

OPTICAL-PNEUMATIC POSITIONER

This instrument converts the optical signal from a master station or the like into a pneumatic signal (0.2 to 1.0 kgf/cm², etc.) in order to drive a diaphragm type control valve. The operating position of the valve is fed back via link to this positioner to enable accurate positioning.

A built-in microcomputer provides intelligent digital processing of signals with a high precision, and the use of a piezo-electric element flapper makes for a low power consumption.

This articles are $\phi 6$ mm optical fiber cable connection type.



SPECIFICATIONS

Functional specifications

Input signal: FFI system optical digital signal

Operating air pressure, supply air pressure:

Operating air pressure	Supply air pressure
19.6 to 98.1kPa {0.2 to 1.0kgf/cm ² }	140kPa {1.43kgf/cm ² }
39.2 to 196.1kPa {0.2 to 2.0kgf/cm ² }	240kPa {2.45kgf/cm ² }
3 to 15psi	20±1psi
3 to 27psi	32±1psi
6 to 30psi	35±1psi

Power supply: Built-in lithium battery (single battery lasts about 2 years)

Self-diagnosis: Diagnosis results can be displayed on optional indicator unit and also transmitted to master station.

Contents	HHC, MS (*1)	Indication
Battery voltage	○	
Output failure (*2)	○	○
Battery voltage drop	○	○

Notes: *⁽¹⁾ HHC: hand-held communicator, MS: master station
⁽²⁾ When output overflows, or offset is large

Operation at emergency:

Output operation is settable by remote means (HHC, MS) in an emergency (when input fails) (available on request).

- Holding of output value just before failure
- Scale-out of set value below 0%
- Scale-out of set value above 100%

Explosionproofing:

JIS i3nG5, unnecessary for safety-barrier

Ambient temperature:

-20 to +60 °C (-10 to +60 °C for indicator unit)

Storage temperature:

-30 to +70°C

Ambient humidity:

0 to 95%RH

Transmission:

Half-duplex bidirectional optical transmission system using single optical fiber cable

Transmission distance; 1.2km max.

(not affected by noise, surge or the like)

Applicable valve:

Diaphragm control valve with top diameter of $\phi 240$ or more; stroke 10 to 90mm

(feedback lever rotating angle 10 to 30°)

Performance specifications

Accuracy rating: ±1.0% of full scale (output ripple approx. ±0.2%)

Response speed: Approx. 4 seconds (for 90% response) (with control valve having top diameter $\phi 240$ and lift of 16mm)

Input/output characteristic:

Linear

Reference air consumption:

12N ℓ /min (at supply air pressure of 140kPa {1.43kgf/cm²})

20N ℓ /min (at supply air pressure of 240kPa {2.45kgf/cm²})

Maximum air supply/discharge flow rate:

60N ℓ /min (at supply air pressure of 140kPa {1.43kgf/cm²})

80N ℓ /min (at supply air pressure of 240kPa {2.45kgf/cm²})

Structure, materials

Enclosure structure:

JIS C0920, splash-proof (equivalent to IEC IP54)

Finish:

Epoxy/polyurethane double coating, silver (casing cover blue)

Outer dimensions (H x W x D):

257 x 165 x 220mm

Mass {weight} Approx. 5kg

Mounting method:

On control valve yoke section
Three sizes, small, medium and large, or links and clamps are available for mounting on valve stem.

Optical cable and connection method:

Fuji's designated optical cable (to be purchased separately). Connection is made by optical connector.

Air piping connection:

Rc 1/4 (PT1/4); 1/4-18NPT available on request

Optional specifications

Indicator unit: Indicating section; 4 digit LCD (-10 to +60°C)

Setting section; 4 pushbutton switches

Output pressure gauge:

JIS Class 3: 0 to 2 or 0 to 3kgf/cm² scale (depends on output range)

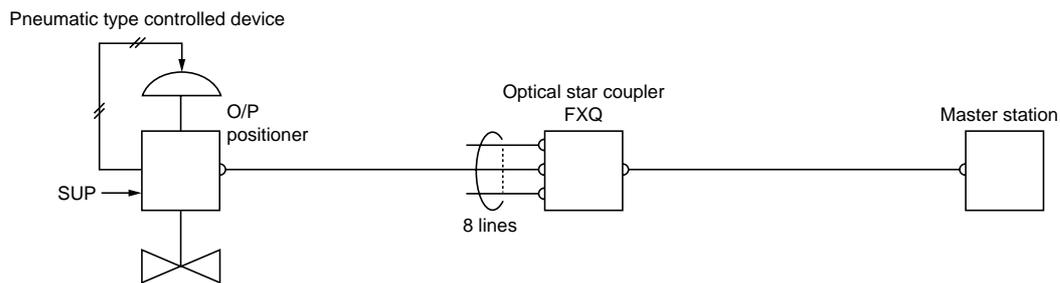
Two built-in lithium batteries:

