

**OIML Member State**  
The Netherlands

Number R60/2017-A-NL1-23.33 revision 0  
Project number 3663823  
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Issuing authority

NMi Certin B.V.  
Person responsible: M.Ph.D. Schmidt

Applicant

NTS INSTRUMENT (XIAMEN) CO., LTD.  
No.19 Xinle Road, Xinyang Industrial Zone, Haicang District  
Xiamen, 361028  
China

Manufacturer

HOPE TECHNOLOGIC (XIAMEN) CO., LTD.  
No.19 Xinle Road, Xinyang Industrial Zone, Haicang District  
Xiamen, 361028  
China

Identification of the certified type

A **single point load cell**, with strain gauges.  
Registered trade name : Mavin,  
HL,  
NTS INSTRUMENT.

Type : NA..., NA... M or NA... F

Characteristics

See next page

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified Type (represented by the sample(s) identified in the OIML Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

**OIML R 60-1:2017** for accuracy class C

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation above-identified. This Certificate does not bestow any form of legal international approval.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

*Important note:* Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Test Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority

**NMi Certin B.V., OIML Issuing Authority NL1**  
24 November 2023

Certification Board

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

The notification of NMi Certin B.V. as Issuing Authority can be verified at [www.oiml.org](http://www.oiml.org)

This document is digitally signed and sealed. The digital signature can be verified in the blue ribbon on top of the electronic version of this certificate.



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The conformity was established by the results of tests and examinations provided in the associated reports:

- No. R60/2000-NL1-07.18 dated 22 November 2007 that includes 40 pages;
- No. NMI-15200282-01 dated 29 June 2015 that includes 51 pages;
- No. NMI-15200282-02 dated 29 June 2015 that includes 46 pages;
- No. NMI-15200282-03 dated 29 June 2015 that includes 46 pages;
- No. NMI-3663823-01 dated 24 November 2023 that includes 51 pages;
- No. NMI-3663823-02 dated 24 November 2023 that includes 46 pages.

### Characteristics of the load cell:

Characterization of load cell capabilities	Analog-passive load cell			
Maximum capacity ( $E_{max}$ )	3 kg up to and including 15 kg	20 kg up to 100 kg	100 kg up to 500 kg	500 kg up to and including 2500 kg
Minimum dead load	0 kg			
Accuracy Class	C			
Rated Output	2 mV/V $\pm$ 10 %			
Maximum number of load cell intervals (n) <sup>(1)</sup>	3000	5000	6000	6000
Ratio of minimum LC Verification interval <sup>(1)</sup> $Y = E_{max} / V_{min}$	7900	10000	29000	23000
Ratio of minimum dead load output return <sup>(1)</sup> $Z = E_{max} / (2 * DR)$	9500	5000	20000	11000
Input impedance	410 $\Omega$ $\pm$ 15 $\Omega$			
Temperature range	-10 $^{\circ}$ C / + 40 $^{\circ}$ C			
Fraction $p_{LC}$	0,7			
Humidity Class	CH			
Safe overload	150 % of $E_{max}$			
Output impedance	350 $\Omega$ $\pm$ 5 $\Omega$			
Recommended excitation	5 - 12 V AC / DC			
Excitation maximum	15 V AC / DC			
Transducer material	Aluminium			
Atmospheric protection	Silicone rubber			

Remark:

1. The characteristics for  $n_{max}$ , Y and Z can be reduced separately.

Each load cell produced is provided with an accompanying document with information about its characteristics.



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The above identified Type (represented by the sample(s) identified in the OIML Test Report) have been found to comply with the additional national requirements established by the United States of America (NIST Handbook 44 and NCWM Publication 14), included in the Utilizer Declaration:

- R 60 OIML-CS rev.2 Additional requirements from the United States Accuracy class III L;
- R 60 OIML-CS rev.2 Additional requirements from the United States Marking requirements.

## Revision History

Revision	Date	Change(s)
0	2023-11-24	Initial issue.