DNV·GL

Certificate No:
TAA0000155

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrical Measuring and Protection Relay

with type designation(s)
MK 9300N, MH 9300

Issued to
E. Dold & Söhne KG
Furtwangen, Germany

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

Application :

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

Location class:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**A**

Issued at **Hamburg** on **2017-04-10**
This Certificate is valid until **2022-04-09**.
DNV GL local station: **Augsburg**

Approval Engineer: **Klaus-Peter Schröder**

for **DNV GL**

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.

Job Id: **262.1-021590-1**
Certificate No: **TAA0000155**

Product description

The universal measuring relays MK 9300N / MH 9300 monitor up to 9 parameters simultaneously, Voltage, current, voltage asymmetry, power factor cos phi, phase sequency,power, frequency.
Mounting: DIN rail
The MK 9300N has 1 relay output
The MH 9300 has 2 relay outputs.

Order code

M#	9300#	.##	##	/	##	022	####	####	UH	=	####
I	II	III	IV		V		VI	VII			VIII

I	Dimensions housing	K = 22,5 x 90 x 99mm H = 45 x 90 x 99mm
II	Type	9300N = MK-Housing 9300 = MH-Housing
III	Contacts	.11 1 = 1 Changeover contact .12 2 = 2x1 Changeover contacts (only MH-housing)
IV	Type of terminals	Without indication = terminal blocks fixed with screw terminals PS (plug in screw) = pluggable terminal blocks with screw terminals PC (plug in cage clamp) = pluggable terminal blocks with cage clamp terminals
V	Suffix for client specification	Indicate i.e. colour of housing or presetting
VI	Measuring voltage	3AC24 – 400V 3AC24 – 690V (only MH-housing)
VII	Measuring current	AC12A
VIII	Auxiliary voltage	DC24V AC xxxV AC voltage with maximal 400V (only MH-housing) AC/DC 110 – 400V (only MH-housing)

Application/Limitation

The Type Approval covers hardware listed under Product description.
When the hardware is used in applications to be classed by DNV GL, 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 GL RU SHIP Pt.4 Ch.9 Sec. 1.

Type Approval documentation

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Marking of product

The products to be marked with:
· device name
· manufacturer name
· batch number.

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 at least every second year and at renewal of this certificate.
END OF CERTIFICATE