



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted products have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	NORIS Automation GmbH Friedrich-Barnewitz-Strasse 10 18119 Rostock Germany
DESCRIPTION	Control Lever System
TYPES	NORISYS LS4
	The system could consist of the following components: (V1 and V2 - different mechanical mounting of the electronic cards)
	LS4 V1 Single Shaft Lever
	LS4 V2 Single Shaft Lever
	LS4-ESS V1 Single Shaft Lever with Electronic Shaft System
	LS4-ESS V2 Single Shaft Lever with Electronic Shaft System
	LSD4 V1 Twin Shaft Lever
	LSD4 V2 Twin Shaft Lever
	LSD4-ESS V1 Twin Shaft Lever with Electronic Shaft System
	LSD4-ESS V2 Twin Shaft Lever with Electronic Shaft System
	LSN4 V1 Single Shaft Lever for 2 Demands
	LSN4 V2 Single Shaft Lever for 2 Demands
	LSN4-ESS V1 Single Shaft Lever for 2 Demands with Electronic Shaft System
	LSN4-ESS V2 Single Shaft Lever for 2 Demands with Electronic Shaft System

Certificate No.	15/20137
Issue Date	04 December 2015
Expiry Date	03 December 2020
Sheet	1 of 2



Ronny Lehmann
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



TYPES CONTINUED	LT4 V2	Single Thruster Lever
	LT4-ESS V2	Single Thruster Lever with Electronic Shaft System
	LTD4 V2	Twin Thruster Lever
	LTD4-ESS V2	Twin Thruster Lever with Electronic Shaft System

Software Version for all Levers: 1.01.041

APPLICATION Marine applications for use in environmental categories ENV1, ENV2, ENV3 and ENV5 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002.

ADDITIONAL TESTS

Mechanical shock test:	15g, 11ms
Number of load planes:	6 ($\pm X$, $\pm Y$ and $\pm Z$)
Number of shocks per load plane:	3

DESIGN CODE Manufacturer's specification

OTHER CONDITIONS Final functional arrangements are to comply with appropriate Lloyd's Register Rules and will be subject of the Plan Approval process, if applicable.

"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 32804-15 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No.	15/20137
Issue Date	04 December 2015
Expiry Date	03 December 2020
Sheet	2 of 2



Ronny Lehmann
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS