PDS813 paper-making type pressure transmitter



PDS813 is a high-precision paper-making type pressure transmitter, with special process connection, front pressure sensing unit, and diaphragm flush with the inner wall of pipe, which solves the blockage risk of high-viscosity medium. It can be used in paper-making and other working conditions of high blockage risks. Its function is to convert the detected pressure signal 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 range)=30:1

Long-term stability

δ≤±0.1%FS/10 years

Span of transmitter

Span code	Minimum span	Maximum span	Measuring range	Overload limit
B	10.0 kPa	100 kPa	-100~100 kPa	600 kPa
C	15 kPa	400 kPa	-100~400 kPa	1.5 MPa
D	0.1 MPa	3.0 MPa	-0.1~3.0 MPa	5.0 MPa
E	0.2 MPa	6.3 MPa	-0.1~6.3 MPa	10 MPa

Note: The long-term working pressure of PDS813 is recommended to be higher than 50kPa (ABS).

Reference accuracy δ

PDS813 span code	Accuracy δ
B	δ≤±0.04% $\delta \leq \pm (0.004+0.0036 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
C	δ≤±0.04% $\delta \leq \pm (0.015+0.0025 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1
D and E	δ≤±0.025% $\delta \leq \pm (0.01+0.0015 \frac{\text{Maximum span}}{\text{Selected span}})$ %, span ratio >10:1

Impact of temperature

δ≤±(0.06r+0.01)%/28°C, -60°C~+80°C

Process temperature range

-40°C~+120°C

◆Model

Model No.	code	Remarks				
PDS813	-	Paper-making type pressure transmitter				
Type	G	Gauge pressure type				
Communication protocol	H	HART (7) communication (Note 1)				
	P	PROFIBUS-PA (3.02) field bus communication				
	F	FF (6.1.1) field bus communication				
	A	Ethernet-APL communication(Note 2)				
	B	AutBus communication				
Liquid sealed in diaphragm capsule		Sealed liquid	Cleaning of measuring part			
	-1	Silicone oil	Conventional			
	-2	Silicone oil	Degreasing treatment			
Measuring range		Span	Measuring range	Overload limit		
	B	10~100kPa	-100~100kPa	600kPa		
	C	15~400kPa	-100~400kPa	1.5MPa		
	D	0.1~3.0MPa	-0.1~3.0MPa	4.5MPa		
	E	0.2~6.3MPa	-0.1~6.3MPa	10MPa		
Material of liquid contact part		Isolation diaphragm	Relevant liquid contact parts			
	S	316L	316			
	H	HC-276	316			
Process connection	0	1" standpipe joint, without welded short jacket (for span C only)				
	1	1" standpipe joint, with welded short jacket (for span C only)				
	2	1-1/2" (M44×1.25) thread joint, without screw-welded short jacket				
	3	1-1/2" (M44×1.25) thread joint, with screw-welded short jacket				
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 II 1 G Ex ia IIC T4 Ga ATEX: Explosion-proof type 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	Without display				
	D	LCD display				
	E	Multi-functional LCD head (only applicable to HART7)				
Installation bracket	N	Without installation bracket				
Additional options	/××	Refer to the additional options table				

◆Additional options

Item	Remarks			Code (Note 5)
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 6)	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
Electrical connector	Specification and dimension		Material	
	M20×1.5 electrical connector + 1 sealing plug		Plastic	G60
	1/2 NPT electrical connector + 1 sealing plug		Plastic	G61
	M20×1.5 one sealing plug		304	G62
	M20×1.5 sealing plug（EAC）		316L	G63
	1/2 NPT sealing plug（EAC）		316L	G64
	M20×1.5 flameproof electrical plug + one sealing plug (NEPSI)		316	G70
	1/2NPT flameproof electrical plug + one sealing plug (NEPSI)		316	G71
	1/2 NPT one sealing plug		304	G72
	1/2 NPT one sealing plug		316	G73
	M20×1.5 one sealing plug		316	G74
	M20×1.5 flameproof electrical plug + one sealing plug (ATEX/IECEx)		316	G75
	1/2NPT flameproof electrical connector + 1 sealing plug (ATEX\IECEx)		316	G76
	M20×1.5 flameproof electrical plug + one sealing plug (EAC)		316L	G77
	1/2NPT flameproof electrical connector + 1 sealing plug (EAC)		316L	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 of acceptance documents (Note 7)			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	PV Unit	Code	PV Unit	Code
	%	U01	ftH_2O	U29
	mA	U20	mbar	U30
	Pa	U21	bar	U31
	kPa	U22	psi	U32
	MPa	U23	mmHg	U33
	gf/cm^2	U24	inHg	U34
	kgf/cm^2	U25	Torr	U35
	mmH_2O	U26	Atm	U36
	mH_2O	U27	$i4H_2O$ (inches of water 4°C)	U37
	inH_2O	U28	$m4H_2O$ (millimeter of water 4°C)	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".

