



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000015X
Revision No:
4

This is to certify:

That the Universal Motor Controller, expansion modules and accessories

with type designation(s)

UMC100.3-UC/DC, UMC100-PAN, AI111.0, PDP32.0, MRP31.0, MTQ22-FBP.0, PNQ22-FBP.0, PDR31.0, SMK3.0, DX111/122-FBP.0, DX111.0/122.0, VI150/155-FBP.0, VI150.0/155.0, CT4L185R/4, CT4L310R/4, CT5L500R/4, CT5L850R/4, EIU32.0, PNU32.0

Issued to

ABB Stotz-Kontakt GmbH
Heidelberg, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Location classes:

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	A

Issued at **Hamburg** on **2023-01-19**

for **DNV**

This Certificate is valid until **2027-10-03**.

DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

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Joannis Papanuskas
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

UMC100.3 UC/DC (ATEX and ATEX + coated type)

Universal Motor Controller for control and protection of 3-phase AC induction motors

Main features:

Standard application as: direct starter, reversing starter, star-delta starter, actuator

Earth fault detection

Power and voltage based protection functions

Supervision of the network quality (Total Harmonic Distortion)

Power supply: 24V DC (DC type)

110...240V AC/DC (UC type)

Current range: 0.24 up to 63 A (up to 850 A, when using additional current transformers)

Thermistor motor protection (PTC)

6 x digital inputs

3 x relay outputs, 1x 24 V output

Communication interface: fieldbus communication options by connecting of various communication interfaces

Connection for the Control Panel

UMC100-PAN: Control panel for configuration and parameter setting

Graphical display with backlight

Status LEDs

Full access to all UMC100.3 parameters

USB port for PC connection

VI150/155-FBP.0, VI150.0/155.0: Voltage extension module

Extension module with additional voltage and power functions

VI150... for grounded networks

VI155... for ungrounded networks (IT) or networks with high resistance to ground

Voltage inputs from 110VAC – 690AC (L1, L2, L3)

Power supply: 24V DC

1 x relay output

2 x status LED's

DX111/122-FBP.0, DX111.0/122.0: I/O extension modules

8 x digital inputs

4 x relay outputs

1 x analog output (V/mA)

DX111... digital inputs for 24V DC

DX122... digital inputs for 110V AC – 230V AC

AI111.0: Analog temperature module

(order code: 1SAJ613000R0101 / 1SAJ613000R0102)

3 x analog inputs (0-10V, 0/4-20mA, Pt100, Pt1000)

Configurable for temperature sensors and standard analog signals (V/mA)

PDP32.0 *(PDP32): PROFIBUS DP communication interface

MRP31.0 *(MRP31): MODBUS-RTU communication interface

PNQ22-FBP.0: Profinet IO interface for connection of up to 4 FBP devices

MTQ22-FBP.0: Modbus TCP interface for connection of up to 4 FBP devices

PDR31.0 *(PDR31): PROFIBUS DP termination unit

SMK3.0: Single mounting kit

CT4L185R/4 *(CT4L185R/4-FBP.0): Current transformer (external)

Current range up to 185 A

CT4L310R/4 *(CT4L310R/4-FBP.0): Current transformer (external)

Current range up to 310 A

CT5L500R/4 *(CT5L500R/4-FBP.0): Current transformer (external)

Current range up to 500 A

CT5L850R/4 *(CT5L850R/4-FBP.0): Current transformer (external)
Current range up to 850 A

*alternate type designation

EIU32.0: EtherNet/IP™ interface
PNU32.0: PROFINET interface
Mounting direct on a UMC100.3 or remotely on a SMK3.0 adapter
Power supply: 24V DC
2x RJ45 Ethernet ports with two LEDs yellow/green
1x LED module status, bicolor green/red
1x LED network status, bicolor green/red
1x Functional earth connector
1x Reset button

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Test Report: paconsult GmbH No. 12-4421 Rev. 1, dated 25.07.2012
Test Report: paconsult GmbH No. 16-8399 Rev. 0, dated 21.04.2017
Test Report: paconsult GmbH No. 22DE-01096 Rev. 0, dated 2022.12.15
Test Report: EMV Rhein-Neckar GmbH No. 3893-396a, dated 25.10.2012
Test Report: EMV Rhein-Neckar GmbH No. 3893-3112a, dated 25.10.2012
Test Report: EMV Rhein-Neckar GmbH No. 3893-3107, dated 15.02.2012
Test Report: EMV Rhein-Neckar GmbH No. 3808-309a, dated 18.10.2014
Test Report: EMV Rhein-Neckar GmbH No. 3808-312, dated 22.08.2015
Test Report: EMV Rhein-Neckar GmbH No. 3808-313, dated 18.09.2015
Test Report: UL International Demko A/S No. 4786353668 of 24.10.2014 (IEC 60947-4-1:2009+A1)
Test Report: UL International Demko A/S No. 4786353668-2 of 27.02.2015 (IEC 60947-8:2011+A1+A2)
Test Report: paconsult GmbH No. 18-10023 Rev.1, dated 12.06.2018
Test Report: EMV Rhein-Neckar GmbH No. 3808-318, dated 08.07.2017
Test Protocol: EMV Rhein-Neckar GmbH No. 2021-09-29 UMC-AC EXT EMC.docx, dated 2021-07-22
Test Protocol: EMV Rhein-Neckar GmbH No. 2022-05-09 UMC100.3 CWR 3-6 GHz.docx, dated 2022-09-05
Test Report: Nemko Bo, FS-2203-463464-006, dated 2022-06-02
Test Report: Nemko Bo, FS-2203-463464-008, dated 2022-08-02
Test Report: ABB PN_UMC_22_127_Series_Witness_Test_Report_DNV_Renewal_A0, dated 2022-09-20
Test Report: ABB PN_PN_UMC100.3-Accessory_Modules_6x0_22_195_Series_Initial_and_final_assessment_for_extension_of_DNV_Approval_A0, dated 2022-11-09
ATEX Certificate: PTB 10 ATEX 3016
Technical descriptions
Software Development Documentation; Firmware documents
Reference Document: ABB Ship Approval, Project UMC100.3, dated 24.11.2016
Manual EIU32.0 Ethernet/IP™ interface (05.2018)
Manual PNU32.0 Profinet Interface (07.2021)
Drawings No.: 1SAJ262011F0002(A), 1SAJ262021F0002(B), 1SAJ266601P0001(B), 1SAJ266602P0001(A)
Additional documents for certificate extension 2022/2023
Type approval assessment report issued at Augsburg on 2022-09-20

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE