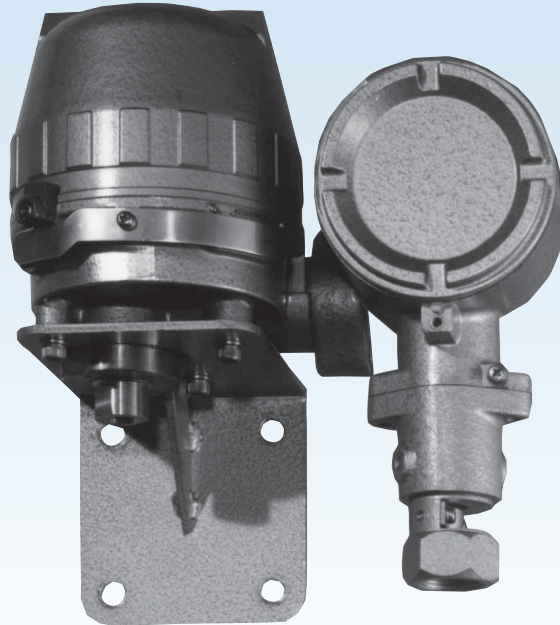


CD30 Explosion-proof Construction Pressure Switch



Outline

This is a highly reliable pressure switch in which a special Bourdon tube, demonstrating excellent durability, is applied. Especially, excellent vibration resistance is demonstrated and as a job site pressure gauge this is applied to the control of equipment.

Features

- With the application of a special Bourdon tube principally manufactured for high durability, this pressure switch demonstrates excellent vibration resistance.
- The one contact type or two contact type can be selected. With the two contact type, the setting of upper limit and lower limit can be possible.
- 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 wetted parts material could be used for gases or liquids to be measured.

Specifications 1

Item	Description
Fluid	Gas or Liquid (No freezing)
Operating environment	Hazardous area (Refer to the explanation column of the explosion-proof construction for details.)
Mounting	Panel mounting, 2B pipe mounting
Connection	G1/2B, Rc1/4, Rc1/2, R1/2, 1/2NPT Please contact us about connection without the description.
Wetted parts material	Bourdon tube: SUS316 Socket: SCS14
Pressure range	0 to 0.2 → 0 to 35 MPa -0.1 to 0.2 → -0.1 to 2 MPa
Proofpressure	0.3 to 52.5 MPa (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 or proofpressure gasket
Case material, finishing	Aluminium alloy die casting (ADC12), Gray crystal paint
Case structure	Outdoor type (IP54)
Weight	Approx. 4.1 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	0.5 A	0.05 A		
· Inductive load: Power factor 0.4 or over (AC) Time constant 7ms or less (DC)				

Specifications 2

Pressure range, dead band and proofpressure:

Pressure range MPa	Dead band MPa		Dead band (Compound) MPa		Proofpressure MPa	Approval Number for labor ministry inspection*
	1 contact	2 contacts	1 contact	2 contacts		
0~0.2 ※	0.014 or less	0.02 or less	0.021 or less	0.03 or less	0.3	No.T20093
~0.4 ※	0.028 or less	0.04 or less	0.035 or less	0.05 or less	0.6	No.T20094
~0.6 ※	0.042 or less	0.06 or less	0.049 or less	0.07 or less	0.9	No.T20095
~1 ※	0.07 or less	0.1 or less	0.07 or less	0.1 or less	1.5	No.T19919
~1.5 ※	0.08 or less	0.12 or less	0.08 or less	0.12 or less	2.25	No.T20487
~2 ※	0.08 or less	0.14 or less	0.08 or less	0.14 or less	3	No.T19920
~2.5	0.1 or less	0.18 or less	————	————	3.75	No.T20488
~3.5	0.14 or less	0.25 or less	————	————	5.25	No.T19914
~5	0.2 or less	0.35 or less	————	————	7.5	No.T20489
~7	0.25 or less	0.4 or less	————	————	10.5	No.T19915
~10	0.3 or less	0.5 or less	————	————	15	No.T19916
~15	0.45 or less	0.75 or less	————	————	22.5	No.T20490
~20	0.6 or less	1.1 or less	————	————	30	No.T19921
~25	0.75 or less	1.25 or less	————	————	37.5	No.T20491
~35	1.25 or less	1.75 or less	————	————	52.5	No.T19922

Note) Minimum setting width of two contacts type becomes as follows.

