Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S855

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

Balancas Marques Model BM1000 Digital Indicator

submitted by Anmar Scales Pty Ltd
189 Northcorp Blvd
Broadmeadows VIC 3047

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated October 2015.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variants 1 to 2 approved – certificate issued	30/08/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S855' and only by persons authorised by the submittor.

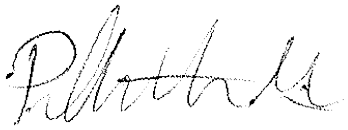
Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S855' in addition to the approval number of the instrument, and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate of Approval No S1/0B.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.



Phillip Mitchell
A/g Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No S855

1. Description of Pattern approved on 30/08/24

A Balancas Marques model BM1000 digital indicator (Figure 1) which may be configured to form part of:

- A class (III) weighing instrument with a single weighing range of up to 6000 verification scale intervals; or
- A class (IIII) weighing instrument with a single weighing range of up to 1000 verification scale intervals; or
- A class (III) multi-interval weighing instrument with up to two partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with up to 3000 verification scale intervals per partial weighing range; or
- A class (IIII) multi-interval weighing instrument with up to two partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with up to 1000 verification scale intervals per partial weighing range.

The instrument has a stainless steel enclosure with an LCD display for display of the weight value.

The instrument is approved for use over a temperature range of 0 °C to +40 °C, and must be so marked.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices (see clause 1.7 below).

TABLE 1 – Specifications

Maximum number of verification scale intervals	6000 (class (III))
	1000 (class (IIII))
Minimum sensitivity	0.3 µV / scale interval
Excitation voltage	5 V DC
Maximum excitation current	114 mA
Fraction of maximum permissible error	p_i = 0.5
Minimum load cell impedance	44 Ω
Maximum load cell impedance	1050 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	19.5 mV
Maximum tare range	-(*Max-e*)
Operating temperature range	0 °C to +40 °C
Load cell connection	4 or 6-wire plus shield
Maximum value of load cell cable length per wire cross section (*)	1463.7 m/mm^2

(*) Additional connection cable between indicator and load cell or load cell junction box. In case a 4-wire connection is used, the load cells are connected directly without a junction box or lengthening the load cell(s) cable.

This approval does not include the use of the indicator as an automatic weighing instrument, unless specifically mentioned in a certificate of approval for such an instrument.

1.1 Zero

A zero-tracking device may be fitted.

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has a semi-automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument.

1.2 Tare

A semi-automatic subtractive taring device and a pre-set taring device, each of up to the maximum capacity of the instrument minus 1*e* (except for instruments configured as multi-interval instruments, in which case the maximum pre-set tare value is $Max_1 - 1e_1$), may be fitted.

1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Power Supply

The instrument operates from mains AC power (230V AC, 50/60 Hz).

1.5 Additional Features

Instruments may be fitted with additional functions including counting and accumulation. The additional functions (other than the indications of measured mass, i.e. gross, tare, net, totals, displayed either on the indicator or on an auxiliary or peripheral device) are not approved for trade use.

Note: In particular circumstances (e.g. in regard to weighbridge or public weighbridge operation), Trade Measurement legislation or other NMI Certificates of Approval may impose requirements in regard to specific features, methods of operation, or records to be provided (and in what form).

Certain features of this instrument are able to be configured by the installer or user. Whilst NMI believes that an acceptable configuration can be achieved for typical basic modes of operation, it may also be possible for the instrument to be configured to produce unacceptable configurations, and use of some configurations may be inappropriate in different situations. It is the responsibility of the installer and user to ensure that the configuration is acceptable and meets relevant requirements for any particular situation.

1.6 Interfaces

The indicator may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R 76 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces shall only be used for trade in compliance with NMI General Supplementary Certificate of Approval No S1/0B (in particular in regard to the data and its format).

Indications other than the indications of measured mass (i.e. gross, tare, net, totals) displayed either on the indicator or on an auxiliary or peripheral device, are not for trade use.

Instruments may be fitted with RS-232 serial data interfaces.

1.7 Verification Provision

Provision is made for the application of a verification mark.

1.8 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Balancas Marques
Name or mark of manufacturer's agent	Anmar Scales Pty Ltd
Indication of accuracy class	 or 
Maximum capacity	*Max* ..... kg #1
Minimum capacity	*Min* ..... kg #1
Verification scale interval	*e* = ... kg #1
Maximum subtractive tare	*T* = - ……. kg
Special temperature limits	0 °C to 40 °C
Serial number of the instrument	…….....
Pattern approval mark for the indicator	NMI S855
Pattern approval mark for other components	..... #2

#1 These markings are shown near the display of the result.

#2 May be located separately from the other markings.

