

### 1. PRECAUTION

Please read through this Manual before use the instrument for correct handling. Please keep this Manual carefully after use. 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 Model number and specification check

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

#### ② Contents of instruction manual

This instruction manual provides instructions on handling, external wiring and safety use of transducer.

### 2. GENERAL

This E/P Transducer receives 1~5V DC or 4~20mA DC signal and converts it into 20~100kPa (or 0.2~1.0kgf/cm<sup>2</sup>) pneumatic pressure signal.

Accessories:

Spare Fuse 0.5A .....	1
Tag Number Label .....	8
Connection Unit (use for supply) .....	1
(Inlet Rc1/4 (PT1/4) male screw)	
Connection Unit (use for output) .....	2
(Outlet Rc1/4 (PT1/4) male screw)	

### 3. MOUNTING

#### (1) Storing into HB-16 Storing Box

After fixing the transducer in Storing Box, carry out input signal wiring and pneumatic piping.

(Connection unit is not required for direct connection of pneumatic piping to transducer. However, this unit is required for indirect connection).

#### (2) Combination of PU-16 and HB-16

Connect pipings of pneumatic output signal and air supply to PU-16.

Connect air supply to Rc3/8 female screw and output signal to Rc1/4 female screw. Connect between PU-16 and transducer by furnished connection unit (plastic pipe). (See Fig.2)

NOTE: Tighten torque to transducer should not exceed 1.5N·m.

