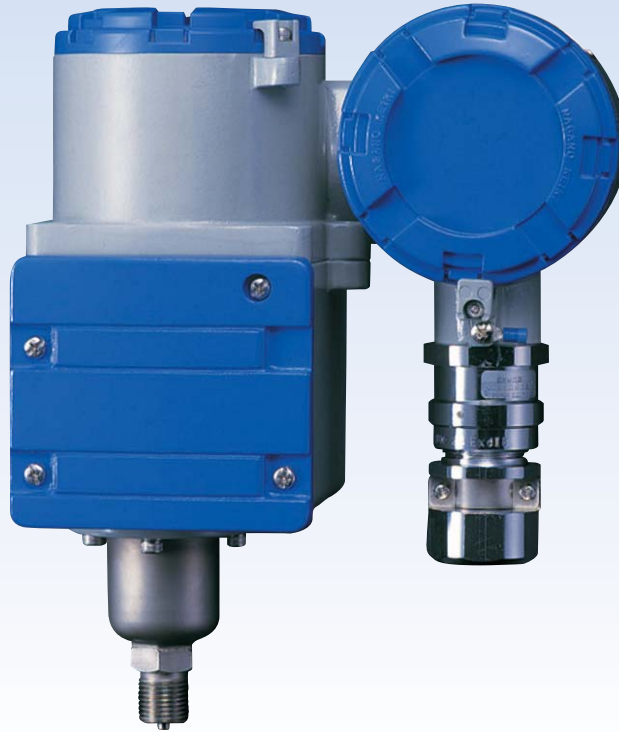


CD75

Flame Proof Type Pressure Switch



RoHS

Outline

This deadband adjustable pressure switch with excellent vibration-proof accomplished through the use of double snap acting design, utilizing Belleville spring, is suitable for direct control of equipment.

Features

- Adjustable range of deadband is 3 to 20% max.P.
- Finished by acid-proof coating on surface to prevent from rust by salt damage.

Recommended switch set point range

Upper limit type: (10%max.P.+Deadband) to 90%max.P.
Lower limit type: 10%max.P. to (90%max.P.-Deadband)

* To maintain high accuracy and long life, switch set point should be adjusted within 30 to 65% of full scale range of pressure. Ensure that wetted parts are compatible with process gasses and liquids to be measured.

Specification 1

Item	Description
Model	Flame proof construction (Exd IIB+H ₂ T4)
Fluid	Gas, liquid (No freezing)
Operating condition	Hazardous area See explanation of type of protection for details.
Mounting	Panel mounting, 2B pipe mounting
Connection	G3/8B, G1/2B, Rc1/4, Rc1/2, 1/4NPT Female, 1/2NPT *For other connections, please contact us.
Wetted parts material	Bellows SUS316L Tank SUS316 or SUS316L (Depends on pressure range) Connecting part SUS316
Pressure range (MPa)	-0.1 to 0, 0.01 to 0.1, 0.02 to 0.2, 0.03 to 0.3, 0.04 to 0.4, 0.06 to 0.6, 0.1 to 1, 0.15 to 1.5, 0.2 to 2, 0.3 to 3, 0.5 to 5, 0.7 to 7, 1 to 10
Proof pressure	0.15 to 21MPa (Depends on pressure range)
Operating temperature range	-5 to 40°C
Accuracy	±1%max.P.
Temperature coefficient	0.05%max.P./°C
Deadband	Refer to specification 2 for details
Switch	Micro switch
Number of contacts	One contact (Standard, direct current use) or two contact (Setting dual circuit)
Setting system	Internally adjustable
Outlet for electric wire	Flame proof gasket type
Case material, finishing	AC7A Blue/ Gray two-tone epoxy painted
Protection	IP65
RoHS Compliance	Applicable
Weight	Approx. 5 kg

Specification 2

Electrical characteristics:

