



Model CD2125 Explosion-Protected Construction Pressure Gauges(Switches)

OUTLINE

This is an explosion-protected construction pressure gauge equipped with a contactor applied to inflammable and explosive measuring liquid and environment. Especially, this pressure gauge is appropriate for the job site where a pressure indication is required, and is applied to measuring pressure, warning and control.

FEATURES

As the case of this pressure gauge is cast aluminum, rigid and light weight design has been applied.

The change of setting position for contactors can be performed using a knob from the outside.

An exclusive element is installed for each function such as indication and switching, mutual influence between the functions does not occur.

* 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 its full capacity.

SPECIFICATION 1

Kind of explosion proof construction:

Explosion-proof d2G4

Fluid:

CD21 Gas or liquid

CD25 Gas

Operating condition:

Hazardous area The details refer to explanation column of explosion-protected construction.

Connection:

G1/2B(PF), R1/2(PT), 1/2NPT

* For other connections, please contact us.

Wetted parts material:

General use (CD25 only)

Socket Copper alloy (C3604BD)

Bellows Phosphor bronze (C5212R)

Corrosion-proof use

Socket 316st.st.

Bourdon tube (CD21) 316st.st.

Bellows (CD25) 316Lst.st.

Pressure range:

CD21

20 ~ 100kPa (Receiver) (0.2 ~ 1kgf/cm²)

0 ~ 0.1 → 0 ~ 70MPa (0 ~ 1 → 0 ~ 700kgf/cm²)

-0.1 ~ 0 → -0.1 ~ 2MPa (-1 ~ 0 → -1 ~ 20kgf/cm²)

CD25

0 ~ 5 → 0 ~ 70kPa (0 ~ 500 → 0 ~ 7000mmH₂O)

Operating temperature:

-5 ~ 40°C (But fluid should not be frozen)

Indication accuracy:

±1.5%F.S. (Receiver range ±0.75%F.S.)

Setting accuracy:

±3%F.S.

Repeatability:

1%F.S.

Temperature coefficient:

0.05%F.S./°C

Dead band:

Fixed Within 6 ~ 15 % F.S.

(D depending on range)

Switch:

JIS C4505 Industrial Micro switch

Number of contact:

One contact or two contact

Setting system:

CD21 External adjustment With setting scale

CD25 Internal adjustment With setting scale

Methods of leading external conductors and cable in to a terminal box:

Conduit type or flame-proof packing type

Case material-finishing:

Aluminium alloy casting (AC7A)·Gray

Construction:

CD21 Outdoor type (IP54)

CD25 Indoor type



Weight:

CD21 Approx. 11 kgs

CD25 Approx. 15 kgs

SPECIFICATION 2

Pressure range and dead band:

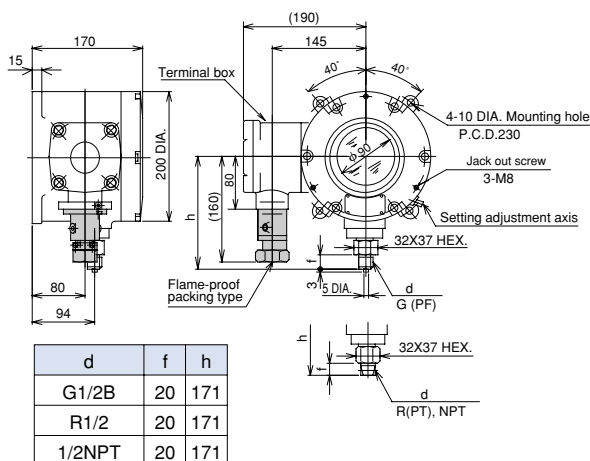
Model	Pressure range			Dead band % F.S. within
	Vacuum MPa(cmHg)	Compound MPa(cmHg), MPa(kg/cm ²)	Pressure MPa(kg/cm ²)	
CD21  Bourdon tube type			20~100kPa (0.2~1)	15
	-0.1~0 (76~0)		0~0.1 (0~1)	
		-0.1~0~0.1 (76~0~1)	~0.2 (~2)	10
		-0.1~0~0.2 (76~0~2)	~0.3 (~3)	
		-0.1~0~0.3 (76~0~3)	~0.4 (~4)	8
		-0.1~0~0.4 (76~0~4)	~0.6 (~6)	
		-0.1~0~0.6 (76~0~6)	~1.0 (~10)	6
		-0.1~0~1 (76~0~10)	~1.5 (~15)	
		-0.1~0~1.5 (76~0~15)	~2.0 (~20)	
		-0.1~0~2 (76~0~20)	~2.5 (~25)	
			~3.5 (~35)	
			~5.0 (~50)	
			~7.0 (~70)	
			~10 (~100)	
		~15 (~150)	8	
		~25 (~250)		
		~35 (~350)		
		~50 (~500)		
		~70 (~700)		
		~100 (~1000)		
CD25  Bellows type			kPa (mmHgO)	10
			0~5 (0~500)	
			~7 (~700)	
			~10 (~1000)	
			~15 (~1500)	8
			~20 (~2000)	
			~30 (~3000)	
			~40 (~4000)	
			~50 (~5000)	
			~70 (~7000)	