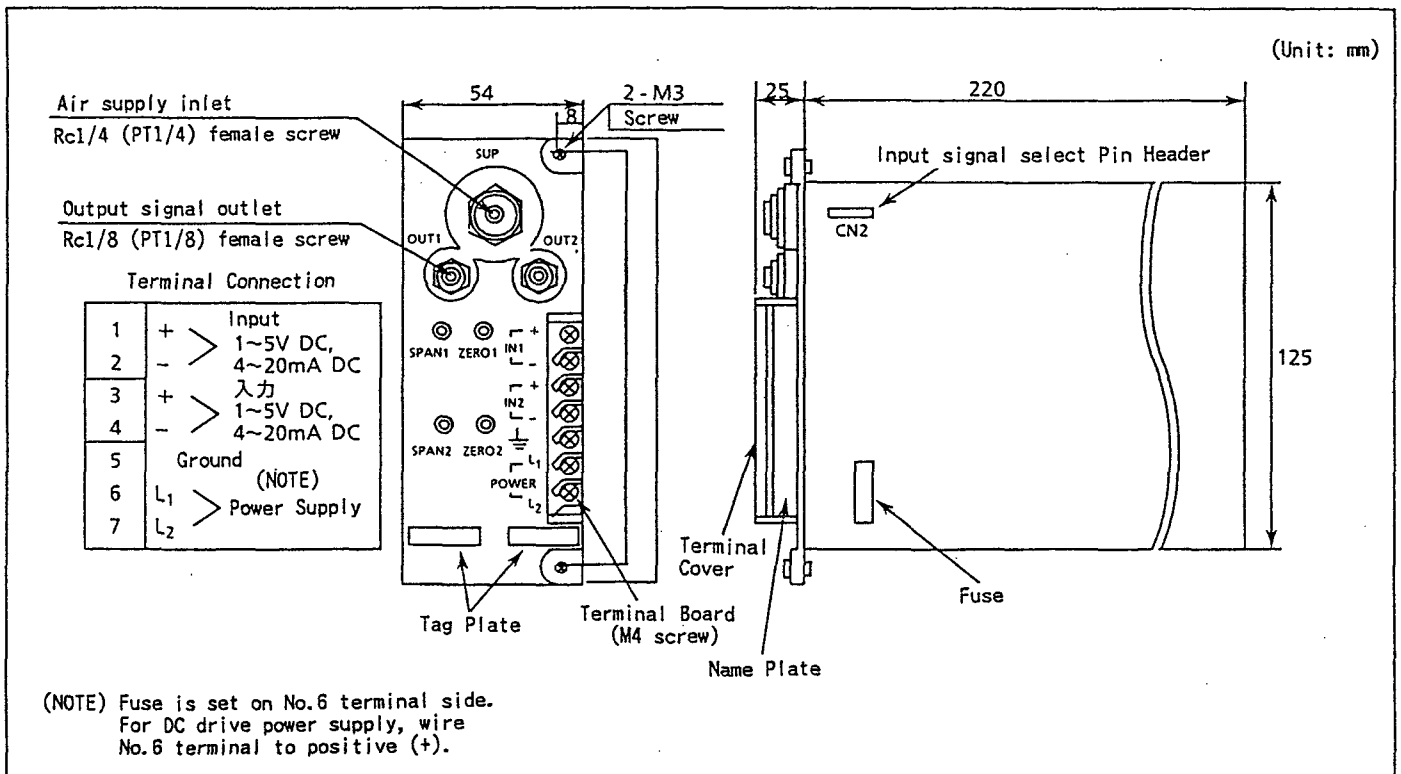


Fig.1 Name of Section

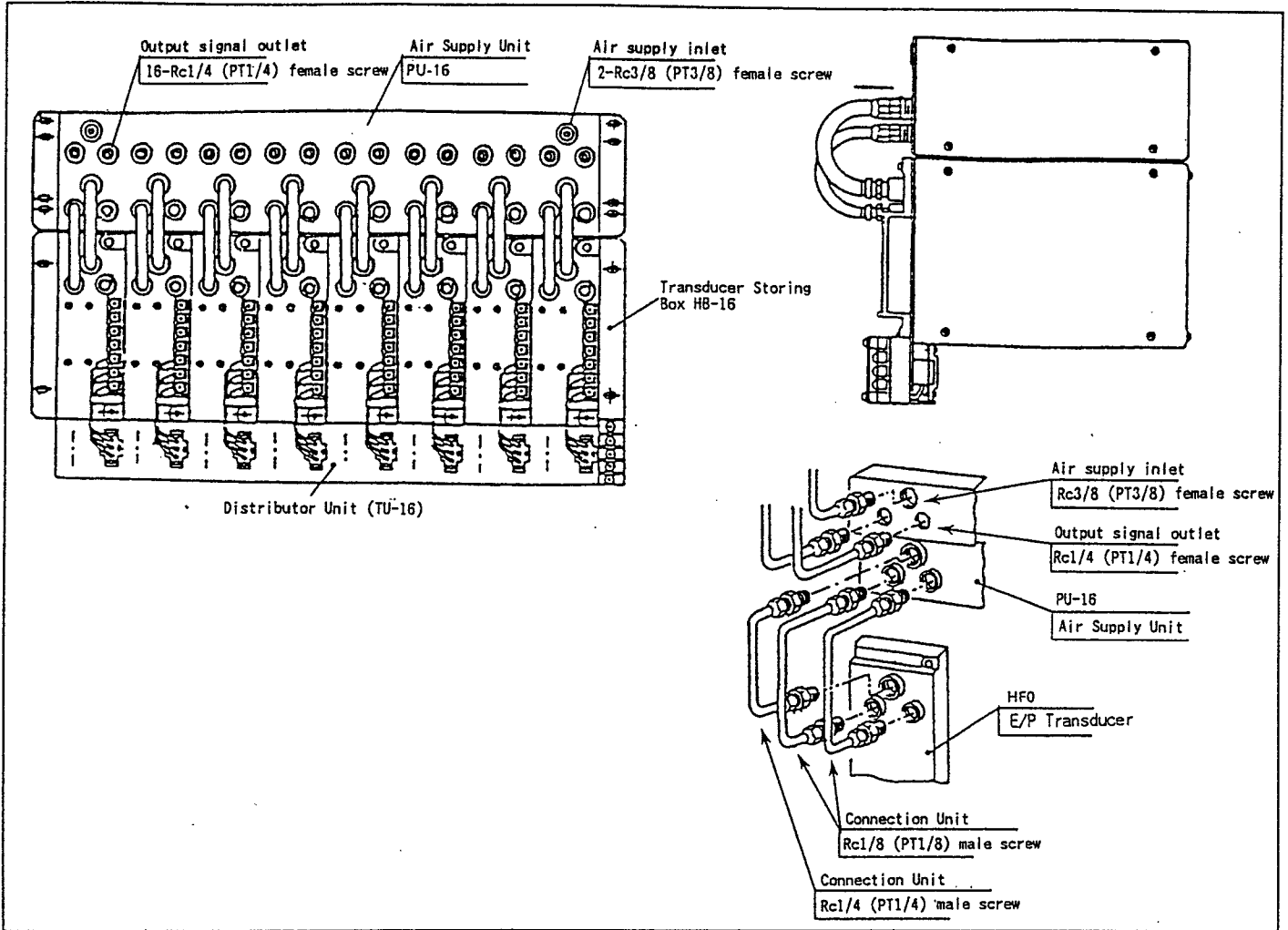


Fig. 2 Combination of PU-16, HB-16, TU-16

(3) Installation dimensions  
See Fig.3 for installation dimensions of PU-16 and HB-16.

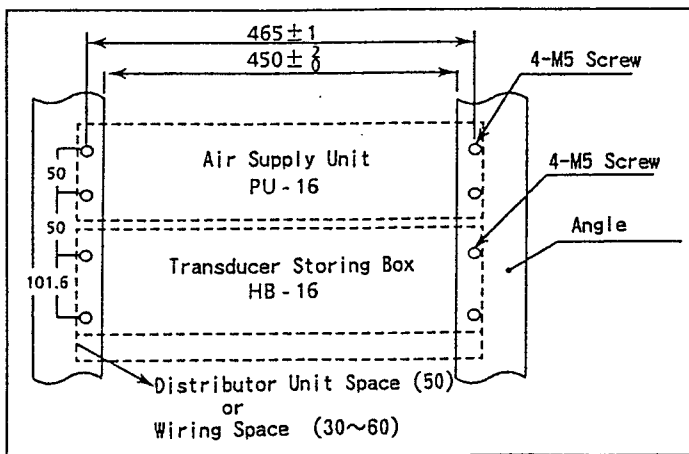


Fig. 3 Installation Dimensions

(4) Direct installation to Rack  
Use angle in case direct installation of HFO on panel Rack. (See Fig.4)  
Ground the metal case in case transducer is covered by metal case.

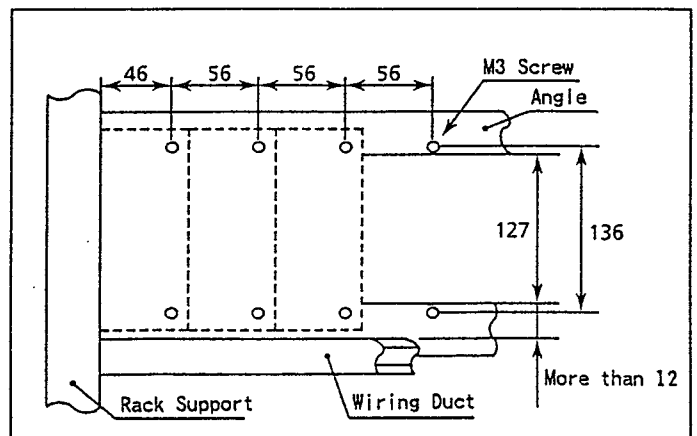


Fig. 4 Direct Mounting on Rack

#### 4. EXTERNAL WIRING

**CAUTION** Wiring should be done after ensuring power break of each cable. For wiring, flexible twisted wires and good contact of durable round crimp-on terminals (JIS C2805) are recommended to be used.

- Signal cable  
Nominal cross-sectional area of conductor:  
0.5mm<sup>2</sup>~0.75mm<sup>2</sup>  
Example of suitable cable:  
Twisted vinyl code (VSF) (JIS C3306)

##### 4.1 Wiring

- ① Connect Input-1 signal cable to transducer terminals 1(+), 2(-) and Input-2 cable to terminals 3(+) and 4(-).
- ② Connect power cable to terminals 6(L<sub>1</sub>), 7(L<sub>2</sub>) and ground to 5(GND).

##### 4.2 Ground Wiring

Ground terminal of transducer is isolated from signal and power supply circuits. Ground it singly or in bloc. Follow the instruction, if any, of grounding methods of measuring control instruments to be connected.

#### 5. OPERATIONS

##### Selection of Input Signal

Equipped with signal select switch for 1~5V DC or 4~20mA DC. Can make short-circuit at desired spot on CN2 through pin header.

