

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	STS Sensor Technik Sirnach AG
Address	Rütihofstraße 8, Sirnach, 8370, Switzerland
Type	Pressure Transmitter
Description	Pressure Transmitter(1) Intrinsically Safe Pressure Transmitter(2) For detailed description, pls. refer to appendix.
Trade Name	(1)ATM.1ST, (2)ATM.1ST/Ex, (1)ATM.ECO, (2)ATM. ECO/Ex
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2019.
Specified Standard	EN 60068-2-6: 2005 EN60068-2-27: 2009 EN55022: 2015 EN61000-4-2: 2009 EN61000-4-3: 2010 EN61000-4-4:2013 EN61000-4-5:2018 EN61000-4-6:2014

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IACS requirements E10(1991/ Rev.8: Feb 2021)

Ratings	Power supply:	24 V DC
Additional Tests	Vibration:	10g / 40 to 2000Hz
	Shock:	100g / impulse duration 6 ms
	Process temperature:	-40...150 °C
	Dry heat test:	80°C/16h
	Low temperature:	-10°C/2h
	Enclosure test:	IP 68 2h/1.5m
Other Conditions	Ratings for application in hazardous areas are to be obtained from the applicable Ex-Certificate.	

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: This certificate supersedes certificate number LR2002662TA issued on 13.05.2020 which is hereby cancelled.

The Design Appraisal Document HTS/ETS 42218 -22 TW/HN and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

TYPES

⁽¹⁾ATM.1ST①②③④⑤⑥⑦⑧⑨⑩

① Pressure type	1	Gauge	
	2	Absolute (vacuum)	
	3	Sealed gauge	
② Pressure measuring range	XX	0 ... 0,05 bar	
	XX	0 ... 1000 bar	
③ Process connection	00	G 1/4 F	
	10	1/4 NPT M	
	19	1/2 NPT M	
	11	G 1/4 M	
	21	G 1/4, with flush diaphragm	
	12	G 1/4 M, manometer EN 837	
	13	G 1/2 M	
	14	G 1/2 M, frontal diaphragm	
	37	G 1/2 M, frontal diaphragm Hastelloy C-276	
	15	G 1/2 M, with flush diaphragm membrane	
	16	G 1/2 M, manometer EN 837	
	17	G 1/2 M, with bore Ø 14 mm	
	④ Electrical connection	01	DIN 43650 (EN 175301-803A), with metal threaded part, demountable, IP 65
03		M16, Binder 723, 5 pins, IP 67	
80		MIL C26482, 10-6, IP 40	
07		M12x1, 4 pins	
13		PE cable, IP 67, black	
15		PUR cable, IP 67, black	
24		PUR cable, black, with submersible back end IP 68	
21		FEP cable, IP 67, black	
11		FEP cable, (high temperature), black, IP 67	
⑤ Output signal		46	0 to 5 VDC
		47	0 to 10 VDC
	05	4 to 20 mA	
	08	4 to 20 mA surge protection	
	⑥ Accuracy	1	≤ ± 0.25 % FS (50 mbar to 99 bar)
4		≤ ± 0.2 % FS (100 mbar to 1000 bar)	
2		≤ ± 0.1 % FS (100 mbar to 600 bar)	
6		≤ ± 0.05 % FS (1 bar to 100 bar)	
⑦ Temperature range	0	0 to 70°C compensated process temp: -40 ... 125°C	
	1	-25 to 100°C compensated /process temp: -40 ... 125°C	
	2	-25 to 100°C compensated /process temp: -40 ... 150°C	
	3	-40 to 100°C compensated /process temp: -40 ... 125°C	
	4	-40 to 100°C compensated /process temp: -40 ... 150°C	
	6	-40 to 125°C compensated /process temp: -40 ... 125°C	
⑧ Option 1	A	Throttle	
	G	Special oil filling: Anderol Food (for food applications)	
	Q	Special oil filling: PAO4 (silicone free)	
	N	Pressure connection elastomer free	
	V	Pressure connection welded	
⑨ Option 2	C	Electronics packed in gel: Gauge pressure	
	D	Electronics packed in gel: Absolute and sealed gauge	

⑩ Option 3	K	Version titanium
	U	Seals: Viton (standard)
	S	Seals: EPDM
	T	Seals: Kalrez (Industry)
	H	Seals: NBR (ACS)