Switch	Rating			Withstand voltage	Insulation resistance
		Resistance load	Inductive load		
1 contact standard	125V AC	20A	20A	2000V AC Between terminals and case for 1 minute	500V DC 100MΩ or higher Between terminals and case
	250V AC	20A	20A		
	125V DC	0.5A	0.05A		
	250V DC	0.25A	0.03A		
1 contact direct current	125V AC	10A	6A		
	250V AC	3A	1.5A		
	125V DC	10A	6A		
	250V DC	3A	1.5A		
2 contacts simultaneous operation	125V AC	10A	6A		
	250V AC	10A	4A		
	125V DC	0.5A	0.05A		
	250V DC	0.25A	0.03A		
•Inductive load: Power factor 0.4 or higher Time constant 7ms and under * 1 contact direct current: Direct current rating is bigger than standard					

Pressure range, deadband, proof pressure and wetted parts material:

Pressure range MPa	Deadband MPa (Adjustable range)	Proof pressure MPa	Wetted parts material		
			Tank	Bellows	Connecting part
-0.1 to 0	0.003 to 0.02	0.15	SUS316	SUS316L	SUS316
0.01 to 0.1	0.003 to 0.02	0.15			
0.02 to 0.2	0.006 to 0.04	0.3			
0.03 to 0.3	0.009 to 0.06	0.45			
0.04 to 0.4	0.012 to 0.08	0.6			
0.06 to 0.6	0.018 to 0.12	0.9			
0.1 to 1	0.03 to 0.2	1.5			
0.15 to 1.5	0.045 to 0.3	2.25			
0.2 to 2	0.06 to 0.4	3			
0.3 to 3	0.09 to 0.6	4.5			
0.5 to 5	0.15 to 1	7.5			
0.7 to 7	0.21 to 1.4	10.5			
1 to 10	0.3 to 2	15			

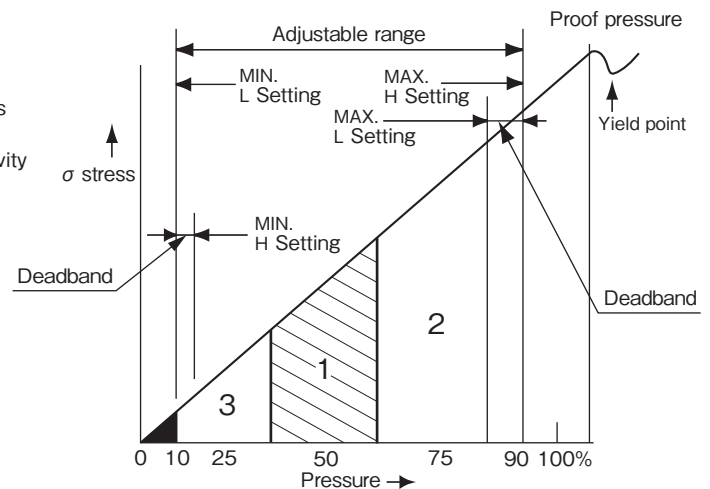
How to choose suitable pressure range

- Suitable pressure range for accurate and stable set value operation: 30% of max.P. or greater
- Pressure range for long life use: Approx. 65% of max.P. or less
- Accurate and long life operation (Ideal): Approx. 30 to 65% of max.P.

In the right figure Range 1: Selection of both accuracy and longevity
 Range 2: Selection of valuing accuracy
 Range 3: Selection of valuing longevity

Recommended switch set point range

- Upper limit type: (10%max.P.+Deadband) to 90%max.P.
- Lower limit type: 10%max.P. to (90%max.P.-Deadband)