Electric characteristics:

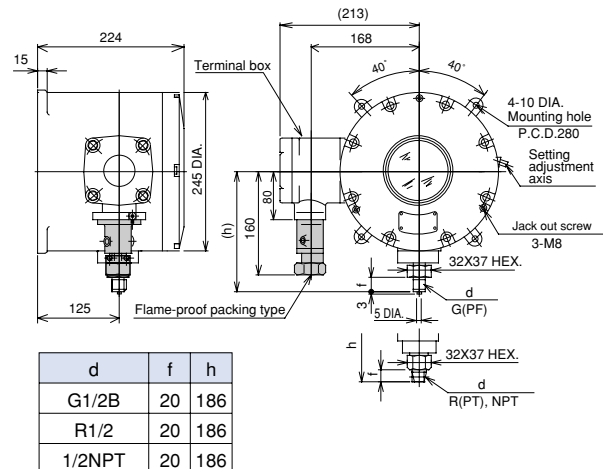
Rating	Rating		Withstand voltage	Insulation resistance
	Resistance load	Inductive load		
250V AC	15A	15A	1500V AC Between terminals and case 1 minute	500V DC 100M Ω over Between terminals and case
125V AC	15A	15A		
125V DC	0.5A	0.05A		
30V DC	2A	1A		
· Inductive load is power factor more than 0.4 (AC) Time-constant 7ms or less (DC)				

DIMENSIONS

CD21



CD25



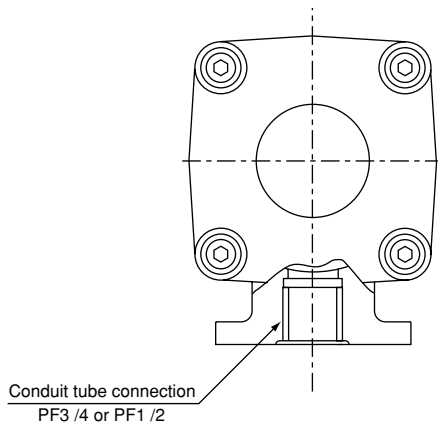
TYPE OF CONTACT POINT AND WIRING SYSTEM

Type of contact point	MARK	A figure of operation system and operation	Connection terminal number	Setting pointer	Note
Upper limit type with one contact	H	* When the pressure rises to a set value, contact points work to turn a circuit ON. <div style="text-align: center; font-size: small;"> Pressure up → OFF ON 0 SET max. </div>	①—②	Black pointer	Connecting ②—③ reverses ON and OFF at the set point.
Lower limit type with one contact	L	* When the pressure decreases to a set value, contact points work to turn a circuit ON. <div style="text-align: center; font-size: small;"> ← Pressure down ON OFF 0 SET max. </div>	②—③	Black pointer	Connecting ①—② reverses ON and OFF at the set point.
Upper and lower limit type with two contact	HL	* This is the combination of the upper limit type and the lower limit type and each works independently	①—② ⑤—⑥	Black pointer Red pointer	
Upper limit type with two contact	2H	* This is the combination of two upper limit types and each works independently	①—② ④—⑤	Black pointer	
Lower limit type with two contact	2L	* This is the combination of two lower limit types and each works independently	②—③ ⑤—⑥	Black pointer Red pointer	

When the upper limit type (lower limit type) is changed to lower limit type (upper limit type), setting should be compensated the dead-band according by.

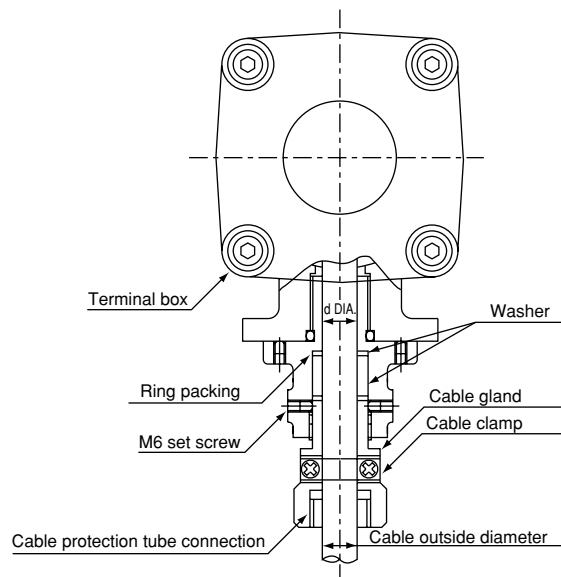
METHODS OF LEADING EXTERNAL CONDUCTORS AND CABLE IN TO A TERMINAL BOX

(1) Conduit type



(2) Flame-proof packing type

Packing inside DIA. (d)	Application cable outside DIA.	Protection tube connection
10.5	9.4	PF 1/2 PF 3/4
	9.9	
	10.1	
12	10.5	
	11.0	
	11.5	
14	11.9	
	12.0	
	12.5	
	12.6	
15.5	13.1	
	13.5	
	13.6	
	14.5	
16.5	15.6	PF 3/4 PF 1



EXPLOSION-PROOF

Explosion-protected construction:

Explosion protected-construction is a totally enclosed construction such that even if the explosive gas explodes inside the container, the container withstands the force of the explosion and there is no danger of ignition of external explosive gases.

