



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA25199M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use" and the relevant Society's Rules.

This certificate is issued to

Applicant:	Endress+Hauser SICK GmbH+Co. KG - Ottendorf- Ockrilla Germany
Manufacturer:	Endress+Hauser SICK GmbH+Co. KG Hamburg Poppenbüttel Jiangsu SICK Sensor Co., Ltd.
Place of Manufacturing:	Poppenbütteler Bogen 9B, 22399 Hamburg, Germany Wujin National Hi-Tech Industrial Zone (WIZ) Fengxiang Industrial Park Fengxiang Road No.31 Changzhou, China
Product description:	Exhaust gas emission measurement system
Model:	MARSIC280
Approval No.:	21A032
Valid until:	16 December 2026

The details are described in the attached sheet(s).

Issued at Tokyo on 13 March 2025.



S. Oishi
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

Specification & documents:

1. Particulars:

Power supply: 115 / 230 V, 50 / 60 Hz

Measuring ranges:

CO₂: 0 - 25 vol. -%SO₂: 0 - 100 ppm / 0 - 500 ppm

2. Components of the system

Component	Identification number	Specification
SYSTEM MAR280	1111868	SYSTEM MAR280 MULTI. 115VAC
	1111867	SYSTEM MAR280 MULTI. 230VAC
	1111866	SYSTEM MAR280 SINGLE 115VAC
	1111865	SYSTEM MAR280 SINGLE 230VAC
Analyzer (*1)	1110559	DeSOx (CO ₂ /SO ₂)
SCD (Sample Gas Conditioning Device) 1 SMP	2112590	SCD 1 SMP 115VAC 50HZ/60HZ
	2112588	SCD 1 SMP 230VAC 50HZ/60HZ
GAS SAMPLING FILTER SFU-BF NI GL	1094239	GAS SAMPLING FILTER SFU-BF NI GL
	1078360	GAS SAMPLING FILTER GL 0,5M UNBEHEIZT
	1078361	GAS SAMPLING FILTER GL 0,8M UNBEHEIZT
	2121888	GAS SAMPLING FILTER MARITIME INDOOR (SFU100)
	2137834	GAS SAMPLING FILTER MARITIME OUTDOOR (SFU150)

*1: Analyzer is same as one used in MARSIC 200. (Approval No.: 20A016)

- To be continued -

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Specification & documents:

2. Components of the system

Component	Identification number	Specification
Heated sample gas line	6031105	HEAT. HOSE. 230V ELH/AW 6/8 1H 5M N.LSP
	6031110	HEAT. HOSE. 230V ELH/AW 6/8 1H 10M N.LSP
	6031115	HEAT. HOSE. 230V ELH/AW 6/8 1H 15M N.LSP
	6031120	HEAT. HOSE. 230V ELH/AW 6/8 1H 20M N.LSP
	6031125	HEAT. HOSE. 230V ELH/AW 6/8 1H 25M N.LSP
	6031130	HEAT. HOSE. 230V ELH/AW 6/8 1H 30M N.LSP
	6031135	HEAT. HOSE. 230V ELH/AW 6/8 1H 35M N.LSP
	6035905	HEAT. HOSE. 115V ELH/AW 6/8 1H 5M N.LSP
	6035910	HEAT. HOSE. 115V ELH/AW 6/8 1H 10M N.LSP
	6035915	HEAT. HOSE. 115V ELH/AW 6/8 1H 15M N.LSP
	6035920	HEAT. HOSE. 115V ELH/AW 6/8 2H 20M N.LSP
	6035925	HEAT. HOSE. 115V ELH/AW 6/8 2H 25M N.LSP
	6035930	HEAT. HOSE. 115V ELH/AW 6/8 2H 30M N.LSP
	6035935	HEAT. HOSE. 115V ELH/AW 6/8 2H 35M N.LSP
Bundle of pipes	6058993	Up to 40 m
Flanges and seals for filter housing, complete with sealing washer and screws	2025100	Flange NW 50 ND 16
	2025101	Flange NW 65 ND 6
	2025102	Flange NW 65 ND 16
	2025103	Flange NW 80 ND 16
	2025104	Flange ANSI 4" 150 lbs
Sample tube	2083525	Unheated 0.5m
	2083527	Unheated 0.8m
	2142889	Unheated 0.5m(SFU100/150)
	2142888	Unheated 0.8m(SFU100/150)

- To be continued -

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Attached sheet -3/4 to the Certificate No. TA25199M

Specification & documents:

3. Software version: 4.0.XX

4. Documentation and Test Reports:

- MARSIC280 Operation instructions Doc.-No: 8021339/1CHC/V1-1/2021-07,
8021339/1N7C/V3-0/2024-06,
8030498/1N7C/V3-0/2024-06
- MARSIC280 System Specification Doc.-ID: E310548 V. 01.1,
- TÜV Nord Test Reports issued on 2020-09-17: No. 20087-1-R02, No. 20087-2-R02,
No. 20087-3-R02
- TÜV Nord Test Reports issued on 2020-08-03: No. 20087-7-R00
- TREO Test Report No. 014-20, issue 5 issued on 2020-11-02
- TREO Test Report No. 408-21, issue 1 issued on 2021-11-03
- Guideline for Software Development withing PEP(ISIS*) Version 4.0e
- GBC03-Acceptance of software changes in series Version:4

- To be continued -

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Attached sheet -4/4 to the Certificate No. TA25199M

Test items & approval conditions:

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS (IACS UR E10 Rev.9 basis)		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 55°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g × 1.5 hours)		X
Inclination test		X
Cold test (Temperature 5°C × 2 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Flame retardant test		--

2. Approval condition:

The product is not allowed to be installed in the bridge or on open decks.

- The End -