

Number **TC7820** revision 0
Project number 10200490
Page 1 of 4

Issued by NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

In accordance with Paragraph 8.1 of the European Standard on Metrological aspects of non-automatic weighing instruments EN 45501:1992/AC:1993 and by application of the OIML International Recommendation R 60 (Edition 2000).

Manufacturer Keli Electric Manufacturing (Ningbo) Co., Ltd.
No. 199 Changxing Road, Jiangbei District
315033 Ningbo City
China

In respect of **A bending beam load cell**, with strain gauges, tested as a part of a weighing instrument.
Manufacturer : Keli Electric Manufacturing (Ningbo) Co., Ltd.
Type : UDB

Characteristics E_{max} : 15 kg up to and including 500 kg
Accuracy class : C

In the description number TC7820 revision 0 further characteristics are described.

Description and documentation The load cell is described in the description number TC7820 revision 0 and documented in the documentation folder TC7820-1, appertaining to this test certificate.

Remarks Summary of the test involved: see Appendix number TC7820 revision 0

Issuing Authority

NMI Certin B.V. Notified Body number 0122
29 September 2010



C. Oosterman
Head Certification Board

NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands
T +31 78 6332332
certin@nmi.nl
www.nmi.nl

This document is issued under the provision that no liability is accepted and that the applicant shall indemnify third-party liability.

The designation of NMI Certin BV as Notified Body can be verified at <http://ec.europa.eu/enterprise/newapproach/nando/>

Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMI (see "Regulation objection and appeal against decisions of NMI" www.nmi.nl)

Reproduction of the complete document only is permitted

1 General information about the load cell

All properties of the load cell, whether mentioned or not, may not be in conflict with the standard mentioned in the test certificate.

1.1 Essential parts

| Description | Drawing number | Rev. | Remarks |
|--------------|----------------------|------|-----------------------|
| UDB15~500 kg | KL/JT-UDB15~500kg.0A | 0 | Mechanical/Electrical |

Cable:

- The load cell is provided with a 4-wire system.
 The cable length as is mentioned on the marking plate by the manufacturer.
 The cable length shall not be modified.
- The cable should be a shielded cable, the shield is not connected to the load cell.

1.2 Essential characteristics

| | |
|---|----------------------------------|
| Fraction | 0.7 |
| Maximum capacity (E_{max}) | 15 kg up to and including 500 kg |
| Humidity classification | CH |
| Temperature range | -10 °C / +40 °C |
| Accuracy class | C |
| Maximum number of load cell verification intervals (n_{max}) | 3000 |
| Ratio of minimum LC verification interval $Y = E_{max} / v_{min}$ | 7500 |
| Ratio of minimum dead load output return $Z = E_{max} / 2 * DR$ | 3000 |

The characteristics for n_{max} and Y can be reduced separately. Z is proportional or equal to n_{max}

Each produced load cell is supplied with information about its characteristics.

| | |
|------------------------|---|
| Minimum dead load | : 0 kg |
| Safe overload | : 150 % of E_{\max} |
| Rated Output | : $2 \text{ mV/V} \pm 0.2 \text{ mV/V}$ |
| Input impedance | : $404 \Omega \pm 10 \Omega$ |
| Output impedance | : $350 \Omega \pm 3 \Omega$ |
| Recommended excitation | : 10 V DC |
| Excitation maximum | : 15 V DC |
| Transducer material | : Aluminum |
| Atmospheric protection | : Silicone rubber |

1.3 Essential shapes

The load cell is built according to drawing:

- UDB15~500 kg, drawing number KL/JT-UDB15~500kg.0A.

The data plate is secured against removal by sealing or will be destroyed when removed. The data plate mentions at least the information and markings as described in the OIML R60 document. In the countries where it is mandatory the load cell should bear this test certificate number: TC7820.

Securing:

The connecting cable of the load cell or the junction box is provided with possibility to seal.

Tests performed for this test certificate:

| Test | Institute | type, version, remarks |
|---|-----------------|-----------------------------------|
| Temperature test and repeatability (20, 40, -10 and 20 °C) | NMi Certin B.V. | UDB 15 kg C3 and UDB 100 kg C3 |
| Temperature effect on minimum dead load output (20, 40, -10 and 20 °C) | NMi Certin B.V. | UDB 15 kg C3 and UDB 100 kg C3 |
| Creep (20, 40 and -10 °C) | NMi Certin B.V. | UDB 15 kg C3 and UDB 100 kg C3 |
| Minimum dead load output return (20, 40 and -10 °C) | NMi Certin B.V. | UDB 15 kg C3 and UDB 100 kg C3 |
| Barometric pressure effects at room temperature | NMi Certin B.V. | UDB 15 kg C3 |
| Damp heat, steady state: marked CH | NMi Certin B.V. | UDB 15 kg C3 |