

General Specifications

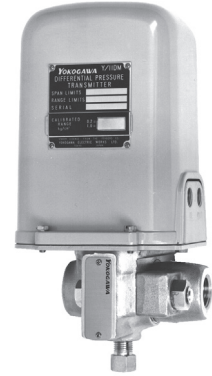
Y/11DM Pneumatic Differential Pressure Transmitter

P10 Series

GS 02C01B06-00EN

Model Y/11DM Pneumatic Differential Pressure Transmitter measures gauge pressure in spans of 0.14 to 13.7 MPa.

The instrument transmits a proportional 20 to 100 kPa signal to remote pneumatic receivers.



■ FEATURES

- Time-Proven Pneumatic Differential Pressure Transmitter Design.
- Trouble-Free Construction.
- Excellent Performance.
- Easy to Calibrate.
- Wide Range.
- Overrange Protection.

■ STANDARD SPECIFICATIONS

Span Limits:

Refer to Table 1.
Span is continuously adjustable within range limits.

Range Limits*:

Refer to Table 1.
*: when lower range-value is other than zero, optional kit for elevated-zero or suppressed-zero ranges is installed.

Static Pressure Limits:

Refer to Table 1.

Output Signal:

Refer to Table 1.

Accuracy (includes linearity, hysteresis and repeatability):

±0.5% of span.

Repeatability:

0.1% of span.

Dead Band:

0.05% of span.

Air Supply Pressure:

140 kPa, 1.4 kgf/cm² or bar, or 20 psi.

Air Consumption:

0.5 m³/h at 0°C, 101.3 kPa {1.033 kgf/cm²} absolute (0.3 scfm).

Table 1. Span, Range and Static Pressure Limits.

Capsule		–	M-calibration	P-calibration	bar-calibration
B	Span Limits	0.14 to 1.4 MPa	1.4 to 14 kgf/cm ²	20 to 200 psi	1.4 to 14 bar
	Range Limits	-1.7 to 2.4 MPa	-17 to 24 kgf/cm ²	-250 to 350 psi	-17 to 24 bar
	S. P. Limits	2.4 MPa	24 kgf/cm ²	350 psi	24 bar
C	Span Limits	0.28 to 2.7 MPa	2.8 to 28 kgf/cm ²	40 to 400 psi	2.8 to 27 bar
	Range Limits	-3.5 to 5.1 MPa	-35 to 52 kgf/cm ²	-500 to 750 psi	-35 to 51 bar
	S. P. Limits	5.1 MPa	52 kgf/cm ²	750 psi	51 bar
D	Span Limits	0.7 to 6.8 MPa	7 to 70 kgf/cm ²	100 to 1000 psi	7 to 68 bar
	Range Limits	-10 to 10 MPa	-105 to 105 kgf/cm ²	-1500 to 1500 psi	-100 to 100 bar
	S. P. Limits	10 MPa	105 kgf/cm ²	1500 psi	100 bar
E	Span Limits	1.4 to 13.7 MPa	14 to 140 kgf/cm ²	200 to 2000 psi	14 to 137 bar
	Range Limits	-14 to 14 MPa	-140 to 140 kgf/cm ²	-2000 to 2000 psi	-140 to 140 bar
	S. P. Limits	14 MPa	140 kgf/cm ²	2000 psi	140 bar
Output Signal		20 to 100 kPa	0.2 to 1.0 kgf/cm ²	3 to 15 psi	0.2 to 1.0 bar
Option Code		Standard Specifications	CAL-M	CAL-E	CAL-B

Ambient Operating Temperature Range:

-40 to 120°C (-40 to 250°F).

Process Temperature Limits:

-40 and 120°C (-40 and 250°F) at capsule.

Mounting:

Bracket for nominal 50 mm (2 inches) horizontal or vertical pipe.

Air Connection:

Tapped for JIS R1/4 or 1/4NPT, whichever specified.

Process Connection:

JIS Rc1/2, Rc1/4, 1/2NPT, or 1/4NPT female, whichever specified.

Wetted Parts Material:

Body: Forged JIS SUS316 stainless steel.
 Bellows Capsule: SUS316L stainless steel.
 Force Bar: SUS316 stainless steel.
 Force Bar Seal: Cobalt-nickel alloy.
 Capsule Gasket: Silicone elastomer.
 Force Bar Seal Gasket: Silicone elastomer.

Connection Hardware:

JIS SCM435 chrome-molybdenum steel cap screws and nuts through body and process connection block.

