



EU-type examination certificate

Number **T8555** revision 3
Project number 16200116
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Issued by NMI Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to
conformity modules mentioned in Article 13 of Directive 2014/31/EU, after
having established that the measuring instrument meets the applicable
requirements of Directive 2014/31/EU, to:

Manufacturer Balanças Marques de José Pimenta Marques, Lda.
Parque Industrial de Celeirós (2a Fase)
Apartado 2376
4701-905 Braga
Portugal

Measuring instrument **A Non-automatic weighing instrument**

Manufacturer's name : Balanças Marques

Type : BM5, BM5 XS

Further properties are described in the annexes:

- Description T8555 revision 3;
- Documentation folder T8555-2.

Valid until 3 July 2024

Remarks This revision replaces the earlier versions, with exception of its
documentation folder.

Issuing Authority **NMI Certin B.V., Notified Body number 0122**
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1 General information about the non-automatic weighing instrument

All properties of the non-automatic weighing instrument, whether mentioned or not, shall not be in conflict with the legislation.

This certificate contains references to other certificates. The properties mentioned in these certificates shall be observed in addition to the properties mentioned in this certificate.

1.1 Essential parts

The electronics;
The mechanical assembly with load cell.

See block diagrams:

Number	Pages	Description	Remarks
8555/0-01	1	Block diagram BM5	-
8555/2-01	1	Block diagram BM5 XS version	-

EMI protection measures:

- A/D board shielded with metal housing;
- SMD EMI protection components on A/D board (see drawings 8555/0-06 and 8555/2-04);
- Ferrite on cable from power switch to power input;
- Ferrite on cable from main board to front display;
- Ferrite on cable from main board to A/D board.

1.2 Essential characteristics

Accuracy class	III
Maximum capacity	$6 \text{ kg} \leq \text{Max} \leq 30 \text{ kg}$
Verification scale interval	$e \geq 2 \text{ g}$
Weighing ranges	Single interval Multi-interval
Maximum number of scale intervals (one weighing range and multi-interval)	$n \leq 3000$ divisions (per partial weighing range)
Maximum number of partial weighing ranges	2
Tare	$T \leq -\text{Max}$ for instruments with one weighing range $T \leq -\text{Max}_1$ for multi-interval instruments
Temperature range	$0^\circ\text{C} / +40^\circ\text{C}$
Power supply voltage	230 V AC 50/60 Hz
Application	Intended to be used for direct sales to the public
Software identification	See certificate involved

1.3 Essential shapes

The non-automatic weighing instrument is built according to drawings:

Number	Pages	Description	Remarks
8555/0-02	1	General view – Bench scale	-
8555/0-03	2	Exploded view – Bench scale	including parts list
8555/2-02	7	Exploded view – Bench scale XS version	including parts list
8555/0-04	1	General view – Hanging scale	-
8555/0-05	2	Exploded view – Hanging scale	including parts list
8555/2-03	6	Exploded view – Hanging scale XS version	including parts list

The data plate is secured against removal by sealing or will be destroyed when removed.

Inside the cabinet is an adjustment lock, located on the A/D board.

1.4 Conditional parts

The non-automatic weighing instrument may be equipped with peripheral equipment which is used for the applications listed in Article 1(2), (a) to (f) of Directive 2014/31/EU, provided that the peripheral equipment is certified to be connected to a non-automatic weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU, or, that the equipment and the use of the equipment complies with the requirements of WELMEC 2.5 Issue 2 clause 2.2.

The non-automatic weighing instrument may be equipped with an electronic Point Of Sale (POS) or an Electronic Cash Register (ECR), provided that the POS and ECR are certified to be connected to a non-automatic weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.

The non-automatic weighing instrument may be equipped with Electronic Funds Transfer equipment (EFT/ECU), if the EFT/ECU represents only the price total on the display.

The non-automatic weighing instrument is fitted with a levelling device and a level indicator, unless the instrument is installed in a fixed position. A ring on the level indicator indicates when the maximum tilt is exceeded.

1.5 Non-essential parts

The non-automatic weighing instrument may be connected to non-essential devices, for example but not limited to bar code readers, foot switches, second display's and cash drawers, provided that:

- They do not present primary data used for purposes mentioned in Article 1(2), (a) to (f) of Directive 2014/31/EU unless the "Preliminary observation" in Annex I of the Directive is satisfied;
- They do not lead to an instrument having other essential characteristics than those fixed by this certificate.

2 Information about the main constituent parts of the non-automatic weighing instrument

2.1 The electronics

2.1.1 Essential parts

Number	Pages	Description	Remarks
8555/0-06	2	A/D board	including parts list
8555/2-04	2	A/D board USB version	including parts list

Software:

Producer	Type	Certificate number
Balanças Marques de José Pimenta Marques, Lda.	ETBAL / ETPOS	TC8611

2.1.2 Essential characteristics

	USB version	RS232 version
Load cell excitation voltage	4 V DC	5 V DC
Minimum input voltage per verification scale interval	0,8 μ V	
Minimum load cell resistance	370 Ω	
Maximum load cell resistance	1110 Ω	
Fraction of the maximum permissible error	0,5	
Load cell connection	4-wire	
Maximum value of the cable length per cross wire section between the indicator and the junction box or load cells	The load cells are connected directly without junction box	

List of legally relevant functions:

- Determination stability of equilibrium;
- Adjustment / set-up mode via a switch on the A/D board.

2.1.3 Conditional parts

BM5 CPU Board:

- Manufacturer: Fujitsu, type: D3003-S1, or
- Manufacturer: Balanças Marques, type: ARM iMX6.

Power supply:

- Manufacturer: MeanWell, type: RS-150-24 or type: GS120A24-R7B.

The non-automatic weighing instrument may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232;
- Ethernet;
- USB host;
- Cash drawer.

2.1.4 Non-essential parts

Display;
Internal printer.

2.2 The mechanical assembly with load cell

2.2.1 Essential parts

Number	Pages	Description	Remarks
8555/0-09	1	Data sheet loadcell AMI	$e \geq E_{\max}/10000$, or $e_1 \geq E_{\max}/10000$ for multi-interval instrument.

Or,

Any load cell(s) may be used under this certificate for instruments as described in WELMEC 2.4 Issue 2, provided the following conditions are met:

- There is a respective certificate (EN 45501) or an OIML Certificate of Conformity (R 60) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU.
- The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules (WELMEC 2, 2015 clause 10), and any particular installation requirements. A load cell marked **NH** is allowed only if humidity testing to EN 45501 has been conducted on this load cell.
- The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in the above WELMEC 2 document, at the time of putting into use.
- The load transmission must conform to one of the examples shown in WELMEC 2.4 Issue 2.



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3 Seals

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

Number	Pages	Description	Remarks
8555/0-07	1	Sealing – Bench scale	-
8555/2-05	1	Sealing – Bench scale XS version	-
8555/0-08	1	Sealing – Hanging scale	-
8555/2-06	1	Sealing – Hanging scale XS version	-

4 Conditions for conformity assessment

The marks, facilities for the marks and the inscriptions on the non-automatic weighing instrument fulfil the requirements of point 1 of Annex III of Directive 2014/31/EU.

The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in WELMEC 2, 2015 clause 10, at the time of putting into use.

In case the non-automatic weighing instrument is equipped with a Point Of Sale the conformity assessment procedure of WELMEC 2.2 Issue 3 clause 2.2 shall be taken into account.