

## TYPE APPROVAL CERTIFICATE

### This is to certify:

#### That the Motor Starter

with type designation(s)  
**MS 132 / MO 132**

Issued to

**ABB Stotz-Kontakt GmbH**  
**HEIDELBERG, Germany**

is found to comply with

**Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**  
**IEC 60947-2**  
**IEC 60947-4-1**

### Application :

**For installations inside switchboards / enclosures onboard ships and offshore units**

<b>Rated Voltage (V)</b>	<b>690 AC</b>
<b>Rated Current (A)</b>	<b>0.1 - 32</b>
<b>Frequency (Hz)</b>	<b>40 - 60</b>

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2014-06-30**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Nicolay Horn**

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**Marit Laumann**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed. If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million. In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

Certificate No: **E-13454**  
 File No: **823.60**  
 Job Id: **262.1-007664-3**

## Product description

Motor protection circuit breaker type: MS 132 / MO 132 with the following auxiliary devices (MO 132 thermal tripping function deactivated):

Current limiter:	S803x-SCL-SR
Aux. Switch front mounting:	HKF1-11
Aux. Switch attached at right:	HK1-11, HK1-20, HK1-02
Aux. Switch attached at right with lead contacts:	HK1-20L
Signal Switch:	SK1-11, SK1-20, SK1-02
Short circuit Signal Switch:	CK1-11, CK1-20, CK1-02
Undervoltage release:	UA1
Shunt release:	AA1

Rated Voltage U<sub>e</sub>: 690\* V AC  
 U<sub>imp</sub> = 6 kV  
 Rated frequency: 40 - 60 Hz  
 Utilisation category: AC3

Tripping values, rated short circuit capacity:

Type	Thermal tripping setting ranges (A)	Rated current In / conventional free air thermal current (A)	Rated short circuit instantaneous short-circuit current setting (A)	Rated short circuit capacity I <sub>cs</sub> = I <sub>cu</sub> at U <sub>e</sub> =400V (kA)	Rated short circuit capacity I <sub>cs</sub> = I <sub>cu</sub> at U <sub>e</sub> =690V (kA)	Rated short circuit capacity with current limiter* I <sub>cs</sub> = I <sub>cu</sub> at U <sub>e</sub> =690V (kA)
MS 132-0.16	0.1 - 0.16	0.16	1.25 - 1.87	100	100	-
MS 132-0.25	0.16 - 0.25	0.25	1.95 - 2.92	100	100	-
MS 132-0.4	0.25 - 0.4	0.4	3.12 - 4.68	100	100	-
MS 132-0.63	0.4 - 0.63	0.63	4.91 - 7.37	100	100	-
MS 132-1.0	0.63 - 1	1.0	9.20 - 13.8	100	100	-
MS 132-1.6	1 - 1.6	1.6	14.7 - 22.1	100	100	-
MS 132-2.5	1.6 - 2.5	2.5	23.0 - 34.5	100	100	-
MS 132-4.0	2.5 - 4	4.0	40.0 - 60.0	100	3	50
MS 132-6.3	4 - 6.3	6.3	63.0 - 94.5	100	3	50
MS 132-10	6.3 - 10	10	120 - 180	100	3	50
MS 132-16	10 - 16	16	192 - 288	50	3	50
MS 132-20	16 - 20	20	240 - 360	50	3	50
MS 132-25	20 - 25	25	300 - 450	50	3	50
MS 132-32	25 - 32	32	384 - 576	25	3	50

\* With current limiter S803x-series

Rated voltage auxiliary contacts U<sub>e</sub>: 600 / 690 V AC

## Application/Limitation

Motor starter with thermal and magnetic release. Applicable for use in an IT (ship) net up to 690 V.

## Type Approval documentation

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Technical info:  
ABB Data sheet "Manual Motor Starter MS 132.

Test reports:  
Paconsult report no. 09-2475 dated 2009-07-03. SGS reports 58495801/00 to 58495801/15 & 58495802/00 to 58495802/12 issued 2009-07-13. Test report P2649E from ABB according to IEC 60 947-2 dated 03.08.2011. Test report P2997E from ABB according to IEC60947-4-1 and IEC 60 947-2 dated 08.06.2011.

## Tests carried out

Type tests according to IEC 60947-2: Sequence I and II and Annex H and IEC 60947-4-1 Sequence I, II, III and V.

Environmental tests in accordance to DNV SFC no. 2.4 / IACS E10: Vibration test, Humidity, Dry heat test, Low temperature test, EMC tests (emission & immunity), High voltage test and Insulation resistance test.

## Marking of product

ABB Stotz – Type designation – Voltage – Current – Breaking capacity.

## Periodical assessment

The scope of the retention/renewal survey is to verify that the conditions stipulated for the type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE