

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Motor Starter

with type designation(s)
MS 165 / MO 165

Issued to

ABB Stotz-Kontakt GmbH
HEIDELBERG, Germany

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Rated Voltage (V) 400 / 690 AC

Rated Current (A) 16 - 65

Frequency (Hz) 50 / 60

This Certificate is valid until **2022-01-03**.

Issued at **Hamburg** on **2017-01-04**

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Dariusz Lesniewski**

Duy Nam Le
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.

Job Id:
Certificate No: **TAE000018D**

Product description

Manual motor starter with short-circuit protection (MO 165)
Manual motor starter with overload and short-circuit protection (MS 165)

Rated Voltage Ue: 400V AC, 690 V AC
Rated frequency: 50 / 60 Hz
Rated impulse withstand voltage Uimp: 8 kV
Rated insulation voltage Ui: 1000 V
Trip class (MS 165): 10
Utilisation category: AC-3
Degree of protection: IP20 (housing)
IP10 (main circuit terminals)

Rated short-circuit characteristic:

Type	Rated operational current In (A)	Rated short circuit instantaneous short-circuit current setting Ii (A)	Rated service short circuit breaking capacity at Ue=400V Ics (kA)	Rated ultimate short-circuit breaking capacity at Ue=400V Icu (kA)	Rated service short circuit breaking capacity at Ue=690V Ics (kA)	Rated ultimate short-circuit breaking capacity at Ue=400V Icu (kA)
MO165-16	16	240	100	100	8	8
MO165-20	20	300	100	100	8	8
MO165-25	25	375	100	100	8	8
MO165-32	32	480	50	100	5	5
MO165-42	42	630	25	50	5	5
MO165-54	54	810	25	50	5	5
MO165-65	65	975	25	50	5	5
MS165-16	10...16	240	100	100	8	8
MS165-20	14...20	300	100	100	8	8
MS165-25	18...25	375	100	100	8	8
MS165-32	23...32	480	75	100	5	5
MS165-42	30...42	630	25	50	5	5
MS165-54	40...54	810	25	50	5	5
MS165-65	52...65	975	25	50	5	5

Auxiliary Contacts:
front mounted auxiliary contact: HKF1-11
right mounted auxiliary contact: HK1-11, HK1-20, HK1-02, HK1-20L
right mounted signal contact: SK1-11, SK1-20, SK1-02, CK1-11, CK1-20, CK1-02
Shunt release: AA1
Undervoltage release: UA1 (only modules manufactured after week 28 of the year 2003, see indication on the module in the format YWWY)

Place of manufacture

ABB Xinhui Low Voltage Switchgear Co. Ltd.
Jinguzhou Industrial Development Zone
Xinhui District, JiangMen, Guangdong
529100 China

Application/Limitation

Job Id:
Certificate No: **TAE000018D**

Location classes:

Temperature **B**
Humidity **B**
Vibration **A**
EMC **B**
Enclosure **A / housing: IP 20, terminals: IP 10**

Type Approval documentation

Tests carried out

Type tests according to DNVGL-CP-0396, IEC 60947-2 and IEC 60947-4-1

Marking of product

Type designation – Serial Number - Manufacturer Name

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