PDS879 ultra-high temperature remote pressure transmitter

PDS879 ultra-high temperature remote pressure transmitter is mainly used to measure pressure, and convert it into 4-20mA d.c. current (superimposed with HART communication), PROFIBUS-PA communication signal, FF communication signal, Ethernet-APL communication signal and AutBus communication signal for output to achieve remove setting, monitoring and other functions through communication devices.



◆ Performance specification

Span ratio

Max. span ratio r (r=max. span/actual span)=20:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range
B	10.0 kPa	100 kPa	-100~100 kPa
C	20 kPa	400 kPa	-100~400 kPa
D	0.15 MPa	3.0 MPa	-0.1~3.0 MPa
E	0.6 MPa	10 MPa	-0.1~10 MPa

Note: The long term working pressure of PDS879 is recommended to be higher than 50kPa (ABS).

HC-276 diaphragm is not recommended when the span is less than 10kPa and the flange size is less than or equal to DN50.

Reference accuracy δ

PDS879 span code	Accuracy δ
B, C, D, E	δ≤±0.1% δ≤± (0.04+0.012 $\frac{\text{Maximum span}}{\text{Selected span}}$) %, span ratio>5:1

Impact of temperature

δ≤± (0.06r+0.35) %/28°C, -60°C~+80°C

Overload limit

Not higher than the nominal flange pressure and not higher than 1.5 times the maximum span of the transmitter.

◆Model

Model No.	code	Remarks				
PDS879	-	Ultra-high temperature remote pressure transmitter				
Type	G	Gauge pressure type				
Communication protocol	H P F A B	HART (7) communication (Note 1) PROFIBUS-PA (3.02) field bus communication FF (6.1.1) field bus communication Ethernet-APL communication(Note 2) AutBus communication				
Liquid sealed in diaphragm capsule	-1	Silicone oil				
Measuring range		Span	Measuring range			
	B	10~100kPa	-100~100kPa			
	C	20~400kPa	-100~400kPa			
	D	0.15~3MPa	-0.1~3MPa			
	E	0.6~10MPa	-0.1~10MPa			
Explosion-proof			HART	PA and FF	APL	Autbus
	A	Non explosion-proof type	Applicable	Applicable	Applicable	Applicable
	B	NEPSI: Intrinsic safety type Ex ia IIC T4 Ga	Applicable	Applicable	-	-
	C	NEPSI: Intrinsic safety type Ex ia IIC T6 Ga	Applicable	-	-	-
	D	NEPSI: Flameproof type Ex db IIC T4/T6 Gb NEPSI: Dust explosion proof Ex tb IIIC T85°C Db NEPSI:"n" explosion-proof type Ex ec IIC T6 Gc	Applicable	Applicable	Applicable	-
	G	ATEX: Intrinsic safety type Ex II 1 G Ex ia IIC T4 Ga ATEX: Flameproof type Ex II 1/2 G Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	J	IECEx: Intrinsic safety type Ex ia IIC T4 Ga IECEx: Flameproof type Ex db IIC T6...T4 Ga/Gb	Applicable	-	-	-
	P	EAC: Intrinsic safety type 0 Ex ia IIC T4/T6 Ga X EAC: Flameproof type 0/1Ex d IIC TT6 Ga /Gb X EAC: Dust explosion proof Ex tb IIIC T80° C Db X	Applicable	-	-	-
Housing (Note 3)		Material	Electrical interface			
	1	Aluminium	1/2 NPT female thread, two electrical interfaces			
	2	Aluminium	M20×1.5 female thread, two electrical interfaces			
	3	Stainless steel	1/2 NPT female thread, two electrical interfaces			
	4	Stainless steel	M20×1.5 female thread, two electrical interfaces			
Display head (Note 4)	N D E	Without display LCD display Multi-functional LCD head (only applicable to HART7)				
Installation bracket		Type	Material			
	A	Horizontal (I type) mounting bracket	Q235			
	B	Horizontal (I type) mounting bracket	304			
	E	Horizontal (I type) mounting bracket	316			
	C	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	Q235			
	D	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	304			
	F	Vertical (L-shaped) bracket (applicable to pipe in horizontal installation)	316			
	N	Without installation bracket				
Flange type	-P	Plane face flange				
Length of remote transmission	-□□ (0m~10m)	Cable length				
Liquid sealed remote pressure transmitter (Note 5)	U	Sealed liquid	Liquid contact temperature			
		Ultra-high temperature filling liquid	+12°C~+700°C			
Flange size	-2 -3	DN 50 (2 inches) DN 80 (3 inches)				
Material of flange diaphragm	S H M C	316L HC-276 Monel INCONEL 625				
Flange sealing type	1 2	RF face RJ ring joint face				

	3 4	M FM	
Flange standard (Note 6)		Standard	Pressure
	A	ANSI 150	2.0MPa
	B	ANSI 300	5.0MPa
	C	ANSI 600	11MPa
	L	ANSI 900	15MPa
	P	ANSI1500	26MPa
	R	ANSI2500	40MPa
	D	DIN PN 10/16	1.6MPa
	E	DIN PN 25/40	4.0MPa
	F	DIN PN 64	6.4MPa
	K	DIN PN 100	10MPa
	M	DIN PN 160	16MPa
Material of flange	A B C D	S25C 304 316 316L	
Cleaning of measuring part	A B	Conventional Degreasing treatment	
Additional options	/××	Refer to the additional options table	

◆Additional options

Item	**Remarks**		**Code** (Note 7)
High-end smart diagnosis	It includes the functions of detecting the blockage of pressure guide pipe, measuring the liquid contact temperature, recording events with time cut, capturing and recording process variable anomalies and forecasting and enabling health management		A10
suppressing the fluctuation	For the output of transient micro pressure fluctuation signals, an advanced composite digital filtering algorithm is adopted, which dynamically adjusts the filtering coefficients to achieve fast dynamic response of pressure signals and stable and reliable output		A11
Additional certification	EU SIL CE V&V Russian SIL Commonwealth of Independent States EAC020		C01 C02 C03 C04 C05
APL communication method	HART-IP PROFINET		AH AP
Protection treatment (Note 8)	Corrosion grade C4: Moderate salt spray or moderately corrosive industrial areas (seaside or industrial zone) Corrosion grade C5-M: High humidity and high salt spray areas (seaside and sea) Corrosion grade C5-I: High humidity and severe corrosion area		P10 P11 P12
Companion flange	Type	Material	
	WN hubbed butt welding	S25C 304 316 316L	F50 G50 H50 K50
	PL plate-type flat welding	S25C 304 316 316L	F52 G52 H52 K52
	SO hubbed flat welding	S25C 304 316 316L	F53 G53 H53 K53
	TH thread flange	S25C 304 316 316L	F54 G54 H54 K54

