Instruction Manual

Model FPIP Pulse Repeater

JUXTA

1. INSPECTION

This instrument has been thoroughly tested at the factory before shipment. When you receive it, visually inspect it for damage and check the accessories.

1.1 Model number and specification check

Check to see the model number and specifications on the nameplate on the front cover of the instrument are as ordered.

1.2 Content of the instruction manual

This instruction manual provides instructions on how to mount, external wiring and maintenance.

2. GENERAL

This instrument receives contact pulse, voltage pulse or current pulse signals from the field and converts them into isolated transistor pulse signals.

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

3. MOUNTING METHOD

JUXTA signal conditioners can be mounted on rack, wall or DIN rail.

3.1 Rack mounting

Use panel (FRK-16) and install the instrument on an angle as shown in Fig.1. This is a convenient method for high density mounting on 19-inch rack panel.

3.2 Wall mounting

Use panel (FRK-16) to install the instrument on the wall as shown in Fig. 2 or directly mount it on the wall.

3.3 DIN rail mounting

Insert DIN rail into the upper section of the DIN rail groove on the rear of the instrument and lock the rail in position by using the slidelock at the base of the instrument as shown in Fig. 3.

3.4 Angle mounting

If the instrument is mounted without using the panel (FRK-16), refer to Fig. 5 for its mounting.

3.5 Mounting block installation and removal

Insert a mounting block into groove of the instrument and slide it until it locks in position by the stopper as shown in Fig. 4. To remove it, use screwdriver (-) to lift the stopper and slide the mounting block along the groove.

4. EXTERNAL WIRING

Open the terminal cover of the instrument and wire the terminal. Flexible twisted wire and good contact of durable round crimp-on terminals (JIS C2805) are recommended to be used.

- Signal cable should has more than 0.5mm² and power cable should has more than 1.25mm² nominal cross-sectional area of conductor.

Fig. 1 Rack Mounting

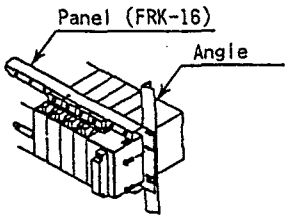


Fig. 2 Wall Mounting

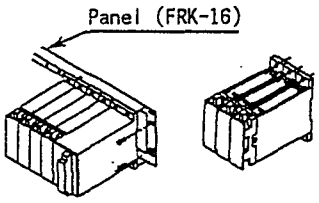


Fig. 3 DIN Rail Mounting

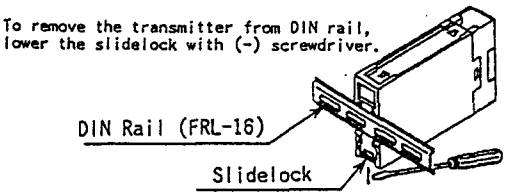


Fig. 4 Mounting Block installation and removal

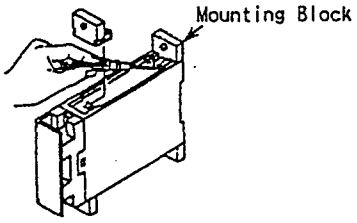


Fig. 5 Angle Mounting Dimension

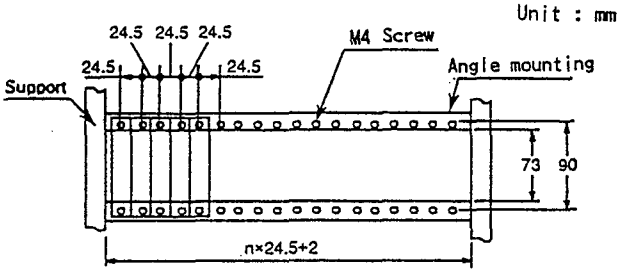


Fig. 6 Rack Mounting Dimension

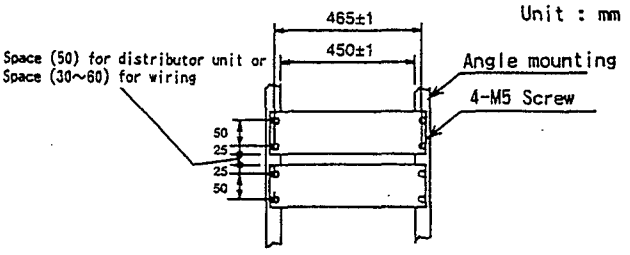
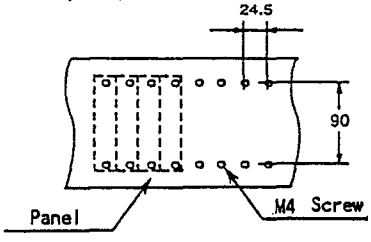


