



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No.TA19594M

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

Manufacturer: **ABB Engineering(Shanghai) Ltd.**
Place of Manufacturing: **No.4528 Kangxin Highway, Pudong New District, Shanghai,
201319 P.R China.**
Product description: **Continuous Emission Monitoring System**
Model: **GAA610-M**

Approval No.: **19A043**
Valid until: **29 October 2024**

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 30 October 2019

T. Shimada
General Manager
Machinery Department

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

NIPPON KAIJI KYOKAI

Attached sheet -1/2 to the Certificate No.TA19594M

Specification & documents:

1. Particulars: Power Supply :115VAC/230VAC
Allowable temperature range :5°C~+55°C
Frequency :50Hz/60Hz

2. Components and reference drawings:

Marine CEMS 2nd Generation AUS-44988-00125.
GAA610-M-Advanced Emission Gas Monitoring System for Marine Applications
Major Equipment Installation, Operation and Maintenance Manuals
SCC-C Sample Gas Cooler Standard Model and Category 3G Explosion-Proof Version
ANALYZER SAMPLE SYSTEM HOOK-UP DIAGRAM
CERTIFIED MARINE CEMS No.AUS-4498-00125-02-000.
SAMPLE PROBE DRAWING No.AUS-4498-00125-02-100.
GENERAL ARRANGEMENT DRAWING No.AUS-4498-00125-02-102
FOUNDATION&INSTALLATION DRAWING No.AUS-4498-00125-02-103
ANALYZER SAMSTEM SCHEMATIC DIAGRAM No.AUS-4498-00125-02-201
WIRING DIAGRAM No.AUS-4498-00125-02-301

3. Documentation and Test Reports:

Test Report: UL102220190619002 dated July 9,2019

ULM04720180327001

: S714-ZD(1)-2018 dated January 1,2019

- To be continued -

NIPPON KAIJI KYOKAI

Attached sheet -2/2 to the Certificate No.TA19594M

Test items & approval conditions:

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS		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 ± 2°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°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. Approved condition:

The product is not allowed to be installed on bridge and open deck.

- The End -