



KH15 Pressure Transmitter

OUTLINE

This is the detecting unit which used semiconductor strain gauge and the pressure transmitter which built-in electronic circuit and pressure is converted into electricity signal of 4-20 mA DC, 0-5 V DC or 1-5 V DC, and transmit it. It is more compact compared with the product up to now, and is the product which let electric dependability, mechanical dependability improve.

FEATURE

- Because it adopts the sensing parts which used coating by vaporization type semiconductor strain gauge, there is durability, stability.
- Because there is not moving element, it is superior in vibration-proof impact resistance.
- It produces it from range 0.03MPa (0.3kgf / cm²) to 100MPa (1000kgf / cm²) with identification MOUNTING.
- It is high corrosion resistance to be using metal diaphragm. It can use liquid for wide application
- Electric dependability is high by hybrid IC of circuitry and is compact / light weight.

SPECIFICATIONS 1

Fluid:

Gas or Liquid

Operating Condition:

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

Type [Construction]:

Connetor type
[Indoor use]

Terminal box type
(Small)
[Drip-proof]



Cable type
[Drip-proof]

Terminal box type
(Large)
[Drip-proof]



With shielded cable 2m

*The diaphragm seal type is available contact NKS for details.

Connection:

G1/4B(PF), G3/8B(PF), G1/2B(PF), R1/8(PT),
R1/4(PT), R3/8(PT), R1/2(PT), 1/4NPT, 3/8NPT, 1/2NPT

Seal type:

Method to joint pressure sensing parts and Transmission parts.

O-ring type..... Silicon Sensor Module is used to the sensing element,so non-corrosive air is only applied.
(Silicon PSM)
Diaphragm:Silicon
O-ring:NBR

O-ring type..... Sealed with O-ring,so well performing the seal
(17-4 PH st.st.PSM)
Diaphragm: 630st.st. (17-4PH)
O-ring NBR

Welding type..... By EB welding,completely sealed
(17-4 PH st.st.PSM)
Diaphragm:630st.st. (17-4PH)

Wetted parts material:

Diaphragm 630st.st.(17-4PH)
Socket 316st.st.
O-ring NBR(O-ring type only)

Pressure range:

O-ring type -0.1 ~ 0, 0 ~ 0.03, 0.05, 0.1MPa

(Silicon PSM) (-1 ~ 0, 0 ~ 0.3, 0.5, 1kgf/cm²)

O-ring type -0.1 ~ 0.1 → -0.1 ~ 2MPa
(-1 ~ 1 → -1 ~ 20kgf/cm²)
0 ~ 0.3 → 0 ~ 10MPa
(0 ~ 3 → 0 ~ 100kgf/cm²)

Welding type -0.1 ~ 1, -0.1 ~ 2MPa
(-1 ~ 10, -1 ~ 20kgf/cm²)
0 ~ 1 → 0 ~ 100MPa
(0 ~ 10 → 0 ~ 1000kgf/cm²)

Max.allowable pressure:

200% of rated pressure (150% for range 35,50MPa)
(120% for range 70,100MPa)

Operating Temperature:

-20 ~ 70°C(0 ~ 70°C for range 0.1MPa or less)

Power Source:

24V DC±10% or 12V DC±10% (3wire system only)

Output:

4 ~ 20mA DC (2wire system)
0 ~ 5V DC (3wire system)
1 ~ 5V DC (3wire system)

Load Resistance:

500Ω max.(Curret output)
10kΩ min. (Voltage output)

Transmission system:

2wire or 3wire system

SPECIFICATIONS 2

Accuracy:

$\pm 0.25\% \text{F.S.}$, $\pm 0.5\% \text{F.S.}$, $\pm 1.0\% \text{F.S.}$
(Depend on range)

Temperature coefficient:

Zero } $\pm 0.025\% \text{F.S./}^\circ\text{C}$ (Accuracy $\pm 0.25\% \text{F.S.}$)
 $\pm 0.05\% \text{F.S./}^\circ\text{C}$ (Accuracy $\pm 0.5\% \text{F.S.}$)
 Span } $\pm 0.1\% \text{F.S./}^\circ\text{C}$ (Accuracy $\pm 1.0\% \text{F.S.}$)

Response time:

Less than 1ms

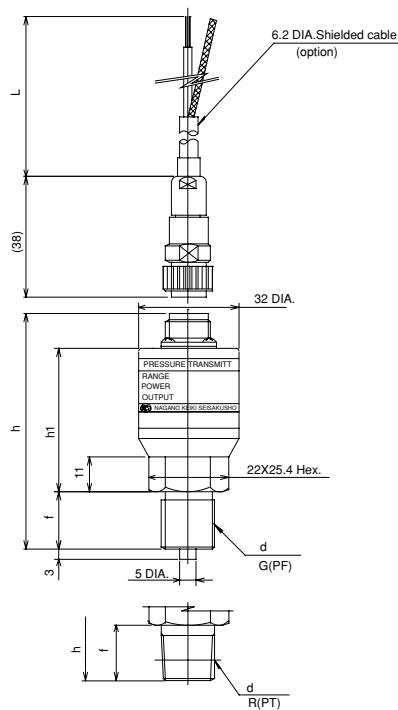
Weight:

Approx. 110g (Connector type)

DIMENSIONS 1 (Unit:mm)

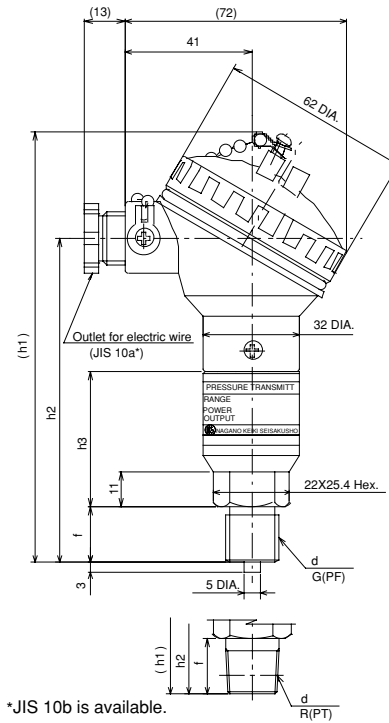
Connector type

(Internal adjustment·External adjustment)



Terminal box type(Small)

(Internal adjustment·External adjustment)



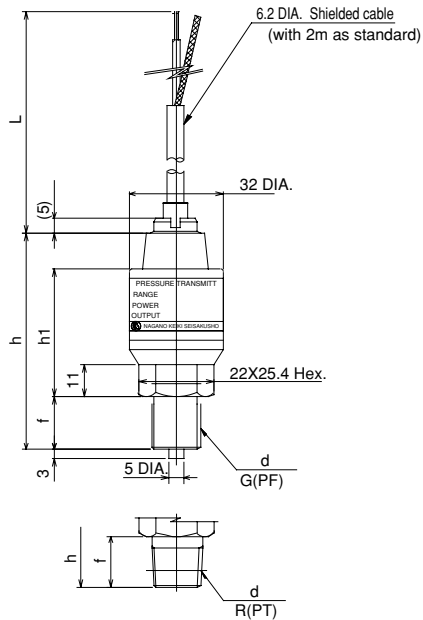
*JIS 10b is available.

Type No.	d	f	h	h1
KH15-62□	G1/4B	16	72	46
KH15-A2□			77	51
KH15-63□	G3/8B	18	74	46
KH15-A3□			79	51
KH15-64□	G1/2B	20	76	46
KH15-A4□			81	51
KH15-66□	R1/8	14	70	46
KH15-A6□			75	51
KH15-67□	R1/4	16	72	46
KH15-A7□			77	51
KH15-68□	R3/8	18	74	46
KH15-A8□			79	51
KH15-69□	R1/2	20	76	46
KH15-A9□			81	51

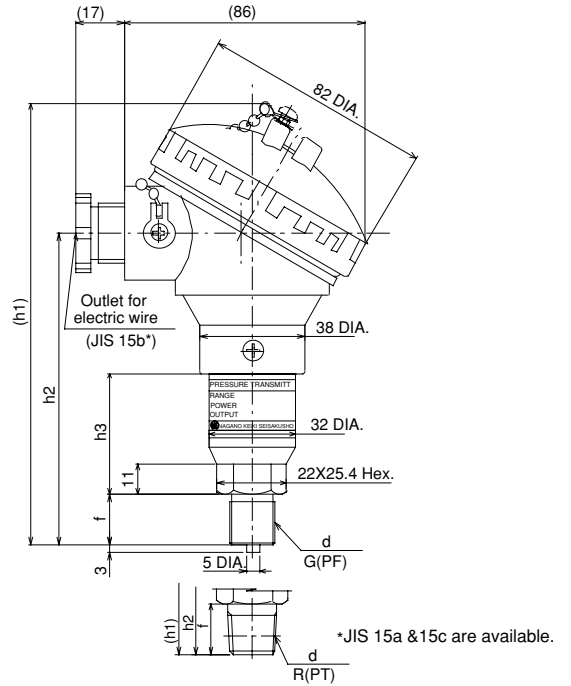
Type No.	d	f	(h1)	h2	h3
KH15-72□	G1/4B	16	136	103	44
KH15-B2□			141	108	49
KH15-73□	G3/8B	18	138	105	44
KH15-B3□			143	110	49
KH15-74□	G1/2B	20	140	107	44
KH15-B4□			145	112	49
KH15-76□	R1/8	14	134	101	44
KH15-B6□			139	106	49
KH15-77□	R1/4	16	136	103	44
KH15-B7□			141	108	49
KH15-78□	R3/8	18	138	105	44
KH15-B8□			143	110	49
KH15-79□	R1/2	20	140	107	44
KH15-B9□			145	112	49

DIMENSIONS 2 (Unit:mm)

Cable type
(Internal adjustment·External adjustment)



Terminal box type(large)
(Internal adjustment·External adjustment)

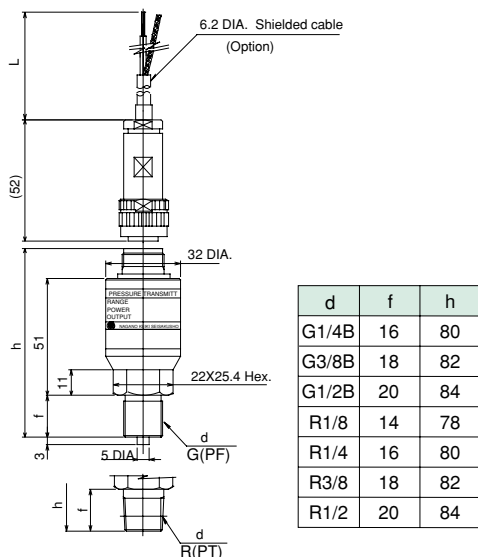


*JIS 15a & 15c are available.

Type No.	d	f	h	h1
KH15-82□	G1/4B	16	72	44
KH15-C2□			77	49
KH15-83□	G3/8B	18	74	44
KH15-C3□			79	49
KH15-84□	G1/2B	20	76	44
KH15-C4□			81	49
KH15-86□	R1/8	14	70	44
KH15-C6□			75	49
KH15-87□	R1/4	16	72	44
KH15-C7□			77	49
KH15-88□	R3/8	18	74	44
KH15-C8□			79	49
KH15-89□	R1/2	20	76	44
KH15-C9□			81	49

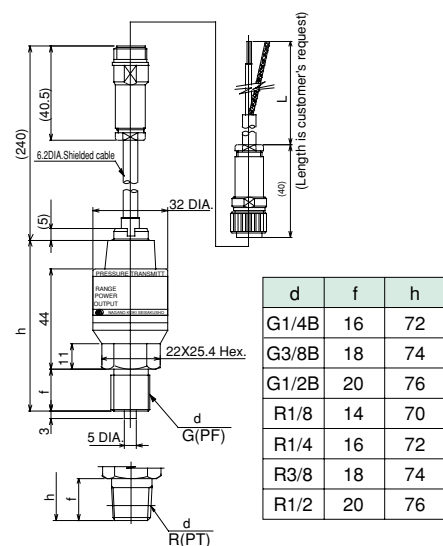
Type No.	d	f	h1	h2	h3
KH15-92□	G1/4B	16	153	110	44
KH15-D2□			158	115	49
KH15-93□	G3/8B	18	155	112	44
KH15-D3□			160	117	49
KH15-94□	G1/2B	20	157	114	44
KH15-D4□			162	119	49
KH15-96□	R1/8	14	151	108	44
KH15-D6□			156	113	49
KH15-97□	R1/4	16	153	110	44
KH15-D7□			158	115	49
KH15-98□	R3/8	18	155	112	44
KH15-D8□			160	117	49
KH15-99□	R1/2	20	157	114	44
KH15-D9□			162	119	49

Drip-proof connector type



d	f	h
G1/4B	16	80
G3/8B	18	82
G1/2B	20	84
R1/8	14	78
R1/4	16	80
R3/8	18	82
R1/2	20	84

Drip-proof replay connector type

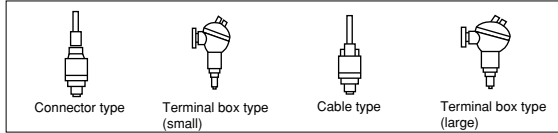


d	f	h
G1/4B	16	72
G3/8B	18	74
G1/2B	20	76
R1/8	14	70
R1/4	16	72
R3/8	18	74
R1/2	20	76

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 with X when ordering.

