

CD52

Explosion-proof Construction Pressure Switch



Outline

This is a pressure switch developed principally to detect draft pressure of a power plant. With a stainless steel bellows applied to the minute pressure detecting element, this pressure switch demonstrates high precision and excellent corrosion resistance.

Features

- A stainless steel bellows is applied to the minute pressure detecting element.
- This pressure switch demonstrates high precision and excellent corrosion resistance, principally applied to the detection of draft pressure in a thermal plant.
- An explosion resistant switch with light weight has been realized.
(installed in an aluminum die-cast case)
- Setting and locking can be performed from the exterior without removing the cover.

Range of recommended pressure setting

Upper limit type: (10%max.P.+Dead band)~90%max.P.
Lower limit type: 10%max.P.~(90%max.P.-Dead band)
Compound: %max.P. → %F.S.

* When selecting pressure switches, Please select a pressure range with normal operation pressure within 30 to 65% of full span to get full performance. Also check whether gas contact parts material could be used for gases to be measured.

Specifications 1

Item	Description
Fluid	Gas (No freezing)
Operating environment	Hazardous area (Refer to the explanation column of the explosion-proof construction for details.)
Mounting	Panel mounting
Connection	G3/8B, G1/2B, R1/2, 1/2NPT Please contact us about connection without the description.
Wetted parts material	Bellows: SUS316L Socket, tank: SUS316
Pressure range	-2 to +2 → 2 to 10 kPa
Proofpressure	+2.4 to +12 kPa (Depends on the pressure range.)
Operating temperature	-5 to 40 °C
Accuracy	±1%max.P. (Compound: ±1%F.S.)
Temperature coefficient	0.05%max.P./°C (Compound: 0.05%F.S./°C)
Dead band	Specification 2 references.
Switch	Micro switch
Quantity of switch	One contact or two contacts
Setting system	External adjustment type, with setting lock (The set adjustment axis is locked at the set value specification.)
Outlet for electric wire	Conduit type (Terminal box external lead drawing method)
Case material, finishing	Aluminium alloy die casting (ADC12), Gray crystal paint
Case structure	Outdoor type (IP54)
Weight	Approx. 7.6 kg

Specifications 2

Electrical characteristics:

	Rating		Withstand voltage	Insulation resistance
	Resistance load	Inductive load		
125V AC	15 A	15 A	1500V AC Between terminals and case for 1 minute	500V DC 100MΩ or over Between terminals and case
250V AC	15 A	15 A		
30V DC	2 A	1 A		
125V DC	0.4 A	0.03 A		
·Inductive load: Power factor 0.4 or over (AC) Time constant 7ms or less (DC)				

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Specifications 2

Pressure range, dead band and proofpressure:

Pressure range kPa	Dead band kPa		Proofpressure kPa
	1 contact	2 contacts	
-2~+2	0.5 or less	0.5 or less	±2.4
-3~+7	0.5 or less	0.5 or less	-3.6 +8.4
-5~+5	0.5 or less	0.5 or less	±6
+1~+5	0.5 or less	0.5 or less	+6
+2~+10	0.5 or less	0.5 or less	+12

Range of recommended pressure setting

Upper limit type: (10%max.P.+Dead band)~90%max.P.

Lower limit type: 10%max.P.~(90%max.P.-Dead band)

* Compound: %max.P. → %F.S.

When providing the difference between the set value in the two-contact type, the setting of the recommended is as follows.

2H, 2HR, H, HR, 2L, 2LR, L, LR:

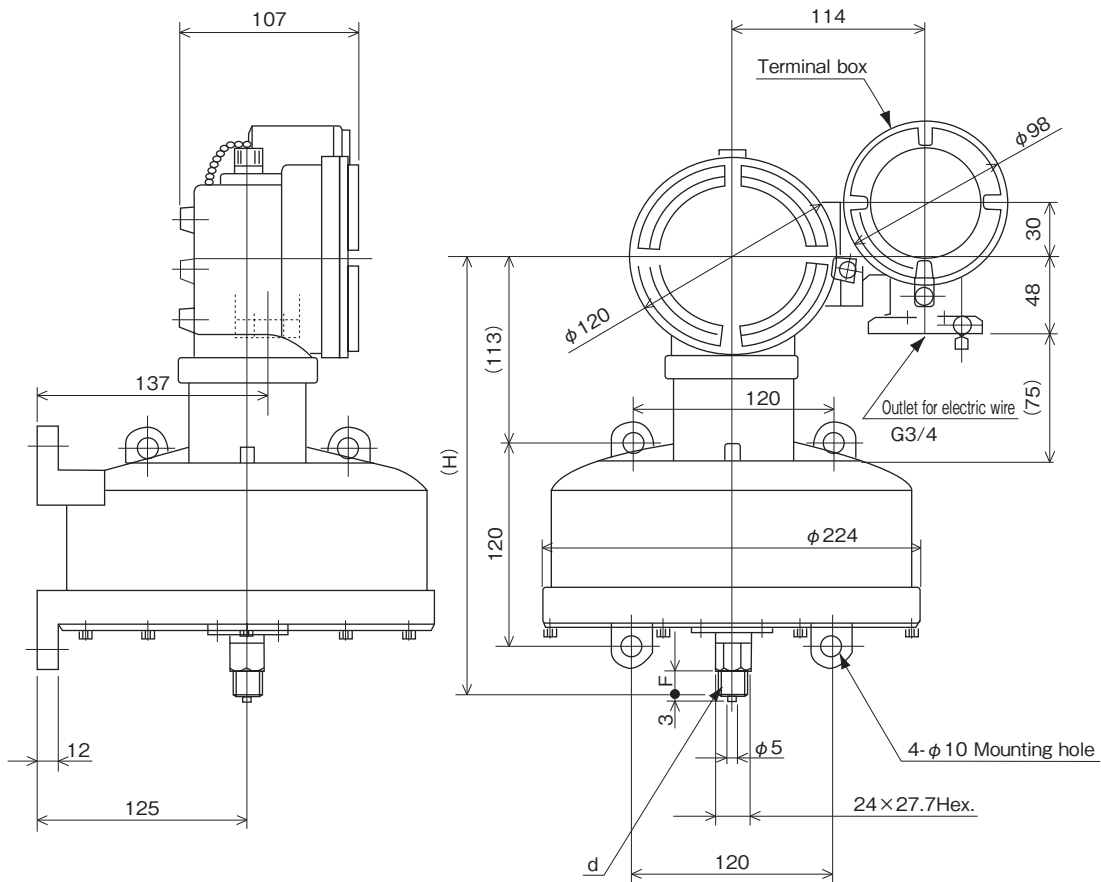
Setting maximum difference 60% max.P., minimum set differential is dead band.

HL, HRLR, H, LR, HR, L:

Setting maximum difference 60% max.P., minimum set differential twice the dead band.

Dimensions

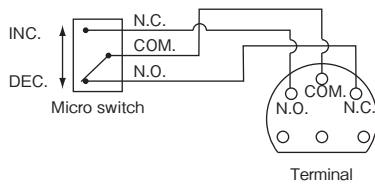
Unit: mm



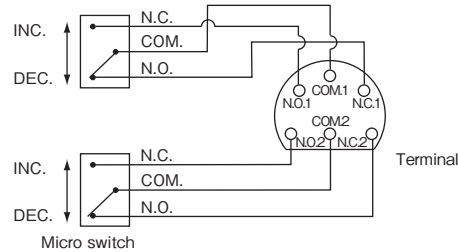
d	F	H
G1/2B	20	264
G3/8B	18	262

Wiring

1SW



2SW



Explosion-proof

Explosion-proof construction:

Explosion-proof construction is a totally-enclosed construction such that even if an explosive gas explodes inside the container, the container will withstand the force of the explosion and there is no danger of ignition by external explosive gases. Our pressure switches manufactured under this policy are widely used in measurement, alarm, and pressure control in factories and business offices where inflammable gases or the vapor of inflammable liquids having a flash point of 40°C or less may exist.

Application range: d2G4

Explosion-proof construction: d
Explosion class: 2 (Minimum gap which permits flame propagation at a gap depth of 25mm is 0.4mm to 0.6mm)
Ignitability: G4 (Container with an ignition point of 135 to 200°C and whose outside surface temperature rise limit is 70degs)
Hazardous areas: Zone 1 or Zone 2
Objective industries: Petrochemical, chemical fiber, ethylene, ethanol, methanol, dielectric products manufacturing, liquefied gas, electric furnace, pharmaceuticals, paints, ammonium sulfate, soda, other measurement medium or industries in which there is the danger of explosion.