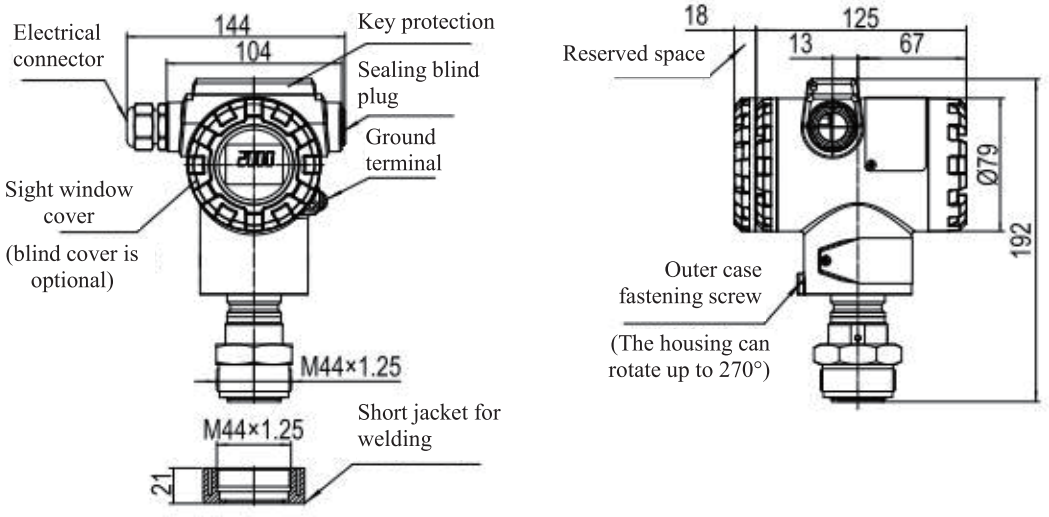
Note 5: The options shall be separated with a “/”, for example “/P10/G61/A1”.

Note 6: If the housings in P11 and P12 are selected, please choose 1 or 2.

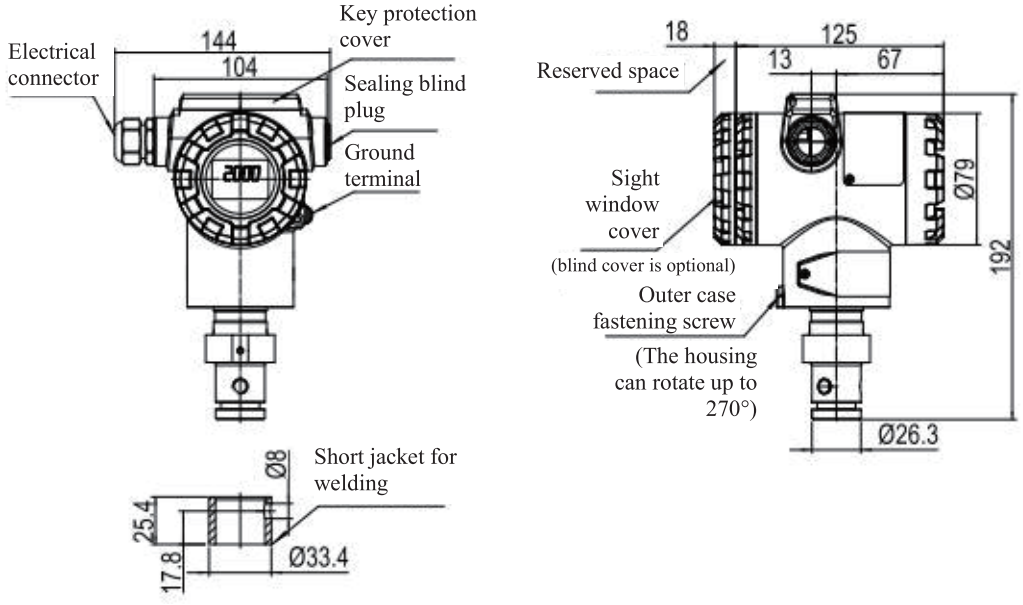
Note 7: It refers to the common materials provided by the manufacturer for inspection of products received except the standard delivery materials (such as original qualification certificate, instructions, and packing list), and a detailed list shall be provided when ordering. In case of third-party test report or other special requirements, it will be quoted separately.

◆Overall and installation size of PDS813

Unit: mm



PDS813. M44×1.25 flush mounting



PDS813. 1" flush mounting