



CB15 Pressure Switch

OUTLINE

This is a pressure switch designed and manufactured by placing an emphasis on durability and reliability. As a job site type, this switch is appropriate for direct control of equipment.

FEATURES

- The setting of pressure and dead band is easily performed from the external.
- The dead band can be selected from the adjustable type and the fixed type.
- Setting scale without division is standard, but divided scale is also available as option.

* In case of selecting pressure gauge, choose the pressure range which can be used in between 30 ~ 65% of full scale, so that the gauge can give its full capacity.

SPECIFICATION 1

Fluid:

Gas or liquid

Operating condition:

Under the normal condition, where there is no inflammable gas or liquid which cause the ignition or explosion.

Connection:

G3/8B(PF), G1/2B(PF), R3/8(PT), R1/2(PT),
3/8NPT, 1/2NPT,

* For other connections, please contact.

Proof-material:

General use

Bellows Phosphor bronze(C5212R)

Tank-socket Brass(C3771)

* Applicable to 5MPa range

Corrosion-proof use

Bellows 316Lst.st.

Tank-socket SCS14

Pressure range:

0.01 ~ 0.1 → 1 ~ 10MPa (0.1 ~ 1 → 10 ~ 100kgf/cm²)

Proof-pressure:

0.15 ~ 15MPa (Depending on range)

Operating condition:

-5 ~ 40°C

Accuracy:

Within 1.0%max. P.

Setting accuracy: (Option)

±3%max. P. (Devided setting scale)

Dead band:

Adjustable 0.005 ~ 0.02h0.5 ~ 2MPa

(0.05 ~ 0.2 → 5 ~ 20kgf/cm²)(Depending on range)

Fixed 0.005 ~ 0.5MPa or less (0.05 ~ 5kgf/cm² or less)
(Depending on range)

Switch:

JIS C4505 Industrial microswitch

Number of contact:

One contact (Standard, Direct current use) or two
contact (Simultaneous operation)

Setting system:

External adjustment type

Outlet for electric wire:

Gland JIS20b

* Conduit type is available, contact NKS for details.

Case material-finishing:

Aluminium alloy die casting (ADC12)-Gray

Construction:

IP43

Weight:

Approx. 1.2kg

SPECIFICATION 2

Pressure range & dead band-Proof-pressure:

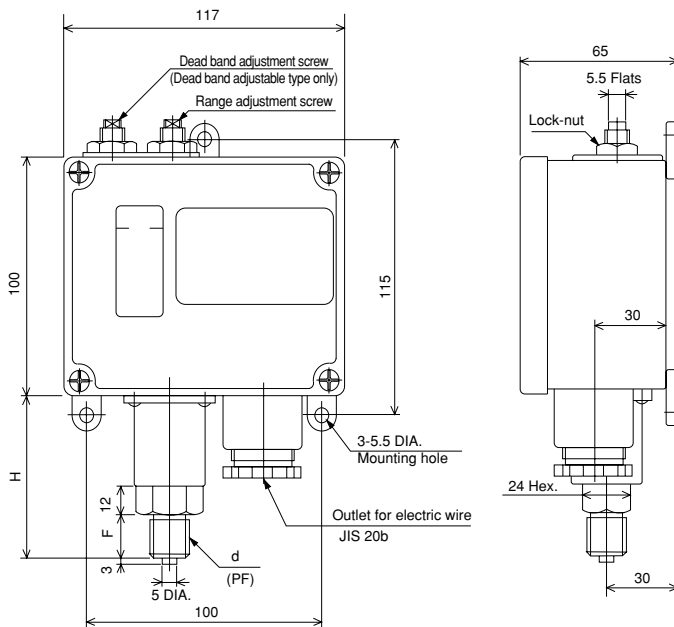
Pressure range MPa(kgf/cm ²) (Pressure setting range)	Dead band MPa (kgf/cm ²)		Proof-pressure MPa (kgf/cm ²)
	Fixed	Adjustable	
0.01~0.1 (0.1~ 1)	0.005 (0.05) or less	0.005~0.02 (0.05~0.2)	0.15 (1.5)
0.02~0.2 (0.2~ 2)	0.01 (0.1) or less	0.01 ~0.04 (0.1 ~0.4)	0.3 (3)
0.04~0.4 (0.4~ 4)	0.02 (0.2) or less	0.02 ~0.08 (0.2 ~0.8)	0.6 (6)
0.06~0.6 (0.6~ 6)	0.03 (0.3) or less	0.03 ~0.12 (0.3 ~1.2)	0.9 (9)
0.1~1 (1 ~10)	0.05 (0.5) or less	0.05 ~0.2 (0.5 ~2)	1.5 (15)
0.15~1.5 (1.5~15)	0.075(0.75) or less	0.075~0.3 (0.75~3)	2.25 (22.5)
0.2~2 (2 ~20)	0.1 (1) or less	0.1 ~0.4 (1 ~4)	3 (30)
0.35~3.5 (3.5~35)	0.175 (1.75) or less	0.175~0.7 (1.75~7)	5.25 (52.5)
0.5 ~ 5 (5 ~50)	0.25 (2.5) or less	0.25 ~1 (2.5 ~10)	7.5 (75)
*0.7 ~ 7 (7 ~70)	0.35 (3.5) or less	0.35 ~1.4 (3.5 ~14)	10.5 (105)
*1 ~10 (10 ~100)	0.5 (5) or less	0.5 ~2 (5 ~20)	15 (150)

* Wetted parts material is corrosion-proof type only.

