

Selection and Ordering data Order No.

SITRANS P300 pressure transmitters for relative and absolute pressure, single-chamber measuring housing, rating plate inscription in English

4 ... 20 mA/HART 7MF8023 -

PROFIBUS PA 7MF8024 -

FOUNDATION Fieldbus (FF) 7MF8025 -

Measuring cell filling	Measuring cell cleaning	
Silicone oil	normal	1
Inert liquid	Cleanliness level 2 to DIN 25410	3

max. span (min. ... max.)

0.01 ... 1 bar	(0.145 ... 14.5 psi)	B
0.04 ... 4 bar	(0.58 ... 58 psi)	C
0.16 ... 16 bar	(2.32 ... 232 psi)	D
0.63 ... 63 bar	(9.14 ... 914 psi)	E
1.6 ... 160 bar	(23.2 ... 2320 psi)	F
4 ... 400 bar	(58 ... 5802 psi)	G
2.5 ... 250 mbar a	(0.04 ... 3.63 psia)	F) Q
13 ... 1300 mbar a	(0.19 ... 18.86 psia)	F) N
0.05 ... 5 bar a	(0.7 ... 72.5 psia)	F) T
0.3 ... 30 bar a	(4.35 ... 435 psia)	F) U

Wetted parts materials

Seal diaphragm	Measuring cell	
Stainless steel	Stainless steel	A
Hastelloy	Stainless steel	F) B
Hastelloy	Hastelloy	F) C
Version for diaphragm seal ¹⁾²⁾		Y

Process connection

- G $\frac{1}{2}$ B to EN 837-1 0
- $\frac{1}{2}$ -14 NPT 1
- Stainless steel oval flange
 - Mounting thread $\frac{7}{16}$ -20 UNF to EN 61518 2
 - Mounting thread M10 to DIN 19213 3
 - Mounting thread M12 to DIN 19213 4
- Male thread M20 x 1.5 5
- Male thread $\frac{1}{2}$ -14 NPT 6

Non-wetted parts materials

- Stainless steel, deep-drawn and electrolytically polished 4

Version

- Standard versions 1

Explosion protection

- None A
- With ATEX, Type of protection:
 - "Intrinsic safety (EEx ia)" B
- Zone 20/21/22³⁾ C
- Ex nA/nL (Zone 2)⁴⁾ E
- with FM "intrinsic safety" (cFM_{US}) M

Electrical connection / cable entry

- Screwed gland M20x1.5 (polyamide)⁵⁾ A
- Screwed gland M20x1.5 (metal) B
- Screwed gland M20x1.5 (stainless steel) C
- M12 connectors (metal), without cable socket F
- M12 connectors (stainless steel), without cable G
- $\frac{1}{2}$ -14 NPT metal thread⁶⁾ H
- $\frac{1}{2}$ -14 NPT stainless steel thread⁶⁾ J

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Display

- Without display, with keys, closed covers 1
- With display and keys, closed lid 2
- With display and keys, lid with Makrolon pane (setting on HART devices: mA, with PROFIBUS PA and FOUNDATION Fieldbus equipment: pressure units) 4
- With display and keys (setting acc. to specifications, Order Code "Y21" or "Y22" required), lid with Makrolon pane 5
- With display and keys, lid with glass pane (setting on HART devices: mA, with PROFIBUS and FOUNDATION Fieldbus equipment: pressure units) 6
- With display and keys (setting acc. to specifications, Order Code "Y21" or "Y22" required), lid with glass pane 7

Power supply units see Chap. 8 "Supplementary Components".

