



# Model KH31 Pressure Transmitter

## OUTLINE

This is a job site indicator built-in pressure transmitter in which the displacement of the pressure sensing element is outputted as an inductance variation, converted into a signal in proportion with measured quantity and transmitted. It can be appropriately applied not only to shore utilization but also to marine utilization.

## FEATURES

- This pressure transmitter demonstrates excellent anti-vibration and environmentdurable properties.
- The adjustment of a zero point and span can be implemented from the front of the case. The maintenance checking of a circuit block in the pressure transmitter can be simply implemented by taking it out to the front, leaving the transmitter installed on job site.
- This pressure transmitter obtained the approval from various tests including the Lloyd
- Standard, NK Authorization, etc. and is appropriate for marine application.

\* The appropriate model for preventing electromagnetic noise from the outside (LR 1990 version) is provided. Please contact us for it.

## SPECIFICATION 1

### Fluid :

Gas or liquid (Bourdon tube type only)

### Operating condition:

Under the normal condition, where there is no inflammable gas or liquid which cause the ignition or explosion.

### Mounting:

Panel mounting

\* Explosion-protected construction is available, contact NKS for details. (Model KD31)

### Connection:

G 3/8 B (PF), G 1/2 B (PF)

\* For other connections, please contact us.

### Wetted parts material:

Bellows 316Lst.st.  
Bourdon tube 316st.st.  
Socket SCS14  
Pipe 16st.st.

### Pressure range:

0 ~ 10kPa → 0 ~ 200MPa  
(0 ~ 1000mmH<sub>2</sub>O → 0 ~ 2000kgf/cm<sup>2</sup>)  
-0.1 ~ 0 → -0.1 ~ 2MPa  
(76mmHg ~ 0kgf/cm<sup>2</sup> → -1 ~ 20kgf/cm<sup>2</sup>)

### Max. allowable pressure:

120% rated of pressure

### Operating temperature:

0 ~ 45°C

### Storage temperature:

0 ~ 60°C

### Accuracy:

±1.0 % F.S., ±1.5 % F.S. or ±2.0 % F.S.  
(Depending on range)

### Temperature coefficient:

±0.05%F.S./°C TYP. (Zero)  
±0.05%F.S./°C TYP. (Span)

### Outlet for electric wire:

Conduit type PF3 /4 female, PF1 /2 female  
Gland JIS 15a, JIS 15b, JIS 15c, JIS 20a,  
JIS 20b, JIS 20c

### Case material • finishing:

Aluminium alloy die casting (ADC12) • Gray

### Construction:

Splash-proof (IP54)

### Weight:

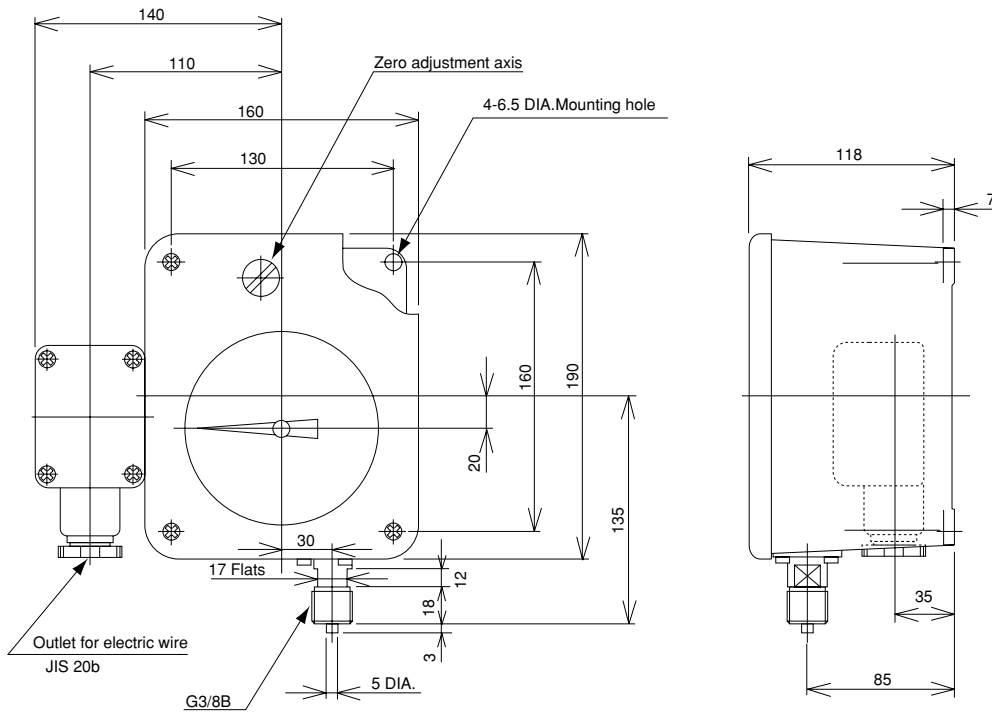
Approx. 3kg

## SPECIFICATION 2

Electric characteristics:

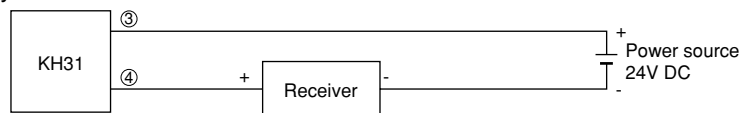
Power source	Output	Load resistance	Transmission system
24V DC±10%	4 ~ 20mA DC	400Ω max.	2 wire system
100V AC±10%	Current output	0 ~ 5mA DC	4 wire system
		0 ~ 10mA DC	
		0 ~ 20mA DC	
		4 ~ 20mA DC	
200V AC±10%	Voltage output	0 ~ 5mV DC	4 wire system
		0 ~ 10V DC	
220V AC±10%		1kΩ min.	
		↓	
		1MΩ min.	

## DIMENSIONS

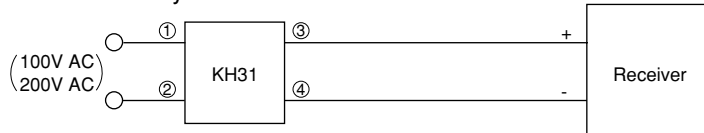


## WIRING

2 wire system



4 wire system



# Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.

Pressure transmitter

**K H 3 1** — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Type No.

1 Type

1	Panel mounting
5	Lloyd's type approval product (EMI countermeasures product) NK type approval product (EMI countermeasures product)

Selection spec.

Additional spec. (Option)

As for KD31 of explosion-protected construction, fundamental specifications are same as KH31.

2 Connection

3	G3/8B
4	G1/2B

3 Wetted parts material

3	Corrosion-proof use
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5 Accuracy

0	Standard ± 1.0 % F.S., ± 1.5 % F.S. or ± 2.0 % F.S. (Depending on range)
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4 Pressure range  
(When ordering, please specify pressure range & unit.)

1	0 ~ 10kPa	±2.0%F.S.
2	0 ~ 20, 30, 40kPa	±1.5%F.S.
3	0 ~ 0.05MPa	±1.0%F.S.
4	-0.1 ~ 0, 0.1, 0.2, 0.3, 0.4MPa -0.1 ~ 0.6, 1, 1.5, 2MPa	±1.0%F.S.
5	0 ~ 0.1, 0.2, 0.3, 0.4MPa 0 ~ 0.6, 1, 1.5, 2MPa 0 ~ 2.5, 3.5, 5, 7, 10MPa	±1.0%F.S.
6	0 ~ 15, 25, 35, 50, 70MPa	±1.0%F.S.
7	0 ~ 100MPa	±1.0%F.S.
8	0 ~ 150MPa	±1.0%F.S.
9	0 ~ 200MPa	±1.0%F.S.

6 Power source

1	24V DC±10% (2 wire system)
2	100V AC±10% (4 wire system)
3	110V AC±10% (4 wire system)
4	200V AC±10% (4 wire system)
5	220V AC±10% (4 wire system)

11 Other additional spec.

0	Nil
1	Please specify your requirement Clamp for 2B pipe mounting, Case finishing

10 Treatment

0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water (To 25MPa range)

9 Outlet for electric wire  
In case of conduit type

2	PF1 /2 female
3	PF3 /4 female

9 Outlet for electric wire  
In case of gland

3	JIS 15a
4	JIS 15b
5	JIS 15c
6	JIS 20a
7	JIS 20b
8	JIS 20c

8 Type of outlet

1	Conduit type
2	Gland

7 Output

1	4 ~ 20mA DC (2 wire system • 4 wire system)
2	0 ~ 5mA DC (4 wire system)
3	0 ~ 10mA DC (4 wire system)
4	0 ~ 20mA DC (4 wire system)
7	0 ~ 10V DC (4 wire system)
H	0 ~ 5mV DC (4 wire system)

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report