



Test Certificate

Number **TC7028** revision 3
Project number 2482245
Page 1 of 1

Issued by NMI Certin B.V.

In accordance with WELMEC 8.8 2017, WELMEC 2.1 Issue 4, EN 45501:2015, OIML R 76-1 (2006)

Producer
Rice Lake Weighing Systems
230 West Coleman Street
Rice Lake, WI 54868
United States of America

Measuring instrument An **Indicator**, tested as a part of a weighing instrument.

Trademark : Rice Lake
Type : 120

Further properties are described in the annexes:

- Description TC7028 revision 3;
- Documentation folder TC7028-3.

An overview of performed tests is given in the annex:

- Description TC7028 revision 3.

Remarks This revision replaces the earlier versions, including its documentation folder.

Issuing Authority **NMI Certin B.V.**
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Certification Board

NMI Certin B.V.
Thijssseweg 11
2629 JA Delft
The Netherlands
T +31 88 6362332
certin@nmi.nl
www.nmi.nl

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Description

Number **TC7028** revision 3

Project number 2482245

Page 1 of 3

1 General information about the indicator

All properties of the indicator, whether mentioned or not, shall not be in conflict with the standard mentioned in the certificate.

This certificate is the positive result of the applied voluntary, modular approach, for a component of a measuring instrument, as described in WELMEC 8.8. The complete measuring system must be covered by an EC type-approval certificate or an EU-type examination certificate.

1.1 Essential parts

Number	Pages	Description	Remarks
7028/3-05	3	Main board layout and parts list	Version 3.0
7028/3-06	4	Main board layout and parts list	Version 3.5
7028/4-01	6	Main board layout and parts list	Version 3.7

EMI protection measures:

- The A/D part of the main board is shielded with a metal cover;
- The I/O cable, load cell cable and power cable inside the indicator are shielded.

1.2 Essential characteristics

Accuracy class	Ⓐ or Ⓑ
Weighing range	Single interval
Maximum number of scale intervals	$n \leq 10000$
Load cell excitation voltage	5 V DC
Minimum signal input voltage	$U_{\min} = 0 \text{ mV}$
Minimum input voltage per verification scale interval	1 μV
Minimum load cell resistance	87 Ω
Maximum load cell resistance	1050 Ω
Fraction of the maximum permissible error	0,5
Load cell connection	4-wire or 6-wire (remote sensing)
Maximum value of the cable length per cross wire section between the indicator and the junction box or load cells	4-wire: 0,6 m/mm ² 6-wire: 29 m/mm ²
Temperature range	-10 °C / +40 °C
Power supply voltage	230 V AC 50 Hz mains, or 9 V DC supplied by an AC/DC plug-in power supply



Description

Number **TC7028** revision 3

Project number 2482245

Page 2 of 3

Software identification	Version number: 1.xx or 2.xx or 3.xx (xx= 00...99, represents legally non-relevant software)
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Software:

- The identification number will be displayed at start-up;
- The indicator has embedded software.

List of legally relevant functions:

- Determination stability of equilibrium;
- Indication of stable equilibrium;
- Zero indicating;
- Semi-automatic zero-setting;
- Initial zero-setting;
- Zero-tracking;
- Semi-automatic subtractive tare weighing;
- Adjustment / set-up mode via a switch on the main board;
- Acting upon significant faults;
- Checking the display;
- Weight unit selection (kg, g);
- Gross/Net indicator.

1.3 Essential shapes

Number	Pages	Description	Remarks
7028/3-01	1	Exploded view for plastic housing version	-
7028/3-02	1	Exploded view for stainless steel housing version*	See chapter 3

The descriptive markings plate is secured against removal by sealing or will be destroyed when removed and contains at least the following information:

- This certificate number TC7028;
- Producer's name or mark.

Inside the cabinet is an adjustment lock, located on the main board.

1.4 Conditional parts

Number	Pages	Description	Remarks
7028/3-07	1	Power supply board layout*	See chapter 3

The indicator may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232.

Plug-in power supply:

- For models without internal power supply board, any CE marked AC/DC plug-in power supply can be used.

1.5 Non-essential parts

Display;
Keyboard.

2 Seals

To secure components that may not be dismantled or adjusted by the user, the indicator has to be secured in a suitable manner on the locations indicated in the drawings:

Number	Pages	Description	Remarks
7028/3-03	1	Sealing for plastic housing version	-
7028/3-04	1	Sealing for stainless steel housing version*	See chapter 3

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

3 Conditions for conformity assessment

The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in EN 45501:2015 clause F.4 or clause F.5, at the time of putting into use.

Other parties may use this Test Certificate only with the written permission of the producer.

*From the issue date of this certificate onwards, for the stainless-steel version indicator with internal power supply board, conformity with EN 45501:2015 is not demonstrated and non-automatic weighing instruments with this part may no longer be placed on the market under the NAWI Directive 2014/31/EU.

4 Reports

An overview of performed tests is given in the reports:

- No. 412533 dated 13 April 2005 that includes 45 pages;
- No. 604657 dated 12 September 2006 that includes 15 pages;
- No. NMI-SO11200982-01 dated 12 June 2012 that includes 15 pages;
- No. NMI-12200460-01 dated 4 March 2013 that includes 7 pages
- No. NMI-2482245-01 dated 29 December 2020 that includes 24 pages.

A report can be a test report, an evaluation report, a type evaluation report and/or a pattern evaluation report.