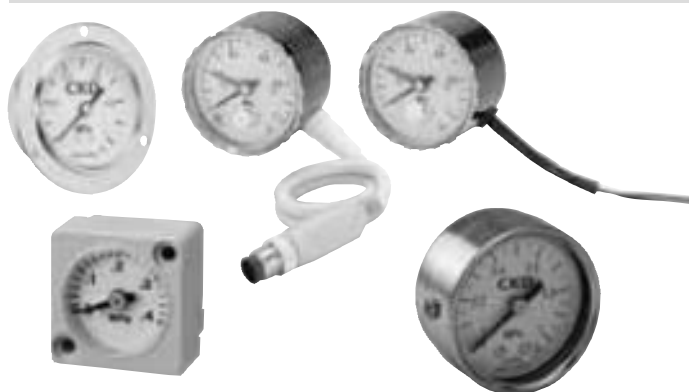


Related products

■ Components for air preparation/pressure adjustment/F.R.L. unit



C O N T E N T S

Pressure gauge

- Pressure gauge assembly (G401-W) 195
- With safety mark (G40D, G50D) 196
- With limit mark (G41D) 197
- General purpose (G49D, G59D) 198
- Pressure gauge for panel mount (G53D) 199
- Pressure gauge with switch (G52D) 201

Pressure switch

- Compact mechanical pressure switch (APS-W) 205

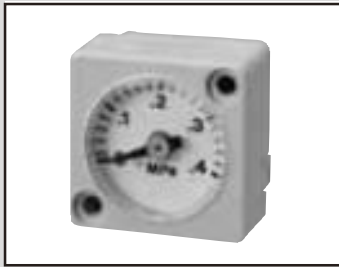
Drain discharger

- Automatic drain (DT3000-W, DT4000-W) 209

⚠ Handling the Pressure Gauge

Repeated and sudden increase and decrease in the pressure and pressure pulsation must be avoided because this could adversely affect the life of the pressure gauge. Either ease the pressure fluctuation in the circuit or check with CKD so that a pressure gauge with a cushioning screw is prepared.

- ⚠ Refer to the Pneumatic, Vacuum, and Auxiliary Components (No. CB-024SA) catalog for precautions for general pneumatic pressure components. ⚠ Refer to Safety Precautions in this catalog for detailed precautions for each series.



Thin type pressure gauge

G401-W Series

Thin, compact design ideal for incorporating devices.

Suitable for filter regulator, regulator, and pressure switch (P4000-W).

● Connection: O ring sealant, set screw

JIS symbol



Specifications

Descriptions		G401-W
Working fluid		Compressed air
Fluid temperature °C		5 to 60
Ambient temperature °C		5 to 60
Precision Grade		JIS3 grade or equivalent ($\pm 3\%F/S$) (at 5 to 35°C)
Shape		Square shaped, set screw
Display section diameter		$\phi 26$
Material	Housing	PBT resin
	Lens	Polycarbonate resin
Pressure range MPa		0 to 0.4
		0 to 1.0
Connection		O ring sealant, set screw
Weight g		11

How to order

G401 - **W** - **0P** - **P04**

(White Series)

A Connection method

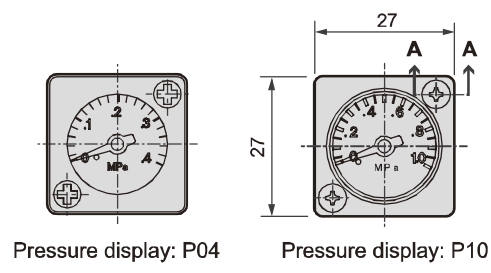
B Pressure display

Symbol	Descriptions
A Connection method	
Blank	Set screw for metal (nominal 3 tapping screw) (R3000, 4000, 8000 Series provided as standard) (R3100, 4100, 8100 Series)
OP	Set screw for resin (nominal 3 tapping screw) (R1000, W1000 Series provided as standard)
B Pressure display (MPa)	
P04	0 to 0.4MPa
P10	0 to 1.0MPa

Dimensions and part material

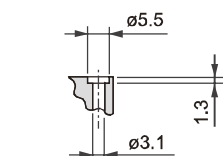
● G401

● Pressure gauge assembly



Pressure display: P04

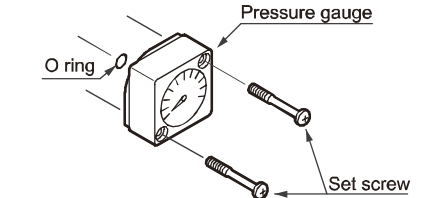
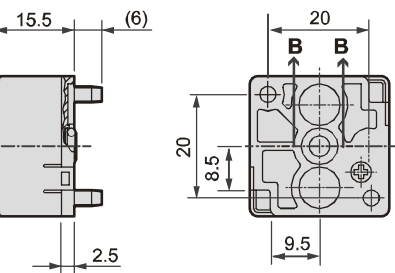
Pressure display: P10



Cross section A-A



Cross section B-B



* Tighten the mounting screw to 0.6 N·m or less.

Applications



Part name	Material
Bourdon tube	Phosphor bronze
Case	PBT resin
Lens	Polycarbonate resin



Pressure gauge with safety mark

G40D/G50D Series

Green and red zones simplify visual control.

● Port size: R1/8, R1/4

JIS symbol



RoHS

Specifications

Descriptions	G40D, G50D	
	P10	P04
Working fluid	Compressed air	
Full scale MPa	1.0	0.4
Safety mark setting range MPa	0.15 to 1.0	0.06 to 0.4
Max. setting depth MPa	0.45	0.18
Ambient temperature °C	5 to 60	
Fluid temperature °C	5 to 60	
Port size R	1/8, 1/4	
Precision	JIS3 grade or equivalent ($\pm 3\%F \cdot S$) (at 5 to 35°C)	
Weight g	G40D: 85	G50D: 100

How to order

G40D - 8 - P10

A Model no.

B Port size

C Pressure display

Symbol	Descriptions
A Model no.	
G40D	Pressure gauge with safety mark
G50D	Pressure gauge with safety mark
B Port size	
6	R1/8
8	R1/4
C Pressure display	
P10	0 to 1.0MPa
P04	0 to 0.4MPa

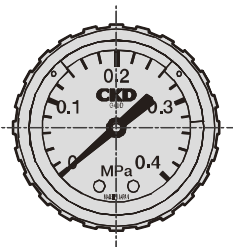
! Note on model no. selection

* Designate R1/4 when mounting on Selex F.R.L. Series.

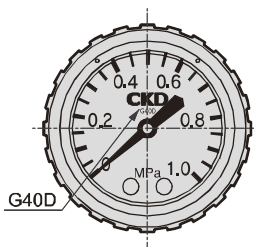
* Designate G40D-8 when selecting for Selex F.R.L. 1000 Series.

Dimensions and material

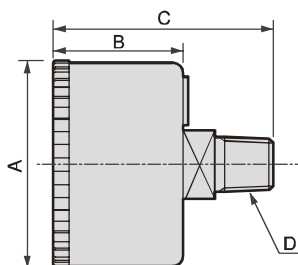
Adjustment method of pressure range



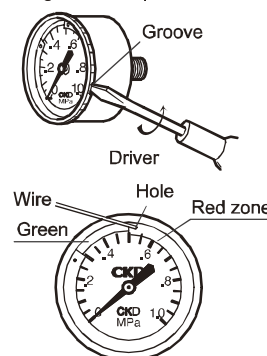
Pressure display: P04



Pressure display: P10



Opening the transparent case



Part name	Material
Bourdon tube, stock	Brass
Housing	Steel sheet + paint
Lens	Polyamide resin
Mark	PBT resin

Model no.	A	B	C	D
G40D-6	ø	26.5	44	R1/8
G40D-8	42.5		46	R1/4
G50D-6	ø	27.5	44	R1/8
G50D-8	52.5		46	R1/4

Open the transparent case, and move the red zone by inserting a thin wire into the hole at the red zone. After adjustment, assemble the transparent case, then pressurize air pressure.



Pressure gauge with limit mark

G41D Series

Visually control with green arrow.

● Port size: R1/8, R1/4

JIS symbol



RoHS

Specifications

Descriptions		G41D
Working fluid		Compressed air
Fluid temperature °C		5 to 60
Ambient temperature °C		5 to 60
Precision Note 1	Grade	JIS3 grade or equivalent ($\pm 3\%F/S$) (at 5 to 35°C)
Shape		DT type (rear side screw/stock section 4 square)
Display section diameter		ø42
Material	Stock, Bourdon tube	Brass
	Housing	Stainless steel
	Lens	Polycarbonate resin
	Mark	Polyacetal resin
Pressure range MPa		0 to 0.2 0 to 0.4 0 to 1.0
(Setting range)		
Port size	Note 1	R1/8, 1/4
Weight	g	82

Note 1: The guaranteed display accuracy temperature is 20 \pm 15°C.

How to order

G41D - 6 - P04

A Model no.

B Port size

C Pressure display

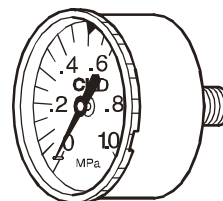
Symbol	Descriptions
A Model no.	
G41D	Pressure gauge with limit mark
B Port size Note 1	
6	R1/8
8	R1/4
C Pressure display	
P02	0 to 0.2MPa
P04	0 to 0.4MPa
P10	0 to 1.0MPa

⚠ Note on model no. selection

Note 1: NPT and G threads are used as custom orders.

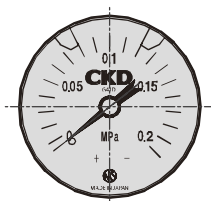
Adjustment method

Remove the transparent case, and move the green arrow mark with a screwdriver, etc. After adjustment, assemble the transparent case, then pressurize air pressure.

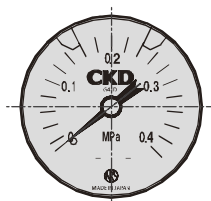


Remove the transparent cover by turning it counterclockwise and pulling it off.

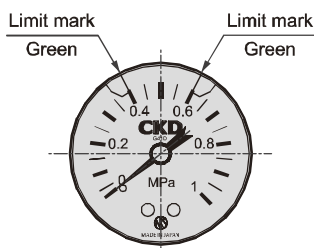
Dimensions



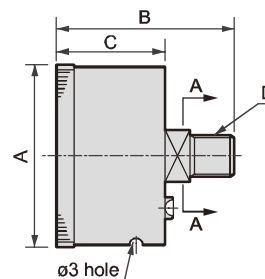
Pressure display: P02



Pressure display: P04



Pressure display: P10



Model no.	A	B	C	D	E
G41D-6	ø42	40.5	24.5	R1/8	12
G41D-8	ø42	44.5	24.5	R1/4	14



Cross section A-A



General purpose pressure gauge

G49D/G59D Series

● Port size: R1/8, R1/4

JIS symbol



RoHS

Specifications

Descriptions		G49D	G59D
Working fluid		Compressed air	
Fluid temperature °C		5 to 60	
Ambient temperature °C		5 to 60	
Precision Note 1		JIS3 grade or equivalent ($\pm 3\%F/S$) (at 5 to 35°C)	
Shape		DT type (rear side screw, stock section 4 square)	
Display section diameter		ø42	ø52
Material	Stock, Bourdon tube	Brass Note 2	
	Housing	Steel sheet + chrome plating	
	Lens	Glass	
Pressure range MPa		0 to 0.2 0 to 0.4 0 to 1.0 0 to 2.0	
Port size R		1/8, 1/4	
Weight g		86	115

Note 1: The guaranteed display accuracy temperature is 20±15°C.

