Test certificate

Nederlands Meetinstituut

Number **TC2949** revision 3
Project number 302720

Issued by

NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Notified Body Number 0122

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 1991). The applied error fraction p_i, meant in the paragraph 3.5.4. of the standard is 0.7.

Applicant

Vishay Tedea-Huntleigh Ltd.
5a Hatzoran St.,
Netanya, 42506
Israel

In respect of

The model of a **single point, bending beam load cell**, with strain gauges, tested as a part of a weighing instrument.
Manufacturer : Tedea-Huntleigh
Type : 1042 and 1042 Symmetric

Characteristics

Maximum capacity (E_{max})	3, 5, 7, 10, 15, 20, 30, 50, 75, 100, 150 and 250 kg					
	Symmetric range 20, 30, 35, 50, 75, 100, 150 and 250 kg					
Accuracy Class	C					
Maximum number of load cell intervals (n)	1000	2000	3000	4000	5000*	6000*
Ratio of minimum LC Verification interval $Y = E_{max} / V_{min}$	3333	6666	15000	15000	15000*	20000*
Ratio of minimum dead load output return $Z = E_{max} / (2 * DR)$ for E_{max} 3 kg up to and including 75 kg	1200	2400	3600	4800	5200*	6200*
Ratio of minimum dead load output return $Z = E_{max} / (2 * DR)$ for E_{max} 100 kg up to and including 250 kg	24000					

* only for the symmetric range

Nederlands Meetinstituut
Hugo de Grootplein 1
3314 EG Dordrecht
Telephone +31 78 6332332
Telefax +31 78 6332309

NMi B.V.
(Chamber of Commerce no.27.228.701)

Subsidiary companies:
NMi Van Swinden Laboratorium B.V. (27228703)
NMi Certin B.V. (27.233.418)
Verispect B.V. (27.228.700)

Test certificate

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In the description TC2949 revision 3 further characteristics are described.

Description and documentation: The load cell is described in the description number TC2949 revision 3 and documented in the documentation folder number TC2949-2, appertaining to this test certificate.

Remarks: Summary of the test involved: see Appendix number TC2949 revision 3.
This revision replaces the earlier version, except for its documentation folder.

Delft, 19 May 2003
NMi Certin B.V.

P.P.M. van Enckevort
Manager Certification Delft

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
General dimensions	474.000.00-3	0	Mechanical
Wired sensor 3.....30 kg	474.200.00-2	0	Electrical
Wired sensor 50.....100 kg	474.201.00-2	0	Electrical
Model 1042 Symmetric Load cell	474.919.00-4	A	Mechanical
Model 1042 Symmetric Load cell	474.919.30-2	B	Electrical

Cable:
- The load cell is provided with a 4 or 6-wire system.
- Because no "remote-sensing" is used by the 4-wire system that cable length has to correspond with the cable length mentioned on the descriptive plate of the load cell.
- The cable should be a shielded cable, the shield is not connected to the load cell.

1.2 Essential characteristics

Minimum dead load	:	0 kg
Safe overload	:	150 % of E_{max}
Rated Output	:	2 mV/V ± 0.2 mV/V
Input impedance	:	415 Ω ± 20 Ω
Output impedance	:	353 Ω ± 5 Ω
Recommended excitation	:	10 V DC/AC
Excitation maximum	:	15 V DC/AC
Transducer material	:	Aluminium of Anodised Aluminium
Atmospheric protection	:	Adhesive Silicone rubber (IP66 or IP67)

1.3 Essential shapes

The load cell is built according to the drawing numbers: 474.000.00-3, and 474.919.00-4.

The data plate is sealed against removal 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: TC2949.

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

Tests carried out for this test certificate:

Test	Institute	type, version, remarks
Temperature test and repeatability (20, 40, -10 and 20 °C)	NMi Certin B.V	1042 5kg C4, 50 kg C4 1042 Symmetric 20 kg C6 1042 Symmetric 100 kg C6
Temperature effect on minimum dead load output (20, 40, -10 and 20 °C)	NMi Certin B.V	1042 5kg C4, 50 kg C4 1042 Symmetric 20 kg C6 1042 Symmetric 100 kg C6
Creep test (20, 40 and –10 °C)	NMi Certin B.V	1042 5kg C4, 50 kg C4 1042 Symmetric 20 kg C6 1042 Symmetric 100 kg C6
Minimum load output return (20, 40 and –10 °C)	NMi Certin B.V	1042 5kg C4, 50 kg C4 1042 Symmetric 20 kg C6 1042 Symmetric 100 kg C6
Barometric pressure test at room temperature	NMi Certin B.V	Not applicable
Humidity test	NMi Certin B.V.	1042 5kg C4, 50 kg C4 for C6 calculated

Nederlands Meetinstituut

Member State
The Netherlands

OIML Certificate N° R60/2000-NL1-03.11
Project number 302720

OIML CERTIFICATE OF CONFORMITY

Issuing authority

Name: NMi Certin B.V.

Address: Hugo de Grootplein 1, Dordrecht

Person responsible: P.P.M. van Enckevort

Applicant

Name: Vishay Tedea-Huntleigh Ltd.

Address: 5a Hatzoran St.,
Netanya, 42506
Israel

Manufacturer of the certified pattern

Name: Vishay Tedea-Huntleigh Ltd.

Address: 5a Hatzoran St.,
Netanya, 42506
Israel

Identification of the certified pattern

Type : 1042 and 1042 Symmetric
Fraction : $P_i = 0.7$
Temperature range -10 °C / +40 °C

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* only for the symmetric range

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report, the test certificate and the description with number TC2949 and the appertaining documentation folder), with the requirements of the following Recommendation(s) of the International Organization of Legal Metrology (OIML):

R60
edition 2000 (E)
for accuracy class C

Nederlands Meetinstituut

OIML Certificate N° R60/2000-NL1-03.11
Project number 302720

Member State
The Netherlands

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation(s).

This certificate does not bestow any form of legal international approval.

The conformity was established by tests described in the associated test report:
N° R60/1991-NL-97.03A, that includes 37 pages;
N° R60/1991-NL-97.03, that includes 35 pages;
N° R60/2000-NL-00.10, that includes 35 pages;
N° R60/2000-NL1-03.11, that includes 37 pages.

The issuing authority
P.P.M. van Enckevort
Manager Certification Delft

19 May 2003

The CIML member
G.J. Faber

19 May 2003

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