In addition, instruments not greater than 100 kg capacity carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

Note:

For multi-interval instruments the markings shall be as above, with the exception that the 'Maximum capacity' and 'Verification scale interval' shall be marked for both interval ranges, e.g. as follows:

Maximum capacity	Max …. / …. kg
Verification scale interval	*e* = ….. / ….. kg

1.9 Software

The legally relevant software is designated v-2xx (where 'xx' represents the identification of non-legally relevant software) and is identified by a checksum number 18023858.

The software version can be seen in the switch-on display sequence (when the power is applied to the instrument).

The instructions for accessing the checksum are as follows.

- Press the 'Power' key to switch on the instrument.
- Press and hold the 'esc' and 'Enter' keys during the switch-on display sequence until a beep.
- Press the 'Enter' key until the Prog - 4 is displayed.
- Press and hold the 'Enter' key for 3 seconds. The checksum is displayed.

1.10 Sealing Provision

Provision is made for access to the calibration switch within the instrument to be sealed by the use of destructible adhesive labels placed over the access hole to the calibration switch and over the opposite sides of a join in the instrument housing as shown in Figures 4, 5 and 6.

2. Description of Variant 1 approved on 30/08/24

The Balancas Marques model BM1000P AC (Figure 2) which is similar to the pattern but having an ABS (plastic) housing.

3. Description of Variant 2 approved on 30/08/24

The Balancas Marques model BM1000P Painel (Figure 3) which is similar to the pattern but having a panel mount ABS housing.

3.1 Power Supply

Power for the model BM1000P Painel is supplied by an AC/DC adaptor.

Note: The AC/DC mains adaptor supplied for the instrument was a XINGYUAN ELECTRONICS Co. Ltd model XY12S-1201000Q-AW (output: 12 V DC, 1.0 A) adaptor – the submittor should be consulted regarding the acceptability of alternative power supply units.

TEST PROCEDURE No S855

Instruments should be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

For multi-interval and multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

FIGURE S855 – 1

Balancas Marques Model BM1000 Digital Indicator (Pattern)

FIGURE S855 – 2

Balancas Marques Model BM1000P AC Digital Indicator (Variant 1)

FIGURE S855 – 3

Balancas Marques Model BM1000P Painel Digital Indicator (Variant 2)

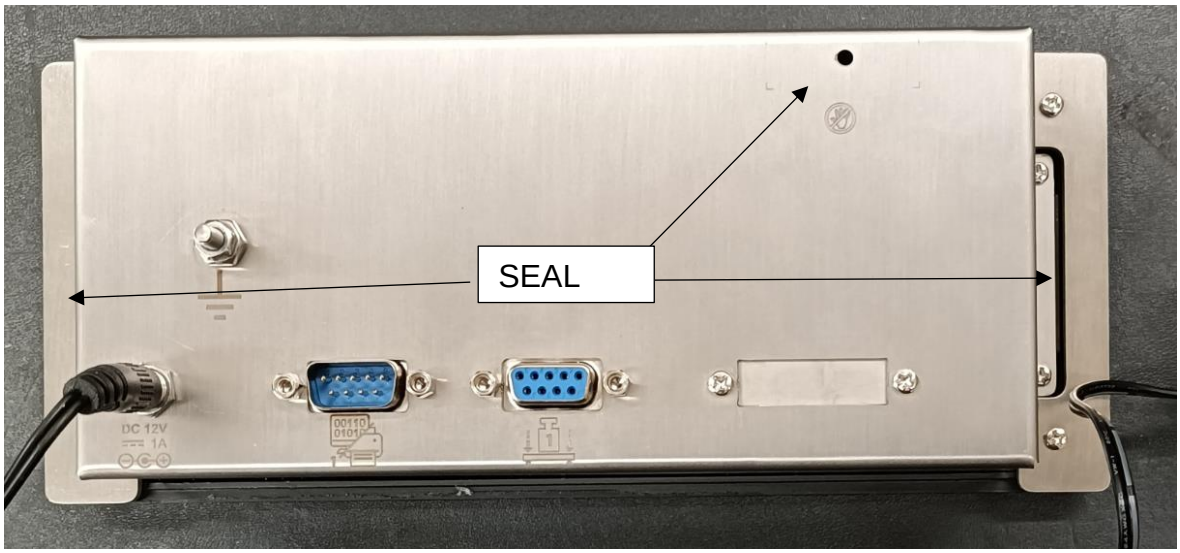
FIGURE S855 – 4

Sealing of Model BM1000

FIGURE S855 – 5

Sealing of Model BM1000P AC

FIGURE S855 – 6



Sealing of Model BM1000P Painel

Typical Sealing Methods

~ End of Document ~