Included in delivery of the device:

- Brief instructions (Leporello)
- CD-ROM with detailed documentation

- 1) When the manufacture's certificate (calibration certificate) has to be ordered for transmitters with diaphragm seals according to IEC 60770-2, it is recommended only to order this certificate exclusively with the diaphragm seals. The measuring accuracy of the total combination is certified here.
- 2) If the acceptance test certificate 3.1 is ordered for the transmitter with mounted diaphragm seals this certificate must also be ordered with the respective remote seals.
- 3) Not available together with electrical connection option A
- 4) Only available together with electrical connection options B, C, F or G.
- 5) Only together with HART electronics.
- 6) Without cable gland.
- F) Subject to export regulations AL: 91999, ECCN: N.

Selection and Ordering data Order No.

SITRANS P300 pressure transmitters for relative and absolute pressure with front-flush membrane, single-chamber measuring housing, rating plate inscription in English

4 ... 20 mA/HART F) **7MF8123-**

PROFIBUS PA F) **7MF8124-**

FOUNDATION Fieldbus (FF) F) **7MF8125-**

Measuring cell filling **Measuring cell cleaning**

Silicone oil	normal	1
Inert liquid	Cleanliness level 2 to DIN 25410	3
FDA compliant fill fluid		
• Neobee oil	normal	4

max. span

0.01 ... 1 bar	(0.15 ... 14.5 psi)	B
0.04 ... 4 bar	(0.58 ... 58 psi)	C
0.16 ... 16 bar	(2.32 ... 232 psi)	D
0.63 ... 63 bar	(9.14 ... 914 psi)	E
13 ... 1300 mbar a ¹⁾	(0.19 ... 18.9 psia) ¹⁾	S
0.05 ... 5 bar a ¹⁾	(0.7 ... 72.5 psia) ¹⁾	T
0.03 ... 30 bar a ¹⁾	(4.35 ... 435 psia) ¹⁾	U

Wetted parts materials

Seal diaphragm	Measuring cell	
Stainless steel	Stainless steel	A
Hastelloy ²⁾	Stainless steel	B

Process connection

- Flange version with Order Code M..., N..., R.. or Q.. (see "Further designs")

7

Non-wetted parts materials

- Stainless steel, deep-drawn and electrolytically polished

4

Version

- Standard versions

1

Explosion protection

- None
- With ATEX, Type of protection:
 - "Intrinsic safety (Ex ia)"
- Zone 20/21/22³⁾
- Ex nA/nL (Zone 2)⁴⁾
- with FM "intrinsic safety" (cFM_{US})

A

B

C

E

M

Electrical connection / cable entry

- Screwed gland M20x1.5 (polyamide)⁵⁾
- Screwed gland M20x1.5 (metal)
- Screwed gland M20x1.5 (stainless steel)
- M12 connectors (without cable socket)
- M12 connectors (stainless steel), without cable socket
- ½-14 NPT metal thread⁶⁾
- ½-14 NPT stainless steel thread⁶⁾

A

B

C

F

G

H

J

Selection and Ordering data Order No.

SITRANS P300 pressure transmitters for relative and absolute pressure with front-flush membrane, single-chamber measuring housing, rating plate inscription in English

4 ... 20 mA/HART F) **7MF8123-**

PROFIBUS PA F) **7MF8124-**

FOUNDATION Fieldbus (FF) F) **7MF8125-**

Display

- Without display, with keys, closed covers
- With display and keys, closed lid
- With display and keys, lid with Makrolon pane (setting on HART devices: mA, with PROFIBUS PA and FOUNDATION Fieldbus equipment: pressure units)
- With display and keys (setting acc. to specifications, Order Code "Y21" or "Y22" required), lid with Makrolon pane
- With display and keys, lid with glass pane (setting on HART devices: mA, with PROFIBUS PA and FOUNDATION Fieldbus equipment: pressure units)
- With display and keys (setting acc. to specifications, Order Code "Y21" or "Y22" required), lid with glass pane

1

2

4

5

6

7

Power supply units see Chap. 8 "Supplementary Components"

Included in delivery of the device:

- Brief instruction (Leporello)
- CD-ROM with detailed documentation

1) Not with temperature decoupler P00 and P10, not for process connections R01, R02, R04, R10 and R11, and can only be ordered in conjunction with silicone oil.

