

DPS3051F SMART DIFFERENTIAL PRESSURE TRANSMITTER

FEATURES

- ⊙ Monocrystalline silicon sensor for high accuracy
- ⊙ 4~20mA output, optional HART® communication
- ⊙ Backlit LCD display
- ⊙ Remote and local adjustment
- ⊙ High accuracy and stability
- ⊙ Explosion-proof, anti-interference housing
- ⊙ High static pressure and overload protection
- ⊙ Patented dual-diaphragm overload design
- ⊙ Built-in lightning protection circuit



INTRODUCTION

The DPS3051F Series Smart Differential Pressure Transmitter is a state-of-the-art device designed to meet the needs of precision measurement in challenging industrial environments. Featuring an advanced monocrystalline silicon differential pressure sensor, the DPS3051F delivers exceptional performance in applications requiring high accuracy, stability, and reliability.

APPLICATION

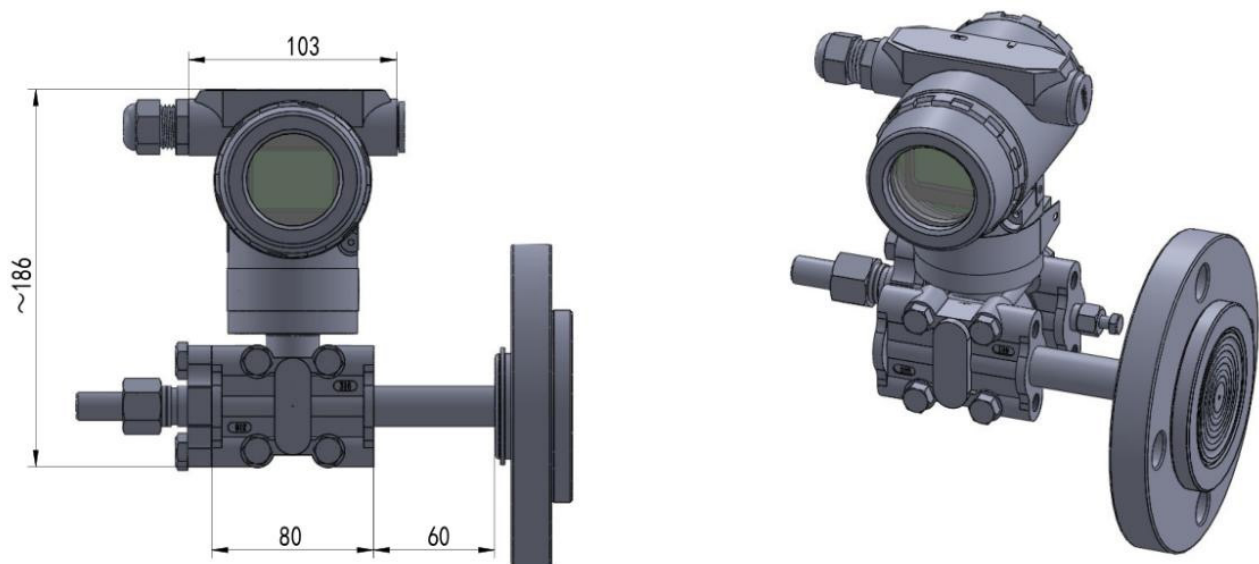
The DPS3051F Series is ideal for applications in industries such as petrochemical, power, water treatment, and process control, where reliability, accuracy, and safety are paramount. Its innovative design and rugged features make it a trusted solution for critical differential pressure measurement tasks.

SPECIFICATIONS

Pressure type	Differential pressure
Pressure range	0 ~ 10kPa...3MPa
Power supply	10.5VDC ~ 36VDC (Standard 24VDC)
Output signal	4mA ~ 20mA+HART protocol
Overload pressure	≤ 200%
Response time	≤ 10ms(10%~90%)
Media temperature	-40°C ~85°C , -20°C ~ 70°C with LCD display

Accuracy	0.1%FS
Measuring medium	Fluid compatible with 304 and 316L
Distance parameter	≤ 5m
Protection	IP65
Static pressure range	Zero range 0.15 range ratio% FS / 4MPa Full range impact 0.25% FS / 4MPa
Long-term stability	±0.2%FS/2year
Diaphragm material	316L (316L sprayed with PTFE), Hastelloy C, tantalum
Exhaust/Drain valve	SS316 (for DPS3051F-S)
Filling oil	Silicon oil
O-ring	Chemigum (contact with the measurement medium)
Flange and clamp block	SS304 (T-shaped film head material is 316L)
Flexible capillary	SS304 (For DPS3051F-D)
Housing material	Die-casting aluminum epoxy resin coating
Electrical connection	M20×1.5 ,NPT1/2
Pressure connection	High pressure side: DN25 PN4.0, DN50 PN4.0, DN80 PN1.6 DPS3051F-D low pressure side: DN25 PN4.0, DN50 PN4.0, DN80 PN1.6 DPS3051F-S low pressure side: M20×1.5 with welded pipe

MECHANICAL DIMENSION

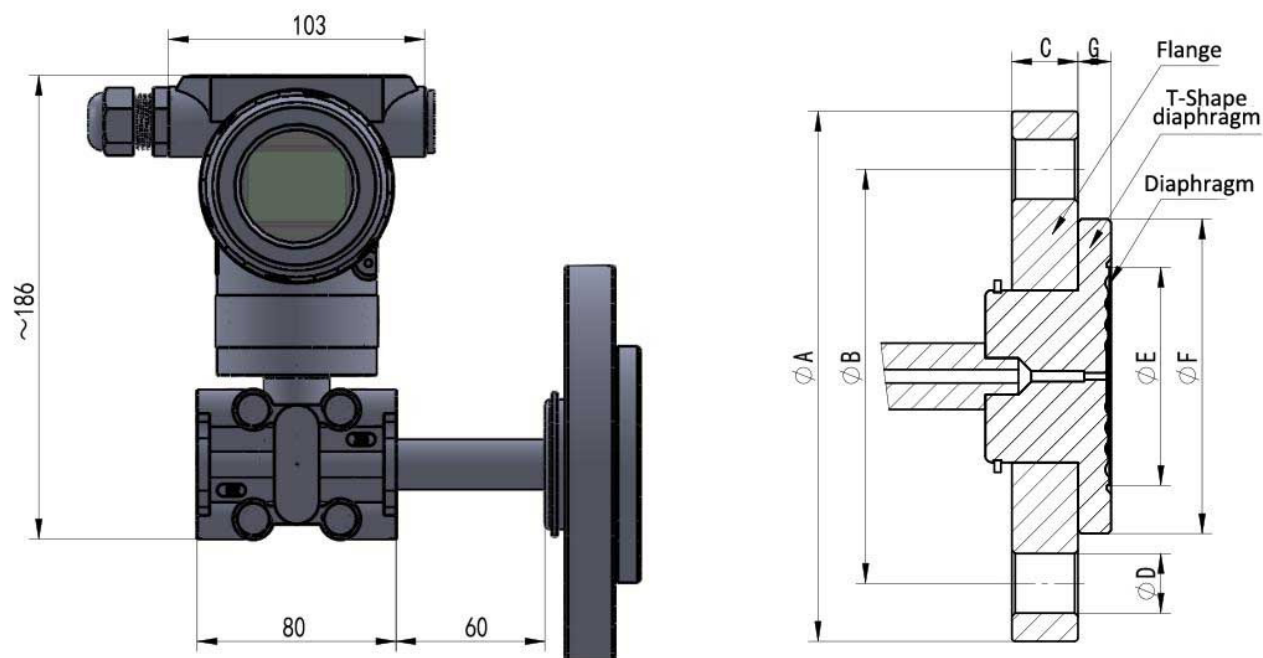


DPS3051F-S



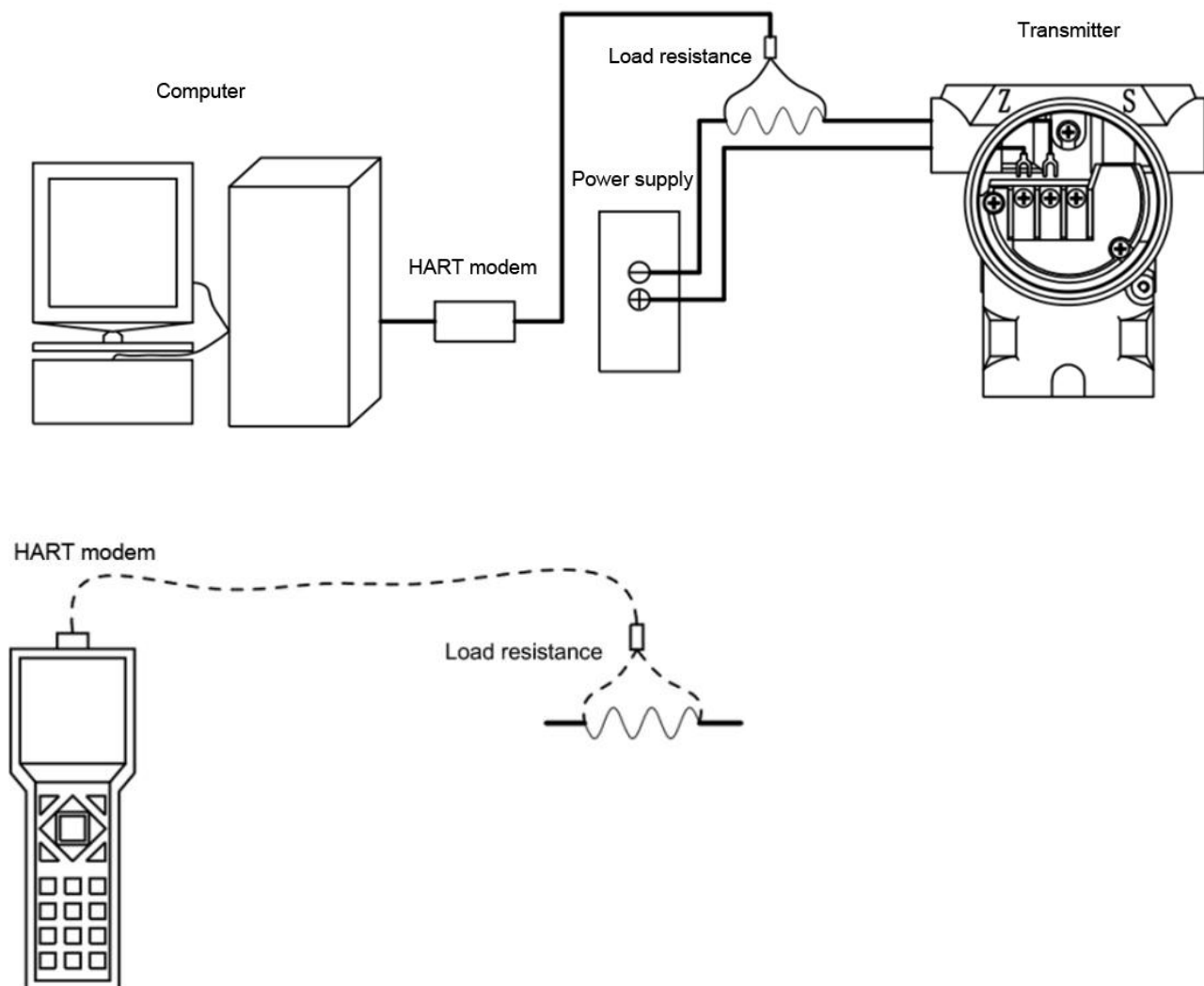
DPS3051F-D

Flange and diaphragm dimension



Flange	A	B	C	D	E		F		G
					Diaphragm material		Diaphragm material		
					316L	PTFE/HC /TA	316L/PTFE	HC /TA	
DN25	125	85	16	14	49	65	62	65	9.6
DN50	165	125	20	18	65.5	95	95	95	9
DN80	200	160	20	18	89	127	127	127	8.8

HART COMMUNICATION



ACCESSORY

Mounting bracket(For DPS3051F-D)

Mounting bracket(For DPS3051F-D)	
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Mounting bracket(For DPS3051F-D)	

Pressure connection

C1: M20×1.5 with welded pipe

No.	Name	Material No.	Qty.
1	3051 clamp block	-	-
2	T shape connector	100040700002	2
3	M10×20 bolt	100040700000	4
4	O-ring	-	-
5	PTFE gasket	-	-
6	M20 nut	-	-
7	Φ14×4 welded pipe	-	-

Note:

For other pressure connections, refer to the structural properties. Material marked “-” is provided as complimentary support.

ORDER FORMAT

DPS3051F - S - 40K/20K - F3 - 3L - D1 - C1

Structure	Model
Single flange	DPS3051F-S
Double flange	DPS3051F-D

Pressure range	Code
0~Xbar	XB
0~XKPa	XK
0~XMPa	XM
0~XPSI	XP

Original range	Code
0~Xbar	XB
0~XKPa	XK
0~XMPa	XM
0~XPSI	XP
(0~Maximum range)	

Code	Process connection
F1	Flange DN25 PN4.0