Note 2: The material of the Bourdon's tube is phosphor bronze only for pressure indication "P20."

Clean room specifications

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

G49D- - **P9***

G59D- - **P9***

Copper and PTFE free

(Page 179)

G49D- - **P6**

G59D- - **P6**

How to order

G49D - 6 - P02

A Model no.

B Port size

C Pressure display

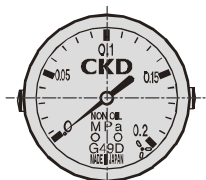
Symbol	Descriptions
A Model no.	
G49D	
G59D	
B Port size Note 2	
6	R1/8
8	R1/4
C Pressure display (MPa) Note 1	
P02	0 to 0.2
P04	0 to 0.4
P10	0 to 1.0
P20	0 to 2.0

⚠ Note on model no. selection

Note 1: Consult with CKD for indications other than MPa.

Note 2: NPT thread is treated as custom order.

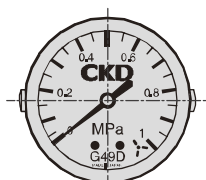
Dimensions



Pressure display: P02



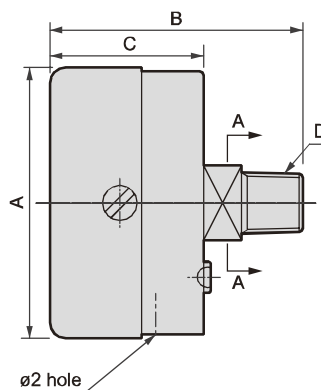
Pressure display: P04



Pressure display: P10



Pressure display: P20



Cross section A-A

Model no.	A	B	C	D	E
G49D-6	ø43.5	40.5	24.5	R1/8	12
G49D-8	ø43.5	44	24.5	R1/4	14
G59D-6	ø52	44.5	28	R1/8	12
G59D-8	ø52	46.5	28	R1/4	14
G49D-6-P6	ø42.8	43.5	27.5	R1/8	12
G59D-8-P6	ø51.8	52.5	30	R1/4	14

CKD



Pressure gauge for panel mount

G53D Series

JIS symbol



RoHS

Features

- An embedded panel mount has been added to the conventional pressure gauge
- M5 female threads are used at the connection port as standard

Specifications

Model no.		G53D
Working fluid		Compressed air
Fluid temperature	°C	5 to 60
Ambient temperature	°C	-5 to 60 (no freezing)
Precision	Note 1	JIS 3 grade or equivalent ($\pm 3\%F/S$)
Shape		DT type (rear side screw, stock section 4 square)
Display section diameter		$\phi 52$
Material	Stock, Bourdon tube	Brass
	Housing	Steel sheet + chrome plating
	Lens	Glass
Pressure range	MPa	0 to 0.2
		0 to 0.4
		0 to 1.0
Port size	R	1/8 (M5 female thread), 1/4 (M5 female thread)
Weight	g	100

Note 1: Display precision proof temperature is $20 \pm 15^\circ\text{C}$.

How to order

G53D - 8 - P02

Model no.

A Port size

B Pressure display

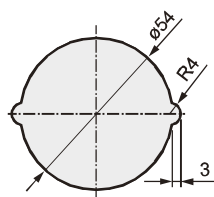
Symbol	Descriptions
A Port size Note 1	
6	1/8 (M5 female thread)
8	1/4 (M5 female thread)
B Pressure display MPa Note 2	
P02	0 to 0.2
P04	0 to 0.4
P10	0 to 1.0

Note on model no. selection

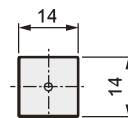
Note 1: Consult with CKD for the NPT thread.

Note 2: Consult with CKD for indications other than MPa.

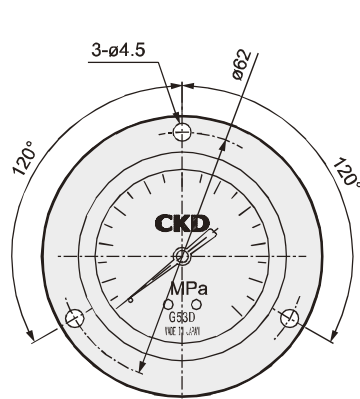
Dimensions



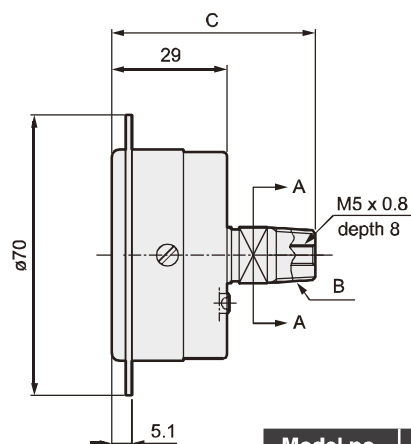
Panel cut dimension



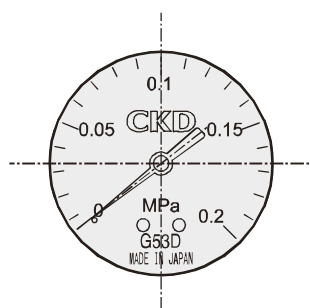
Cross section A-A



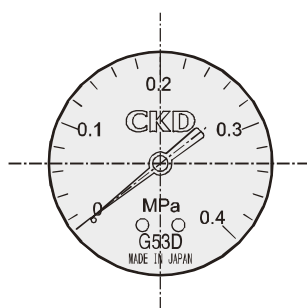
Scale display



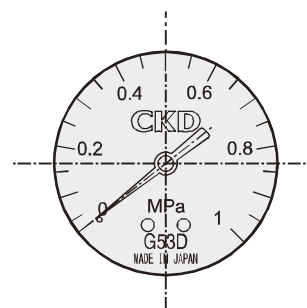
Model no.	B	C
G53D-6	Rc1/8	48
G53D-8	Rc1/4	51



Pressure display: P02



Pressure display: P04



Pressure display: P10

⚠ Safety precautions

- Check that no impact or vibration is applied directly to the product.
- Repeated and sudden increase and decrease in pressure and pressure pulsation must be avoided because it could adversely affect the life of the pressure gauge.
Ease the pressure fluctuation in the circuit.



Pressure gauge with switch

G52D Series



RoHS

Features

- Introducing a pressure switch function to the analog pressure gauge
- Nonpolar connector used as option
- Activation confirmation lamp as option

Specifications

Descriptions		Pressure gauge
Working fluid		Compressed air
Fluid temperature °C		5 to 60
Ambient temperature °C		-5 to 60 (no freezing)
Precision Note 1		JIS 3 grade or equivalent ($\pm 3\%F/S$)
Shape		DT type (rear side screw, stock section 6 square)
Material	Stock	Brass
	Bourdon tube	Phosphor bronze
	Housing	Steel sheet + chrome plating
	Lens	Polycarbonate resin
	Setting needle	ABS resin (green)
Pressure range Note 2		0 to 1.0MPa
Port size		R 1/4
Weight		g 150

Note 1: Display precision proof temperature is 20±15°C.

Note 2: Do not apply pressure exceeding the maximum indication pressure, or operation could fail.

