



Australian Government

National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Interim Supplementary Certificate of Approval NMI S666

VALID FOR VERIFICATION PURPOSES UNTIL 17 JULY 2014

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.

Bilanciali Model DD1050 Digital Indicator

submitted by National Weighing & Instruments Pty Ltd
 1/88 Magowar Road
 Giraween NSW 2145

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 OIML R 76 – Edition 2006(E), Non-automatic weighing instruments, dated 2006.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 7 approved – interim certificate issued	17/04/14

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S666' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S666' in addition to the approval number of the instrument, and only by persons authorised by the submittor.

It is the submitter'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 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.

1. Description of Pattern

approved on 17/04/14

A Bilanciai model DD 1050 digital mass indicator 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.
- A multi-interval weighing instrument with up to three partial weighing ranges (each with its own verification scale interval) in which case it is approved for use with:
 - a) In the case of class III instruments with two partial weighing ranges: up to 4000 verification scale intervals per partial weighing range.
 - b) In the case of class III instruments with three partial weighing ranges: up to 3000 verification scale intervals per partial weighing range.
 - c) In the case of class III instruments with two or three partial weighing ranges: up to 1000 verification scale intervals per partial weighing range.
- A multiple range weighing instrument with up to three weighing ranges in which case it is approved for use with:
 - a) In the case of class III instruments with two weighing ranges: up to 4000 verification scale intervals per weighing range.
 - b) In the case of class III instruments with three weighing ranges: up to 3000 verification scale intervals per weighing range.
 - c) In the case of class III instruments with two or three weighing ranges: up to 1000 verification scale intervals per weighing range.

The changeover between weighing ranges is automatic.

The instrument may incorporate up to 4 analog to digital (A/D) conversion modules, each of which may be connected to a single load receptor. Hence the indicator may display weight values for up to 4 load receptors.

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

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).

Table of Specifications for the Pattern (Model DD1050)

Maximum number of verification scale intervals	Refer to list above
Minimum sensitivity	0.6 μ V / scale interval
Excitation voltage	10 V DC
Minimum load cell impedance	29 Ω
Maximum excitation current	344.83 mA
Load cell connection (analogue load cells)	6-wire shielded cable, maximum length: 580 m/mm ²

Note: The above specifications apply for each load receptor / A/D conversion module.

A semi-automatic subtractive tare device of up to the maximum capacity of the instrument may be fitted. A pre-set subtractive tare device of up to the maximum capacity of the instrument (or up to Max_1 for multi-interval instruments) may be fitted.

The power supply of the instrument is a 12 V DC, 5 A output AC/DC mains adaptor, made by EDACPOWER ELEC. The model number is EA1050A-120. Note: The submitter should be consulted regarding the acceptability of alternative power supply units.

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 R76. Instruments may be fitted with RS-232C/422/485 serial data interfaces, Ethernet, USB, Profibus, SD card, analogue output (4 - 20 mA, 0 - 10V), and may also have digital inputs/outputs.

Up to four baseworks (load receptors) may be connected to a single DD1050 digital indicator. Where two or more baseworks are connected to a single DD1050 indicator, the sum of the gross weight values for the individual baseworks/displays may be calculated and displayed in the summing display (identified by "S" in its top right corner).

The instrument may be fitted with facilities for facilitating transactions, particularly weighbridge transactions.

This may include the entry and recording of information such as client identification, product information and vehicle registration, and the storage of pre-set tare values.

The indicator may contain memory (or external memory may be provided) for the storage of weighing results.

The instrument may be sealed via physical and/or software means.

2. Description of Variant 1 **approved on 17/04/14**

The Bilanciai model DD1050i which has the same specifications and software as the pattern, and similar hardware. However the enclosure of this model is stainless steel only, and incorporates its power supply module within the enclosure.

3. Description of Variant 2 **approved on 17/04/14**

The Bilanciai model DD2050 which has the same specifications and software as the pattern, and similar hardware. However the enclosure of this model is stainless steel only, and incorporates a printer within the enclosure.

4. Description of Variant 3 **approved on 17/04/14**

The Bilanciai model DD1010H which is similar to the pattern, however this model has specifications as shown in below.

The instrument may incorporate up to 2 analog to digital (A/D) conversion modules, each of which may be connected to a single load receptor. Hence the indicator may display weight values for up to 2 load receptors.

Table of Specifications for the Variants 3 & 4 (Models DD1010H, DD1010IH & DD1010ICH)

Maximum number of verification scale intervals	As for the pattern
Minimum sensitivity	0.6 μ V / scale interval
Excitation voltage	9 V DC #
Minimum load cell impedance	29 Ω
Maximum excitation current	310.4 mA
Load cell connection (analogue load cells)	6-wire shielded cable, maximum length: 293 m/mm ²

The manufacturer indicates 9 to 10 V DC. Use the excitation voltage of 9 V DC when carrying out calculations to ensure 6B/0 calculations are met.

5. Description of Variant 4 **approved on 17/04/14**

The following models which are similar to the model DD1010H (Variant 3), including the specifications, but use different housings:

- The Bilanciai model DD1010IH having a stainless steel enclosure and cable glands.
- The Bilanciai model DD1010ICH having a stainless steel enclosure and using various connectors.

6. Description of Variant 5 **approved on 17/04/14**

The Bilanciai model DD1010 which is similar to the pattern, however this model has specifications as shown in below.

The instrument may incorporate up to 2 analog to digital (A/D) conversion modules, each of which may be connected to a single load receptor. Hence the indicator may display weight values for up to 2 load receptors.

Table of Specifications for the Variants 5 & 6 (Models DD1010, DD1010I & DD1010IC)

Maximum number of verification scale intervals	As for the pattern
Minimum sensitivity	0.5 μ V / scale interval
Excitation voltage	4.5 V DC #
Minimum load cell impedance	29 Ω
Maximum excitation current	155.2 mA
Load cell connection (analogue load cells)	6-wire shielded cable, maximum length: 143 m/mm ²

The manufacturer indicates 4.5 to 5 V DC. Use the excitation voltage of 5 V DC when carrying out calculations to ensure 6B/0 calculations are met.

7. Description of Variant 6 **approved on 17/04/14**

The following models which are similar to the model DD1010 (Variant 5), including the specifications, but use different housings:

- The Bilanciai model DD1010I having a stainless steel enclosure and cable glands.
- The Bilanciai model DD1010IC having a stainless steel enclosure and using various connectors.

8. Description of Variant 7 **approved on 17/04/14**

The pattern and variants 1 to 6 used with compatible NMI-approved Eurocell (or Bilanciai) digital load cells (without an analog to digital conversion module).

Where digital load cells are used, the excitation voltage supplied for the digital load cells is 10 to 18 V DC.

Note: Where multiple baseworks are connected to the indicator, each basework may use a different type of load cell (e.g. basework 'A' may use and analog load cells, and basework 'B' may use digital load cells).

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



Dr A Rawlinson