DNV·GL

Certificate No:
**TAA00000SH**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the General Controller**

with type designation(s)
**KFM 82, KFM 90, KFM 92, KFM 93, KFM 94, KFM 826, KFM 902 and KFM 903**

Issued to
**KFM-Regelungstechnik GmbH**
**Herford, Germany**

is found to comply with
**DNV GL 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 GL.**

| | |
|---|---|
| **Temperature** | **A/B/D*** |
| **Humidity** | **B** |
| **Vibration** | **A** |
| **EMC** | **A/B*** |
| **Enclosure** | **Panel front: B, Terminals: A** |

This Certificate is valid until **2021-10-03**.

Issued at **Hamburg** on **2016-10-04**

for **DNV GL**

DNV GL local station: **Magdeburg**

Approval Engineer: **Andrea Grün**

**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.


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Job Id: **262.1-000697-4**
Certificate No: **TAA00000SH**

## Product description

Industry Controller KFM 92…/ 93…and KFM 94
*Temperature Class D, EMC Class A

Multi-channel Fault Detectors Series 82 for Single and Chain Alarm Inputs 82.. E
Industry Controller KFM 902/ 93
*Temperature Class A, EMC Class B

Modular malfunction alarm display series 826
Industrial controller KFM 903
*Temperature Class B, EMC Class A

Software versions: KFM 2.0

## Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:
- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to DNVGL Rules Pt.4 Ch.9 Sec.1 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Clause for application software control
All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNVGL for evaluation and approval.
Major changes in the software are to be approved before being installed in the computer.
A Certification of Application Functions may be required for the particular vessel.

## Type Approval documentation

Test reports:

| | | |
|---|---|---|
| RMS | 2-12/94 | dated 16-12-1994 |
| ESW | 03546.089.95 | dated 15-09-1995 |
| ESW | 03514.035.95 | dated 19 01-1995 |
| MessTechnik Nord GmbH | 05196.041.06 | dated 29-03-2006 |
| MessTechnik Nord GmbH | 05196.042.06 | dated 29-03-2006 |
| Paconsult | 0984A-06 | dated 02-03-2006 |
| | No.125/92/034 | dated 01-09-1992 |
| | No. 11-3865 Rev 0 | dated 22-11-2011 |
| | 06671.217.11 Rev 1.0 | dated 02-11-2011 |
| | 06671.218.11 Rev 1.0 | dated 02-11-2011 |
| EMC Test Report | 160720#H1 | dated 26-07-2016 |

Technical description / Technical Data Sheet

| | |
|---|---|
| | 821A2. E / 07103009 |
| | 822-e1c / 0810205 |
| | 826_e2.DOC / 1610209 |
| | 902_ve / 1110307 |
| | 903_e2.doc / 1610225 |
| | 9200_e1.DOC / 1311223 |
| | 9400_e1.DOC / 1610216 |
| Software Release Note: | TFT_903K_037n 06-04-2016 |

## Tests carried out
Applicable tests according to Class Guideline DNVGL-CG-0339, November 2015.

## Marking of product
The products to be marked with model name, manufacturer name and serial 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 2.5 year and at renewal of this certificate.

END OF CERTIFICATE