

# KH33

## Differential Pressure Transmitter with Indicator

### Overview

This is a differential pressure transmitter with indicator that can detect differential pressure, liquid level, liquid flow etc., converting them into an electric signal and transmits it. Bellows is used for the pressure sensing element, and its displacement is detected as an inductance variation converting into an electric signal in proportion with measuring quantity. Indication unit varies over various kinds.

### Features

- Pressure transmitting mechanism is built in a conventional differential pressure gauge. Replacement of existing differential pressure gauge is possible with identical appearance and installing dimension with enhanced features.
- Because non-contact type detecting sensor is used, it provides a structure that minimizes errors due to wear and hysteresis.
- Because the hybrid IC-compatible circuit is used, it can work with high reliability and high quality.
- Available in selection of upper or lower pressure port process connection for suitable installation depending on installing environment.
- The wetted part is stainless steel, providing excellent corrosion resistance.



### Specifications 1

#### Media:

Gas and fluid

#### Installation environment:

Install in location where no gases or liquids may exist that have the potential to become flammable or ignitable under normal operating condition

#### Mounting system:

2B pipe mounting



Panel mounting



#### Type:

Cable type, Connector type

#### Size (Indication part):

Dia. 150

#### Connection:

Rc 1/4, 1/4NPT Female

\*For other connections, please contact us.

#### Wetted parts:

Body SCS14, SUS316

Bellows SUS316L

O-ring NBR

#### Differential pressure range:

0 to 5kPa→0 to 2MPa

#### Operating pressure range:

0 to 5MPa

#### Proof pressure against single port:

0.2 to 2.4MPa

(Varies depending on differential pressure range)

#### Operating temperature range:

0 to 45°C

#### Storage temperature range:

0 to 60°C

#### Power source:

24V DC±10%

#### Output:

4 to 20mA DC

#### Load resistance:

400Ω max.

#### Transmission system:

2 wire system

#### Output accuracy:

±2.0%F.S.

#### Indication accuracy:

±1.5%F.S.

#### Temperature coefficient:

±0.1%F.S./°C

#### Case material, finish:

ADC12 · Black

#### Enclosure:

Drip-proof type (IP43)

#### Valve manifold: (Option)

Three-way valve manifold incorporating high pressure and low pressure stop valves and an equal pressure valve. It can be used to check the zero point during operation and to prevent excessive differential pressure and reverse differential pressure during zero adjustment at the beginning (Stop) of operation.

#### Customized dial: (Option)

Dual scale, conversion scale, Custom letters

#### Weight:

2B pipe mounting Approx. 4.6kg

Panel mounting Approx. 3.8kg

# KH33

## Differential Pressure Transmitter with Indicator

### Specifications2

Differential pressure range and proof pressure against single port:

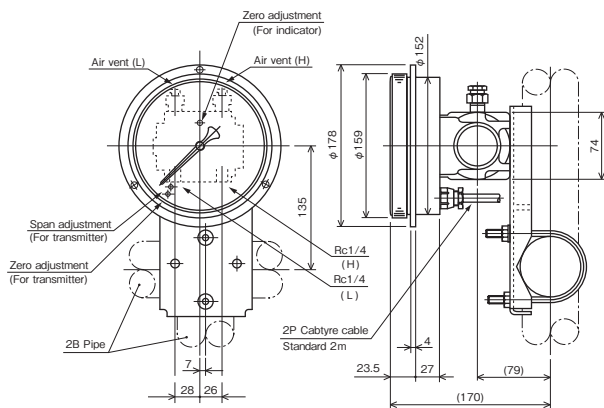
Differential pressure range	Proof pressure against single port
0 to 5kPa 0 to 7kPa 0 to 10kPa 0 to 15kPa 0 to 20kPa	0.2MPa
0 to 30kPa 0 to 40kPa 0 to 0.05MPa 0 to 0.07MPa 0 to 0.1MPa	0.4MPa

Differential pressure range	Proof pressure against single port
0 to 0.15MPa 0 to 0.2MPa 0 to 0.3MPa 0 to 0.4MPa 0 to 0.5MPa	1.2MPa
0 to 0.7MPa 0 to 1MPa 0 to 1.5MPa 0 to 2MPa	2.4MPa