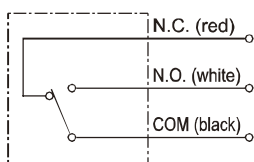
Descriptions	Pressure switch
Pressure switch setting range	0.1 to 0.8MPa
Hysteresis	0.07MPa
Contact configuration	Without lamp: 1ab (normal open, normal close) With lamp: 1a (normal open)
Setting needle error	±0.05MPa
Lead wire length	300mm
Electric connection	Without light: lead wire 3 pcs. With indicator light: M12 connector (4 pins)
Indicator light	LED (load current: 8 to 30mA)

Rated of micro switch

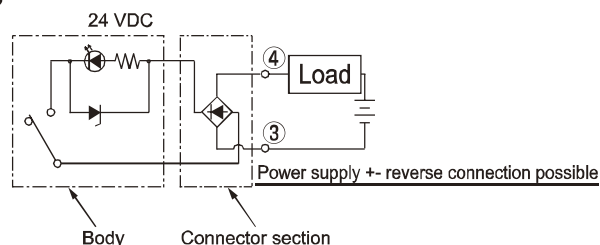
Load	Resistance load	
Rated voltage	30 VDC	125 VAC
Use current range	0.1 to 1A	0.1 to 1A

Electric wiring diagram

○ Without light



○ With light



How to order

G52D - 8 - P10 - 3N

Model no.

B Port size

C Pressure display

D Option

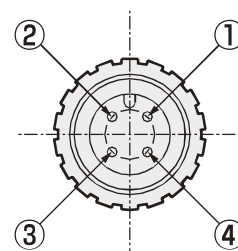
Symbol	Descriptions
B Port size	Note 1
8	R1/4
C Pressure display MPa	Note 2
P10	0 to 1.0
D Option	
Blank	Without light
3N	LED (24 VDC) not polarized

Note on model no. selection

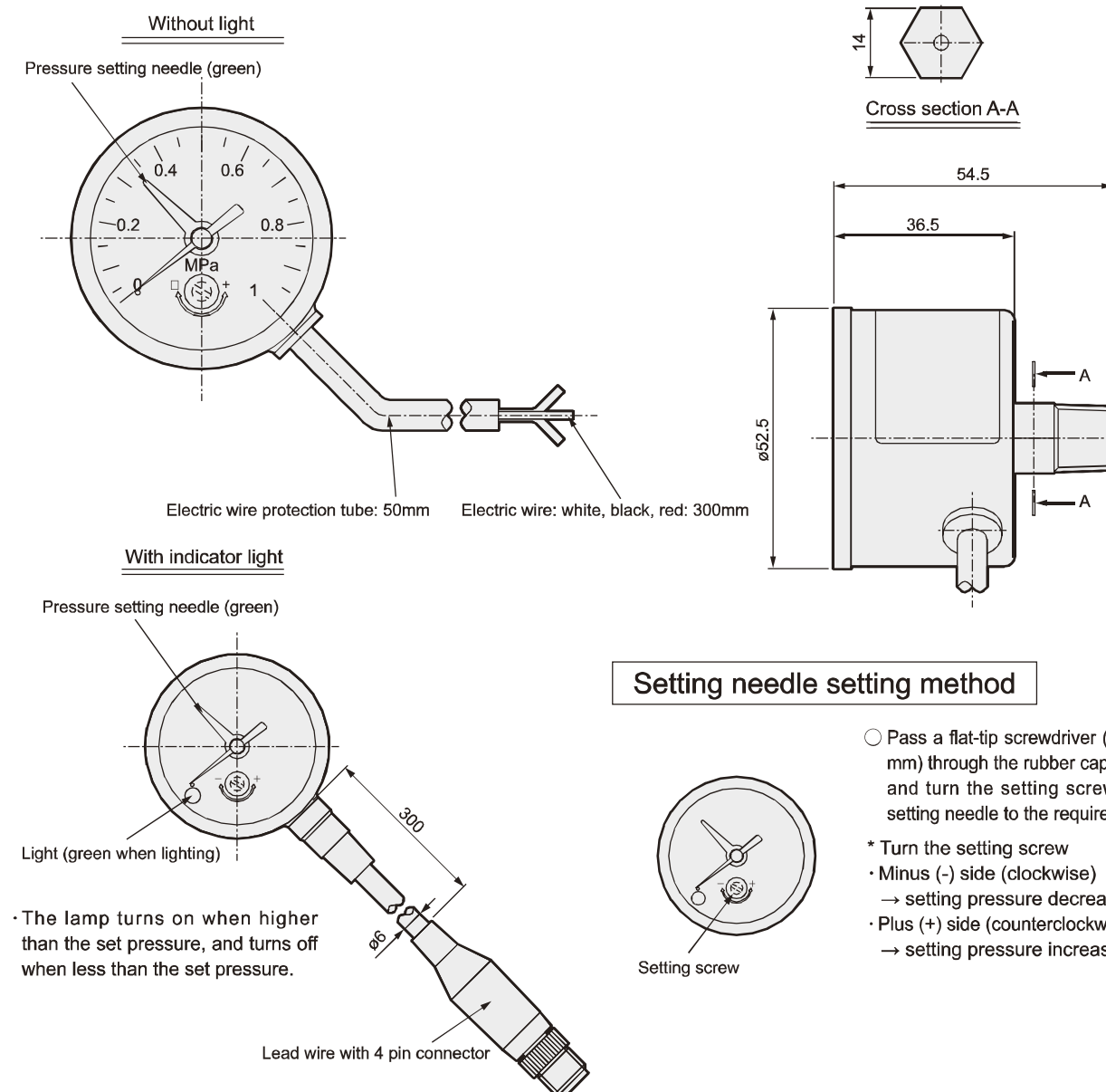
Note 1: Consult with CKD for the NPT thread.

