JUXTA H Series Instruction Manual

Model HP1
Pulse Repeater

JUXTA

1. GENERAL

The Model HP1 Pulse Repeater receives pulse output signals of a flowmeter (contact, voltage, power supply type) and transmits pulse train signals—isolated from the input—to the measurement and control system.

Accessories:.

Spare fuse; 0.5A, 1 (Part number G9055ZF)

Tag number label ; 4 sheets

2. INSTALLATION AND WIRING

2.1 Installation

> **CAUTION**
>
> When the repeater 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 repeater is shielded with a metallic case, ground the case.

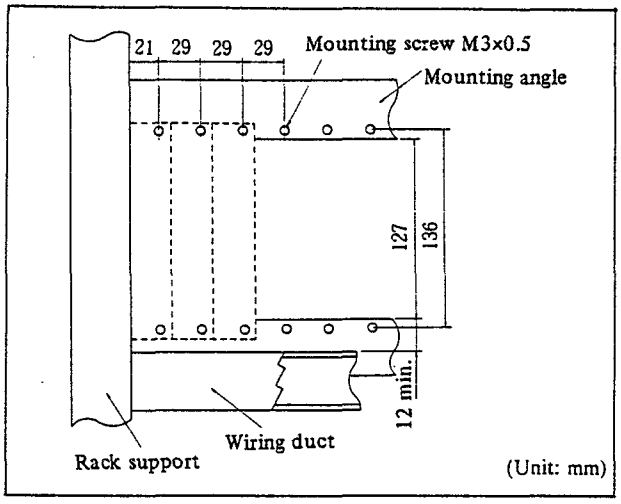


Figure 2. Direct Rack Mounting

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.

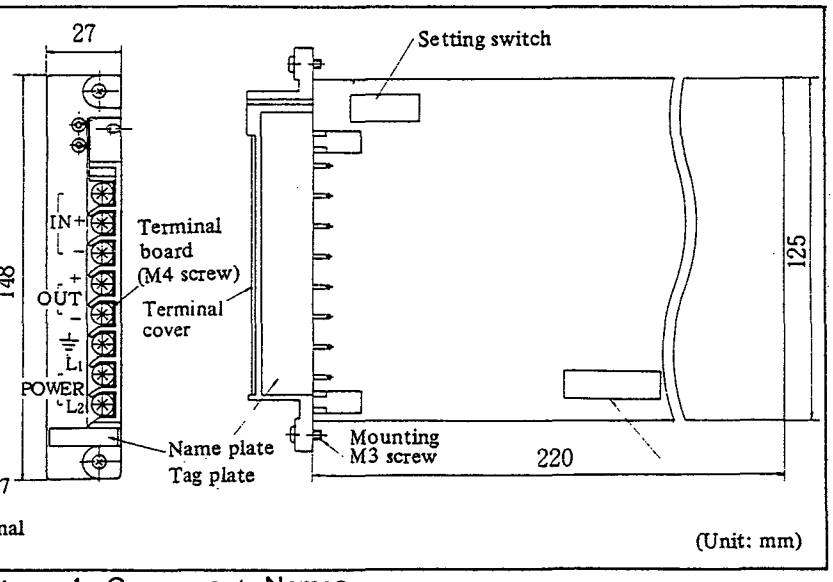
Cable for signal wiring

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

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

Terminal connections

Instrument terminal	HP1		
	Contact or Voltage	2-wire power supply	3-wire power supply
1 2 3	+ / − Input pulse	Power supply signal	Power supply + / − Input pulse
4 5	+ / − Output pulse		
6 7 8	Ground + / − Power supply (Note)		



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-11E

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2.3 Ground Wiring

A ground terminal of the repeater is isolated from signal and power supply circuits. Ground it separately or together with the repeater. 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 Switches

Setting switch SW1 has two functions:

(1) Load setting (200, 510 1K)
200, 510 and 1K of SW1 show load setting switches. For 2-wire power supply type, set a switch with a specified resistance value to the ON position according to specifications of the transmitter. Excepting the above case, set all other switches to the OFF position.

(2) Filter switch (FIL)
FIL is the ON/OFF switch for input filter. When a pulse input is from dry contact (mechanical relay, etc.) of 10 Hz or less and chattering noise exists, set the switch to the ON position to delete noise.

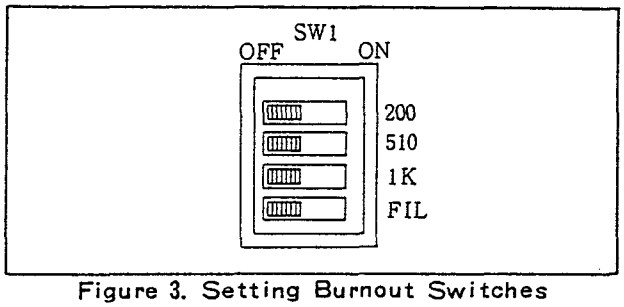

Figure 3. Setting Burnout Switches

3.2 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 repeater will obtain fixed accuracy in about five minutes after the power is switched on.

4. MAINTENANCE

CAUTION

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

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

4.1 Calibration Instruments

- Pulse Generator 1
  (Type 3311A of Hewlett-Packard, or equivalent)
- Counter or Oscilloscope 1
  (Counter: Type 5300A + 5308A of Hewlett-Packard, or equivalent)
- Resistor and battery
  (1KΩ, 1.6KΩ, 6V battery)

4.2 Testing

Checking signal transfer characteristic

Connect the pulse generator, counter, resistor and battery to Model HP1.

Generate any square waves under 6 kHz from the pulse generator and measure the value by the counter (oscilloscope) (between both ends of dotted lines shown in the figure 4). Next, connect the counter to terminals 4 and 5 and confirm that same frequency pulses output.

The oscilloscope enables to observe output pulses with waveform shaped.

(Model HP1 has no adjustment screw, so persorm testing only.)

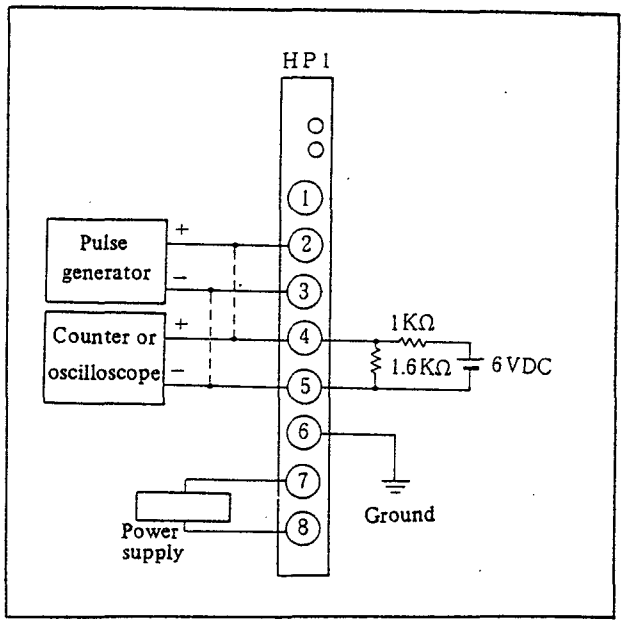

Figure 4. Connection of Calibration Instruments

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.

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