

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Instrument for Switchboard**with type designation(s)
LQ 96K, LQ 144K, CQ 96K, CQ 144K, ZQ 96K, ZQ 144K

Issued to

Weigel Meßgeräte GmbH
Nürnberg Bayern, 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.**Issued at **Hamburg** on **2017-04-11**This Certificate is valid until **2022-02-18**.DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Harald Amberger**

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.



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

Powerfactor-meter type CQ 96K.. / CQ 144K..

..E 1phase-AC, U from 57.7V to 400V
..D 3phase-AC, U from 100V to 500V

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

Tests carried out

Cold, dry heat, damp heat, vibration

Marking of product

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

Job Id: **262.1-025122-1**
Certificate No: **TAE00001TV**

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