⁽²⁾ATM.1ST/Ex①②③④⑤⑥⑦⑧⑨

① Pressure type	1	Gauge
	2	Absolute (vacuum)
	3	Sealed gauge
② Pressure measuring range	XX	0 ... 0,05 bar
	XX	0 ... 1000 bar
③ Process connection	00	G 1/4 F
	10	1/4 NPT M
	19	1/2 NPT M
	11	G 1/4 M
	21	G 1/4 flush diaphragm
	12	G 1/4 M, manometer DIN-16288
	13	G 1/2 M
	14	G 1/2 M, frontal diaphragm
	37	G 1/2 M, frontal diaphragm, Hastelloy C-276
	15	G 1/2 M, flush diaphragm
	16	G 1/2 M manometer DIN-16288
	17	G 1/2 M, with bore Ø 14 mm
	④ Electrical connection	01
03		M16 (Binder 723), 5 pins, IP 67
80		MIL C26482, 10-6, IP 40
07		M12x1, 4 pins
17		PUR cable, blue, IP 67
22		FEP cable, blue, IP 67
36		PUR cable, blue, IP 68
⑤ Output signal	05	4 to 20 mA
⑥ Accuracy	1	≤ ± 0.25 % FS (50 mbar ... 99 bar)
	4	≤ ± 0.2 % FS (100 mbar ... 1000 bar)
	2	≤ ± 0.1 % FS (100 mbar ... 600 bar)
	6	≤ ± 0.05 % FS (1 bar ... 100 bar)
⑦ Temperature range	0	T6 (Ta: -40 to 50°C) 0 to 70°C compensated
	1	T4 (Ta: -40 to 85°C) -25 to 100°C compensated
	2	T3 (Ta: -40 to 125°C) -25 to 100°C compensated
⑧ Option 1	A	Throttle
	G	Special oil filling: Anderol Food
	N	Pressure connection elastomer free
	Q	Special oil filling: PAO4 (silicone free)
	V	Pressure connection welded
⑨ Option 2	K	Titanium
	U	Seals: Viton (standard)
	S	Seals: EPDM
	T	Seals: Kalrez
	H	Seals: NBR

⁽¹⁾ATM.ECO①②③④⑤⑥⑦⑧⑨⑩

① Pressure type	1	Gauge	
	2	Absolute (vacuum)	
	3	Sealed gauge	
② Pressure measuring range	XX	0 ... 0,1 bar	
	XX	0 ... 1000 bar	
③ Process connection	00	G 1/4 F	
	10	1/4 NPT M	
	19	1/2 NPT M	
	11	G 1/4 M	
	21	G 1/4, with flush diaphragm	
	12	G 1/4 M, manometer EN 837	
	13	G 1/2 M	
	14	G 1/2 M, frontal diaphragm	
	15	G 1/2 M, with flush diaphragm	
	16	G 1/2 M, manometer EN 837	
	17	G 1/2 M, with bore Ø 14 mm	
	37	G 1/2 M, frontal diaphragm, Hastelloy C=276	
	④ Electrical connection	01	DIN 43650 (EN 175301-803A), with metal threaded part, demountable, IP 65
		03	M16 (Binder 723), 5 pins, IP 67
80		MIL C26482, 10-6, IP 40	
07		M12x1, 4 pins	
13		PE cable, IP 67, black	
15		PUR cable, IP 67, black	
21		FEP cable, IP 67, black	
24		PUR cable, IP 68, black	
⑤ Output signal		05	4 to 20 mA
		08	4 to 20 mA surge protection
	46	0 to 5 VDC	
	47	0 to 10 VDC	
	⑥ Accuracy	4	≤ ± 0.2 % FS
⑦ Temperature range		0	0 ... 70°C compensated (allowed process temperature:-40° ... 125°C)
	1	-25 ... 100°C compensated (allowed process temperature:-40° ... 125°C)	
	2	-25 ... 100°C compensated with cooling fins (allowed process temperature:-40° ... 150°C)	
	3	-40 ... 100°C compensated (allowed process temperature:-40° ... 125°C)	
	⑧ Option 1	A	Throttle
G		Special oil filling: Anderol Food	
N		pressure connection, elastomer free	
Q		Special oil filling: PAO4 (silicone free)	
V		Pressure connection welded	
⑨ Option 2	C	Electronics packed in gel: Gauge pressure	
	D	Electronics packed in gel: Absolute and sealed gauge	
⑩ Option 3	U	Seals: Viton (standard)	
	S	Seals: EPDM	
	T	Seals: Kalrez	

⁽²⁾ATM. ECO/Ex①②③④⑤⑥⑦⑧⑨

① Pressure type	1	Gauge	
	2	Absolute (vacuum)	
	3	Sealed gauge	
② Pressure measuring range	XX	0 ... 0,1 bar	
	XX	0 ... 1000 bar	
③ Process connection	00	G 1/4 F	
	10	1/4 NPT M	
	19	1/2 NPT M	
	11	G 1/4 M	
	21	G 1/4, with flush diaphragm	
	12	G 1/4 M, Manometer EN 837	
	13	G 1/2 M	
	14	G 1/2 M, frontal diaphragm	
	15	G 1/2 M, with flush diaphragm	
	16	G 1/2 M, manometer EN 837	
	17	G 1/2 M, with bore Ø 14 mm	
	37	G 1/2 M, frontal diaphragm, Hastelloy C=276	
	④ Electrical connection	01	DIN-43650, with metal threaded part, demountable, IP65
		03	M16 (Binder 723), 5 pins, IP 67
80		MIL C26482, 10-6, IP 40	
07		M12x1, 4 pins	
17		PUR cable, blue, IP 67	
22		FEP cable, blue, IP 67	
36		PUR cable, blue, IP 68	
05		4 to 20 mA	
⑤ Output signal	05	4 to 20 mA	
⑥ Accuracy	4	≤ ± 0.2 % FS	
⑦ Temperature range	0	T6 (Ta: -40 to 50°C) 0 to 70°C compensated	
	1	T4 (Ta: -40 to 85°C) -25 to 100°C compensated	
	2	T3 (Ta: -40 to 125°C) -25 to 100°C compensated	
⑧ Option 1	A	Throttle	
	G	Special oil filling: Anderol food	
	N	Pressure connection elastomer free	
	Q	Special oil filling: PAO4 (silicone free)	
	V	Pressure connection welded	
⑨ Option 2	U	Seals: Viton (standard)	
	S	Seals: EPDM	
	T	Seals: Kalrez	