INSTRUCTION MANUAL

LOOP POWERED I/P TRANSDUCER

MODEL **HVPN**

BEFORE USE

Thank you for choosing us. Before use, please check contents of the package you received as outlined below.
If you have any problems or questions with the product, please contact our sales office or representatives.

■ PACKAGE INCLUDES:

Signal conditioner (body + base socket).....(1)
Screw (M4 × 20).....(2)
The Mounting Block air header is required.

Model MB-01	Single mounting
Model MB-08	8-unit clustered mounting
Model MB-16	16-unit clustered mounting

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

POINTS OF CAUTION

■ GENERAL PRECAUTIONS

- Before you remove the unit from its base socket or mount it, turn off the input signal for safety.

■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within -5 to +55°C (23 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

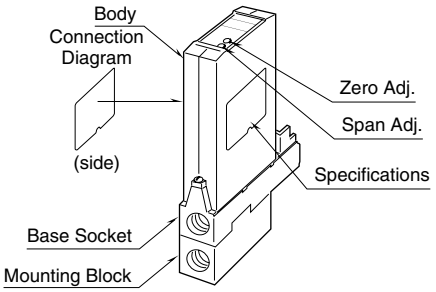
■ WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

■ AND ....

- The unit is designed to function as soon as the input signal is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.
- DO NOT apply the input signal when there is no supply pressure.
- The transducer produces no output when the input goes below approximately 3.5mA.

COMPONENT IDENTIFICATION



INSTALLATION

■ RACK MOUNTING

Install the Mounting Block (model: MB) on the Standard Rack Mounting Frame (model: BX-16H).

■ MOUNTING HVPN ON MB-08 OR MB-16

First, install the Mounting Block (MB-08 or MB-16) with the attached 4 screws (M5 × 40) and remove the closing panels for required number of HVPN.
Then, loosen 2 screws binding the HVPN unit and its base socket, separate them and mount the base socket on the MB with the attached M4 × 20 screws. Be sure to insert the gasket between them.
Plug-in the HVPN unit to the base socket and re-tighten it.
Note 1: Remove the closing panels at the last moment before mounting the base socket, in order to eliminate any dust entering into the MB.
Note 2: For adding a base socket to a MB which is already operating, stop the air supply.

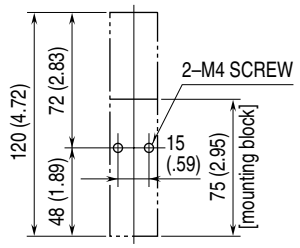
■ MOUNTING HVPN ON MB-01

Remove the closing panel. Then separate the HVPN unit and its base socket and mount the base socket on the MB with the attached 2 screws (M4 × 20). Be sure to insert the gasket between them. Install the assembly of the Mounting Block and the base socket with the attached 2 screws (M4 × 60).

- Refer to the instruction manual for model MB when mounting the transducer to the Mounting Block.

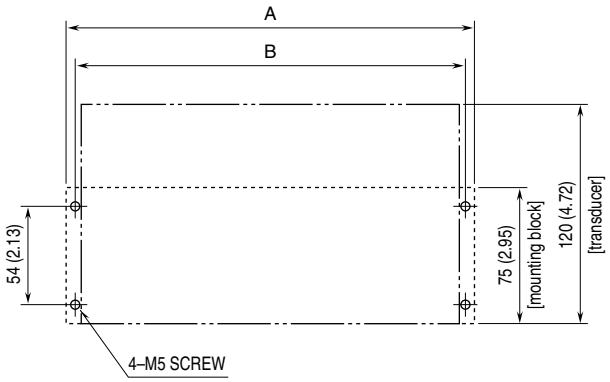
MOUNTING REQUIREMENTS unit: mm (inch)

■ SINGLE OR CLUSTERED MOUNTING



•When mounting, no extra space is needed between units.