Changed over by internal selector switch (standard specification allows accommodating two batteries)

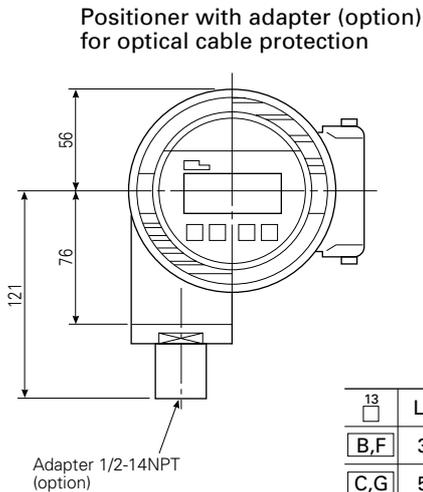
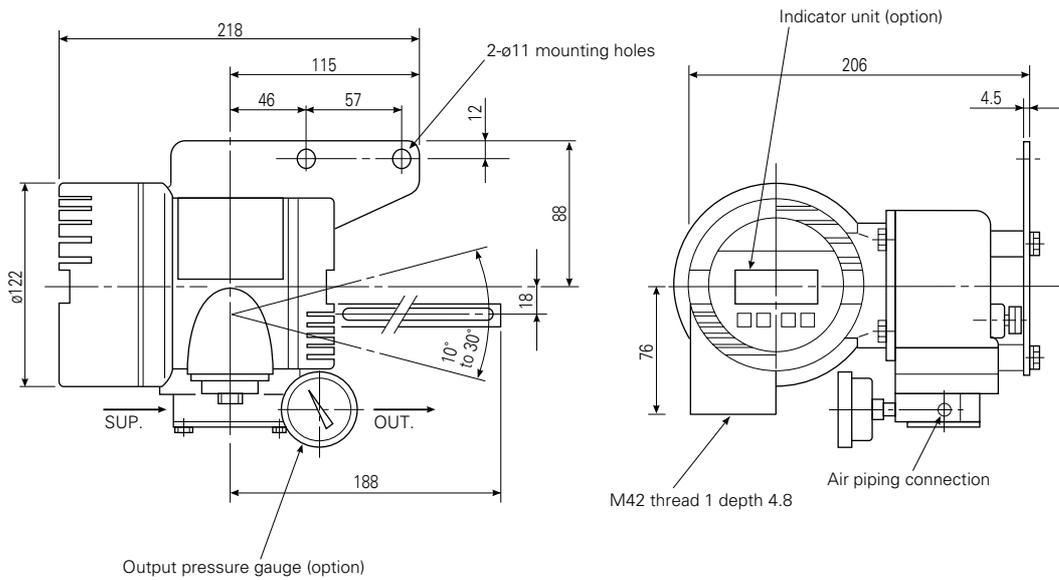
Acid/alkali-proof treatment:

304 stainless steel for bolts and washers

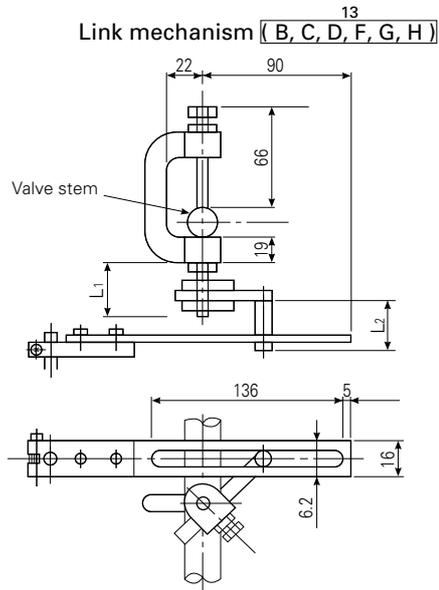
SYSTEM CONFIGURATION DIAGRAM



OUTLINE DIAGRAMS (Unit:mm)



¹³	L1	L2
B,F	35	30
C,G	50	55
D,H	112	55



SCOPE OF DELIVERY

Positioner and mounting bracket

RELATED DEVICES

- Optical star coupler (Data sheet No. EDS8-48)
- HHC (Data sheet No. EDS 8-44)
- Master station (Data sheet No. EDS 11-86)
- Optical connector, Cable

ORDERING INFORMATION

1. Product name
2. Type
3. Other necessary items

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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