



TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001TV
Revision No:
1

This is to certify:

That the Instrument for Switchboard

with type designation(s)

LQ 96K, LQ 144K, ZQ 96K, ZQ 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.



Form code: TA 251

Revision: 2021-03

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Product description

Wattmeter type LQ96K.., LQ144K.. from 100V to 500V AC 1/5A

..E1W active power, 1phase-AC (from 57.7V to 500V)
..D1W active power, 3phase-AC, balanced load
..D2W active power, 3phase-AC, unbalanced load
..V1W active power, 4-wires, 3phase-AC, balanced load
..V3W active power, 4-wires, 3phase-AC, unbalanced load
..E1B reactive power meter, 1phase-AC (from 57.7V to 500V)
..D1B reactive power meter, 3phase-AC, balanced load
..D2B reactive power meter, 3phase-AC, unbalanced load
..V1B reactive power meter, 4-wires, 3phase-AC, balanced load
..V3B reactive power meter, 4-wires, 3phase-AC, unbalanced load

Frequency-meter (pointer) type ZQ 96K / ZQ 144K

U from 57.7V to 500V; f: 50, 60, 200 and 400Hz

Accuracy Class : 1,5, ZQ 0,5

Casing: polycarbonate UL 94V-0

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

Test report : 229; data sheet 470.D.100.xx (LQ), 432.D.100.xx (ZQ)

TR-70183-96096-01 Ed.2 (EMC), TR-70183-96096-02 Ed.2 (EMC), TR-70183-96096-02 Ed.2 (EMC)

TR-70183-96096-07 Ed.2 (EMV), TR-70183-96096-08 Ed.2 (EMV), TR-70183-96096-09 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