

JK50 Pressure Gauge with Optical Switch for Semiconductor Industry

Outline

The JK50 is a highly reliable small-sized contact pressure gauge equipped with a photo micro sensor contact mechanism. It is used primarily as an alarm, but can also be used as a high-capacity open-and-close switch through the relay.

Features

- Small and lightweight, the pressure switch is convenient where space is limited.
- The use of a non-contact switch decreases the deadband.
- It can offer accurate pressure indication even after the switch is actuated.

*To maximize performance, when selecting a pressure gauge, please select the pressure range as the upper limit of normal operating pressure is within the following range.

In the case of constant pressure:

3/4 and under of the maximum value in the pressure range

In the case of fluctuating pressure:

2/3 and under of the maximum value in the pressure range

Please ensure that the wetted parts materials listed are suitable for the use against measuring gas or liquid.

For details, please refer to JIS B 7505-1.



List of grade

Grade	BA (Bright Annealing)	EP (Electro Polishing)
Wetted parts material	SUS316L	SUS316L (Gas contact surface polished)
Cleaning level	Class IV (ANSI B40, 1M-1979)	10 and under particles of 0.2 μm or greater
Leak test	1.01×10 ⁻⁹ Pa·m ³ /s and under	
Cleaning	① Coarse cleaning ② Ultrasonic cleaning ③ Finish cleaning ④ N ₂ gas flushing	
Work area	① General work area ② Clean room (Class 10,000) ③ Clean bench (Class 100)	
Adjustment test media	N ₂ gas	
Packing form	Sealed by polyethylene bag	

Specification 1

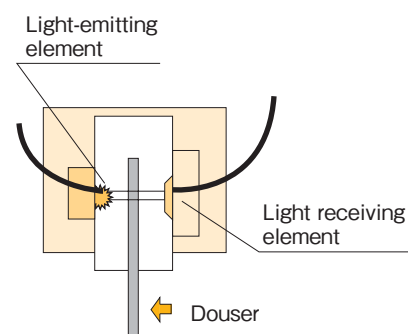
Item	Description
Fluid	Air or liquid
Operating condition	Normal conditions (No flammable liquids or explosive gaseous atmospheres)
Mounting	Lower connection
Pressure element	C-shaped bourdon tube
Size	φ50
Connection	9/16-18UNF
Pressure range	0 to 0.2 → 0 to 5MPa -0.1 to 0.1 → -0.1 to 2MPa
Operating temperature	-5 to 40°C (No freezing or condensation)
Power source	8 to 30V DC
Accuracy	±2%F.S.
Repeatability	±0.5%F.S.
Deadband	3%F.S. and under
Switch	Photo micro sensor
Number of contacts	1-contact
Setting system	Externally adjustable
Operation display	LED display (Lit when switched to ON.)
Cable	1 m length
Scale angle	270° (Depends on the pressure range)
Outer frame	Polycarbonate Screw type
Case material	SUS304 (Material)
Enclosure	Indoor use
Weight	Approx. 200 g

Specification 2

Electrical characteristics:

Output signal	Withstand voltage	Insulation resistance
NPN open collector output 30V DC, 120mA max.	1000V AC Between each terminal and case 1 minute	100V DC 100MΩ or more Between each terminal and case

Optical switch



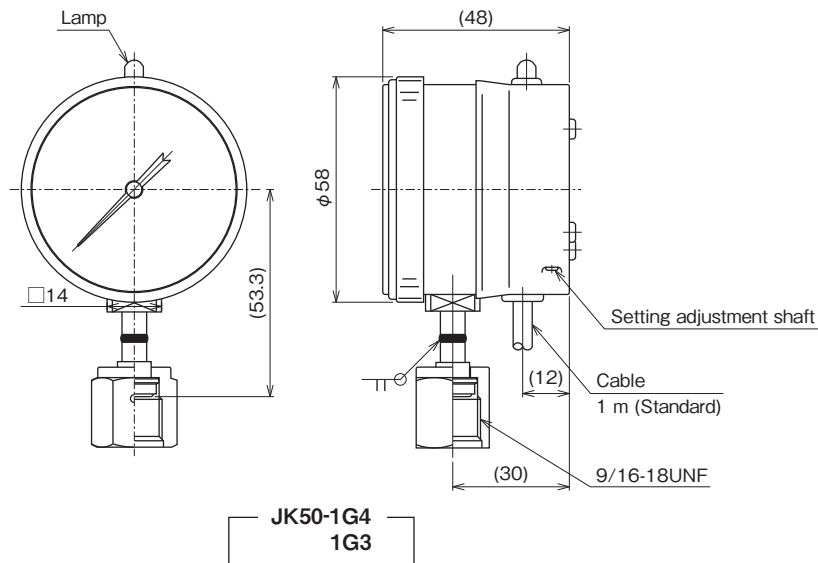
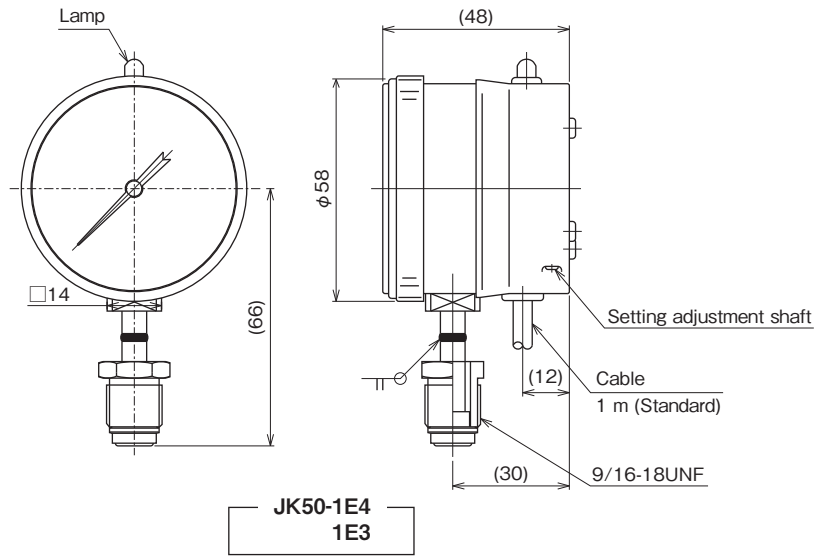
In photoelectric method, the signal is extracted whether or not to shed light of the light-emitting element to the light receiving element. Since the detection is executed in a completely non-contact, contact failure does not occur and the life of the switch is long.

JK50

Pressure Gauge with Optical Switch for Semiconductor Industry

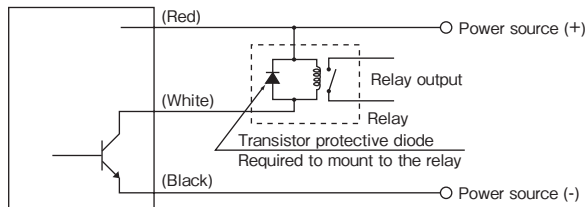
Dimensions

Unit: mm



Wiring

① Relay connection



Note
Rated current and voltage of operation coil
of relay should be in transistor's rating.

② Photocoupler connection