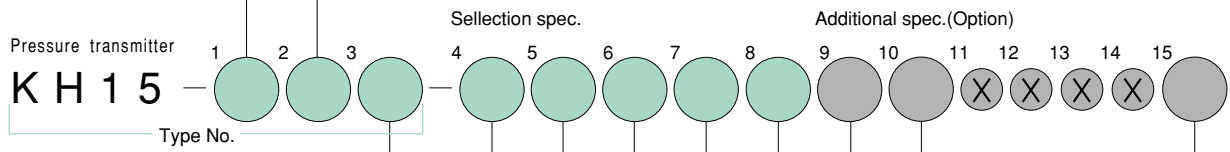


1 Type

6	Connector type	Internal adjustment
7	Terminal box type(small)	Internal adjustment
8	Cable type	Internal adjustment (with shielded cable 2m)
9	Terminal box type(large)	Internal adjustment
A	Connector type	External adjustment
B	Terminal box type(small)	External adjustment
C	Cable type	External adjustment (with shielded cable 2m)
D	Terminal box type(large)	External adjustment
E	Drip-Proof connector type	
F	Terminal box type(small)	Zero adjustment,Span adjustment available
G	Drip-Proof replay connector type	
H	Terminal box type(large)	Zero adjustment,Span adjustment available

2 Connection

2	G1/4B
3	G3/8B
4	G1/2B
6	R1/8 For 50MPa or less
7	R1/4 For 50MPa or less
8	R3/8 For 50MPa or less
9	R1/2 For 50MPa or less
K	1/4NPT For 50MPa or less
L	3/8NPT For 50MPa or less
M	1/2NPT For 50MPa or less



3 Seal type

1	O-ring type(Silicon PSM)
3	O-ring type
4	Welding type

4 Pressure range(MPa) (When ordering,please specify pressure range & unit.)

7 Output

1	4 ~ 20mA DC(2 wire system)
6	0 ~ 5V DC(3 wire system)
8	1 ~ 5V DC(3 wire system)

9 Treatment

0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water

6 Power source

1	24V DC±10%
6	12V DC±10%(3 wire system only)

5 Accuracy

3	±0.25%F.S.
4	±0.5%F.S.
6	±1.0%F.S.

8 Outlet for electric wire For connector type-Cable type

X	Nil
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8 Outlet for electric wire For terminal box tyoe(Small)

1	JIS 10a
2	JIS 10b

8 Outlet for electric wire For terminal box tyoe(Large)

3	JIS 15a
4	JIS 15b
5	JIS 15c

10 Cable

0	Nil
1	Please specify your requirement. Shielded cable(Connector type)2m, Shielded cable more than 2m, Anti-freeze cable,heat-proof cable

15 Document

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

Seal type	Pressure range MPa		Accuracy %F.S.				
			±0.25	±0.5	±1.0		
1 O-ring type (Silicon PSM)	1	-0.1 ~ 0	2	0 ~ 0.03 ~ 0.05 ~ 0.1	-	-	○
	3	-0.1 ~ 0.1 ~ 0.3	4	0 ~ 0.3	-	-	○
3 O-ring type	5	-0.1 ~ 0.5 ~ 1 ~ 2	6	0 ~ 0.5 ~ 1 ~ 2	-	○	○
			7	0 ~ 3.5 ~ 5 ~ 10	○	○	○
4 Welding type	1	-0.1 ~ 1 ~ 2	2	0 ~ 1 ~ 2	-	○	○
			3	0 ~ 3.5 ~ 5 ~ 10	○	○	○
			4	0 ~ 20	-	○	○
			5	0 ~ 35	-	○	○
			6	0 ~ 50	-	○	○
			7	0 ~ 70	-	-	○
		8	0 ~ 100	-	-	○	