Hitachi High-Tech
HITACHI

Hitachi
Differential Pressure/Pressure Transmitter

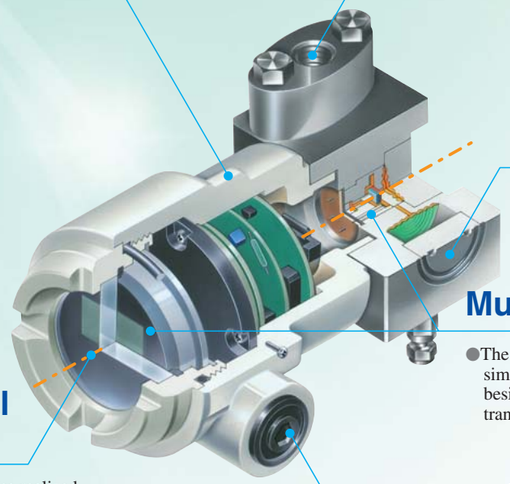
Hitachi Differential Pressure/Pressure Transmitter Series is based on our accumulated technology and is available in many types. This instrument is expected to be used in various fields.

External zero point adjustment

- Free from through-hole
- Non-contact magnet type (lead relay)

Switchable differential pressure lead-in direction

- The differential pressure lead-in direction is settable through the DCR type communicator (H/L, L/H).



Construction without flange

- The welded construction prevents liquid leakage, thus ensuring high reliability.

Multi-variable function

- The built-in static pressure sensor allows simultaneous measurement of pressure besides differential pressure with a single transmitter and display/output of result data.

Excellent environmental resistance

- Higher resonance frequencies realized through central axis alignment (continuous vibration: up to 29.4 m/s^2)

Flexible wiring

- Wiring can be provided from either side.

■Lineup

	Application	Model	Product Name	Remarks
Intelligent Type	Measurement of flow rate	EDR-N7	Differential pressure transmitter	
		EDR-N7H	Differential pressure transmitter for high working pressure	
		EDR-N7C	Differential pressure with temperature/pressure compensation function	
	Measurement of level (liquid level)	EDR-N7S	Differential pressure transmitter with remote-sealed diaphragm	
		EDR-N7F	Liquid level transmitter	
		EDR-N7FS	Liquid level transmitter with remote-sealed diaphragm	
	Measurement of pressure	EPR-N7	Pressure transmitter	
		EPR-N7S	Pressure transmitter with remote-sealed diaphragm	
	Measurement of absolute pressure	EDR-N7A	Absolute pressure transmitter	
		EDR-N7AS	Absolute pressure transmitter with remote-sealed diaphragm	
		EDR-N7AF	Absolute pressure transmitter with flange	
	For food process (sanitary type)	EDR-N7SD	Sanitary difference pressure transmitter	
		EDR-N7FD	Sanitary liquid level transmitter	
		EPR-N7SD	Sanitary pressure transmitter	
	For electric power	EDR-N7P	Differential pressure transmitter	Capsule has a cover flange construction.
		EDR-N7HP	Differential pressure transmitter for high working pressure	
Analog Type	Measurement of flow rate	EDR-N6L	Differential pressure transmitter	Excellent in radiation resistance and optimum for atomic power plant
	Measurement of level	EDR-N6SL	Differential pressure transmitter with remote-sealed diaphragm	
	Measurement of pressure	EPR-N6L	Pressure transmitter	
	Measurement of absolute pressure	EDR-N6AL	Absolute pressure transmitter	

Differential Pressure / Pressure Transmitter

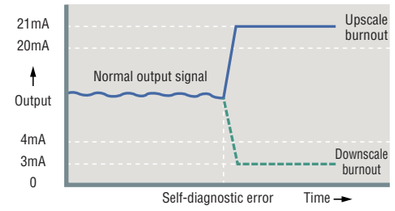
Hitachi Differential Pressure/Pressure Transmitter Series are a high-quality transmitters featuring reliability and ease of use.

