

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
Place of Production	STS Sensor Technik Sirnach AG Rütihofstraße 8, Sirnach, 8370, Switzerland
Type	Transmitters/Transducers
Description	Analog Pressure Transmitter ATM 23... Analog Level Transmitter ATM/N 24... Analog Pressure Transmitter ATM/Ex 33... Analog Level Transmitter ATM/N/Ex 34... For detailed description, pls. refer to appendix.
Trade Name	ATM, ATM/Ex, ATM/N, ATM/N/Ex
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV4 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2018.
Specified Standard	Manufacturer's specification
Ratings	Pressure types: gauge, absolute or sealed Pressure range: 0...0.05 bar up to 0...1000 bar

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Power supply: 24 VDC
Output signals: 0...20 mA, 4...20 mA, 0...5 VDC, 0...10 VDC
Degree of protection: IP 65, IP 67, IP 68 (depending on electrical connection)

Other Conditions

Specific Conditions of Use as stated in applicable Ex-certificates and the conditions of the LR Rules and Regulations of Classification of Ships, Part 6, Chapter 2 shall be observed when installed in hazardous areas. The Ex-certification does not form part of this certificate.

Equipment must comply with IACS E10 Rev. 7 / 2018 when intended to be installed on ships contracted for construction on or after 1 January 2022.

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.

The Design Appraisal Document HTS/ETS 40581-20/MK/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

DESCRIPTION

Analog Pressure Transmitter ATM 23...
 Analog Level Transmitter ATM/N 24...
 Analog Pressure Transmitter ATM/Ex 33...
 Analog Level Transmitter ATM/N/Ex 34...

ATM 23 ①②③④⑤⑥⑦⑧⑨⑩

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 M, flush diaphragm
		12	G 1/4 M, Manometer DIN-16288
		13	G 1/2 M
		41	G 1/2 M, Hastelloy C-276
		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
99	Customized		
④	Electrical connection	01	DIN-43650 plastic PA, with metal threaded part, demountable IP 65
		03	M16 (Binder 723), 5 pins, IP 67
		43	M16 (Binder 723), 5 pins, demountable, IP 67
		06	MIL C26482, 10-6, IP 40
		07	M12x1, 4 pins
		13	PE cable, black, IP 67
		15	PUR cable, black, IP 67
		24	PUR cable, black, with submersible back end IP 68
		21	FEP cable, black
99	Customized		
⑤	Output signal	05	4 ... 20 mA
		00	0 ... 20 mA
		46	0 ... 5 VDC
		47	0 ... 10 VDC
		08	4 ... 20 mA with surge protection
		49	0 ... 10 VDC with surge protection
50	0 ... 5 VDC with surge protection		
⑥	Accuracy	0	≤ 600 bar ≤ ± 0.5 % FS
		1	≤ 600 bar ≤ ± 0.25 % FS
		2	≤ 600 bar ≤ ± 0.1 % FS
		5	> 600 bar ≤ ± 1 % FS
		0	> 600 bar ≤ ± 0.5 % FS
		1	> 600 bar ≤ ± 0.25 % FS

DESCRIPTION (continued)

ATM 23 ①②③④⑤⑥⑦⑧⑨⑩

⑦	Temperature range	0	0 ... 70 °C compensated
		7	25 ... 100 °C compensated
		1	-25 ... 85 °C compensated
		2	-25 ... 85 °C compensated with cooling fins
		6	20 ... 100 °C compensated with cooling fins
		3	-40 ... 100 °C compensated
		4	-40 ... 100 °C compensated with cooling fins
⑧	Option 1	A	Throttle
		G	Special oil filling: Anderol Food (for food applications)
		J	Special oil filling: AS 100
		Q	Special oil filling: PAO4 (silicone free)
		N	Pressure connection elastomer free
⑨	Option 2	C	Electronics packed in gel: Gauge pressure
		D	Electronics packed in gel: Absolute pressure
⑩	Option 3	K	Version titanium
		U	Seals: Viton (standard)
		S	Seals: EPDM
		T	Seals: Kalrez (Industry)
		H	Seals: NBR (ACS)

ATM/N 24 ①②③④⑤⑥⑦⑧⑨⑩

①	Pressure type	1	Gauge
		2	Absolute (vacuum)
②	Pressure measuring range	XX	0 ... 0.5 mH ₂ O
		XX	0 ... 250 mH ₂ O
③	Process connection	55	Closed
		59	Closed, 1.4435
		56	Open
		11	G 1/4 M
		13	G 1/2 M
		99	Customized
④	Electrical connection	13	PE cable, IP 68, black
		15	PUR cable, IP 68, black
		21	FEP cable, IP 68, black
		14	PVC cable, blue, IP 68
		07	Connectable version, IP 68, M12x1
		99	Customized
⑤	Output signal	46	0 ... 5 VDC
		47	0 ... 10 VDC
		00	0 ... 20 mA
		05	4 ... 20 mA
		08	4 ... 20 mA with overvoltage protection
		49	0 ... 10 VDC with overvoltage protection
		50	0 ... 5 VDC with overvoltage protection
99	Customized		
⑥	Accuracy	0	≤ ± 0.5 % FS
		1	≤ ± 0.25 % FS
		2	≤ ± 0.1 % FS
⑦	Temperature range	4	-5 ... 50 °C compensated
		5	-5 ... 80 °C compensated
⑧	Option 1		nil
⑨	Option 2	C	Electronics packed in gel: Gauge pressure
		D	Electronics packed in gel: Absolute pressure