Fig. 7 Panel (Wall) Mounting Dimension



4.1 Wiring

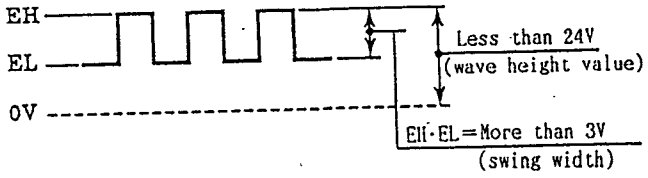
① See Fig. 9 for terminal arrangement.
② To receive voltage pulse signal by generating internal power supply, connect input cable to repeater terminals 1(+), 2(+), 3(-). (See Fig. 10 : Diagram 1)
③ To receive dry voltage contact pulse, connect input cable to repeater terminals 2(+), 3(-). (See Fig. 11 : Diagram 2)
④ To receive current pulse by generating internal power supply, connect input cable to repeater terminals 1(+), 2(-). (See Fig. 12 : Diagram 3)
⑤ Connect repeater output cable to its terminals 4(+), 5(-).
⑥ Connect 24V DC power cable to repeater terminals 6(+), 7(-). (See Fig. 10)

5. CURRENT PULSE LOAD RESISTOR AND FILTER SETTING

In case of current pulse signal from generator, it is necessary to convert it into voltage by using current pulse load resistor. Set load resistor so as to relation between current wave height value from generator i (p-p) and synthetic load resistor RL would satisfy swing width i x RL ≧ 3V. If there is noise in current pulse input, set filter (Switch 1) ON. (See Fig. 8)

Switch 2~4 : Current pulse load resistor setting
Switch 1 : Filter setting

1	2	3	4	Resistance Value RL
Filter	OFF	OFF	ON	200Ω
	OFF	ON	OFF	510Ω
	ON	OFF	OFF	1KΩ
	OFF	ON	ON	143Ω
	ON	OFF	ON	167Ω
	ON	ON	OFF	338Ω
	ON	ON	ON	126Ω



6. MAINTENANCE

〈Caution〉
Carry out the following calibration after warm-up the equipment for more than 5 minutes.

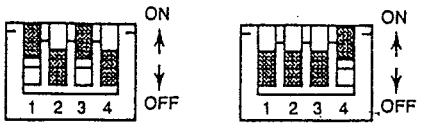
6.1 Equipment required for calibration

- Pulse Generator 1 (Yokogawa-Hewlett-Packard 3314A or equivalent)
- Counter or Oscilloscope 1 (Yokogawa-Hewlett-Packard 2502A or equivalent)
- Resistor and Battery (1KΩ, 1.6KΩ: each 1 ; Battery 6V: 1)

6.2 Calibration

① Connect each equipment as shown in Fig. 13.
② Signal transmission characteristic check
Generate rectangular pulse at optional frequency of less than 6KHzw by using pulse generator. (Connect counter or oscilloscope as per dashed lines in the Fig.). Then connect counter to terminals 4 and 5. Check that the same frequency pulse is output.

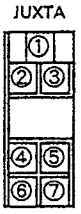
Fig. 8 Current Pulse Load Resistor and Filter Setting



Filter ON
When setting load resistor 510Ω

Filter OFF
When setting load resistor 200Ω

Fig. 9 Terminal Arrangement



端子	
1	INPUT PS(+)
2	INPUT +
3	INPUT -
4	OUTPUT +
5	OUTPUT -
6	SUPPLY +
7	SUPPLY -

Fig. 10 Diagram 1

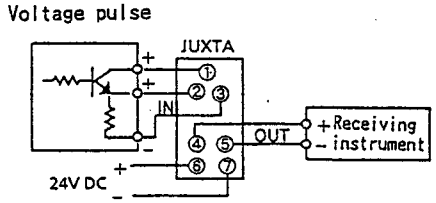


Fig. 11 Diagram 2

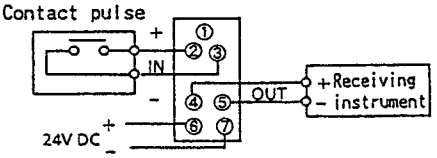


Fig. 12 Diagram 3

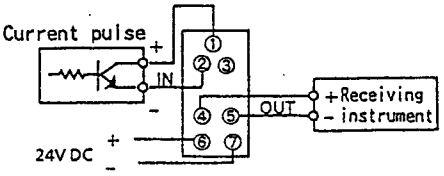
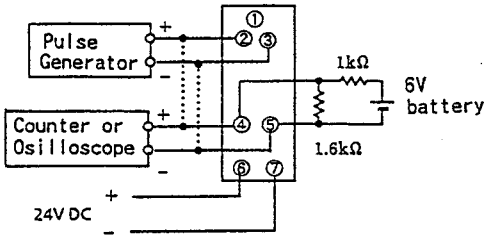


Fig. 13 Wiring of Calibration Equipment



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