



Marine & Offshore

Certificate number: 49423/B0 BV

File number: ACE2/114/3

Product code: 2633H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ABB STOTZ-KONTAKT GmbH

Heidelberg - GERMANY

for the type of product

CIRCUIT BREAKERS (LOW VOLTAGE)

Manual motor starters MS165, MO165 and auxiliaries

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31

IEC 60947-2:2016 + A1:2019

IEC 60947-4-1:2018

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 03 May 2027

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 03 May 2022,

Dirk Hoepfner

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Manual motor starters **MO165** and **MS165** are electromechanical devices for motor and circuit protection.

MO165 manual motor starters have an instantaneous (magnetic only) short-circuit trip functionality, a disconnection function and a trip-free mechanism.

MS165 manual motor starters have an ambient air temperature compensated, adjustable, phase-loss sensitive thermal-magnetic trip functionality (trip class 10), a disconnection function and a trip-free mechanism.

1.1 - Main characteristics:

Rated voltage:	690V AC
Rated frequency	50/60Hz
Number of poles:	3
Utilization category	A (60947-2) AC-3 (60947-4-1)
Rated impulse withstand voltage	8kV
Rated insulation voltage	1kV
Degree of protection:	Housing IP20 / Main circuit terminals IP10
Instantaneous current setting	15xIn (upper range for MS165)

1.2 - Manual Motor Starters - Type design MS165 -16 to MS165-80

Type	Thermal setting range (A) In	Breaking capacity (kA)		Making capacity (kA)	
		400V AC Icu / Ics	690V AC Icu / Ics	400V AC Icm	690V AC Icm
MS165-16	10 - 16	100/100	10/10	220	17
MS165-20	14 - 20	100/100	10/10	220	17
MS165-25	18 - 25	100/100	10/10	220	17
MS165-32	23 - 32	100/100	10/10	220	17
MS165-42	30 - 42	50/50	10/10	105	17
MS165-54	40 - 54	50/30	8/6	105	13.6
MS165-65	52 - 65	50/30	8/6	105	13.6
MS165-73	62 - 73	30/30	8/6	63	13.6
MS165-80	70 - 80	30/30	8/6	63	13.6

Power factor breaking capacities: 0.2 except 0.25 for MS165-65

1.3 - Manual Motor Starters - Type design MO165-16 to MO165-80

Type	Rated operational current (A) In	Breaking capacity (kA)		Making capacity (kA)	
		400V AC Icu / Ics	690V AC Icu / Ics	400V AC Icm	690V AC Icm
MO165-16	16	100/100	10/10	220	17
MO165-20	20	100/100	10/10	220	17
MO165-25	25	100/100	10/10	220	17
MO165-32	32	100/100	10/10	220	17
MO165-42	42	50/50	10/10	105	17
MO165-54	54	50/30	8/6	105	13.6
MO165-65	65	50/30	8/6	105	13.6
MO165-73	73	30/30	8/6	63	13.6
MO165-80	80	30/30	8/6	63	13.6

Power factor breaking capacities: 0.2 except 0.25 for MO165-65

1.4 - Accessories:

	Type	Rated operational voltage / frequency	Rated insulation voltage	Particulars
Auxiliary contacts (changing with main contacts)	HKF1-11	240V AC 50/60Hz and 250V DC	250V AC	1xN.O, 1x N.C contact
	HK1-11	690V AC 50/60Hz and 600V DC	690V AC	1xN.O, 1xN.C contact
	HK1-20			2xN.O contacts
	HK1-02			2xN.C contacts
Signaling contacts (changing by short circuit / overload trip)	SK1-11			1xN.O, 1x N.C contact
	SK1-20			2xN.O contacts
	SK1-02			2xN.C contacts
Signaling contacts (changing by short circuit trip)	CK1-11			1xN.O, 1x N.C contact
	CK1-20			2xN.O contacts
	CK1-02			2xN.C contacts
	Type	Rated control supply voltage		
Undervoltage releases	UA1-24	24VAC/50Hz		
	UA1-48	48VAC/50Hz		
	UA1-60	60VAC/50Hz		
	UA1-110	110VAC/50Hz and 120VAC/60 Hz		
	UA1-208	208VAC/60Hz		
	UA1-230	230VAC/50Hz and 240VAC/60Hz		
	UA1-400	400VAC/50Hz		
	UA1-415	415VAC/50Hz and 480VAC/60Hz		
Shunt trips	AA1-24	20~24VAC/50/60Hz		
	AA1-110	110VAC/50/60Hz		
	AA1-230	200~240VAC/50/60Hz		
	AA1-400	350~415VAC/50/60Hz		

2. DOCUMENTS AND DRAWINGS:

- Dimensional Drawings: ISA M40 0401, Rev A ; ISA M40 0402, Rev A
- Data sheet: 2CDC 131 084 D0201, dated 04.2016
- Installation Instructions: 2CDC131081M6801(d) dated 10.2016; 2CDC131082M6801(e), dated 10.2016

For B0 version:

- Data sheet: 2CDC131083D0201 dated 07.2021
- CB: CN53128 dated Mar.31,2021

3. TEST REPORTS:

- ABB STOTZ Kontakt: D2015030 dated 2015-10-30; D2017011 dated 2017-03-01; TT2015054 dated 2015-07-21
- ABB Xinhui Low Voltage Switchgear Co., Ltd.: LAB201312-02-TR-10
- paconsult GmbH: 15-7022 dated 28 October 2015
- Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE): 00901-CB2014CQC-063993-1 dated 2015-02-28; 00901-CB2014CQC-063993-2 dated 2015-02-28

For B0 version:

- Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE): 00901-CB2021CQC-096131-1 dated 2020-03-31; 00901-CB2021CQC-096131-2 dated 2019-05-14

4. APPLICATION / LIMITATION:

- 4.1 - Bureau Veritas Rules for the Classification of Steel Ships
- 4.2 - Bureau Veritas Environmental Category, **EC Code: 31**

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be supplied by **ABB Stotz Kontakt GmbH** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **ABB Stotz Kontakt GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

ABB Xinhui Low Voltage Switchgear Co., Ltd.
Jinguzhou Industrial development zone
Xinhui district, Jiangmen city, Guangdong province
529100, P.R. China

6. MARKING OF PRODUCT:

- According to IEC 60947 standards.

7. OTHERS:

- 7.1 - It is the responsibility of **ABB Stotz Kontakt GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting , use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 49423/A0 BV issued on 10 Apr 2017 by the Society.

*** END OF CERTIFICATE ***