Provided with density compensation function

Models provided with the density compensation function including temperature/pressure compensation, which is convenient for vapor or gas measurement, are also available. They provide high performance in various processes.

Standard-equipped with burnout function

If an error occurs in a sensor, A/D, EEPROM or constant among self-diagnosis information, the output signal can be scaled out upward or downward.
(only with intelligent type)



Highly reliable absolute pressure gauge

Hitachi Absolute Pressure Transmitters ensure reliability and long-term stability through a unique construction of the sensor thus earning an excellent reputation in various plants.

High-temperature, high-vacuum specifications based on unique construction

The high-temperature, high-vacuum specifications of the differential pressure/pressure transmitter fully cover 310℃, 13.3 Pa abs. (≒ 0.1 Torr) through a unique construction, thus realizing stable measurement at high temperature and under high vacuum.

HART communication

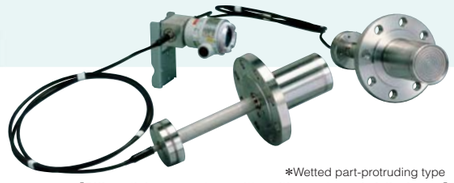
HART communication function can also be chosen instead of the communication function equipped standardly for the check or change of the setting information on a transmitter.

In addition to the above, there are many features available.

Transmitters for Special Purposes

High-temperature, high-vacuum specifications based on unique construction

The high-temperature, high-vacuum specifications of the differential pressure/pressure transmitter fully cover 310℃, 13.3 Pa abs. (≒ 0.1 Torr) through a unique liquid-contacting construction, thus realizing stable measurement at high temperature and under high vacuum.



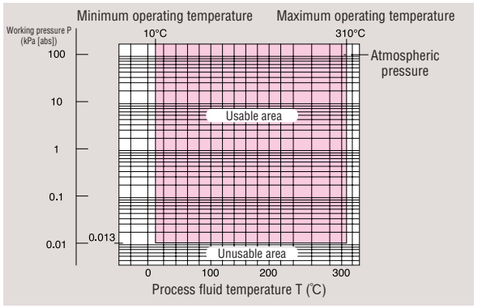
*Wetted part-protruding type

[Differential pressure transmitter with remote-sealed diaphragm]
EDR-N7S-SVT

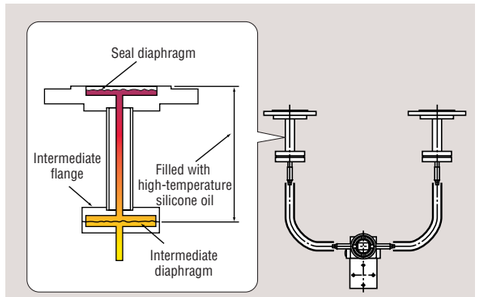
《Unique method of manufacturing》

- **Adoption of high-purity filled liquid** ····· Impurities are eliminated from filled liquid by our own vacuum distillation method.
- **Adoption of high-temperature dry cleaning method** ····· The filled liquid chamber wall is cleaned in the high-temperature, high-vacuum atmosphere.
- **Adoption of high-temperature, high-vacuum liquid filling method** ····· Growth of air bubbles is prevented by filling liquid at high temperature under high vacuum.
- **Adoption of high-temperature, high-vacuum construction** ····· Long-term stability is realized by optimizing the construction of the wetted part.

Working pressure and process fluid temperature



Construction of wetted part



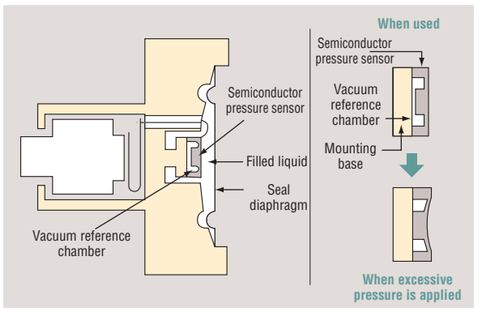
Highly reliable absolute pressure transmitter

Hitachi Absolute Pressure Transmitters adopt an E type sensor and uniquely constructed capusule to ensure durability when an excessive pressure is applied. They realize excellent reliability and long-term stability, thus enjoying a good reputation in various plants.

