

Nederlands Meetinstituut

# Test certificate

Number **TC5022** Revision 1  
Project number 10073806  
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Issued by NMI Certin B.V.  
Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands

Notified Body Number 122

In accordance with Paragraph 8.1 of the European Standard on Metrological aspects of non-automatic weighing instrument EN 45501:1992/AC:1993 and by application of the OIML International Recommendation R 60 (Edition 1991). The applied error fraction  $\pi_i$ , meant in paragraph 3.5.4. of the standard is 0.7.

Applicant Hottinger Baldwin Messtechnik GmbH  
Im Tiefen See 45  
D-64293 Darmstadt  
Germany

In respect of The model of a **Tension load cell** with strain gauges, tested as part of a weighing instrument (for NAWI class **(III)**):  
Manufacturer : HBM  
Type : U2A

## Characteristics

Maximum Capacity ( $E_{max}$ )	200 kg , 500 kg, 1 t, 2 t, 5 t and 10 t
Accuracy Class	D
Maximum number of load cell intervals (n)	1000
Ratio of minimum LC verification interval $Y = E_{max} / V_{min}$	3500

In the description TC5022 Revision 1, further characteristics are described.

Description and Documentation The load cell is described in the description number TC5022 Revision 1 and documented in the documentation folder number TC5022-0.

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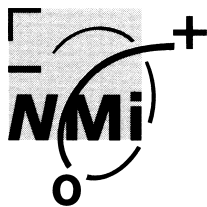
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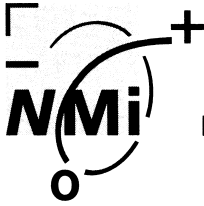
Remarks      Summary of tests involved: see Appendix number TC5022 Revision 1.  
This test certificate replaces the earlier versions of test certificate with number TC5022.

Dordrecht, 3 July 1997

NMi Certin B.V.

*A.P.*

A.J. Nederlof  
Director



## 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
Prinzipzeichnung U2A/200kg - 10 t	226.00-1014.3	3.1a	--

Cable:

The load cell is provided with a 6-wire system.

The cable should be a shielded cable, the shield is connected to the load cell.

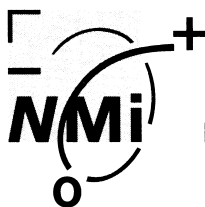
### 1.2 Essential characteristics

Minimum dead load	: 0 kg
Safe overload	: 150 % of $E_{max}$
Rated output (class D)	: 2 mV/V
Input impedance	: between 340 $\Omega$ and 450 $\Omega$
Output impedance (class D)	: 356 $\Omega$
Recommended excitation	: 0,5 ... 12 V DC/AC
Excitation maximum	: 18 V DC/AC
Transducer material	: "17%-iger Chromstahl"
Atmospheric protection	: Hermetically sealed

### 1.3 Essential shapes

Sealing:

- The data plate is sealed against removal or will be destroyed when removed. The data plate contains at least the following information:
  - manufacturer's mark, or name;
  - $E_{max}$  of the load cell;
  - standard classification in the form D1;
  - manufacturer's designation;
  - serial number;
  - the number of this test certificate, TC5022.



Tests carried out for this test certificate on the load cell, type C2AC3/1t, sn. 07324 and type U2AD1/200kg, sn. H20467.

Test	Institute	type, version, remarks
Temperature test and repeatability (20, 40, -10 and 20 °C)	NMi Certin B.V.	C2AC3/1t and U2D1/200kg
Temperature effect on minimum dead load output (20, 40, -10 and 20 °C)	NMi Certin B.V.	C2AC3/1t and U2D1/200kg
Creep test (20, 40 and -10 °C)	NMi Certin B.V.	C2AC3/1t and U2D1/200kg
Minimum load output return (20, 40 and -10 °C)	NMi Certin B.V.	C2AC3/1t and U2D1/200kg
Barometric pressure test at room temperature	NMi Certin B.V.	C2AC3/1t and U2D1/200kg
Humidity test	NMi Certin B.V.	C2AC3/1t