

Issued by NMI Certin B.V.

In accordance with WELMEC 8.8 Issue 2, EN 45501:2015, WELMEC 2.1 Issue 4, 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.

Type : 880-2A, 880-2D, 880-3A, 880-3D

Further properties are described in the annexes:

- Description TC8463 revision 4;
- Documentation folder TC8463-4.

An overview of performed tests is given in the annex:

- Description TC8463 revision 4.

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

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

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Description

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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
8463/0-01	7	CPU Board	Drawing including parts list
8463/3-01	9	CPU Board	Drawing including parts list
8463/0-02	5	Display Board	Drawing including parts list
8463/0-03	3	AC Power Board	Drawing including parts list
8463/3-02	3	AC Power Board	Drawing including parts list
8463/0-04	3	DC Power Board	Drawing including parts list
8463/3-03	3	DC Power Board	Drawing including parts list

EMI protection measures:

- The electronics are built in a metal enclosure;
- Ferrite on the cable of the load cell to the indicator;
- Grounding of drain shields to chassis.

1.2 Essential characteristics

Configuration	Analog load cells
Accuracy class OIML R 76	III or IIII
Weighing range(s)	Single interval Multi-interval Multiple range
Maximum number of scale intervals (one weighing range)	$n \leq 10000$ divisions
Maximum number of scale intervals (multi-interval)	$n \leq 10000$ divisions (per partial weighing range)
Maximum number of partial weighing ranges	2
Maximum number of scale intervals (multiple range)	$n \leq 10000$ divisions (per weighing range)
Maximum number of weighing ranges	2
Load cell excitation voltage	10 V DC
Minimum input voltage	$U_{\min} = 0$ mV
Minimum input voltage per verification scale interval	1 μ V
Minimum load cell resistance	21 Ω
Maximum load cell resistance	1050 Ω
Fraction of the maximum permissible error	0,5
Load cell connection	6-wire (remote sensing)
Maximum value of the cable length per cross wire section between the indicator and the junction box or load cells	No special cable length In case a 4-wire connection is used the load cells are connected directly without junction box
Temperature range	-10 °C / +40 °C
Power supply voltage	100 – 240 V AC 50/60 Hz 9 – 36 V DC (not suitable for a road vehicle power supply)
Software identification	Version number: 1.xx (xx is a number between 00 and 99) (1. represents the legally relevant software)



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Software:

- The identification number will be displayed after pressing the key sequence:
 - Press the [MENU] key, to display AUDIT;
 - Press the Down arrow to display the Legal Relevant Version number.
- The indicator has embedded software.

List of legally relevant functions:

- Determination stability of equilibrium;
- Indication of stable equilibrium;
- Zero indicator;
- Semi automatic zero setting;
- Initial zero setting;
- Zero tracking;
- Semi automatic subtractive tare balancing;
- Semi automatic subtractive tare weighing;
- Gravity compensation;
- Adjustment / set-up mode via a switch on the main board;
- The adjustment mode is secured with a software seal which uses an event counter that contains a number that will be incremented each time any legally relevant parameter changes or adjustment is made and saved;
- Acting upon significant faults;
- Checking the display;
- Set points;
- Indication of selected set point(s);
- Linearity compensation: the linearity can be compensated to a maximum of number of 5 points.

1.3 Essential shapes

Number	Pages	Description	Remarks
8463/0-05	1	Controller, 880 base unit without options	-
8463/0-06	1	Display, 880 panel mount	-
8463/1-01	1	880-3A, 880-3D (Universal unit)	-

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 TC8463;
- The event counter value;
- Producers name or mark.

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



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1.4 Conditional parts

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

- RS232 / RS485;
- Ethernet;
- Bluetooth;
- USB;
- Analog output (optional);
- Relay output (optional);
- CompactCom (optional), can be programmed for the protocols: Profinet, Profibus, EtherNet/IP, DeviceNet, ModBus TCP, EtherCAT.

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
8463/4-01	3	Sealing details for all types	-

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

When no hardware seal is used for the adjustment lock on the main board, the event counter is used as seal. The inscriptions contain the value of the event counter at the time of conformity assessment. The current event counter value can be displayed by pressing the key sequence:

- Press the [MENU] key, to display AUDIT;
- Press the Right arrow key to display CALIB;
- Press the Down arrow to view the Calibration Counter;
- Press the Up arrow to display CALIB;
- Press the Right arrow key to display CFG;
- Press the Down arrow to view the Configuration Counter;
- Press the Up arrow key to display CFG;
- Press MENU to return to the Weigh Mode.



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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, at the time of putting into use.

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

4 Reports

An overview of performed tests is given in the reports:

- No. NMI-13200624-01 dated 13 June 2014 that includes 50 pages;
- No. NMI-13200624-02 dated 26 June 2014 that includes 8 pages.

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