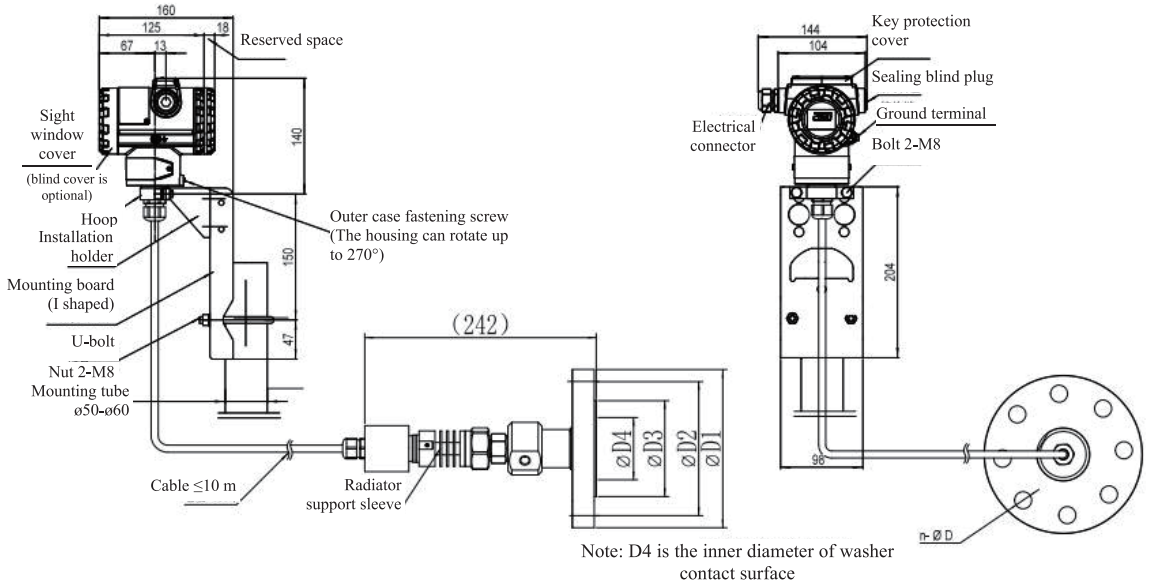
Mounting accessories of flange (Note 9)	Carbon steel bolt+spiral wound gasket Stainless steel bolt+spiral wound gasket		G56 G58
Electrical connector	Specification and dimension M20×1.5 electrical connector + 1 sealing plug 1/2 NPT electrical connector + 1 sealing plug M20×1.5 one sealing plug M20×1.5 sealing plug（EAC） 1/2 NPT sealing plug（EAC） M20×1.5 flameproof electrical plug + one sealing plug(NEPSI) 1/2NPT flameproof electrical plug + one sealing plug(NEPSI) 1/2 NPT one sealing plug 1/2 NPT one sealing plug M20×1.5 one sealing plug M20×1.5 flameproof electrical plug + one sealing plug (ATEX/IECEx) 1/2NPT flameproof electrical plug + one sealing plug (ATEX/IECEx) M20×1.5 flameproof electrical plug + one sealing plug(EAC) 1/2NPT flameproof electrical plug + one sealing plug(EAC)	Material Plastic Plastic 304 316L 316L 316 316 304 316 316 316 316 316L 316L	 G60 G61 G62 G63 G64 G70 G71 G72 G73 G74 G75 G76 G77 G78
Lightning prevention	Lightning prevention terminal board		F20
Quality assurance system	Comply with the Company's nuclear quality assurance system (if this option is not selected, it will conform to the ISO9001 by default).		NP
Alarm	Alarm current: 22.8mA (if this option is not selected, the alarm current is 3.6mA by default).		A1
Document	Delivery and acceptance document (Note 10)		D1
Language	English (product manual, packing list, product note and main nameplate are all in English) Russian (product manual, packing list, product note and main nameplate are all in Russian) French (product manual, packing list, product note and main nameplate are all in French)		L01 L02 L03
Display unit	% mA Pa kPa MPa gf/cm^2 kgf/cm^2 mmH_2O mH_2O inH_2O ftH_2O mbar bar psi mmHg inHg Torr Atm $i4H_2O$ (inches of water 4°C) $m4H_2O$ (millimeter of water 4°C)		U01 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32 U33 U34 U35 U36 U37 U38

Special reminder

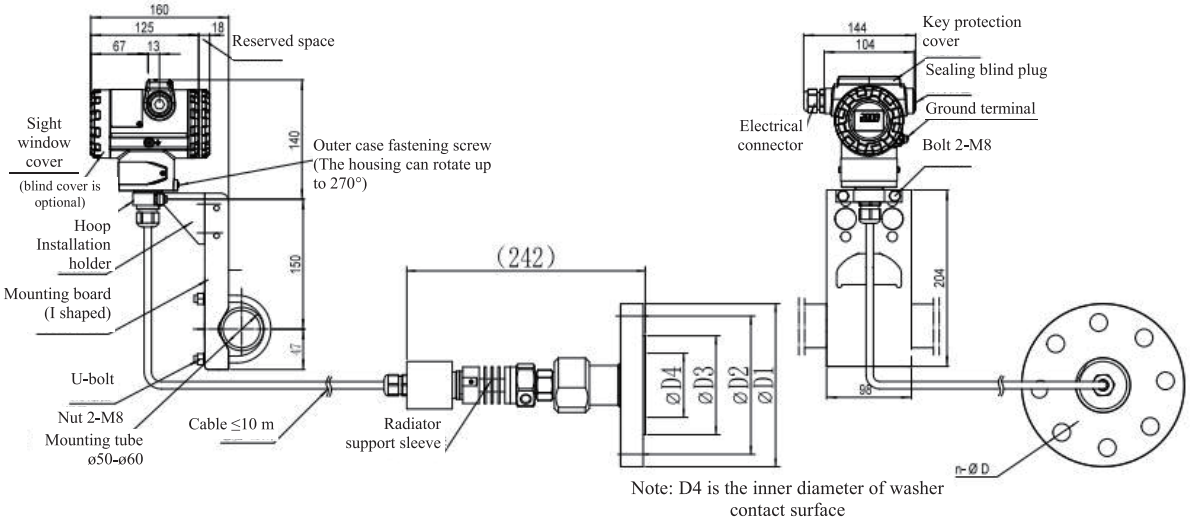
※: In case of any special ordering requirements, please mark “Z” after order code, and add text description.
Note 1: If Hart 6 is selected, Z shall be added for description. For SIL (functional safety) type, only Hart7 is supported.
Note 2: To select Ethernet APL Ethernet communication, you need to choose the specific APL communication method, as shown in the additional options.
Note 3: Flameproof electrical connector must be selected for flameproof transmitter, referring to additional options.
Note 4: The default display is pressure value, and the other display modes are described in "Additional Options".
Note 5: Please consult for ultra-high temperature and ultra-high pressure.
Note 6: Serial numbers A, B, C, L, P and R are adapted to American systems in HG20615-2009~HG20635-2009 and GB/T9112-2000~GB/T9131-2000.
Serial numbers D, E, F, K and M are adapted to European system in HG20592-2009~HG20614-2009 and GB/T9112-2000~GB/T9131-2000.
Note 7: The options shall be separated with a “/”, for example “/P10/G61/K81”.
Note 8: If the housings in P11 and P12 are selected, please choose 1 or 2.
Note 9: The material of the winding metal tape shall be 316. The filling material shall be flexible graphite ribbons with service temperature within 650°C. If it is used for oxidizing medium, the max. service temperature might be 450°C. Please consult if the temperature exceeds 650°C.
Note 10: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆Overall and installation size of PDS879