Cover:

Cast aluminum, finished with gray polyurethane paint.

Degrees of Protection:

IP53 (Equivalent to NEMA3)

Approximate Weight:

5.4 kg (12 lb).

■ **MODEL AND SUFFIX CODES**

Model	Suffix Codes	Description
Y/11DM	Pneumatic differential pressure transmitter.
Bellows Capsule	-B	B capsule Span: 0.14 to 1.4 MPa
	-C	C capsule Span: 0.28 to 2.7 MPa
	-D	D capsule Span: 0.7 to 6.8 MPa
	-E	E capsule Span: 1.4 to 13.7 MPa
Body Material *1	S	Forged JIS SUS316 stainless steel.
Process Connection	1	JIS Rc1/4 female.
	2	JIS Rc1/2 female.
	3*2 ...	ANSI 1/4 NPT female.
	4*2 ...	ANSI 1/2 NPT female.
Options	/□/□	

*1: ⚠ Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150 °C [302 °F] or above). Contact Yokogawa for detailed information of the wetted parts material.

*2: Air connections, drain plug connections are also tapped for ANSI NPT threads in addition to the process connection.

■ OPTIONS

Item	Description	Code	
Kit for elevated-zero or suppressed-zero ranges	Permits adjustments to 1100 % of minimum span and to range limits of capsule. Upper range-value must not exceed upper range-limit of capsule.	Elevated-zero	L
		Suppressed-zero	R
Air set	Supply pressure: 0.2 to 1 MPa, 2 to 10 kgf/cm ² or bar, or 30 to 150 psi. Output pressure: 140 kPa, 1.4 kgf/cm ² or bar, or 20 psi. Maximum operating temperature: 80 °C (180 °F). Refer to Table 2.	GAS-F□ NAS-F□	
Low spans	Refer to Table 3. Accuracy ±0.5% of span, ±1.0% of span with code R or L	LD	
Cover color other than standard finish	Specify in color block □ by color code. Refer to GS22D01F01-00E.	SCF-□	
Coating other than standard finish	Epoxy resin-baked coated.	EPF	
Oxygen service preparation	Degrease cleansing treatment.	OSW	
Stainless steel bolts and nuts	JIS SUS630 bolts and nuts for the body	SSB	
	JIS SUS630 bolts and nuts for the body and sealant (liquid silicone rubber) are coated on surface of SUS630 nuts.	SSB-S	
Ammonia service	Force bar gasket and capsule gasket : Neoprene rubber	AMM	
Stainless tube	Tube and connectors between air-set (fixed pressure regulator with filter) and transmitter are made by stainless steel. However, connection of pressure gauge remains as standard material (Bs-Ni3).	SST	
Tropicalization	When there is a possibility to generate rusts using under the condition of high temperature and high humidity area, silicone grease is coated on whole screws. Silicon grease which has stronger oil film feature.	PSG	
M-calibration	Output signal: 0.2 to 1.0 kgf/cm ²	CAL-M	
P-calibration	Output signal: 3 to 15 psi	CAL-E	
bar-calibration	Output signal: 0.2 to 1.0 bar	CAL-B	
Stainless Tag plate	Stainless Tag plate fixed with screws. Up to 16 characters.	TP-S	
Force bar seal gasket*1	GF Teflon	GFT	
Reverse output signal*2	Reverse output signal	ROUT	

*1: Not applicable for option code OSW.

*2: Not applicable for option code EPF.

Table 2. Air set

Air Connection	Gauge Scale	Code
JIS Rc 1/4 female	0 to 200 kPa	GAS-FP
	0 to 2 kgf/cm ²	GAS-FM
	0 to 30 psi	GAS-FE
	0 to 2 bar	GAS-FB
1/4 NPT female	0 to 200 kPa	NAS-FP
	0 to 2 kgf/cm ²	NAS-FM
	0 to 30 psi	NAS-FE
	0 to 2 bar	NAS-FB

Table 3. Low Spans

Capsule	Span		
	kPa	kgf/cm ²	psi
B	70 to 700	0.7 to 7	10 to 100
C	140 to 1350	1.4 to 14	20 to 200
D	350 to 3400	3.5 to 35	50 to 500
E	700 to 6800	7 to 70	100 to 1000

<Reference>

Teflon: Trademark of E.I. DuPont de Nemours & Co.

■ ORDERING INSTRUCTIONS

Specify the following when ordering:

1. Model and suffix codes.
2. Option codes.
3. Calibrated range.
4. Tag number.

■ DIMENSIONS

Unit: mm