2H, 2HR, H.HR, 2L, 2LR, L.LR: Dead band

HL, HRLR, H.LR, HR.L: 200% of the dead band

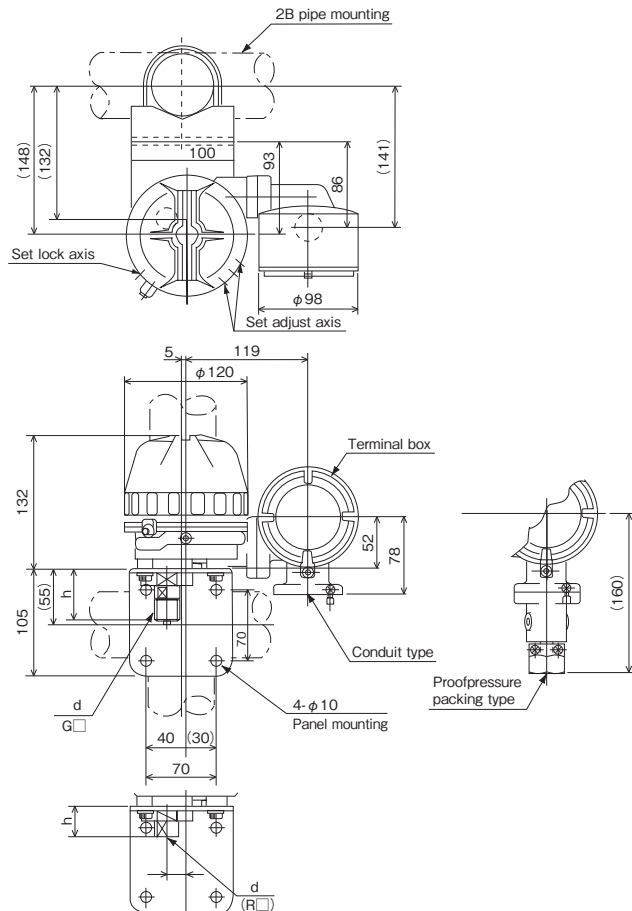
The range of ※ mark produces compound.

* Registered model for labor ministry inspection and approval number:

Registered model for labor ministry inspection: CD30 Approval number for labor ministry inspection: Depends on range	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.
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Dimensions

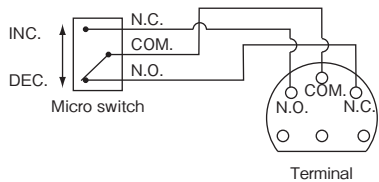
Unit: mm



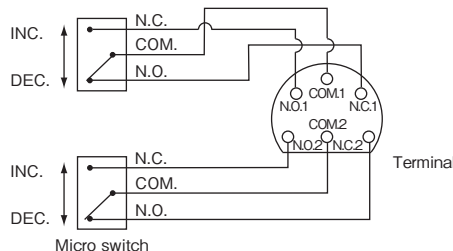
d	h
G1/2B	50
Rc 1/4	30
Rc 1/2	84

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

Approval Number for labor ministry inspection:

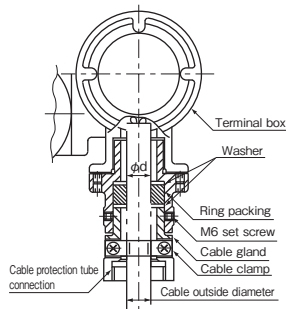
Please refer to pressure range, dead band and proofpressure column of specifications 2.

Terminal box external lead drawing method

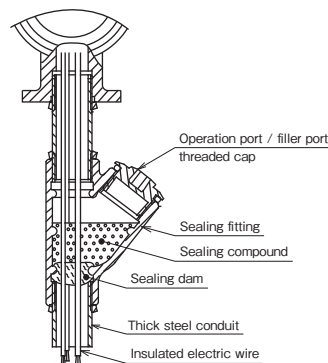
When wiring cable, select the proofpressure packing type and when performing metal conduit wiring with insulated electric wire, select the conduit proof pressure threads type.

Proofpressure packing type

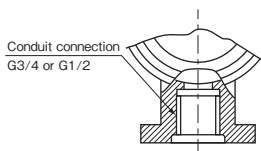
Gasket inside diameter (d) DIA.	Applicable cable outside diameter DIA.	Protection tube connection
10.5	9.4	G $\frac{1}{2}$ G $\frac{3}{4}$
	9.9	
	10.1	
12	10.5	G $\frac{3}{4}$ G 1
	11.0	
	11.5	
14	11.9	G $\frac{3}{4}$ G 1
	12.0	
	12.5	
	12.6	
	13.1	
15.5	13.5	G $\frac{3}{4}$ G 1
	13.6	
	14.5	
16.5	15.6	G 1



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.

Model number configuration

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

Model

C D 3 0 — —

Explosion-proof Construction Pressure Switch

Model number Selective spec. Additional spec. (Option)

① Mounting	1	1 contact, Panel mounting, Conduit type
	2	2 contacts, Panel mounting, Conduit type
	3	1 contact, Panel mounting, Proofpressure packing type
	4	2 contacts, Panel mounting, Proofpressure packing type
	5	1 contact, 2B pipe mounting, Conduit type
	6	2 contacts, 2B pipe mounting, Conduit type
	7	1 contact, 2B pipe mounting, Proofpressure packing type
	8	2 contacts, 2B pipe mounting, Proofpressure packing type
② Connection	4	G1/2B
	7	Rc 1/4
	9	Rc 1/2
	H	R1/2
	M	1/2NPT
		Others
③ Wetted parts materials	3	Burdon tube: SUS316, Socket: SCS14
④ Pressure range (MPa)	1	-0.1~0.2, 0.4, 0.6, 1, 1.5, 2
	2	0~0.2, 0.4
	3	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5, 7
	4	0~10, 15, 20, 25, 35
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	0	Standard type
	1	Ultra high sensitivity type
	3	Standard + gold plated
	4	Ultra high sensitivity type + gold plated
		Others
⑦ Outlet for electric wire	B	Conduit type G1/2
	C	Conduit type G3/4 (Standard)
	D	Conduit type G1
	力	Proofpressure packing type, G3/4 × 12 (Standard)
	キ	Proofpressure packing type, G3/4 × 10.5
	コ	Proofpressure packing type, G3/4 × 14
	Others (With joint)	
⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water (Applicable to 25MPa range)
⑨ Additional specifications	0	Nil
	1	Coating specification
⑩ 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.