DESCRIPTION (continued)

ATM/N 24 ①②③④⑤⑥⑦⑧⑨⑩

⑩	Option 3	B K U S T H Z	Ballast weight 1.4435 Version titanium (without ballast weight) Seals: Viton (standard) Seals: EPDM Seals: Kalrez (Level) Seals: NBR (7) Humidity filter element for gauge versions (only for PUR and PE cable)
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ATM/Ex 33 ①②③④⑤⑥⑦⑧⑨⑩

①	Pressure type	1 2 3	Gauge Absolute (vacuum) Sealed gauge
②	Pressure measuring range	XX XX	0 ... 0.05 bar 0 ... 1000 bar
③	Process connection	00 10 19 11 21 12 13 98 14 37 15 16 17 99	G 1/4 F 1/4 NPT M 1/2 NPT M G 1/4 M G 1/4 flush diaphragm G 1/4 M, manometer DIN 16288 G 1/2 M G 1/2 M, Hastelloy C-276 98 G 1/2 M, frontal diaphragm G 1/2 male, frontal diaphragm Hastelloy C-276 G 1/2 M, flush diaphragm G 1/2 M, manometer DIN-16288 G 1/2 male with bore Ø 14 mm Customized
④	Electrical connection	01 03 43 06 07 17 36 22 99	DIN-43650 with metal threaded part, demountable, IP 65 M16 (Binder 723), 5 pins, IP 67 M16 (Binder 723), 5 pins, demountable, IP 67 MIL C26482, 10-6, IP 40 M12x1, 4 pins PUR cable, blue, IP 67 PUR cable, blue, with submersible back end IP 68 FEP cable, blue, IP 67 Customized
⑤	Output signal	05 08	4 ... 20 mA 4 ... 20 mA with surge protection
⑥	Accuracy	0 1 2 5 0 1	≤ 600 bar ≤ ± 0.5 % FS ≤ 600 bar ≤ ± 0.25 % FS ≤ 600 bar ≤ ± 0.1 % FS > 600 bar ≤ ± 1 % FS > 600 bar ≤ ± 0.5 % FS > 600 bar ≤ ± 0.25 % FS
⑦	Temperature range	0 1 2	T6 (Ta: -25 ... 55 °C) 0 ... 70 °C compensated T4 (Ta: -25 ... 85 °C) -25 ... 85 °C compensated T3 (Ta: -25 ... 85 °C) -25 ... 85 °C compensated

DESCRIPTION (continued)

ATM/Ex 33 ①②③④⑤⑥⑦⑧⑨⑩

⑧	Option 1	A	Throttle
		G	Special oil filling: Anderol Food (for food applications)
		J	Special oil filling: AS 100
		Q	Special oil filling: PAO4 (silicone free)
		N	Pressure connection elastomer free
		V	Pressure connection welded
⑨	Option 2		nil
⑩	Option 3	K	Version titanium
		U	Seals: Viton (standard)
		S	Seals: EPDM
		T	Seals: Kalrez (Industry)

ATM/N/Ex 34 ①②③④⑤⑥⑦⑧⑨⑩

①	Pressure type	1	Gauge
		2	Absolute (vacuum)
②	Pressure measuring range	XX	0 ... 0.5 mH2O
		XX	0 ... 250 mH2O
③	Process connection	55	Closed
		56	Open
		11	G 1/4 M
		13	G 1/2 M
		99	Customized connections available
④	Electrical connection	07	Connectable version, IP 68
		17	PUR cable, blue, IP 68
		22	FEP cable, blue, IP 68
		99	Customized
⑤	Output signal	05	4 ... 20 mA
		08	4 ... 20 mA with surge protection
⑥	Accuracy	0	≤ ± 0.5 % FS
		1	≤ ± 0.25 % FS
		2	≤ ± 0.1 % FS
⑦	Temperature range	3	T6 (Ta: -5 ... 50 °C) -5 ... 50 °C compensated
		5	T4 (Ta: -5 ... 80 °C) -5 ... 80 °C compensated
⑧	Option 1		nil
⑨	Option 2		nil
⑩	Option 3	B	Ballast weight 1.4435
		U	Seals: Viton (standard)
		S	Seals: EPDM
		T	Seals: Kalrez (Level)
		K	Version titanium (without ballast weight)
		Z	Humidity filter element for gauge versions (only for PUR cable)