



Certificate no.:
TAE00004ZV

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Multifunction Relay

with type designation(s)

issued to

ABB Xiamen Low Voltage Equipment Company Limited
Xiamen,, Fujian,, China

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 **Høvik** on **2025-02-19**

This Certificate is valid until **2030-02-18**.

for **DNV**

DNV local unit: **China South NB**

Approval Engineer: **Thomas Hartmann**

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 USD 300 000.

Product description

M10x is a motor control and protection device with current measurement or current and voltage measurement. Unit is typically installed as part of ABB Low Voltage Switchgear MNS and NeoGear™.

Model/Type
M102-M 24VDC
M102-M 240VAC
M102-M 110VAC
M102-P 24VDC
M102-P 240VAC
M102-P 110VAC
M101-M 24VDC
M101-M 240VAC
M101-M 110VAC
M101-P 24VDC
M101-P 240VAC
M101-P 110VAC

Technical data

Technical data			
Main circuit			
Rated operational voltage (U _e)	up to 400/690 VAC		
Rated insulation voltage (U _i)	690 VAC		
Rated impulse withstand voltage (U _{imp})	6 kV, overvoltage category II in IT network, Category III in other networks.		
Degree of pollution	3		
Rated operating current (I _e)	0.24-63 A		
Rated frequency	50/60 Hz		
Control circuit			
Rated control circuit voltage (U _e)	24V DC ,110 or 240 VAC		
Rated insulation voltage (U _i)	250 VAC		
Rate impulse withstand voltage	4 kV for AC circuit		
Rated operational current (I_e)			
Contact control relay output (CCA,CCB,CCC)	2 A /24 VDC(DC-13) 4 A/120 VAC(AC-15)		
Digital output	2 A/240 VAC(AC-15)		
Rated frequency	50/60 Hz		
Power supply			
Rated operational voltage (U _e)	24 VDC , 110 or 240 VAC		
Voltage operation range	85%-110% of U _e		
Power consumption			
	24 VDC	110 VAC	240 VAC
Typical	5 W	6 VA	12 VA
Maximum	8 W		
Degree of protection			
M10x	IP20		

Application/Limitation

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 and Pt.4 Ch.8 Electrical installations.

The units shall be installed inside the switchboards and cabinets. The max. rated voltage is 600 V when used in IT (ship) net due to $U_{imp}=6$ kV. It can be used in applications with directly earthed systems with rated voltage of 400/690 V.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021: Visual inspection, Performance, Electrical power supply failure, Power supply variation, Vibration, Dry heat, Damp heat, Cold, Insulation resistance, High voltage, EMC immunity, EMC emission.

Marking of product

The products to be marked with:

- Manufacturer name: ABB Xiamen Low Voltage Equipment Company Limited
- Type designation
- Serial number
- Main data

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to 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.

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