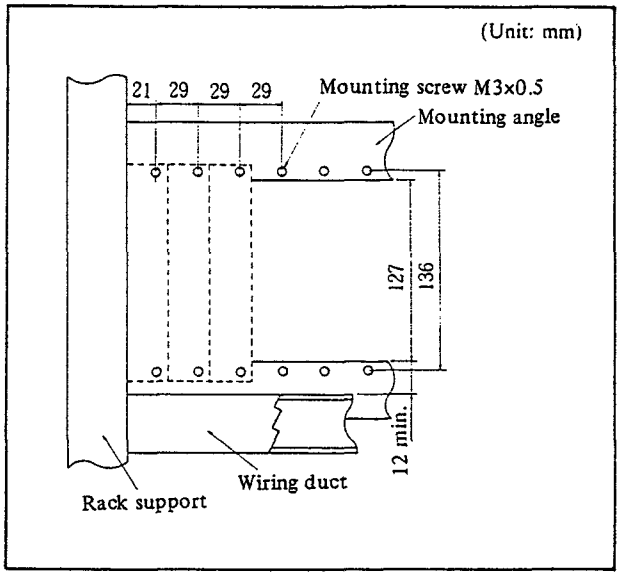
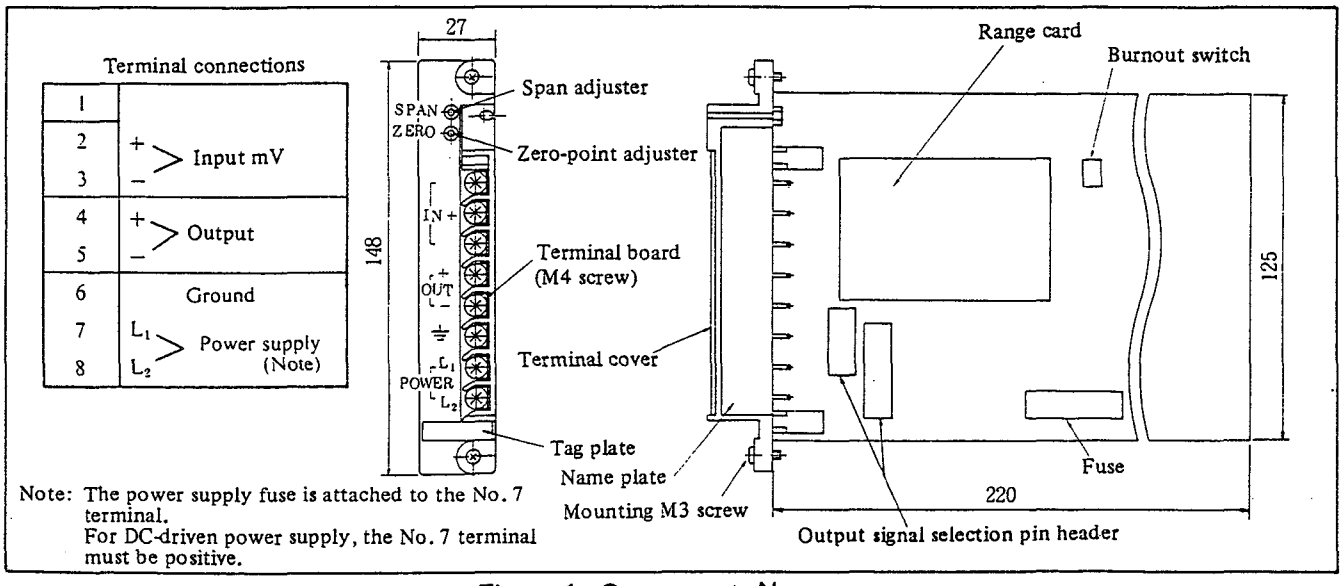


Figure 2. Direct Rack Mounting



Note: The power supply fuse is attached to the No. 7 terminal.
For DC-driven power supply, the No. 7 terminal must be positive.

Figure 1. Component Names

IM SC-21E

3rd Edition: Apr. 2004 (YK)

2.2 Wiring

It is recommended that flexible stranded cables and good-contact solderless terminal lugs (JIS C 2805) with least secular change should be used.

Cable for signal wiring

Nominal cross-sectional area of conductor:
0.5 to 0.75 mm^2

Example of applicable cable:
PVC insulated flexible cord
(JIS C 3306)

2.3 Ground Wiring

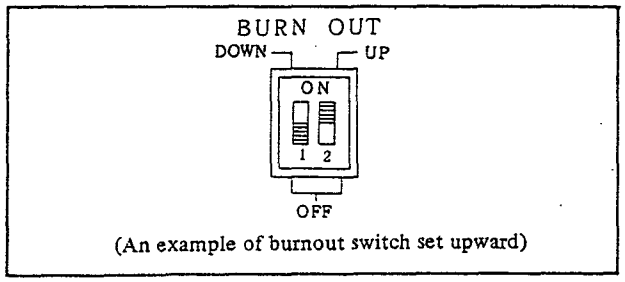
A ground terminal of the transmitter is isolated from signal and power supply circuits. Ground it separately or together with the transmitter. Follow instructions, if any, of grounding methods of measurement and control instruments to be connected.