Note 2: Check with CKD for indications other than MPa.

Terminal array of male connector



Dimensions



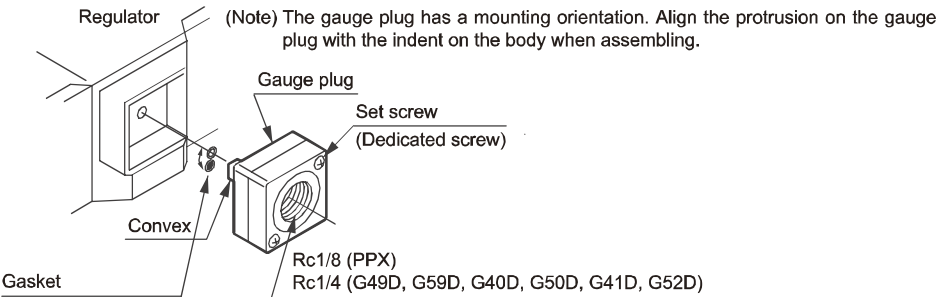
⚠ Safety precautions

- Check that no impact or vibration is applied directly to the product.
- Repeated and sudden increase and decrease in pressure and pressure pulsation must be avoided because it could adversely affect the life of the pressure gauge. Ease the pressure fluctuation in the circuit.
- The pressure switch setting value is indicated with the green setting indicator. Set the pressure switch value so that the setting indicator turn □
- Set the setting with a difference of 0.1 MPa or more from the working pressure (including pressure drop). Malfunctions could result if the difference is small. Refer to the drawings above for details on setting the setting needle. When using the pressure switch in the normal open state, the switch may not turn on when the pressure drops unless a pressure, to which the set indication error (± 0.05 MPa), hysteresis (0.07 MPa), and indicated accuracy ($\pm 3\%$ F/S) have been added, has been applied.
- Add the pressure gauge's indication accuracy to the maximum value of the setting indicator and indicator's error (set indicator error).
- When the DC lamp is used, the internal voltage drop is to be 4 V or less and load current 8 to 30 mA at 24 VDC.
- Wire the lead so that the repeated bending strain and tensile strength are not applied to the wire. Failure to do so could lead to disconnection or malfunction.