2) Only possible for flange with M..., N.. and Q.. option.

3) Not together with electrical connection option A.

4) Only available together with electrical connection options B, C, F or G.

5) Only together with HART electronics.

6) Without cable gland.

F) Subject to export regulations AL: 91999, ECCN: N.

Selection and Ordering data	Order code			
<i>Further designs</i>	HART	PA	FF	
Add "-Z" to Order No. and specify Order Code.				
Pressure transmitter with mounting bracket (2 shackles, 4 nuts, 4 U-plates, 1 angle) made of: made completely of stainless steel, for wall or pipe mounting	A02	✓	✓	✓
Cable socket for M12 plug				
• Metal	A50	✓	✓	
• Stainless steel	A51	✓	✓	
Rating plate inscription (instead of English)				
• German	B10	✓	✓	✓
• French	B12	✓	✓	✓
• Spanish	B13	✓	✓	✓
• Italian	B14	✓	✓	✓
English rating plate Pressure units in inH ₂ O and/or psi	B21	✓	✓	✓
Quality inspection certificate (Five-step factory calibration) to IEC 60770-2¹⁾	C11	✓	✓	✓
Inspection certificate²⁾ Acc. to EN 10204-3.1	C12	✓	✓	✓
Test report Acc. to EN 10204-2.2	C14	✓	✓	✓
Degree of protection IP68 (only for M20x1.5 and ½-14 NPT)	D12	✓	✓	✓
Degree of protection IP6k9k (only for M20x1.5)	D46	✓	✓	✓
Ex Approval IEC Ex (EEx ia) (only for transmitter 7MF8...-.....-B..)	E45	✓	✓	✓
Ex Approval EEx ia/ib NEPSI	E55	✓	✓	✓
Only for SITRANS P300 with front-flush diaphragm (7MF81...-....)				
Flange to EN 1092-1, Form b1				
• DN 25, PN 40 ³⁾	M11	✓	✓	✓
• DN 25, PN 100 ⁴⁾	M21	✓	✓	✓
• DN 40, PN 40	M13	✓	✓	✓
• DN 40, PN 100	M23	✓	✓	✓
• DN 50, PN 16	M04	✓	✓	✓
• DN 50, PN 40	M14	✓	✓	✓
• DN 80, PN 16	M06	✓	✓	✓
• DN 80, PN 40	M16	✓	✓	✓
Flanges to ASME B16.5				
• 1", class 150 ⁴⁾	M40	✓	✓	✓
• 1½", class 150	M41	✓	✓	✓
• 2", class 150	M42	✓	✓	✓
• 3", class 150	M43	✓	✓	✓
• 4", class 150	M44	✓	✓	✓
• 1", class 300 ⁴⁾	M45	✓	✓	✓
• 1½", class 300	M46	✓	✓	✓
• 2", class 300	M47	✓	✓	✓
• 3", class 300	M48	✓	✓	✓
• 4", class 300	M49	✓	✓	✓
Threaded connector to DIN 3852-2, form A, thread to ISO 228				
• G ¾"-A, front-flush ⁴⁾	R01	✓	✓	✓
• G 1"-A, front-flush ⁴⁾	R02	✓	✓	✓
• G 2"-A, front-flush ⁴⁾	R04	✓	✓	✓
Tank connection⁵⁾ Sealing is included in delivery				
• TG 52/50, PN 40	R10	✓	✓	✓
• TG 52/150, PN 40	R11	✓	✓	✓