CD75

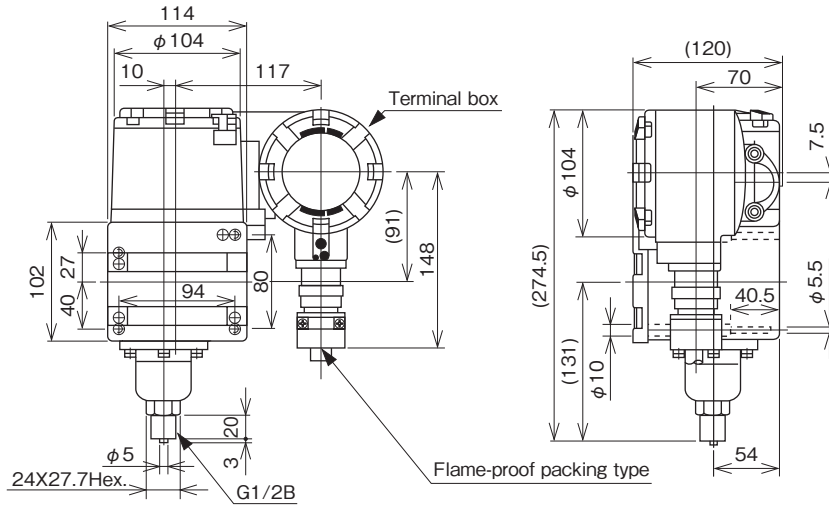
Flame Proof Type Pressure Switch

Dimensions

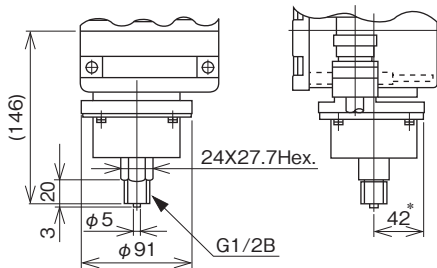
Unit: mm

Panel mounting

Pressure range
0.4, 0.6, 1, 1.5, 2, 3MPa

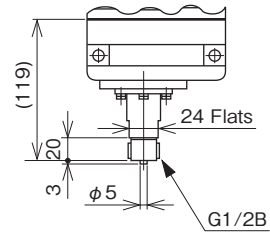


Pressure range
-0.1MPa

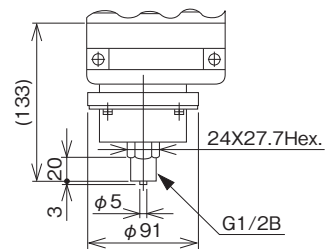


* Dimensions marked with * are also applied to 0.1MPa

Pressure range
5, 7, 10MPa

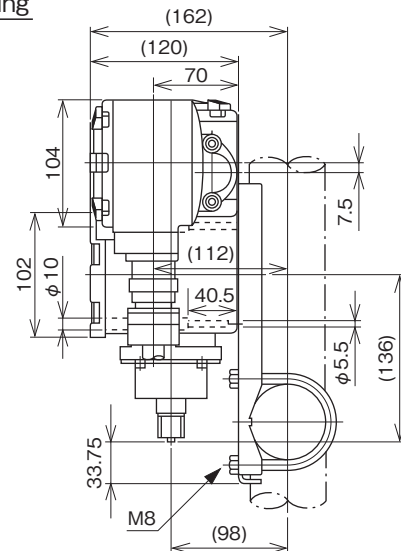
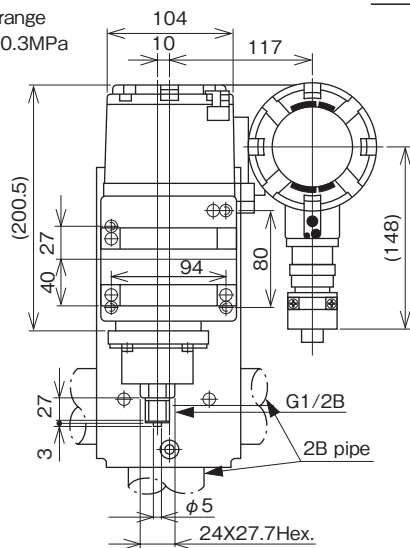


Pressure range
0.1MPa

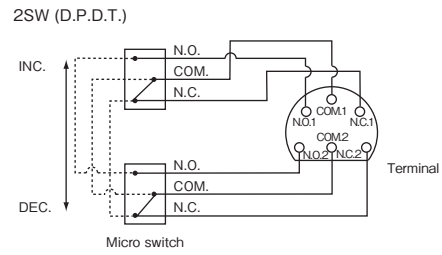
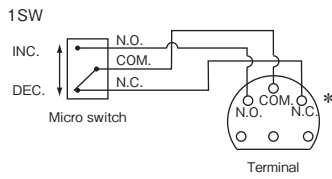