Our pressure switches and differential pressure switches manufactured under this basic policy are widely used in the measurement, alarm, and control of pressure in factories and business offices where combustible gases or the vapor of combustible liquids having a flash point of 40°C or less may exist.

Application range: d2G4

Explosion-protected construction: d

Explosion class: 2 (Minimum gap with a 25mm length of patch which permits the flame propagation is 0.4mm to 0.6mm)

Ignitability: G4 (An ignition point exceeds 135°C, and temperature-rise limit of container outside is 70deg with a thing less than 200°C)

Hazardous areas: Zone 1 or zone 2

Object industries: Petrochemical, chemical fiber, synthetic resin, ethylene, 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	A place where hazardous atmosphere is continuously present or present for a long period under ordinary circumstances.
Zone 1	A place where hazardous atmosphere is likely to occur under ordinary circumstances.
Zone 2	A place where hazardous atmosphere is likely to occur under abnormal circumstances.

TYPE APPROVAL NAME AND NUMBERS

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

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

Type approval name:

MVSD

Type approval number:

Type No.	Safe study pass type name	Safe study pass number
CD21-□□3	MVSD	21936 (0.7MPa or less)
		21106 (1MPa and compound)
		21937 (1.5MPa and compound)
		21938 (2MPa and compound)
		21939 (2.5MPa and compound)
		21940 (3MPa, 3.5MPa)
		21941 (5MPa)
		21942 (7MPa)
		21943 (10MPa)
		21944 (15MPa)
		21945 (20MPa, 25MPa)
		21946 (30MPa, 35MPa)
		21947 (50MPa)
21948 (70MPa)		
CD25-□□1	MVSD	21108
CD25-□□3		21109

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.

C	D	2	1	Medium low pressure-medium pressure use
C	D	2	5	Low pressure use

Explosion-protected construction pressure gauges

CD 2 (Type No.)

1 Type (Contact number-methods of leading external conductors and cable in to a terminal box)

1	One contact Conduit type
2	Two contact Conduit type
3	One contact Flame-proof packing type
4	Two contact Flame-proof packing type

2 Connection

4	G1/2B
H	R1/2
M	1/2NPT

3 Wetted parts material

		CD21	CD25
1	General use	—	○
3	Corrosion-proof use	○	○

4 Pressure range

In case of CD21
(When ordering, please specify pressure range & unit.)

1	-0.1 ~ 0, 0.1, 0.2, 0.3, 0.4, 0.6MPa -0.1 ~ 1, 1.5, 2MPa
2	20 ~ 100kPa (Receiver)
3	0 ~ 0.1, 0.2, 0.3, 0.4, 0.6MPa 0 ~ 1, 1.5, 2, 2.5, 3.5MPa
4	0 ~ 5, 7, 10, 15, 25, 35MPa
5	0 ~ 50, 70MPa

In case of CD25
4 Pressure range
(When ordering, please specify pressure range & unit.)

1	0 ~ 5, 7, 10, 15, 20, 30, 40, 50kPa
2	0 ~ 70kPa

Selection spec.

Additional spec. (Option)

9 Other additional spec.

0	Nil
1	Please specify your requirement Case finishing

8 Treatment

0	Nil
1	Use no oil
2	Use no water
3	Use no oil & water

7 Outlet for electric wire
In case of conduit type

2	PF1 /2 female
3	PF3 /4 female (Standard)

7 Outlet for electric wire
In case of flame-proof packing type

0	PF1 /2 female × 10.5
1	PF1 /2 female × 12
2	PF3 /4 female × 10.5
3	PF3 /4 female × 12
4	PF3 /4 female × 14
5	PF3 /4 female × 15.5
6	PF3 /4 female × 16.5
7	PF1 female × 14
8	PF1 female × 15.5
9	PF1 female × 16.5

6 Switch

0	Standard
1	Ultra high sensitivity switch
2	Magnetic blow-out basic switch
3	Standard + gold plated
4	Ultra high sensitivity + gold plated

5 Type of contact point

1	H : Upper limit type with one contact
2	L : Lower limit type with one contact
3	HL : Upper and lower limit type with two contact
4	2H : Upper limit type with two contact
5	2L : Lower limit type with two contact

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet, Instruction manual, Inspection procedure, Mill sheet, Test report