Selection and Ordering data	Order code			
<i>Further designs</i>	HART	PA	FF	
Add "-Z" to Order No. and specify Order Code.				
Sanitary process connection according DIN 11851 (Dairy connection) Certified to 3A ⁶⁾				
• DN 50, PN 25	N04	✓	✓	✓
• DN 80, PN 25	N06	✓	✓	✓
Tri-Clamp connection according DIN 32676/ISO 2852 Certified to 3A ⁶⁾				
• DN 50/2", PN 16	N14	✓	✓	✓
• DN 65/3", PN 10	N15	✓	✓	✓
Varivent connection Certified to 3A and EHEDG ⁶⁾				
• Type N = 68 for Varivent housing DN 40 ... 125 und 1½" ... 6", PN 40	N28	✓	✓	✓
Temperature decoupler up to 200 °C⁷⁾ for front-flush diaphragm version	P00	✓	✓	✓
Temperature decoupler up to 250 °C Measuring cell filling: High-temperature oil (Silicone oil)	P10	✓	✓	✓
Bio-Control sanitary process connection Certified to 3A and EHEDG ⁶⁾				
• DN 50, PN 16	Q53	✓	✓	✓
• DN 65, PN 16	Q54	✓	✓	✓
Sanitary process connection to DRD				
• DN 50, PN 40	M32	✓	✓	✓
SMS socket with union nut				
• 2"	M67	✓	✓	✓
• 2½"	M68	✓	✓	✓
• 3"	M69	✓	✓	✓
SMS threaded socket				
• 2"	M73	✓	✓	✓
• 2½"	M74	✓	✓	✓
• 3"	M75	✓	✓	✓
IDF socket with union nut ISO 2853				
• 2"	M82	✓	✓	✓
• 2½"	M83	✓	✓	✓
• 3"	M84	✓	✓	✓
IDF threaded socket ISO 2853				
• 2"	M92	✓	✓	✓
• 2½"	M93	✓	✓	✓
• 3"	M94	✓	✓	✓
Sanitary process connection to NEUMO Bio-Connect screw connection Certified to 3A and EHEDG ⁶⁾				
• DN 50, PN 16	Q05	✓	✓	✓
• DN 65, PN 16	Q06	✓	✓	✓
• DN 80, PN 16	Q07	✓	✓	✓
• DN 100, PN 16	Q08	✓	✓	✓
• DN 2", PN 16	Q13	✓	✓	✓
• DN 2½", PN 16	Q14	✓	✓	✓
• DN 3", PN 16	Q15	✓	✓	✓
• DN 4", PN 16	Q16	✓	✓	✓
Sanitary process connection to NEUMO Bio-Connect flange connection Certified to 3A and EHEDG ⁶⁾				
• DN 50, PN 16	Q23	✓	✓	✓
• DN 65, PN 16	Q24	✓	✓	✓
• DN 80, PN 16	Q25	✓	✓	✓
• DN 100, PN 16	Q26	✓	✓	✓
• DN 2", PN 16	Q31	✓	✓	✓
• DN 2½", PN 16	Q32	✓	✓	✓
• DN 3", PN 16	Q33	✓	✓	✓
• DN 4", PN 16	Q34	✓	✓	✓