Electric characteristics:

Switch	Rating			Withstand voltage	Insulation resistance
	Load resistance	Inductive load			
Single setting	125V AC	20 A	20 A	2000V AC Between terminal and case 1munite	500V DC 100MΩ over Between terminal and case
	250V AC	20 A	20 A		
	125V DC	0.5 A	0.05A		
	250V DC	0.25A	0.03A		
Single setting direct current type	125V AC	10 A	6 A	1500V AC Between terminal and case 1munite	
	250V AC	3 A	1.5 A		
	125V DC	10 A	6 A		
	250V DC	3 A	1.5 A		
Single setting dual circuits	125V AC	10 A	6 A	Between terminal and case 1munite	
	250V AC	10 A	4 A		
	125V DC	0.5 A	0.05A		
	250V DC	0.25A	0.03A		
· Inductive load : Power factor more (AC), Time-constant 7ms or less (DC)					

DIMENSIONS



Range MPa (kgf/cm ²)	d		G3/8B (PF)		G1/2B (PF)	
	H	F	H	F		
0.01 ~ 0.1 (0.1~1)	76	18	78	20		
0.02 ~ 0.2 (0.2~2)	68	18	70	20		
0.04 ~ 0.4 (0.4~4)	68	18	70	20		
0.06 ~ 0.6 (0.6~6)	68	18	70	20		
0.1 ~ 1 (1~10)	68	18	70	20		
0.15 ~ 1.5 (1.5~15)	54	18	56	20		
0.2 ~ 2 (2~20)	54	18	56	20		
0.35 ~ 3.5 (3.5~35)	54	18	56	20		
0.5 ~ 5 (5~50)	54	18	56	20		
0.7 ~ 7 (7~70)	54	18	56	20		
1 ~ 10 (10~100)	54	18	56	20		

TYPE OF CONTACT AND WIRING SYSTEM

Type of contact	MARK	Operation system	Connection terminal number		
S.P.D.T.	Upper limit type with one contact	H	When the pressure is upper than set value, contact points work to turn a circuit ON.		NO1-COM1
	Lower limit type with one contact	L	When the pressure is lower than set value, contact points work to turn a circuit ON.		NC1-COM1
D.P.D.T.	Upper limit type with two contact	WH	This is the combination of two upper limit types and works simultaneously		NO1-COM1 NO2-COM2
	Lower limit type with two contact	WL	This is the combination of two upper limit types and works simultaneously		NC1-COM1 NC2-COM2

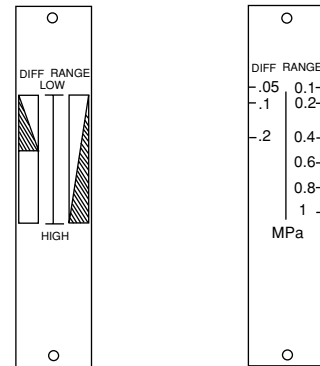
CONDITIONS FOR APPLICABLE

Pressure changing speed, life and permissible frequency

Type of contact	Pressure changing speed	Number of switching times(Electric)	Permissible frequency (Electric)
Standard S.P.D.T.	Within 15 minutes	250000 times over	20 times/minutes
Direct current type S.P.D.T.	Within 10 minutes	100000 times over	
Simultaneous operation D.P.D.T.		250000 times over	

Note: The pressure changing speed shall refer to the time required from the 0 point to the maximum pressure.

SETTING SCALE



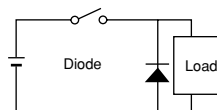
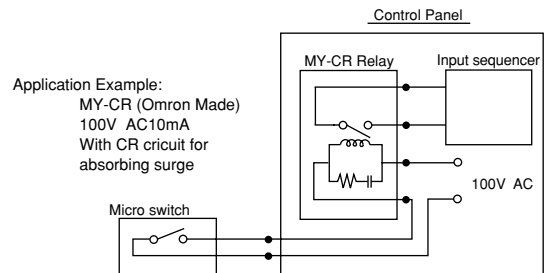
Setting scale without division

Setting scale with division (Option)

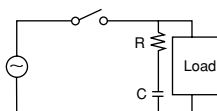
(Example) Pressure range 0.1~1MPa (1~10kgf/cm²)

REMARKS

- As a sequencer input;
Use this switch gauge in the ventilated condition.
Otherwise the following might be caused.
The contact resistance of the microswitch increases gradually as time passes.
For the application in the atmosphere, especially including Si, SiO₂ will be accumulated on the contact part as switch operated. Then the contact resistance will be increased, so that switch may be not operated.
Therefore, above is suggested for the application condition, including Si atmosphere.
When you use this switch gauge as sequencer input for controlling, input or connect through 100V AC Relay.
- Installation of protection circuit for contact
In the inductive load open and close circuit, install the protection circuit to protect the contact.
When you use the relay, choose the built-in protection circuit for the contact.