■ MB-08, MB-16

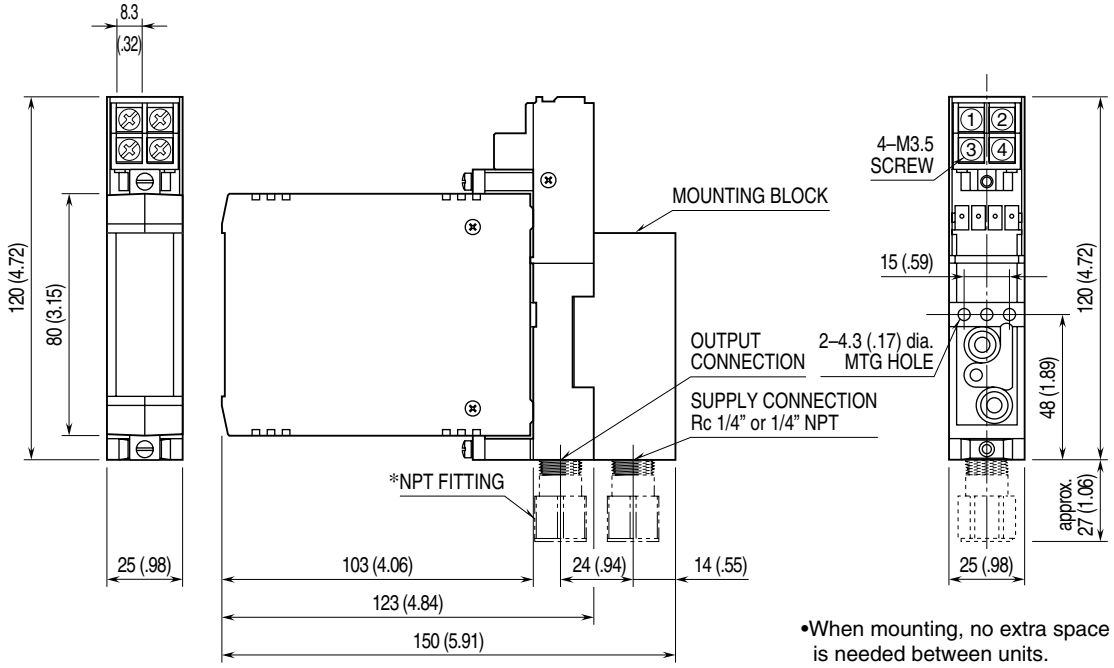


	MB-08	MB-16
A	225 (8.86)	428 (16.85)
B	215 (8.46)	418 (16.46)

TERMINAL CONNECTIONS

Connect the unit as in the diagram below or refer to the connection diagram on the side of the unit.

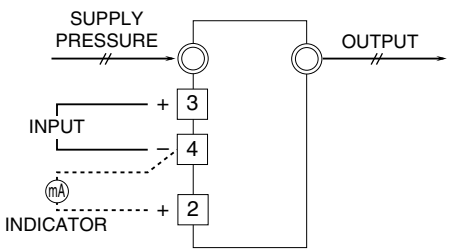
■ EXTERNAL DIMENSIONS unit: mm (inch)



•When mounting, no extra space is needed between units.

*Fitting is provided for 1/4" NPT connection.

■ CONNECTION DIAGRAM

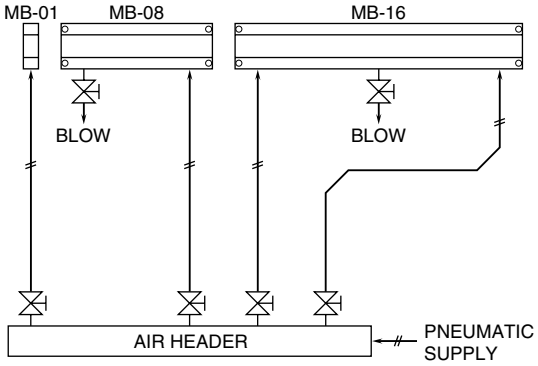


WIRING INSTRUCTIONS

■ SCREW TERMINAL

Torque: 0.8 N·m

PIPING



Select an appropriate pipe size for the required flow volume. Connect a stopping valve at the pipe connection to the air header for easy testing and maintenance.

Blow the piping before the Transducer installation in order to remove dust in it. Use dry air containing no carbon black or other foreign particles. To ensure reliability, use an air filter (0.01 microns). Be sure that no water, oil or dust particles enter the transducer by way of supply air. The pneumatic inlet is female screwed of Rc 1/4" (1/4" NPT optional with a fitting). Tightening torque is at the maximum of 12 N·m. Check that there is no air leak at the connection after sealing it.

Be aware that attaching/detaching the output piping with the input signal applied, or sudden change in the output pressure affects outputs of other I/P Transducers. Such effects are especially great when the supply pressure piping is of small size.

CHECKING

1) Terminal wiring: Check that all cables are correctly connected according to the connection diagram.
2) Input: Check that the input signal is within 0 – 100% of the full-scale.
3) Check output air pressure.
4) Check supply pressure.
5) Check that there is no air leak at the connections.

Note: The transducer constantly consumes some portion of supply pressure (6 Nl/min. typical) at the nozzle of nozzle-flapper section, where a leaking air sound may be heard during normal operation.

ADJUSTMENT PROCEDURE

This unit is calibrated at the factory to meet the ordered specifications, therefore you usually do not need any calibration.

For matching the signal to a receiving instrument or in case of regular calibration, adjust the output as explained in the following.

■ HOW TO CALIBRATE THE OUTPUT SIGNAL

Use a signal source and measuring instruments of sufficient accuracy level. Turn the input signal on and warm up for more than 10 minutes.

1) ZERO: Apply 0% input and adjust output to 0%.
2) SPAN: Apply 100% input and adjust output to 100%.
3) Check ZERO adjustment again with 0% input.
4) When ZERO value is changed, repeat the above procedure 1) – 3).

MAINTENANCE

Regular calibration procedure is explained below:

■ CALIBRATION

Warm up the unit for at least 10 minutes. Apply 0%, 25%, 50%, 75% and 100% input signal. Check that the output signal for the respective input signal remains within accuracy described in the data sheet. When the output is out of tolerance, recalibrate the unit according to the "ADJUSTMENT PROCEDURE" explained earlier.

TESTING

Operation testing is available without disturbing the actual transducer input signal in following the procedure described below:

1) Close across the terminal 3 – 4.
2) Connect the current generator's positive (+) terminal to the transducer's terminal 3, the negative (–) to the terminal 2.

LIGHTNING SURGE PROTECTION

We offer a series of lightning surge protectors for protection against induced lightning surges. Please contact us to choose appropriate models.