Selection and Ordering data	Order code		
<i>Further designs</i>	HART	PA	FF
Add "-Z" to Order No. and specify Order Code.			
Sanitary process connection to NEUMO Bio-Connect clamp connection Certified to 3A and EHEDG ⁶⁾			
• DN 50, PN 16	Q39	✓	✓
• DN 65, PN 10	Q40	✓	✓
• DN 80, PN 10	Q41	✓	✓
• DN 100, PN 10	Q42	✓	✓
• DN 2½", PN 16	Q48	✓	✓
• DN 3", PN 10	Q49	✓	✓
• DN 4", PN 10	Q50	✓	✓
Sanitary process connection to NEUMO Bio-Connect S flange connection Certified to 3A and EHEDG			
• DN 50, PN 16	Q63	✓	✓
• DN 65, PN 10	Q64	✓	✓
• DN 80, PN 10	Q65	✓	✓
• DN 100, PN 10	Q66	✓	✓
• DN 2", PN 16	Q72	✓	✓
• DN 2½", PN 10	Q73	✓	✓
• DN 3", PN 10	Q74	✓	✓
• DN 4", PN 10	Q75	✓	✓
Aseptic threaded socket to DIN 11864-1 Form A Certified to 3A and EHEDG			
• DN 50, PN 25	N33	✓	✓
• DN 65, PN 25	N34	✓	✓
• DN 80, PN 25	N35	✓	✓
• DN 100, PN 25	N36	✓	✓
Aseptic flange with notch to DIN 11864-2 Form A Certified to 3A and EHEDG			
• DN 50, PN 16	N43	✓	✓
• DN 65, PN 16	N44	✓	✓
• DN 80, PN 16	N45	✓	✓
• DN 100, PN 16	N46	✓	✓
Aseptic flange with groove to DIN 11864-2 Form A Certified to 3A and EHEDG			
• DN 50, PN 16	N43 + P11	✓	✓
• DN 65, PN 16	N44 + P11	✓	✓
• DN 80, PN 16	N45 + P11	✓	✓
• DN 100, PN 16	N46 + P11	✓	✓
Aseptic clamp with groove to DIN 11864-3 Form A Certified to 3A and EHEDG			
• DN 50, PN 25	N53	✓	✓
• DN 65, PN 25	N54	✓	✓
• DN 80, PN 16	N55	✓	✓
• DN 100, PN 16	N56	✓	✓

Selection and Ordering data	Order code		
<i>Additional data</i>	HART	PA	FF
Please add "-Z" to Order No. and specify Order code(s) and plain text.			
Measuring range to be set Specify in plain text (max. 5 characters): Y01: ... up to ... mbar, bar, kPa, MPa, psi	Y01	✓	
Stainless steel tag plate (measuring point description) Max. 16 characters, specify in plain text: Y15:	Y15	✓	✓
Measuring point text Max. 27 characters, specify in plain text: Y16:	Y16	✓	✓
Entry of HART TAG Max. 8 characters, specify in plain text: Y17:	Y17	✓	
Setting of the display in pressure units Specify in plain text (standard setting: bar): Y21: mbar, bar, kPa, MPa, psi, ... Note: The following pressure units can be selected: bar, mbar, mm H ₂ O ⁺ , inH ₂ O ⁺ , ftH ₂ O ⁺ , mmHG, inHG, psi, Pa, kPa, MPa, g/cm ² , kg/cm ² , Torr, ATM or %) ref. temperature 20 °C	Y21	✓	✓
Setting of the display in non-pressure units⁸⁾ Specify in plain text: Y22: up to l, m ³ , m, USg, ... (specification of measuring range in pressure units "Y01" is essential, unit with max. 5 characters)	Y22 + Y01	✓	
Preset bus address (possible between 1 ... 126) Specify in plain text: Y25:	Y25		✓
Factory mounting of valve manifolds, see accessories.			
Only "Y01" and "Y21" can be factory preset			
✓ = available			
Ordering example Item line: 7MF8023-1DB24-1AB7-Z B line: A02 + Y01 + Y21 C line: Y01: 1 ... 10 bar (14.5 ... 145 psi) C line: Y21: bar (psi)			
1) When the manufacture's certificate (calibration certificate) has to be ordered for transmitters with diaphragm seals according to IEC 60770-2, it is recommended only to order this certificate exclusively with the diaphragm seals. The measuring accuracy of the <u>total</u> combination is certified here.			
2) If the acceptance test certificate 3.1 is ordered for the transmitter with mounted diaphragm seals this certificate must also be ordered with the respective remote seals.			
3) Special seal in Viton included in the scope of delivery			
4) Cannot be combined with order codes P00 and P10. Can only be ordered with silicone oil measuring cell filling.			
5) The weldable socket can be ordered under accessories.			
6) 3A certification only if used in conjunction with 3A-compliant sealing rings.			
7) Certified to 3A. The maximum permissible temperatures of the medium depend on the respective cell fillings.			
8) Preset values can only be changed over SIMATIC PDM.			