

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001TU
Revision No:
1

This is to certify:

That the Instrument for Switchboard

with type designation(s)

**EQ 48K, EQ 72K, EQ 96K, EQ 144K, GQ 72RS, GQ 96RS, GQ 144RS, PQ 72RS, PQ 96RS, PQ 144RS
PQ 72K, PQ 96K, PQ 144K, VQ 72K, VQ 96K, VQ 144K**

Issued to

**Weigel Meßgeräte GmbH
Cadolzburg, Bayern, 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.

Issued at **Hamburg** on **2022-02-02**

for **DNV**

This Certificate is valid until **2027-02-18**.

DNV local station: **Augsburg**

Approval Engineer: **Harald Amberger**

**Arne Schaarmann
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

Moving coil instruments Standard ranges	PQ 72RS, PQ 96RS, PQ 144RS from 40mV to 600V DC from 0.04mA to 60A DC with fixed installed shunt or for separate shunt .. /60mV and/ or .. /150mV
Moving coil rectifier instruments Standard ranges from	GQ 72RS, GQ 96RS, GQ 144RS, 1.5V to 600V AC (Ph-N) from 0.1mA to 25A AC
Moving coil instruments Standard ranges	PQ 72K, PQ 96K, PQ 144K from 60mV to 250V DC (PQ 72K) from 60mV to 600V DC (PQ 96K, PQ 144K) from 0.1mA to 100A DC with fixed installed shunt or for separate shunt .. /60mV and/ or .. /150mV
Moving iron instrument Standard ranges	EQ 48K from 60V to 600V AC (Ph-N) from 1A to 25A AC direct connection or transformer ... /100V; ... /1/5A
Moving iron instruments Standard ranges	EQ 72K, EQ 96K, EQ 144K from 60V to 1000V AC (Ph-N) from 1A to 100A AC direct connection or transformer ... /100V; ... /1/5A
Moving coil rectifier instruments Standard ranges	VQ 72K, VQ 96K, VQ 144K from 6V to 250V AC (Ph-N) (VQ 72K) from 6V to 600V AC (Ph-N) (VQ 96K, VQ 144K) from 10mA to 100mA AC

Accuracy Class : 1,5
 Casing: Type ...K, polycarbonate UL 94V-0; Type ...RS, metal

Further technical ratings acc. manufacturer documentation.

Application/Limitation

Location Classes:
 Temperature: A, Humidity: B, Vibration: A, Degree of protection : IP52, terminals IP00

Operating instruction of the manufacturer to be observed

Type Approval documentation

Vibrations und Stossprüfung dated 03.04.2007, Prüfprotokoll klimatische Einflüsse dated 23.01.2014
 Data sheets: 420.D.100.xx(EQ), 410.D.100.xx(PQ...K), 415.D.100.xx(VQ), 010.D.100.xx(PQ...RS)
 015.D.100.xx(GQ) TR-70183-96096-04 Ed.2 (EMC), TR-70183-96096-05 Ed.2 (EMC), TR-70183-96096-06 Ed.2 (EMC)
 TR-70183-96096-10 Ed.2 (EMV), TR-70183-96096-11 Ed.2 (EMV), TR-70183-96096-12 Ed.2 (EMV)

Tests carried out

Cold, dry heat, damp heat, vibration

Marking of product

Weigel trademark, method of operation, measuring unit, position of use, accuracy class.

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