

Marine Type Approval

KH54 Pressure Transmitter

Overview

Miniaturized lightweight pressure transmitter with marine type approval (NK) suitable for limited space installation.

Features

- Incorporates SUS316L diaphragm
- NK Marine type approved
- RoHS compliance
- Enclosure rating :IP65
- Miniaturized and lightweight
- Accuracy: $\pm 1.0\%$ F.S (Standard) or $\pm 0.5\%$ F.S (Option)

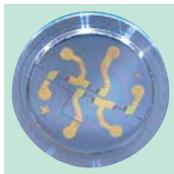


RoHS



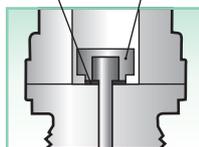
Features of sensor

Semiconductor evaporated type (SS) Sensor



SS Sensor

Electronic beam welding Pressure sensor module



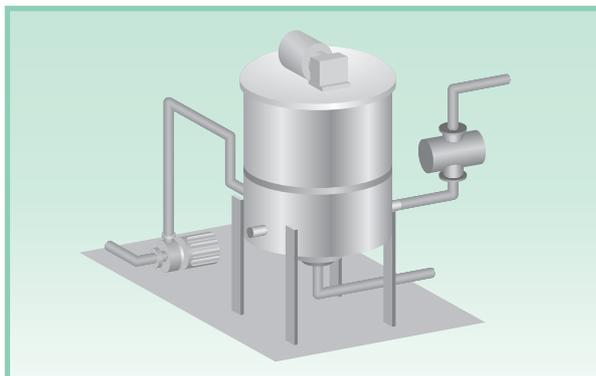
Fully welded type

Standard comes with SUS316L diaphragm

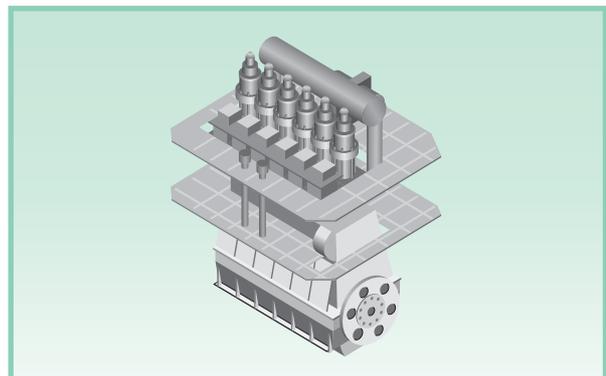
- Semiconductor strain gauge is formed on stainless Diaphragm
- High burst pressure which can withstand well

Applications

Ballast water measurement



Large marine engine



Specifications

Item	Description
Media	Gas, liquid, or vapor (Must not corrode the element)
Wetted parts*1	Diaphragm*2 Standard: SUS316L
	Fitting Standard: SUS316 Optional: SUS316L
Pressure range	0 to 0.5, 1, 2, 3.5, 5, 10, 20 MPa -0.1 to 0.5, 1, 2 MPa
Allowable maximum pressure*3	150% of pressure range
Supply voltage	24V DC
Allowable ripple power voltage*4	Lower than 10%(P-P) of power supply voltage
Output signal	4 to 20mA DC (2 wire system)
Accuracy (Includes the effect of Linearity, Hysteresis, and repeatability)	Standard: $\pm 1.0\%$ F.S. at 23°C Optional: $\pm 0.5\%$ F.S. at 23°C
Temperature coefficient	$\pm 0.1\%$ F.S./°C (Zero, Span) [For accuracy $\pm 1.0\%$ F.S.] $\pm 0.05\%$ F.S./°C (Zero, Span) [For accuracy $\pm 0.5\%$ F.S.]
Operating temperature limits	-25 to 70°C (No freezing or condensation)
Storage temperature range	-40 to 80°C (No freezing or condensation)
Load resistance	500Ω max.
Insulation resistance	100MΩ and above (Fitting to terminal 50V DC)
Electrical terminations	DIN connector (DIN EN 175 301-803-A)
Enclosure rating	IP65 (In accordance with JIS C 0920)
Connection	G3/8B, G1/2B, R1/4 and others
Case material	SUS305, PBT
Zero, Span adjustment	Internally adjustable (Upper view)
Marine type approval class	NK Marine type approval (Automated equipment/device (Type approval number: 14A022)
EMC directive	EN61326-1: 2013; EN61326-2-3: 2013
Lightening surge protection	Applicable standard: IEC61000-4-5 Class 2 (Induction lightening surge)

*1 : Ensure the wetted parts are compatible with process gases or fluids.