Grounding: Class 3 Ground (up to 100 ohms)

3. OPERATION

3.1 Setting Burnout Switches

Select the desired burnout function by setting the switches on the printed circuit board.



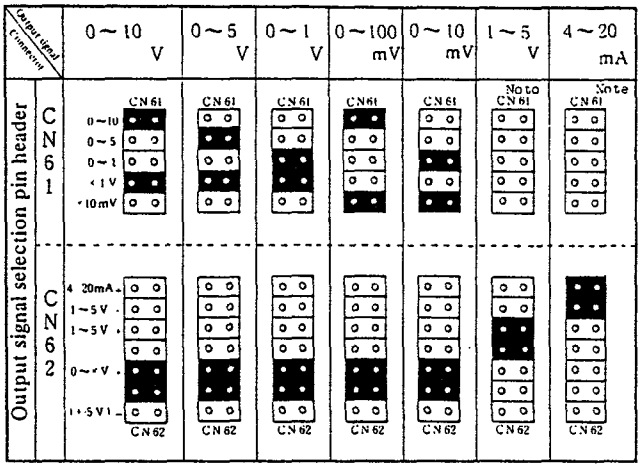
(An example of burnout switch set upward)

Figure 3. Setting Burnout Switches

3.2 Selection of Output Signals

The transmitter provides seven different types of output signals as shown in Figure 4. The desired output signals can be obtained by setting short-circuit sockets to output signal selection pin headers (CN61, CN62). Install the pin socket on the shaded area as shown in Figure 4.

If the output signal has been changed, check the input/output characteristics by following Section 4 "MAINTENANCE".



Note: For 1 to 5V or 4 to 20mA outputs, the CN61 pin header socket may be put anywhere.

Figure 4. Output Signal Selection Pin Header

3.3 Check Points before Power on

- Does power supply satisfy ratings?
  20 to 130V DC or 80 to 138V AC
- Is wiring correct?
  Also check instruments of both signal sources and outputs.
- Are installation, ambient temperature and humidity, dust, and vibration normal?

Check all points above and switch on the power. The transmitter will obtain fixed accuracy in about five minutes after the power is switched on.

CAUTION

(1) Do not touch the printed circuit board of the transmitter while power is being applied.

(2) Perform the following calibration after warming-up for five minutes or more.

4.1 Calibration Instruments

- Digital Multimeter..... 1
  (Type 2502A of Yokogawa Electric, or equivalent)
- DC Voltage/Current Standard..... 1
  (Type 2553 of Yokogawa Electric, or equivalent)
- Precise resistor (250 ohms ± 0.01%, 1W)

4.2 Calibration

(1) Connect each instrument as shown in Figure 5.

(2) Check input/output characteristics,

Apply mV input signals corresponding to 0, 25, 50, 75, and 100% of span to Model GM1 by using the DC Voltage/Current Standard. Confirm that the outputs of the Digital Multimeter indicate 0, 25, 50, 75, and 100% of output signals, respectively and that accuracy of measuring ranges shall be within ±0.1%.

- If the output signal exceeds the above accuracy of measuring range, adjust the transmitter by the span and zero-point adjusters on its front panel.

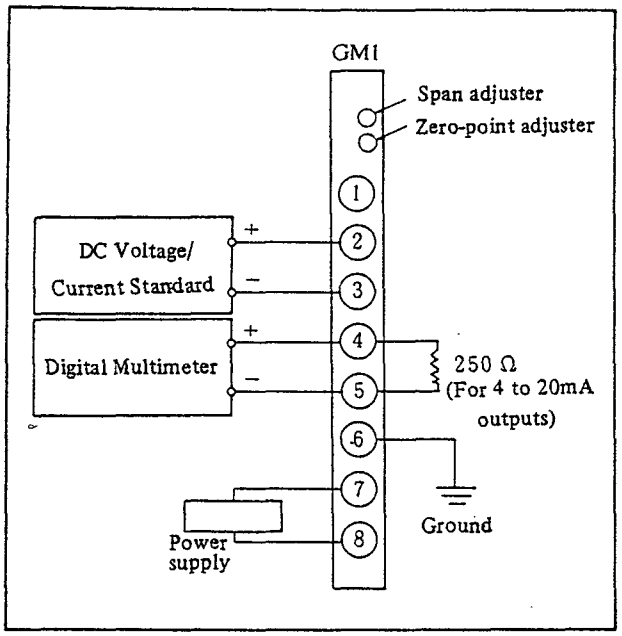


Figure 5. Connection of Calibration Instruments

4.3 Replacement of Fuse

It is recommended that a fuse should be replaced every three years for preventive maintenance. When a fuse is blown, investigate the cause and replace it with a new one. Also check the dirt inside the fuse holder and poor contact.

Turn off the power before replacing the fuse.

Subject to change without notice for grade up quality and performance.

YOKOGAWA ◆
Yokogawa Electric Corporation

Network Solutions Business Division
2-9-32, Nakacho Musashino-shi, Tokyo, 180-8750 Japan
Phone: (81)-422-52-7179 Fax: (81)-422-52-6793