Evaluation Certificate

Number **TC8596** revision 6
Project number 3473231

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), WELMEC 7.2, 2019, OIML R 61-1 (2017).
Producer	Rice Lake Weighing Systems 230 W Coleman St. Rice Lake, WI 54868 United States of America
Measuring instrument	An **Indicator** or **Terminal**, tested as a part of a weighing instrument. Type : 1280 Enterprise Series Further properties are described in the annexes: - Description TC8596 revision 6; - Documentation folder TC8596-4. An overview of performed tests is given in the annex: - Description TC8596 revision 6.
Remark	This revision replaces the earlier versions, except for its documentation folder.

Issuing Authority

NMi Certin B.V.
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Certification Board

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INSPECTION
RvA I 122

Description

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, an EC-type examination certificate or an EU-type examination certificate.

1.1 Essential parts

See block diagrams:

Number	Pages	Description	Remarks
8596/0-01	1	Hardware block diagram	-
8596/0-02	1	Software block diagram	-

See drawings:

Number	Pages	Description	Remarks
8596/1-01	3	Single scale A/D board 163407 Revision B	with parts list
8596/5-01	3	Single scale A/D board 163407 Revision E	with parts list
8596/1-02	3	Dual scale A/D board 160760 Revision B	with parts list
8596/5-02	3	Single scale A/D board 160760 Revision E	with parts list

EMI protection measures:
- The indicator is built in a metal enclosure;
- Ferrite on the cable between scale card and the load cell.

1.2 Essential characteristics

Configuration		Analog load cells	Digital load cells or weighing module
Accuracy class	OIML R 76	(III) or (IIII)	
	OIML R 61	Ref(0,2)	
Weighing ranges		Single interval Multi-interval Multiple range	
Maximum number of scale intervals (one weighing range)		n ≤ 10000 divisions	-
Maximum number of scale intervals (multi-interval)		n ≤ 10000 divisions (per partial weighing range)	-
Maximum number of partial weighing ranges		3	-
Maximum number of scale intervals (multiple range)		n ≤ 10000 divisions (per weighing range)	-
Maximum number of weighing ranges		3	-
Load cell excitation voltage		10 V DC	-
Load cell power supply voltage		-	15 V DC
Minimum input voltage per verification scale interval		1,0 µV	-
Minimum load cell resistance		23 Ω	-
Maximum load cell resistance		1050 Ω	-
Fraction of the maximum permissible error		0,5	0
Load cell connection		6 wire with sense technology, may be configured as 4 wire	-
Maximum value of the cable length per cross wire section between the indicator and the junction box or load cells		395 m/mm^2 In case sense technology is not used the load cells are connected directly without junction box or extension cable	-
Maximum number of load platforms		8	
Climatic environment	temperature range	-10 °C / +40 °C	
	humidity	non-condensing	
	intended location	closed	
Electromagnetic environment class		E2	

Power supply voltage	100 – 240 V AC 50/60 Hz (for AC version) 9 – 30 V DC (for DC version)
Software identification 1280 firmware	Version number: V1.xx or V2.xx (xx = 00…99 for the legally non-relevant software)
Software identification for iRite Filling / dosing application (for automatic gravimetric filling instruments)	1.xx (xx = 03…99 for the legally non-relevant software)

Software:
- The identification number for 1280 firmware will be displayed after pressing the key sequence:
  - Menu -> Audit trail.
- The identification number for filling/dosing application is displayed on powerup in the status line of the weigh mode in the bottom left corner. Or when pressing “setup” in the bottom right corner.
- The indicator has embedded software;
- Software specification (WELMEC 7.2):
  - Software type P;
  - Risk Class B;
  - Extension S.

List of legally relevant functions for all types of weighing instruments:
- Determination stability of equilibrium;
- Zero indicating;
- Initial zero-setting;
- Preset tare;
- Gravity compensation;
- Adjustment / set-up mode via a switch on the main board;
- The adjustment mode is secured with an audit trail, this software seal uses an event counter that contains a number that will be incremented each time any parameter changes or adjustment is made and saved;
- Acting upon significant faults;
- Checking the display;
- Weight unit selection (t, kg, g);
- Indications other than primary indications;
- Indication of additional information;
- Gross/Net indicator.

List of legally relevant functions for non-automatic weighing instruments (OIML R 76):
- Semi-automatic zero-setting;
- Zero-tracking;
- Semi-automatic subtractive tare weighing;
- Check weighing mode;
- Setpoints;
- Indication of selected setpoint(s);
- Platform select with indication of selected platform;
- Totalisation of indications from individual platforms with up to 8 load receptors;
- Hold mode;
- Data storage that complies with OIML R 76 (2006) clause 5.5.3;
- Truck in/out weighing.

List of legally relevant functions for automatic gravimetric filling instruments (OIML R 61):
- Automatic subtractive tare balancing at the start of the automatic weighing cycle;
- Automatic zero-setting at the start of the automatic weighing cycle;
- Filling by one weighing cycle;
- Subtractive weighing;
- Calculation of a Net value based on two Gross weighings (for subtractive weighing);
- Preset value;
- Final feed cut-off device.

Rated minfill:

	Minfill [g]			
	Average number of loads per fill = 1			
d [g]	X(0,2)	X(0,5)	X(1)	X(2)
0,1	4,4	1,8	0,9	0,4
0,2	8,8	3,6	1,8	0,8
0,5	22	9	4,5	2
1	44	18	9	4
2	178	36	18	8
5	1335	180	45	20
10	2670	1070	180	40
20	5340	2140	1060	180
50	20000	5350	2650	1350
100	40000	16000	5300	2700
200	80000	32000	16000	5400
≥ 500	400 d	160 d	80 d	40 d

1.3 Essential shapes

Number	Pages	Description	Remarks
8596/1-06	1	General appearance of the indicator family	-
8596/0-08	1	Exploded view for universal mount	-
8596/0-09	1	Exploded view for panel mount	-
8596/0-10	1	Exploded view for wall mount	-
8596/0-11	1	Exploded view for controller	-

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 TC8596;
- The event counter value;
- 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
8596/1-03	3	CPU board 160757 Revision A	with parts list
8596/1-04	3	CPU board 160757 Revision D	with parts list
8596/5-03	3	CPU board 194982 Revision A	with parts list
8596/0-12	1	AC power board lay out	-
8596/0-13	1	DC power board lay out	-

The indicator may be equipped with one or more of the following protective interfaces that have not to be secured:
- RS232;
- RS485;
- Ethernet;
- USB host;
- USB device;
- Analog I/O;
- Digital I/O;
- Fieldbus;
- Relay card;
- Serial card.

1.5 Non-essential parts

Part(s) not subject to legal control (WELMEC 7.2, 2019 clause 2):
The software may contain files or programs that have non-essential properties, for example (but not limited to) invoice modules, database modules and operating system components, provided that they do not lead to an instrument having other characteristics than those fixed by this certificate.

Touchscreen 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
8596/2-01	2	Sealing details for all types	-

Access to adjustments are restricted based on the setting of JP1 on the main board (OFF or ON):
- OFF = Requires pushing the setup switch to enter configuration mode. In this case, hardware seal is the sealing method.
- ON = Allows pressing the setup icon on the display to enter configuration mode. In this case, the audit trail is the sealing method.

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

The calibration and configuration counter value can be displayed by pressing the key sequence:
- Menu → audit trail.

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.

In case of electronic sealing, the inscriptions contain the value of the event counter at the time of conformity assessment.

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 evaluation report ER8596 revision 6.