Direct current can be only used.
Choose the diode to withstand the reverse voltage sufficiently
can be used as an alternative Current application

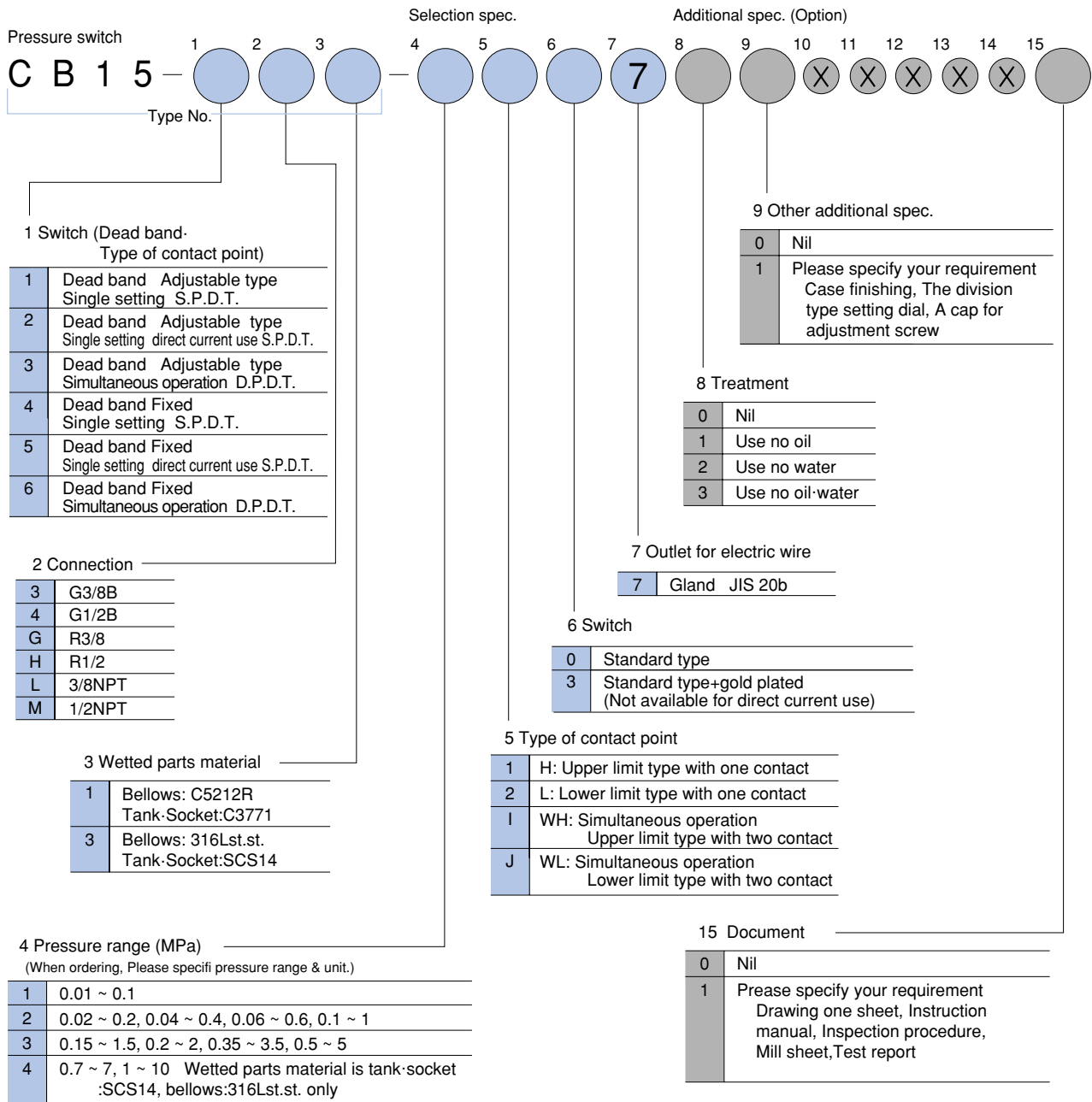


R : Tens 10 ohms
C : 0.1~0.2μF

Type No. constitution

Please specify Type No., each specification and range when ordering.

Note: For this Model, there is no applicable item for the figures X, but please specify X when ordering.



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