Certificate No: LR25103669TA
Issue Date: 12/06/2025
Expiry Date: 12/05/2029

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	**Caterpillar Inc (Indiana)**
Address	3701,, 3701,South Street, Lafayette, Indiana, 47905, United States
Place of Production	BorgWarner Mobility Poland sp z o.o. Pass, ul. Stefana Batorego 8, Błonie, 05-870, Poland
Place of Production	Caterpillar Inc (Indiana) 3701,, 3701,South Street, Lafayette, Indiana, 47905, United States
Type	Electronic Control Module
Description	Electronic Control Module for Caterpillar Engines ECM Part Number: 345-3381, 619-3483
Trade Name	ADEM V (A5E2v1)
Application	For use in environmental category ENV2, ENV3 and ENV4as defined in Lloyd's Register Test Specification Number 1, 2019.
Specified Standard	Lloyd's Register Test Specification Number 1, 2019. IACS UR E27 Rev. 1, 2023.
Other Conditions	Installation of this equipment for marine applications is to be in accordance with current Lloyd's Register Rules and Regulations.

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Peter Huntley-Hawkins

Electrical & Control Technical Manager - UK & America to Lloyd's Register EMEA
A member of the Lloyd's Register group

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Type Approval Certificate

Validity of this Type Approval is conditional upon a valid Lloyd's Register Software Conformity Assessment Certificate.

A separate, independent safety system is to be provided.

Suitable for auxiliary engines intended to drive electric generators forming the ship's main source of electrical power.

Communications with the Engine Control Modules are via CAN J1939 and CAT Data Link (CDL) network connections. Access from untrusted network is not allowed. There are no security configuration guidelines available as the ADEM V (A5E2v1) does not have Ethernet and wireless network connections that need network and security parameters. Information supporting the intended ship owner's incident response and recovery plan is to be made available when required by the system integrator.

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: *14/60014(E1)*

The Design Appraisal Document LR25103669TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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