

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	Programmable Pressure Transmitter PTM/Ex (Intrinsically Safe) Programmable Submersible Level Transmitter PTM/N/Ex (Intrinsically Safe) For detailed description, pls. refer to appendix.
Trade Name	PTM/Ex, PTM/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 ... 1000 bar / 1 ... 250 mH2O (submersible type) Power supply: 24 VDC Output signal: 4 ... 20 mA

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Degree of protection: IP 65 (DIN connector), IP 67, IP 68 (submersible type)

Additional Tests

Dry heat test (+70 °C / 2 h)
Low temperature test (-25 °C / 2 h)

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 No. HTS/ETS 40590-20/MK/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

DESCRIPTION

Programmable Pressure Transmitter PTM/Ex (Intrinsically Safe)
Programmable Submersible Level Transmitter PTM/N/Ex (Intrinsically Safe)

Firmware Version: V2.0x

PTM/Ex 47 ①②③④⑤⑥⑦⑧⑨⑩

①	Pressure type	1	Gauge
		2	Absolute (vacuum)
		3	Sealed gauge
②	Pressure measuring range	XX	0.1 bar ... 600 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
		04	M16 (Binder 723), 7 pins, demountable, 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, with submersible back end, IP 68
		99	Customized
⑤	Output signal	05	4 ... 20 mA
		08	4 ... 20 mA with overvoltage protection
⑥	Accuracy	1	≤ ± 0.25% FS (≤ 500 mbar / > 600 bar)
		2	≤ ± 0.1% FS (> 500 mbar ... 600 bar)
⑦	Temperature range	0	T6 (Ta: -25 ... 55 °C) 0 ... 70 °C compensated
		1	T4 (Ta: -25 ... 85 °C) -25 ... 85 °C compensated
		2	T3 (Ta: -25 ... 85 °C) -25 ... 85 °C compensated
⑧	Option 1	A	Throttle
		G	Special oil filling: Anderol Food (for food applications)
		Q	Special oil filling: PAO4 (silicone free)
⑨	Option 2		nil
⑩	Option 3	E	Active compensated (≥ 100 mbar ≤ 100 bar)
		K	Version titanium
		U	Seals: Viton (standard)
		S	Seals: EPDM
		T	Seals: Kalrez
		H	Seals: NBR (ACS)

DESCRIPTION (continued)

PTM/N/Ex 48 ①②③④⑤⑥⑦⑧⑨⑩

①	Pressure type	1	Gauge
		2	Absolute (vacuum)
②	Pressure measuring range	XX	1 ... 250 mH ₂ O
③	Process connection	55	Closed
		56	Open
		11	G 1/4 M
		13	G 1/2 M
		99	Customized connections available
④	Electrical connection	17	PUR cable, blue, IP 68
		22	FEP cable, blue, IP 68
		07	Connectable version, IP 68, M12x1
⑤	Output signal	05	4 ... 20 mA
		08	4 ... 20 mA with surge protection
⑥	Accuracy	1	≤ ± 0.25 % FS (≤ 5 mH ₂ O)
		2	≤ ± 0.1 % FS (> 5 mH ₂ O)
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	G	Special oil filling: Anderol Food (for food applications)
⑨	Option 2		nil
⑩	Option 3	B	Ballast weight 1.4435
		E	Active compensated
		K	Version titanium (without ballast weight)
		U	Seals: Viton (standard)
		S	Seals: EPDM
		T	Seals: Kalrez (Level)
		H	Seals: NBR
Z	Humidity filter element for gauge version (only for PUR cable)		