2B pipe mounting

Pressure range
0.1, 0.2, 0.3MPa



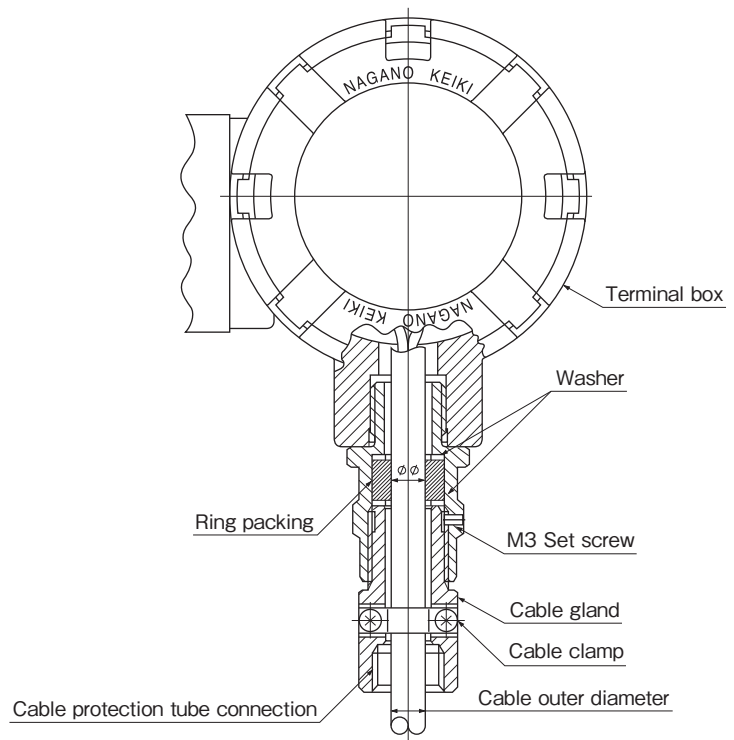
Wiring



*Please connect the (+) polarity with common terminal COM1 for S.P.D.T. specification for 1 point of contact direct current.

Outlet for electric wire

Conduit connection	Packing inner diameter (d) ϕ	Applicable cable outer diameter ϕ	Protection tube connection
G1/2	$\phi 8$ to $\phi 12$ (Available in 1DIA. Steps)	$\phi 7.0$ to $\phi 12.0$	G1/2
G3/4	$\phi 13$ to $\phi 16$ (Available in 1DIA. Steps)	$\phi 12.0$ to $\phi 16.0$	G3/4
G 1	$\phi 17$ to $\phi 20$ (Available in 1DIA. Steps)	$\phi 16.0$ to $\phi 20.0$	G 1



Flame proof construction

Type approval number certified for explosion protected equipment:

Type approval number refers approval by Ministry of Labor notification that meets the appropriate requirement of technical standard and new guideline for explosion protection in accordance with IEC standard.

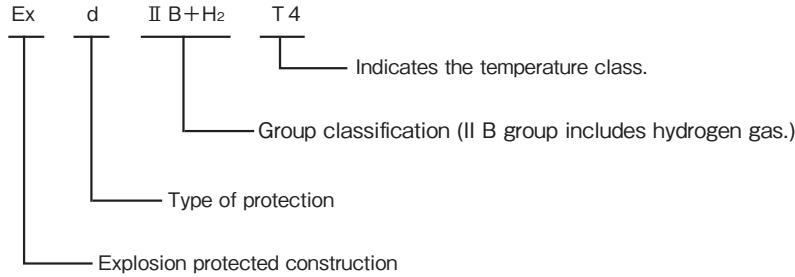
Model	Type approval number
CD75	No. T C 1 4 3 3 7

Flameproof enclosure:

Flameproof enclosure refers all-sealed enclosure construction that can withstand the pressure of explosion of the potentially explosive mixture inside, and prevent the transmission of explosion to the potentially explosive atmosphere surrounding the enclosure.

Our pressure switch manufactured in accordance with the principle can be located at factory and other workplaces for use in potentially explosive atmosphere where flammable gas or vapor of combustible liquid exists.

About Exd II B+H₂ T4:



Group classification

Electrical equipment intended for use in potentially explosive atmosphere is classified into group I and II. This pressure switch is classified into II which means suitable for non-mine locations or other workplaces that could be endangered by potentially explosive atmosphere.