Classification of hazardous area:

Hazardous area	Contents
Zone 0	Areas where a hazardous atmosphere is continuously present or present for a long period under ordinary circumstances
Zone 1	Areas where hazardous atmosphere is likely to occur under ordinary circumstances
Zone 2	Areas where hazardous atmosphere is likely to occur under abnormal circumstances

Registered model for labor ministry inspection and approval number:

Registered model for labor ministry inspection : CD50-2
Approval number for labor ministry inspection : No.T25230

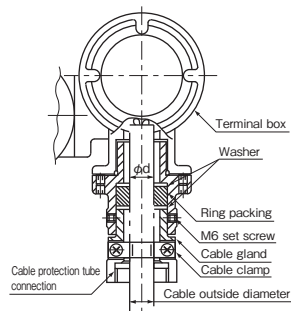
It is official approval number to represent that explosion-proof construction pressure switch conformed to explosion-proof standard.

It is national official approval which is examined and authorized by technology institution of industrial safety.

Terminal box external lead drawing method

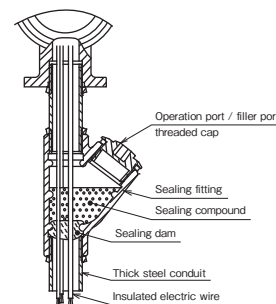
Proofpressure packing type

Gasket inside diameter (d) DIA.	Applicable cable outside diameter DIA.	Protection tube connection
10.5	9.4	G $\frac{1}{2}$ G $\frac{3}{4}$
	9.9	
	10.1	
	10.5	
12	11.0	G $\frac{3}{4}$ G 1
	11.5	
	11.9	
	12.0	
14	12.5	G $\frac{3}{4}$ G 1
	12.6	
	13.1	
	13.5	
15.5	13.6	G $\frac{3}{4}$ G 1
	14.5	
	14.5	
	15.6	

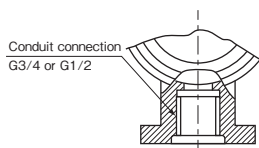


When wiring cable, select the proofpressure packing type and when performing metal conduit wiring with insulated electric wire, select the conduit proof pressure threads type.

Note) Use the 600V polyvinyl chloride insulated wire specified in JIS C 3307 or equivalent or better insulated electric wire as the conduit wiring. Do not use cable or cabletyre cable.



Conduit proofpressure threads connection type



When performing conduit wiring, the terminal box and conduit connection section must be sealed as shown at the left.

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Model number configuration

For ordering, please specify the model number, each specs and the range.

Model

C D 5 2 — (1) (2) **3** — (4) (5) (6) (7) (8) (9) × × × × × (10) (11) (12) (13) (14) (15)

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Model number		Selective spec.	Additional spec. (Option)
① Mounting (Number of contact)	1	1 contact, Panel mounting, Conduit type	
	2	2 contacts, Panel mounting, Conduit type	
② Connection	3	G3/8B	
	4	G1/2B	
	H	R1/2	
	M	1/2NPT	
		Others	
③ Wetted parts materials	3	Bellows: SUS316L Socket, tank: SUS316	
④ Pressure range (kPa)	1	-2~-2, -3~-7, -5~-5	
	2	1~5	
	3	2~10	
⑤ Type of contacts	A	H: Upper limit type with 1 contact	
	B	L: Lower limit type with 1 contact	
	C	HL: Upper & lower limit type with 2 contacts	
	D	2H: Upper limit type with 2 contacts	
	E	2L: Lower limit type with 2 contacts	
	Others		
⑥ Switch	1	Ultra high sensitivity type	
	4	Ultra high sensitivity type + gold plated	
		Others	
⑦ Outlet for electric wire (Conduit type)	B	G1/2	
	C	G3/4 (Standard)	
	D	G 1	
		Others (With joint)	
⑧ Treatment	0	Nil	
	1	Use no oil	
	2	Use no water	
	3	Use no oil & water	
⑨ Additional specifications	0	Nil	
	1	Coating specification	
⑮ Documents	0	Nil	
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill sheet, test report (1 pc 1 copy), inspection / traceability certificate, attended inspection	

Please specify the pressure range and units separately besides selection of range code.

Range of recommended pressure setting
Upper limit type: (10%max.P.+Dead band)~90%max.P.
Lower limit type: 10%max.P.~(90%max.P.-Dead band)
Compound: %max.P. → %F.S.

※Specify "X" if there is no specification item.