EDR-N7A
(lead pipe connection type)

EDR-N7AF
(flange connection type)

Construction of capsule of absolute pressure transmitter



《Realization of high reliability》

If an excessive pressure is applied, the sensor unit is pressurized and brought into contact with the mounting base to prevent damage to the sensor unit.

《Long-term stability》

For the absolute pressure transmitter, it is important to make the vacuum reference chamber more stable. In Hitachi Absolute Pressure Transmitters, the semiconductor sensor is coupled with the mounting base at high temperature and under high vacuum by using special techniques. This coupling system allows you to obtain a dry, clean and stable vacuum reference chamber. Accordingly, the vacuum reference chamber is maintained under high vacuum at any time to realize stable absolute pressure measurement with a minimum of drift in various plants.

Sanitary type

A sanitary type transmitter which allows IDF Ferrule connection is available for various measurements in food processes. The transmitter contributes to the lightening of washing work.
(Propylene glycol is also selectable for filled liquid.)

[Sanitary differential pressure transmitter]
EDR-N7SD

Cover Flange type

In measurement of the differential pressure (flow rate), vigorous pulsation may occur in process fluid in the vicinity of the discharge port of the pump. The flange type transmitter curbs the influence of pulsation to realize stable measurement. It is suitable for a power plant.

[Differential pressure transmitter]
EDR-N7P

[Differential pressure transmitter for high working pressure]
EDR-N7HP

Analog type transmitter

The analog type transmitter features smooth response characteristics and is provided with a function that compensates for the influence of static pressure to realize accurate measurement. The transmitter is suitable for an atomic power plant because it is excellent in radiation resistance.

Allowable radiation dose
: 51.6 C/kg

[Analog type differential pressure transmitter]
EDR-N6L

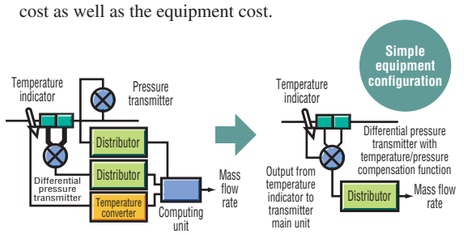
Gold-plated diaphragm

A gold-plated diaphragm, which prevents hydrogen permeation effectively, is optionally available. Plating process is applied only to the inside (filled liquid side) of the transmitter. Accordingly, there is no danger of the gilt coming off and mixing in process fluid.

Gold-plated diaphragm

Differential pressure transmitter with temperature/pressure compensation function

A temperature/pressure compensation function, which is convenient for measurement of vapor or gas is built in the transmitter. Utilizing this function reduces the total cost as well as the equipment cost.

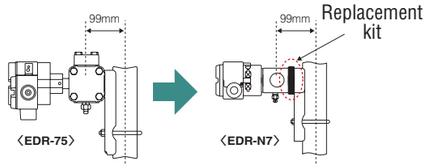


Conventional transmitter

Transmitter with temperature/ pressure compensation function

Replacement kit

The transmitter is being downsized from year to year. So a deviation in pipe connection position will occur when upgrading the older type transmitter already installed. Kits for eliminating the deviation are prepared to reduce the construction cost in upgrading.



When replacing EDR-75 with EDR-N7

*In addition to the above, a replacement kit for each of Hitachi's old type transmitter series is prepared.