F2	Flange DN50 PN4.0
F3	Flange DN80 PN1.6

Code	Diaphragm material
3L	316L
3LP	316L PTFE
HC	Hastelloy C
TA	Tantalum

Accessory (DPS3051F-S)	
Code	Process interface
Null	1/4NPT(Default)
C1	M20×1.5 with welded pipe

Accessory (DPS3051F-D)	
Code	Flexible capillary tube length
LX	X meters
Code	Mounting bracket
B1	Pipe Mounting bending bracket
B2	Plane Mounting bending bracket
B3	Pipe Mounting flat bracket

Code	Electrical connection
H1	Without Display (M20X1.5)
H2	Without display (NPT1/2)
D1	With display (M20X1.5)
D2	With display (NPT1/2)

Example:

DPS3051F-S-40K/20K-F3-3L-D1 C1, DPS3051F-S series single flange smart differential pressure transmitter, pressure range 0~40kPa, original range 0~20KPa, Flange DN80 PN1.6, diaphragm material 316L, standard 4~20mA+HART output, 3051 housing with display (M20x1.5 electrical connection), low-voltage process interface M20x1.5 with welded pipe.

DPS3051F-D-40K/20K-F3-3L-D1 L3B1, DPS3051F-D series double flange smart differential pressure transmitter, pressure range 0~40kPa, original range 0~20KPa, Flange DN80 PN1.6, diaphragm material 316L, standard 4~20mA+HART output, 3051 housing with display (M20x1.5 electrical connection), 3 meters flexible capillary tube, Pipe Mounting bending bracket.