



**Australian Government**

**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

## Supplementary Certificate of Approval

### NMI S564

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.

Mettler Toledo Model IND246 Digital Indicator

submitted by           Mettler-Toledo Limited  
                                  Unit 3, 220 Turner Street  
                                  Port Melbourne   VIC   3207

**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 1/06/17, and then every 5 years thereafter.

#### DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – certificate issued	30/05/12
1	Variant 2 approved – certificate issued	25/06/14

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S564' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S564' 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 Certificates No S1/0/A or No S1/0B.

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

A handwritten signature in black ink, appearing to read 'Dr A Rawlinson', with a horizontal line underneath.

Dr A Rawlinson

TECHNICAL SCHEDULE No S564

**1. Description of Pattern** **approved on 30/05/12**

A Mettler Toledo model IND246 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; or
- A multiple range weighing instrument with up to two 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.

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

TABLE 1 – Specifications

Maximum number of verification scale intervals	6000 (class $\text{III}$ ) 1000 (class $\text{II}$ )
Minimum sensitivity	1 $\mu\text{V}$ / scale interval
Excitation voltage	10 V DC
Maximum excitation current	232 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	43 $\Omega$
Maximum load cell impedance	1200 $\Omega$
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	10 mV
Maximum tare range	-100% Max
Operating temperature range	-10°C to +40°C
Load cell connection	4-wire or 6-wire shielded

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 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 may be fitted.

**1.3 Display Check**

A display check is initiated whenever power is applied.

## 1.4 Power Supply

The indicator operates from mains AC power (100-240 V AC, 50/60 Hz).

## 1.5 Additional Features

The indicator may be provided with certain additional functions as indicated below:

- (a) The Vehicle Weighing Function which is intended specifically for truck weighing applications, including provision for 'vehicle and product' identification data and pre-set tare values to be stored in memory.

The Vehicle Weighing Functions provide for:

- Simple vehicle weighing, where the gross weight of a vehicle is determined by a single weighing;
- Inbound/outbound weighing, where a vehicle is weighed before and after a loading or unloading operation; and
- Weighing with pre-set vehicle weight, where the net weight of a vehicle is determined from the gross weighing operation and the application of a pre-set tare value.

Notes: The use of these features may or may not be appropriate in different situations. The acceptability in any particular situation must be assessed in-situ. In some situations it may be necessary for a print-out of the weighing result to be produced for the method of operation to be considered acceptable. In such situations General Supplementary Certificates No S1/0/A or No S1/0B should be consulted.

- (b) Other functions such as counting, animal weighing, peak weight, and checkweighing are available, however these 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 NMI General Supplementary Certificates No S1/0/A or 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/RS485 serial data interface, Ethernet and USB interface, Wi-Fi, Bluetooth and may also have digital inputs/outputs associated with the set-point facility.

## 1.7 Linearisation Facility

Instruments may be fitted with a linearisation correction facility having one correction point.

## 1.8 Sealing Provision

The instrument is sealed by preventing access to the security switch. This may be achieved as shown Figure 2.

## 1.9 Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mettler Toledo
Indication of accuracy class	Ⓜ or ⓂⓂ
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 No S564
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 carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

Note: 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

## 1.10 Verification Provision

Provision is made for the application of a verification mark.

## 2. Description of Variant 1

approved on 30/05/12

A battery powered version of the Mettler Toledo model IND246 which is similar to the pattern but powered by a 7.5 V Ni-H rechargeable battery pack (Figure 3 and Table 2).

TABLE 2 – Specifications

Maximum number of verification scale intervals	6000 (class Ⓜ)
	1000 (class ⓂⓂ)
Minimum sensitivity	0.83 $\mu$ V / scale interval
Excitation voltage	5 V DC
Maximum excitation current	57 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	87 $\Omega$
Maximum load cell impedance	1200 $\Omega$
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	10 mV
Maximum tare range	-100% Max
Operating temperature range	-10°C to +40°C
Load cell connection	4-wire or 6-wire shielded

### 3. Description of Variant 2

approved on 25/06/14

The Mettler Toledo model IND246PDX which is similar to the pattern but having a Mettler Toledo POWERCELL PDX interface circuit board, in which case the indicator shall only be used with the NMI approved Mettler Toledo POWERCELL PDX series load cells.

The maximum number of verification scale intervals (VSI) applicable is determined by the number of VSI given in the approval documentation for the load cell used.

The software is designated 30065264 (digital board) and version 2.xx.yyyy where xx.yyyy refers to the identification of non-legally relevant software.

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

### TEST PROCEDURE

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*.

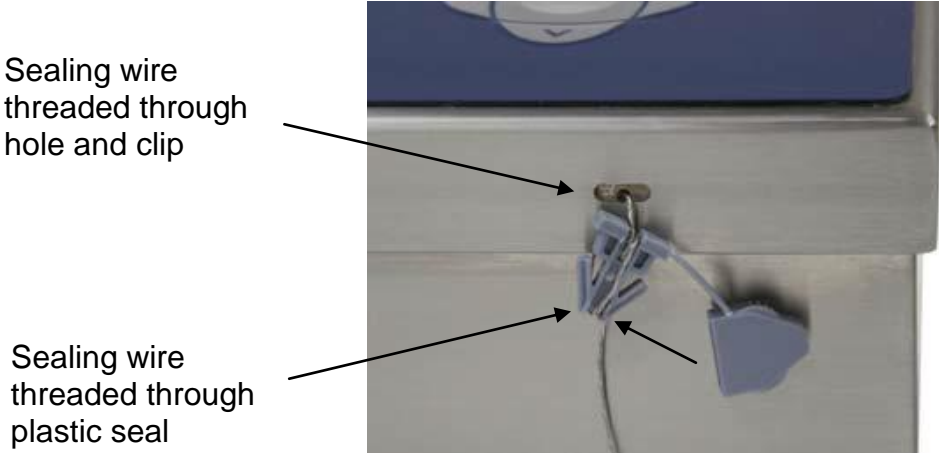
For multiple range instruments with verification scale intervals of  $e_1, e_2 \dots$ , apply  $e_1$  for zero adjustment, and maximum permissible errors apply  $e_1, e_2 \dots$ , as applicable for the load.

FIGURE S564 – 1



Mettler Toledo Model IND246 Digital Indicator

FIGURE S564 – 2



Sealing wire threaded through hole and clip

Sealing wire threaded through plastic seal

Typical Sealing Method

FIGURE S564 – 3



Mettler Toledo Model IND246 Digital Indicator – Battery Version

~ End of Document ~