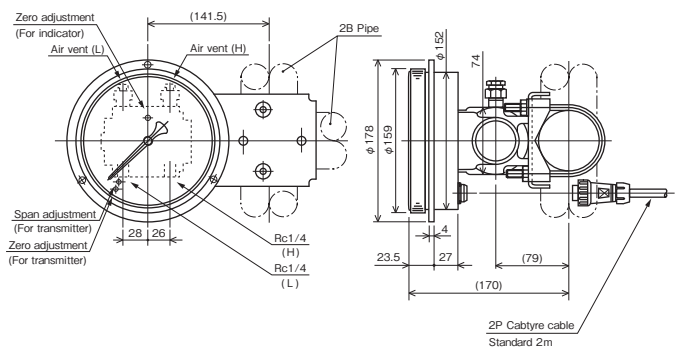
### Dimensions

Unit: mm

#### 2B pipe mounting

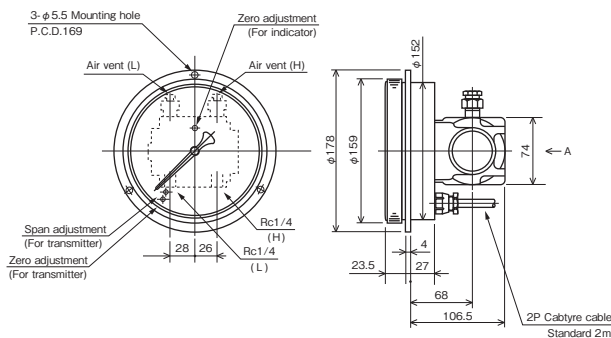


— KH33-171 —

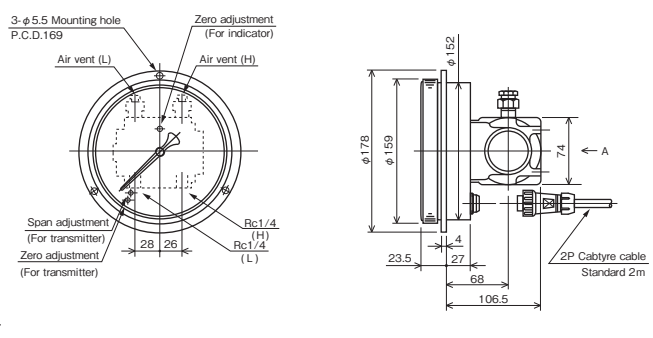


— KH33-172 —

#### Panel mounting



— KH33-271 —

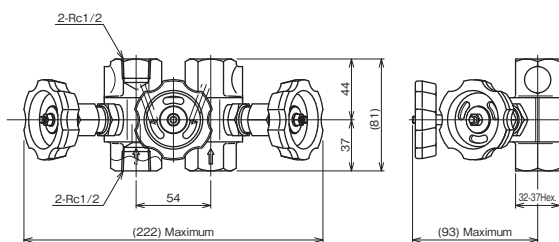


— KH33-272 —

A View

A View

#### Valve manifold: (Option)



— FV42-993 —

\* As for connection of differential pressure gauge, valve-manifold: FJ92-001 (2 pieces) is necessary.

### Wiring



### Model number configuration

Please specify the model, each requiring specification and differential pressure range to order.

Model

**K H 3 3**

0

1

1

×

×

×

×

×

Differential Pressure Transmitter      ① ② ③      ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

