



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	ABB Stotz-Kontakt GmbH
Address	Eppelheimer Str. 82, Heidelberg, 69123, Germany
Place of Production	ABB Xinhui Low Voltage Switchgear Co., Ltd. Jinguzhou Industrial Development Zone, Xinhui Dist., Jiangmen, 529100, China
Type	Relays - Electronic Monitors
Description	Electronic Overload Relays TYPES EF 19 EF 45 EF 65-56 EF 65-70 EF 96 EF 146 EF 205 EF 370 EF 460 EF 750
Trade Name	EF

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Application Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2002.

Specified Standard EN 60947-1:2007/A1:2011/A2:2014
EN IEC 60947-4-1:2019/AC:2020-05
EN 60947-5-1:2017/AC:2020-05
IACS unified requirements E10 (Rev.8 Feb 2021)

Ratings	Types	Current setting ranges (A)	Operating voltage (VAC)
	EF 19	0,1...18,9	690
	EF 45	9...45	690
	EF 65-56	20...56	1000
	EF 65-70	25...70	1000
	EF96	36...100	1000
	EF146	54...150	1000
	EF205	63...210	1000
	EF370	115...380	1000
	EF460	170...500	1000
	EF 750	270...800	1000

Additional Tests Low temperature (-25°C/16h)

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: 13/20045 (E1)

The Design Appraisal Document HPC1862143-24/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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