



Australian Government  
Department of Industry,  
Innovation and Science

## National Measurement Institute

# Supplementary Certificate of Approval NMI S514

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.

Bilanciai Model D70B Digital Indicator

submitted by National Weighing & Instruments Pty Ltd  
1/88 Magowar Road  
Girraween 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 NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated July 2004.

This approval becomes subject to review on 1/3/22, and then every 5 years thereafter.

### DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – certificate issued	23/6/08
1	Pattern reviewed & updated – certificate issued	9/2/17

## CONDITIONS OF APPROVAL

### **General**

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI (or NSC) S514' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI (or NSC) S514' in addition to the approval number of the instrument.

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 Certificates No S1/0/A or 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*.



**Mario Zamora**

## TECHNICAL SCHEDULE No S514

### 1. Description of Pattern approved on 23/6/08

A Bilanciai model D70B digital mass indicator (Figure 1 and Table 1) which may be configured to form part of:

- A 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 up to 3000 verification scale intervals per partial weighing range; or
- A multiple range weighing instrument with up to three weighing ranges, in which case it is approved for use with up to 3000 verification scale intervals per weighing range.

The changeover between weighing ranges is automatic.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices (see clause 1.6 below).

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.

Note: The indicator is not marked with the model number D70B - the indicator faceplate is marked with "D70" only. The D70B has provision for direct connection of an IEC type mains power lead (this distinguishes it from the model D70A which does not have this provision).

TABLE 1 – Specifications

Maximum number of verification scale intervals	6000 or 3000 per range
Minimum sensitivity	1.0 $\mu\text{V}$ /scale interval
Excitation voltage	10 V DC
Maximum excitation current	345 mA

#### 1.1 Zero

Zero is automatically corrected to within  $\pm 0.25e$  whenever the instrument comes to rest within  $0.5e$  of zero.

Note: For multi-interval or multiple range operation, zero is automatically corrected to within  $\pm 0.25e_1$  whenever the instrument comes to rest within  $0.5e_1$  of zero.

The instrument has a semi-automatic zero-setting device (to set the instrument to within  $\pm 0.25e$  of zero) with a nominal range of not more than 4% of the maximum capacity of the instrument.

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

#### 1.2 Tare

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

### 1.3 Display Check

A display check is initiated whenever power is applied.

### 1.4 Power Supply

The power supply may be either:

- (a) AC mains power;
- (b) 12 V DC supplied by an AC/DC mains adaptor or other 12 V DC source (including an external battery).

Note: The AC/DC mains adaptor supplied in relation to (b) above was a DYNE Industries model PC12-1000 power supply (output 12 V DC, 1 A) – the submitter should be consulted regarding the acceptability of alternative power supply units.

### 1.5 Additional Features

The indicator also has certain additional functions (e.g. counting facility, set-point facility). The additional functions are not approved for trade use.

### 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 R76 (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 Supplementary Certificate No S1/0B (in particular in regard to the data and its format).

Note particularly that 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.

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-232C/422/485 serial data interfaces and analogue output (4 - 20 mA, 0 - 10V), and may also have digital inputs/outputs associated with the set-point facility.

### 1.7 Linearisation Facility

Instruments are fitted with a linearisation correction facility having a single correction point.

### 1.8 Descriptive Markings and Notices

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full	Societa Cooperativa Bilanciai Campogalliano a.r.l., Italy
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Name or mark of manufacturer's agent	.....
Indication of accuracy class	Ⓜ
Maximum capacity (for each range)	<i>Max</i> .... kg #1
Minimum capacity (for each range)	<i>Min</i> ..... kg #1
Verification scale interval (for each range)	<i>e</i> = ..... kg #1
Maximum subtractive tare	<i>T</i> = - .... kg #2
Serial number of the instrument	.....
Pattern approval mark for the indicator	NMI (or NSC) No S514
Pattern approval mark for other components	..... #3

#1 These markings are also shown near the display of the result if they are not already located there.

#2 This marking is required if *T* is not equal to *Max*.

#3 May be located separately from the other markings.

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

Note:

For multi-interval and multiple range instruments the markings shall be as above, with the exception of the following (examples are for instruments with two partial ranges):

(i) For multi-interval instruments;

Maximum capacity	<i>Max</i> ...../..... kg *
Verification scale interval	<i>e</i> = ...../..... kg *

(ii) For multiple range instruments, the maximum capacity, minimum capacity and verification scale interval for each range shall be marked, with an indication of the range to which they apply, e.g.

Range	1	2
<i>Max</i>	.... kg	.... kg
<i>Min</i>	.... kg	.... kg
<i>e</i> =	.... kg	.... kg

## 1.9 Verification Provision

Provision is made for the application of a verification mark.

## 1.10 Sealing Provision

Provision is made for the calibration adjustments to be sealed (Figure 2) by:

- Sealing the hole which provides access to the calibration switch, by use of a destructible adhesive label; and
- Sealing to prevent access within the instrument case, by use of a destructible adhesive label over the screws in the instrument casing.

## TEST PROCEDURE

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

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

### **Maximum Permissible Errors**

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

FIGURE S514 – 1



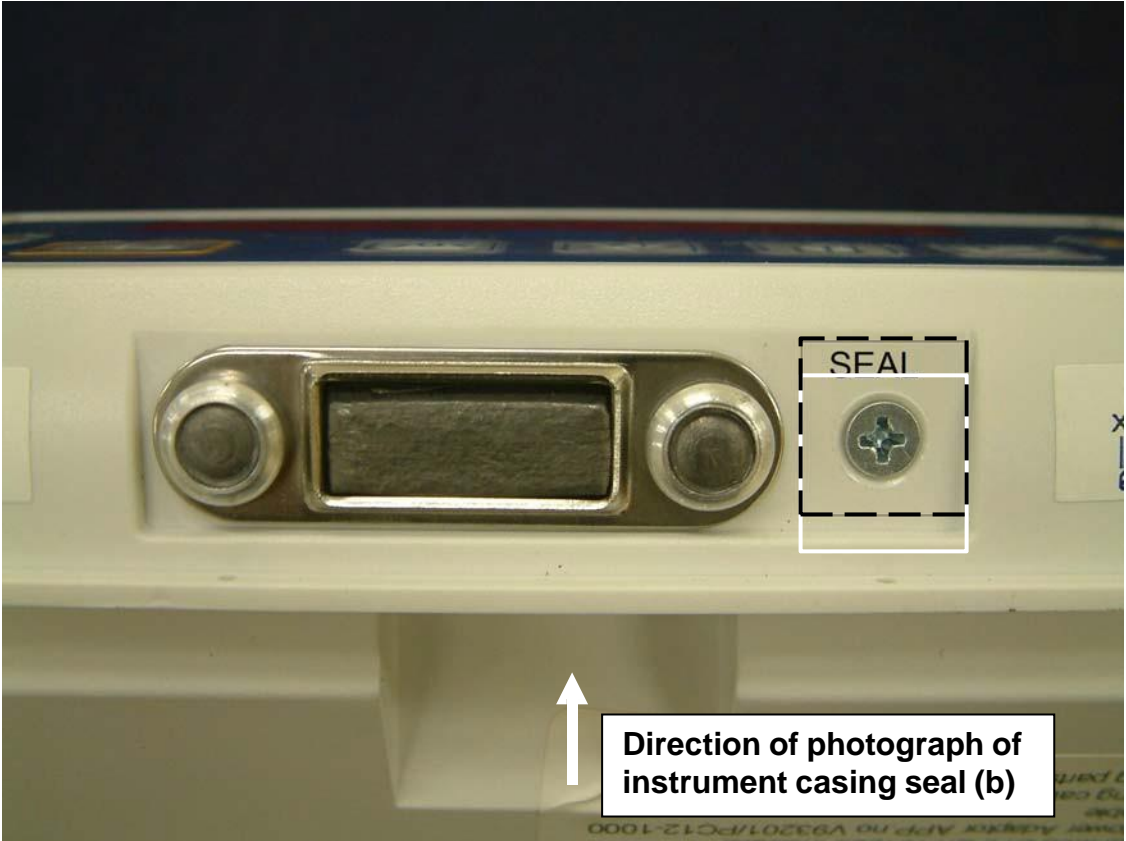
(a) Front View



(b) Rear View – note IEC socket which distinguishes from model 70A

Bilanciai Model D70B Digital Indicator

FIGURE S514 – 2



(a) Seal access to calibration button



(b) Seal instrument casing  
Sealing Provision

~ End of Document ~