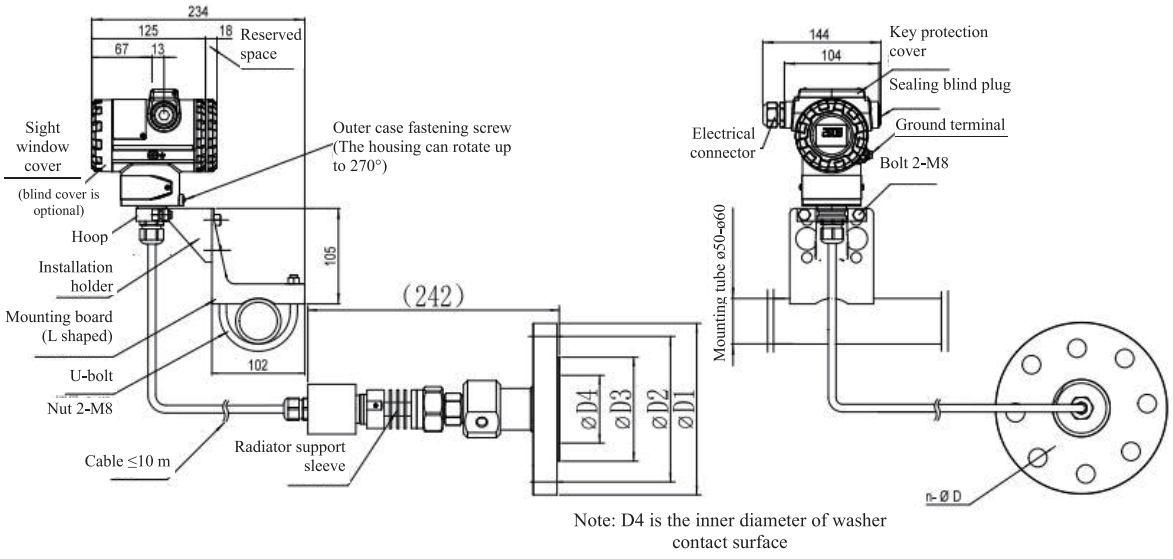
Unit: mm



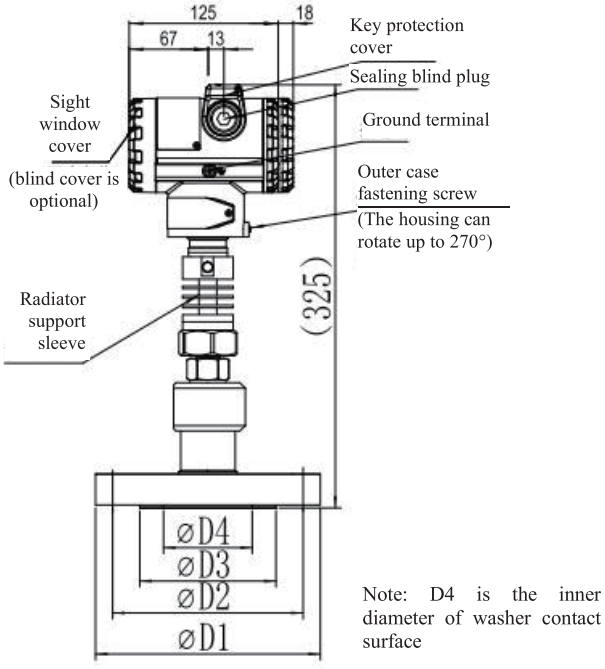
Horizontal piping mounting type (vertical mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



Horizontal piping mounting type (horizontal mounting pipe)



PDS879 ultra-high temperature remote pressure transmitter (direct-coupled)

Size specification of plane face flange DN50

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	150	120.7	100	61	19.5	4	18
ANSI 300	165	127	100	61	22.7	8	18
ANSI 600	165	127	100	61	32.4	8	18
ANSI 900	215	165.1	100	61	45.1	8	26
ANSI 1500	215	165.1	100	61	45.1	8	26
ANSI 2500	235	171.4	100	61	57.9	8	30
DIN PN10/16	165	125	100	61	18	4	18
DIN PN25/40	165	125	100	61	20	4	18
DIN PN64	180	135	100	61	26	4	22
DIN PN100	195	145	100	61	28	4	26
DIN PN160	195	145	100	61	30	4	26

Size specification of plane face flange DN80

Flange standard	D1	D2	D3	D4	T1	Bolt number n	Bolt hole diameter d
ANSI 150	190	152.4	130	89	24.3	4	18
ANSI 300	210	168.3	130	89	29	8	22
ANSI 600	210	168.3	130	89	38.8	8	22
ANSI 900	240	190.5	130	89	45.1	8	26
ANSI 1500	265	203.2	130	89	54.7	8	33
ANSI 2500	305	228.6	130	89	73.7	8	36
DIN PN10/16	200	160	130	89	20	8	18
DIN PN25/40	200	160	130	89	24	8	18
DIN PN64	215	170	130	89	28	8	22
DIN PN100	230	180	130	89	32	8	26
DIN PN160	230	180	130	89	36	8	26