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Certificate No: LR21216908TA Issue Date: 11/06/2021 Expiry Date: 01/06/2026

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 Boening Automationstechnologie GmbH & Co. KG

Address Am Steenoever 4, Ganderkesee, 27777

Type Integrated Alarm, Monitoring and Control System

Description IAMC serves as a control and display platform for processing and visualizing

Refer to the Appendix for further details.

Trade Name AHD-IAMCS

Application Marine, offshore and industrial applications for use in environmental

categories ENV1, ENV2, ENV3, ENV4 (components marked with ⁽¹⁾) and ENV5 (components marked with ⁽²⁾, front only) as defined in Lloyd's Register's Type

Approval System, Test Specification Number 1 – July 2015.

Specified Standard Manufacturer's specification

Ratings Power supply: 24 VDC

components marked with (4) = 24 VDC; 115 VAC and 230 VAC

Additional Tests Low temperature test (-25°C/16h) components marked with ⁽³⁾

Thorsten Wolff

Senior Specialist to Lloyd's Register EMEA A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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Other Conditions

The complete installation is subject to a separate plan appraisal according to applicable Rules and Regulations when installed on LR classed vessels. Equipment has to comply with IACS E10 Rev.8 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.

Previous Version: 16/20052 (E1)

The Design Appraisal Document HTS/ETS 41350-21/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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<u>Appendix</u>

TYPE AHD-IAMCS

Designation
AHD 1110 F⁽³⁾
AHD 1110 G⁽³⁾
AHD 1115 F
AHD 1115 G
AHD 1119 F
AHD 1119 F
AHD 1119 G
Device description
10" Display with foil front
15" Display with foil front
15" Display with glass front
19" Display with foil front
19" Display with glass front
19" Display with glass front

AHD 1200⁽³⁾ Embedded PC

15" Panel PCs with foil front AHD 1215 F 15" Panel PCs with glass front AHD 1215 G 19" Panel PCs with foil front AHD 1219 F 19" Panel PCs with glass front AHD 1219 G AHD 1224 G 24" Panel PCs with glass front AHD-DPU9(3) Data processing station AHD 1310 F(3) 10" Panel PC with foil front AHD 1310 G(3) 10" Panel PC with glass front

AHD 406-2⁽³⁾

Cabin duty alarm

5.7" LCD colour display

AHD 652⁽²⁾

6.5" Operating panel

AHD 880 E⁽²⁾ 8.8" Operating panel with engine monitoring

AHD 880 G⁽²⁾
8.8" Operating panel with glass front
8.8" Operating panel with foil front

AHD 882⁽¹⁾ Central unit

AHD-DPS 02 A07 (3), (4) Extension module for navigation and signal light control and

monitoring

AHD-DPS 02 BS⁽³⁾ Operation and indicator module for console AHD-DPS 02 E07⁽⁴⁾ Emergency switch units with 7 switches AHD-DPS 02 E14⁽⁴⁾ Emergency switch units with 14 switches

AHD-DPS 02 G14^{(3), (4)} Basic module for navigation and signal light control and monitoring

AHD-PS 15⁽¹⁾ Data station for 15 binary inputs

AHD-PS 15B⁽¹⁾ Data station with duty selection function

AHD-PS $30^{(1)}$ Data station for 30 binary inputs AHD-PS $47^{(1)}$ Data station for 47 binary inputs AHD R $101^{(1),\,(3)}$ Microprocessor controlled relay station AHD-SAS 15 M12 $^{(1),\,(3)}$ Data station for analog and binary sensors

AHD-UCC⁽³⁾ Repeater

AHD-UIC Compact protocol converter AHD-WAOP K Personnel alarm system

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AHD-WAOP BNWAS

AHD-GAP F General alarm unit with fire alarm function

AHD 570 DP 5.7" LCD colour display

AHD-DRM R Control unit for colour displays and monitors with rotary push drive

AHD-DRM T Control unit for colour displays and monitors with trackball

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