Pressure gauge Series

Gauge plug assembly (assembly of gauge plug, gasket, set screw)

Use when mounting the pressure gauge.



If the gasket is turned 180° as shown in the drawing, regulator pressure flows to the pressure gauge.

- * Tighten the pressure gauge to 10 to 15 N·m or less.
- * Use this when detecting external pressure.
- * Check with CKD when NPT or G threads are required.

Gauge plug assembly model no.	Applicable model	Applicable pressure gauge
R1000-W-G-PLUG	1000-W Series	G49D, G59D, G40D, G50D, G41D, G52D
R1000-W-T6-PLUG		PPX
R3000-W-G-PLUG	2000-W, 3000-W, 4000-W,	G49D, G59D, G40D, G50D, G41D, G52D
R3000-W-T6-PLUG	6000-W, 8000-W Series	PPX



Differential pressure gauge

GA400-8-P02 Series

For controlling service life of the air filter.

● Differential pressure measuring range: 0 to 0.2MPa ±2.5% F.S.

JIS symbol



Specifications

Descriptions	GA400-8-P02
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)
Proof pressure MPa	1.5 (≈220 psi, 15 bar)
Fluid / Ambient temperatures °C	5 (41°F) to 65 (149°F)
Differential pressure measured range MPa	0 (≈0 psi, 0 bar) to 0.2 (≈29 psi, 2 bar)
Pressure gauge accuracy	Full scale ±2.5%
Port size (high pressure side) R	1/4
Weight kg	0.26

* Standard accessories of the differential pressure gauge (GA400-8-P02) include a 0.5 m nylon tube (O.D. φ4 x I.D. φ2.5), and a single straight half union (port size: R1/4, model No. MJS4-8). An elbow union (port size R1/4, model No. MJL4-8) is included.
Designate GA400-8-P02-T1.5 when using the type with 1.5 m long nylon tube.

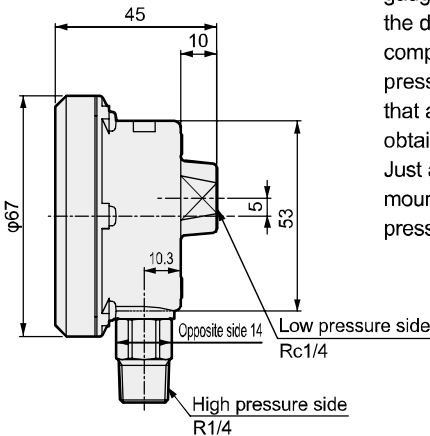
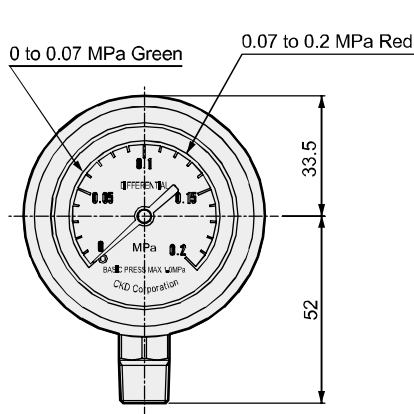
Clean-room specifications (Catalog No. CB-033SA)

● Anti-dust generation structure for use in cleanrooms

GA400-.....- **P90**

Dimensions

GA400-8-P02



Operational principle

Applying the measuring principles of a pressure gauge, the differential pressure gauge measures the differential pressure between pneumatic components in the pneumatic circuit. Differential pressure is measured in the pressurized state, so that accurate and precise measuring results are obtained.
Just assemble the bypass circuit for quick and easy mounting. Maintenance is also easy: just check the pressure gauge.

Caution

⚠ Precautions

When assembling a stop valve in the by-pass circuit, always open the stop valve before pressurizing with air.

⚠ Safety precautions (GA400)

*1: Avoid direct sunlight.

*2: If the compressed air temperature during use is higher than the ambient temperature, moisture may condense inside the differential pressure gauge since it is cooled by the ambient temperature.