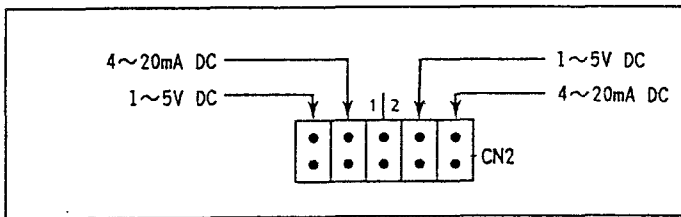


Fig.5 Input signal selecting pin header

#### 6. INSTALLATION AND HANDLING

- ① Avoid installation in such environments as shock, vibration, corrosive gas, dust, water, oil, solvent, direct sunlight, radiation, powerful electric and magnetic fields.
- ② In order to protect instrument from inducement of thunder surges in power and signal cables, use arrester between transducer and equipment installed in the field.

#### 7. SAFETY USE

Following caution for safety should be taken for handling of transducer. We are not responsible for damage incurred by use contrary to caution.

##### CAUTION

- Following items should be checked when turning power on. Use of instrument ignoring specifications may cause overheat or burning.
  - (a) Voltage of power supply and input value be applied to the instrument should meet with required specifications.
  - (b) External wiring to terminals should be connected correctly. (See preceding Article 4)
- Do not use the instrument in such dangerous places where exist inflammable and explosive gas or steam.

#### 8. MAINTENANCE

10~15 minutes warm up is required to satisfy the specifications of the instrument.

NOTE: For safety, don't touch by hand PC board of transducer.

##### 8.1 Calibration Equipment

- Voltage/Current Generator 1  
(Yokogawa Model 7651 or equivalent)
- Pneumatic Pressure Meter 1  
(Yokogawa Model 2661 or equivalent)
- Pneumatic Source Generator 1

##### 8.2 Calibration

- ① Connect each equipment as shown in Fig.6.
- ② Input/output characteristics check  
Apply 140kPa (or 1.4kgf/cm<sup>2</sup>) pneumatic pressure as well as input signals equivalent 0, 25, 50, 75, 100% of 1~5V DC or 4~20mA DC to transducer through Pneumatic Pressure Meter. Check that corresponding transducer outputs are 0, 25, 50, 75, 100% respectively and are within ±0.2% of accuracy rating range.
- If output pneumatic signal is out of tolerance, adjust it through span and zero adjustment trimmer on front face of transducer.

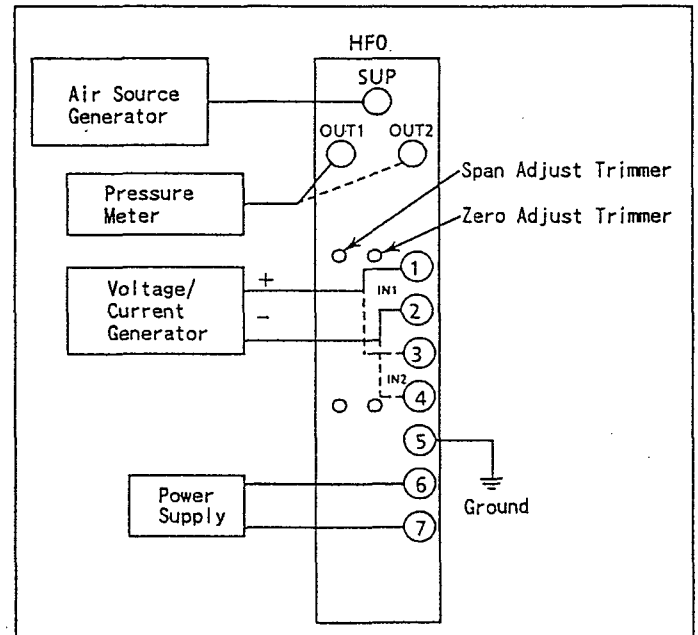


Fig.6 Wiring-Piping of Calibration Equipment

##### 8.3 Replacement of Fuse

For safety sake, replacement of fuse is recommended to be done for every 3 years. In case of fuse break, replacement of fuse should be done after trouble shooting of fuse break. Also check dirty of fuse holder and bad contact. Replacement should be done after break of of power source.

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

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