Model number	Product specifications	Additional specifications (Optional)										
① Mounting method	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">1</td><td>2B pipe mounting</td></tr> <tr><td style="text-align: center;">2</td><td>Panel mounting</td></tr> <tr><td style="text-align: center;">6</td><td>2B pipe mounting (Reverse mounting)</td></tr> <tr><td style="text-align: center;">7</td><td>Panel mounting (Reverse mounting)</td></tr> </table>	1	2B pipe mounting	2	Panel mounting	6	2B pipe mounting (Reverse mounting)	7	Panel mounting (Reverse mounting)			
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② Connection	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">7</td><td>Rc 1/4</td></tr> <tr><td style="text-align: center;">X</td><td>1/4NPT Female</td></tr> <tr><td></td><td>Others</td></tr> </table>	7	Rc 1/4	X	1/4NPT Female		Others					
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③ Type	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">1</td><td>Cable type (Shielded cable with 2m as standard)</td></tr> <tr><td style="text-align: center;">2</td><td>Connector type</td></tr> </table>	1	Cable type (Shielded cable with 2m as standard)	2	Connector type							
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Please specify differential pressure range and unit of measure along with corresponding ordering code.	④ Differential pressure range	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">1</td><td>0 to 5, 7, 10, 15, 20kPa</td></tr> <tr><td style="text-align: center;">2</td><td>0 to 30, 40kPa, 0.05, 0.07, 0.1MPa</td></tr> <tr><td style="text-align: center;">3</td><td>0 to 0.15, 0.2, 0.3, 0.4, 0.5MPa</td></tr> <tr><td style="text-align: center;">4</td><td>0 to 0.7, 1MPa</td></tr> <tr><td style="text-align: center;">5</td><td>0 to 1.5, 2MPa</td></tr> </table>	1	0 to 5, 7, 10, 15, 20kPa	2	0 to 30, 40kPa, 0.05, 0.07, 0.1MPa	3	0 to 0.15, 0.2, 0.3, 0.4, 0.5MPa	4	0 to 0.7, 1MPa	5	0 to 1.5, 2MPa
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⑤ Output accuracy	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">0</td><td>±2.0%F.S. (Standard)</td></tr> </table>	0	±2.0%F.S. (Standard)									
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⑥ Power source	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">1</td><td>24V DC±10%</td></tr> </table>	1	24V DC±10%									
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⑦ Output	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">1</td><td>4 to 20mA DC (2 wire system)</td></tr> </table>	1	4 to 20mA DC (2 wire system)									
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⑧ Treatment	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">0</td><td>Not required</td></tr> <tr><td style="text-align: center;">1</td><td>Use no oil</td></tr> <tr><td style="text-align: center;">2</td><td>Use no water</td></tr> <tr><td style="text-align: center;">3</td><td>Use no oil &amp; water</td></tr> </table>	0	Not required	1	Use no oil	2	Use no water	3	Use no oil & water			
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⑨ Other additional spec.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; text-align: center;">0</td><td>Not required</td></tr> <tr><td style="text-align: center;">1</td><td>Required (Documents available upon request) Wetted parts O-ring: Fluorine rubber Case finish Customized dial (Dual scale, conversion scale, characters) Cable length specification 2m or higher (/m) &lt;Another order&gt; Valve manifold FV42-993 Rc1/2 FV42-995 High Pressure Gas Ministry Approval FV42-DD3 1/2NPT FV42 Connector FJ92 (Need 2 pcs.) FV42 Use no oil and water (No indication, standard)</td></tr> </table>	0	Not required	1	Required (Documents available upon request) Wetted parts O-ring: Fluorine rubber Case finish Customized dial (Dual scale, conversion scale, characters) Cable length specification 2m or higher (/m) <Another order> Valve manifold FV42-993 Rc1/2 FV42-995 High Pressure Gas Ministry Approval FV42-DD3 1/2NPT FV42 Connector FJ92 (Need 2 pcs.) FV42 Use no oil and water (No indication, standard)							
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[Manufacturing range]

[Note] Customized dial: Characters, colored circle, customer's logo

- As for connection of differential pressure gauge, valve-manifold: FJ92-001 (2 pieces) is necessary.

\* When ordering, please specify base pressure and base pressure side (L or H).

#### Treatment against wetted parts

- Use no oil**  
Oil used in manufacturing the gauges had been flushed out & no oil residue remained inside its wetted parts.
- Use no water**  
Water used in manufacturing the gauges had been flushed out & no water residue remained inside its wetted parts.
- Use no oil & water**  
Oil/Water used in manufacturing the gauges had been flushed out & no oil/water residue remained inside its wetted parts.

\* Specify code "X" to refer N/A