Applicable group and classification of gas or steam

Classification of gas or steam	Applicable group		
	II A	II B	II C
A	II A	II B	II C
B	—	II B	II C
C	—	—	II C

Ignition point of gas or steam which T4 can apply

Ignition point of gas or steam	Applicable temperature class					
	T1	T2	T3	T4	T5	T6
Higher than 450°C	T1	T2	T3	T4	T5	T6
Higher than 300°C	—	T2	T3	T4	T5	T6
Higher than 200°C	—	—	T3	T4	T5	T6
Higher than 135°C	—	—	—	T4	T5	T6
Higher than 100°C	—	—	—	—	T5	T6
Higher than 85°C	—	—	—	—	—	T6

Example of applicable gas or steam

Group	Temperature class	T1	T2	T3	T4	T5	T6
		II A	Acetone Ammonia Carbon monoxide Ethane Acetic acid Ethyl acetate Toluene Propane Benzene Methanol Methane	Ethanol 1-butanol Butane	Hexane	Acetaldehyde	
II B			Ethylene Ethylene oxide		Ethyl methyl Ether		
II C		Hydrogen	Acetylene			Carbon bisulfide	Nitric acid ethyl

Model number configuration

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

Model

C D 7 5 — [] [] [] — [] [] [] [] [] [] [] [] [] [] [] [] [] []

Flame Proof Type Pressure Switch ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

Model number		Selective spec.	Additional spec. (Option)
① Mounting type	3	Panel mounting, Flame-proof packing type	
	7	2B pipe mounting, Flame-proof packing type	
② Connection	3	G3/8B	
	4	G1/2B	
	7	Rc1/4	
	9	Rc1/2	
	M	1/2NPT	
	X	1/4NPT Female	
		Others	
③ Switch	0	1 contact standard (S.P.D.T.)	
	1	1 contact direct current (S.P.D.T.)	
	2	2 contacts simultaneous operation (D.P.D.T.)	
④ Pressure range (MPa)	1	-0.1 to 0	
	2	0.01 to 0.1, 0.02 to 0.2, 0.03 to 0.3	
	3	0.04 to 0.4, 0.06 to 0.6, 0.1 to 1, 0.15 to 1.5, 0.2 to 2, 0.3 to 3	
	4	0.5 to 5, 0.7 to 7, 1 to 10	
⑤ Type of contacts / quantity of switch	A	H : Upper limit type with 1 contact	
	B	L : Lower limit type with 1 contact	
	D	2H: Simultaneous operation Upper limit type with 2 contacts	
	E	2L : Simultaneous operation Lower limit type with 2 contacts	
		Others	
⑥ Switch	0	Standard	
	3	Standard + gold plated (Not possible for direct current)	
		Others	
⑦ Outlet for electric wire	イ	G1/2 × Gasket inner diameter 8mm	
	ウ	G1/2 × Gasket inner diameter 9mm	
	エ	G1/2 × Gasket inner diameter 10mm	
	オ	G1/2 × Gasket inner diameter 11mm	
	カ	G1/2 × Gasket inner diameter 12mm	
	ケ	G3/4 × Gasket inner diameter 13mm	
	コ	G3/4 × Gasket inner diameter 14mm	
	サ	G3/4 × Gasket inner diameter 15mm	
	シ	G3/4 × Gasket inner diameter 16mm	
	タ	G 1 × Gasket inner diameter 17mm	
	チ	G 1 × Gasket inner diameter 18mm	
ツ	G 1 × Gasket inner diameter 19mm		
テ	G 1 × Gasket inner diameter 20mm		
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 Document	0	Nil	
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill test report, test report (1 pc 1 copy), inspection / traceability certificate, attended inspection	

Please specify applicable range code as well as pressure range and engineering unit.

Recommended switch set point range
Upper limit type: (10%max.P.+Deadband) to 90%max.P.
Lower limit type: 10%max.P. to (90%max.P.-Deadband)

* Refer to catalog for model CB33 for non-flameproof enclosure

* Specify by code "X" if there is no applicable specification.