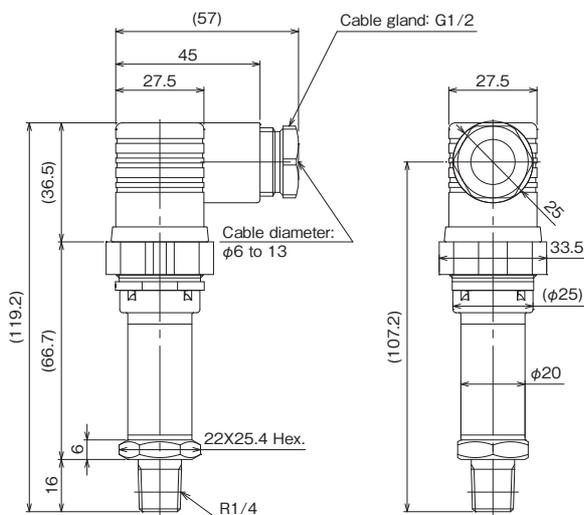
*2 : Available in SUS630/Co-Ni diaphragm. Please contact us.

*3 : Allowable maximum pressure is the upper limit of pressure value which may safely be applied to the product and remain in specification once pressure is returned to the rated pressure range with a couple of times overpressurization for about 10 minutes.
Effect of continuous overpressure is NOT guaranteed.

*4 : Use stabilized power source with small ripple fluctuation for power supply.

Dimensions

Unit: mm

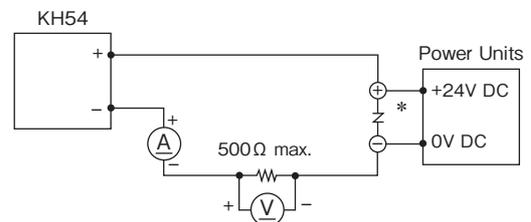
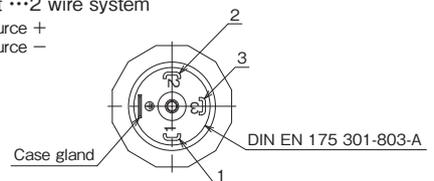


*[LC] mark is engraved to identify that the product is SUS316L wetted parts when specified.

Wiring

Current output ...2 wire system

- 1 : Power source +
- 2 : Power source -
- 3 : NC
- ⊕ : NC



(A) Receiver (DC Ammeter)

(V) Receiver (DC Voltmeter)

*If other device which generates surge is connected along with the same power supply, ensure to protect KH54 by connecting varistor etc.

Model number configuration

Please specify the model number, each specs and the range for ordering.

Model	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 5px;">K</td> <td style="padding: 5px;">H</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">4</td> </tr> </table>	K	H	5	4	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>				<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> </tr> </table>																				
K	H	5	4																											
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 Outlet for electric wire	1	Cable gland: PG11																												
	2	Cable gland: PG13.5																												
	3	Cable gland: G1/2 (Standard)																												
② Connection	3	G3/8B																												
	4	G1/2B																												
	7	R1/4																												
③ Wetted parts	F	Diaphragm: SUS316L									Fitting: SUS316 (Standard)																			
	G	Diaphragm: SUS316L									Fitting: SUS316L																			
④ Pressure range (MPa)	5	-0.1 to 0.5																												
	6	-0.1 to 1																												
	7	-0.1 to 2																												
	E	0 to 0.5																												
	G	0 to 1																												
	J	0 to 2																												
	K	0 to 3.5																												
	L	0 to 5																												
	N	0 to 10																												
	Q	0 to 20																												
⑤ Accuracy	5	±0.5%F.S.																												
	7	±1.0%F.S.																												
⑥ Power source	1	24V DC																												
⑦ Output	1	4 to 20mA DC																												
⑨ Treatment	0	Not required																												
	1	Use no oil																												
	2	Use no water																												
	3	Use no oil & water																												
⑮ Documents	0	Not required																												
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Calibration test report for pressure standard Strength calculation sheet Attending inspection																												

Please specify pressure range and unit of measure along with corresponding ordering code.

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