Lead pipe-free type differential pressure transmitter

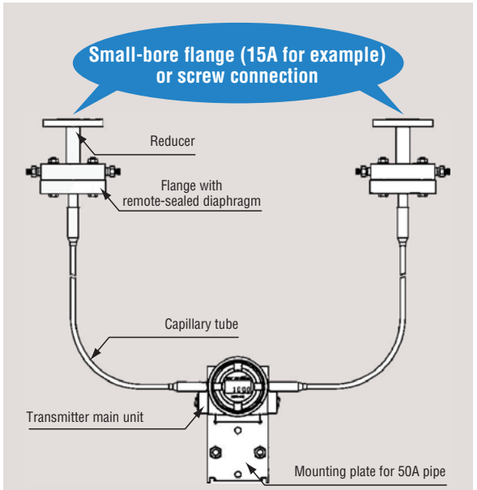
For measurement of the flow rate in a manufacturing process, a reducer is attached to the flange section of the transmitter to enable direct connection of the process pipe.

《Features》

- Easily installed
- Adaptable to various applications (corrosive fluid, high temperature, high vacuum, etc.)
- Maintenance work including “elimination of clogging” lightened

Reduction in total cost

External view



Coupled Flange type differential pressure transmitter

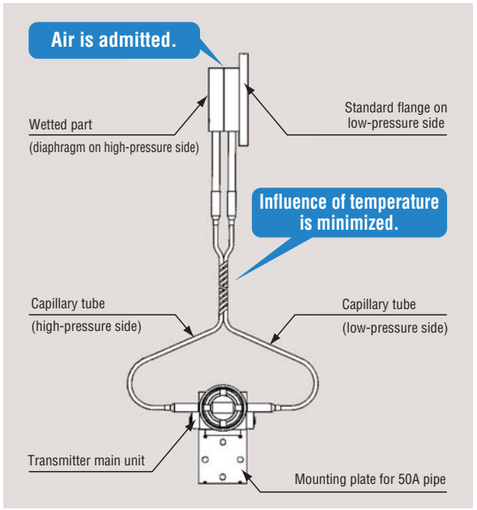
For pressure measurement of kPa order in a manufacturing process, the flanges on the high and low-pressure sides of the differential pressure transmitter with remote-sealed diaphragm are coupled to enable measurement of the range which cannot be measured with a pressure transmitter.

《Features》

- Flange on low-pressure side out of the way
- Influence of temperature change minimized owing to capillary tubes on high and low-pressure sides in same environment

Pressure measurement in low range with high accuracy (±0.2%)

External view



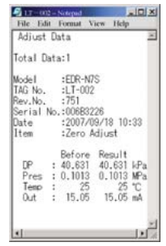
Advanced Intelligent Communicator DCR2000A

Interactive communicator featuring user-friendliness with further improved functionality

Equipped with SD card slot

- Setting data or adjustment history of the transmitter can be saved on the SD memory card. Saved data can be viewed in text format on the personal computer. (See below.)

<Sensor data>



<Adjustment history>

<External view>

Provided with built-in printer function

- You can print out adjustment history or setting data stored in internal memory of the communicator.

Compatible with conventional product

- The DCR2000A has the same screen configuration as the conventional product DCR1000, thus inheriting its operability.
- The sensor connecting cable for the DCR1000 are usable for the DCR2000A.

Easy-to-see display

- The DCR2000A adopts a TFT liquid-crystal color display to ensure a clear display out of doors as well as in. (with LED backlighting)

Touch panel operation

- Touch panel operation in interactive mode ensures excellent workability.

EDR-N7
(oval flange at option)

EDR-N7S

EDR-N7F

EPR-N7S
(small-bore type)

EPR-N7

Differential pressure transmitter with temperature/pressure compensation function
EDR-N7C

4 to 20 mA DC

Multiple converter
EDB500MA

1 to 5 V DC Differential pressure (flow rate)
1 to 5 V DC Pressure
1 to 5 V DC Temperature (when input of temperature indicator is connected to transmitter.)

EDR-N7P

EDR-N7HP

Notice: For proper operation, follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Tech Solutions Corporation continues to develop the latest technologies and products for our customers.
HART® is a registered trademark of the HART Communication Foundation.

For further information, please contact your nearest sales representative.

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