



Australian Government

National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

No S542

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

Avery Weigh-Tronix Model 1080 Digital Indicator

submitted by Avery Weigh-Tronix Ltd
Foundry Lane
Smethwick
West Midlands B66 2LP UK.

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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 May 2016, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S542' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S542' 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.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

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.

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

DESCRIPTIVE ADVICE

Pattern: approved 1 April 2011

- An Avery Weigh-Tronix model 1080 single range digital indicator for use with up to 10 000 verification scale intervals.

Technical Schedule No S542 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S542 dated 4 April 2011
Technical Schedule No S542 dated 4 April 2011 (incl. Table 1)
Figures 1 and 2 dated 4 April 2011

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

A handwritten signature in black ink, consisting of stylized, cursive letters, positioned to the right of the signature text.

TECHNICAL SCHEDULE No S542

Pattern: Avery Weigh-Tronix Model 1080 Digital Indicator

Submittor: Avery Weigh-Tronix Ltd
 Foundry Lane
 Smethwick
 West Midlands B66 2LP UK



1. Description of Pattern

An Avery Weigh-Tronix model 1080 single range digital indicator (Figure 1 and Table 1) which is approved for use with up to 10 000 verification scale intervals.

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.

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

TABLE 1 — Specifications

Maximum number of verification scale intervals	10 000 (class ) instruments), or 1000 (class ) instruments)
Minimum sensitivity	1 µV/scale interval
Excitation voltage	10 V DC
Maximum excitation current	228.57 mA
Minimum load cell impedance	43.75 Ω
Maximum load cell impedance	1000 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	10 mV
Fraction of maximum permissible error (aka portioning factor)	0.5
Temperature range	-10°C to +40°C
Maximum value of load cell cable length per wire cross section	95 m/mm ² (copper wire)
The indicator has provision for sense wires (6-wire system)	

1.1 Zero

Zero is automatically corrected to within ±0.25e whenever power is applied and whenever the instrument comes to rest within 0.5e of zero.

The instrument has a semi-automatic zero setting device (to set the instrument to within ±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

The indicator may be fitted with an automatic tare device (to automatically tare the instrument when a stable load between specified values is applied), and/or a semi-automatic subtractive tare device, each having a capacity of up to the maximum capacity of the instrument to which the indicator is fitted.

1.3 Display Check

A display check is initiated whenever power is applied by sequentially switching all display elements on and then off.

1.4 Power Supply

The instrument is powered from a 9-36 V DC 1 A power supply. Note: The AC/DC mains adaptor supplied was a Regal Electronics Inc type JG-13102-N (13V DC, 1 A) – the submitter should be consulted regarding the acceptability of alternative power supply units.

1.5 Linearisation Facility

Instruments are fitted with a linearisation correction facility having up to 4 correction points.

1.6 Interfaces

The indicator may be fitted with interfaces for the connection of auxiliary and/or peripheral devices, including:

- RS232/RS485
- Ethernet
- USB
- Profibus DP
- Digital I/O
- DeviceNet.

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 S1/0/A (in particular in regard to the data and its format).

1.7 Additional Features

The indicator also has certain additional functions including accumulation, batch, counting, axle weighing, and check weighing (under/accept/over).

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

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Sealing Provision

Access to the configuration and calibration facilities of the instrument is protected by removal of a link ('jumper') on the main circuit board (Figure 2) which is located within the instrument housing.

It can be ensured that the link has been removed by the following procedure:



Commencing with the instrument in its normal weighing mode.

- (a) Press the ZERO key for 3 to 5 seconds ('PASS' will appear)
- (b) Press SELECT ('0' will appear)
- (c) Press UNITS
- (d) Press SELECT successively until '08' is displayed
- (e) Press UNITS and then SELECT and then UNITS ('080' will appear)
- (f) Press SELECT successively until '0801' is displayed
- (g) Press F1
- (h) If 'SEALED' is displayed, the link ('jumper') is correctly set to seal the instrument. Otherwise 'CAL' will be displayed
- (i) Press ZERO to return to normal weighing mode.

Provision is made for access to within the indicator housing to be sealed (once it has been ensured that the link has been correctly set), by use of destructible adhesive label(s) over screws and/or joins of the housing (Figure 1).

1.10 Markings and Notices

Instruments carry the following markings, in the form shown at right:

Manufacturer's mark, or name written in full	Avery Weigh-Tronix	
Indication of accuracy class	 or 	
Maximum capacity	<i>Max</i>	kg #1
Minimum capacity	<i>Min</i>	kg #1
Verification scale interval	<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 S542	
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.

TEST PROCEDURE

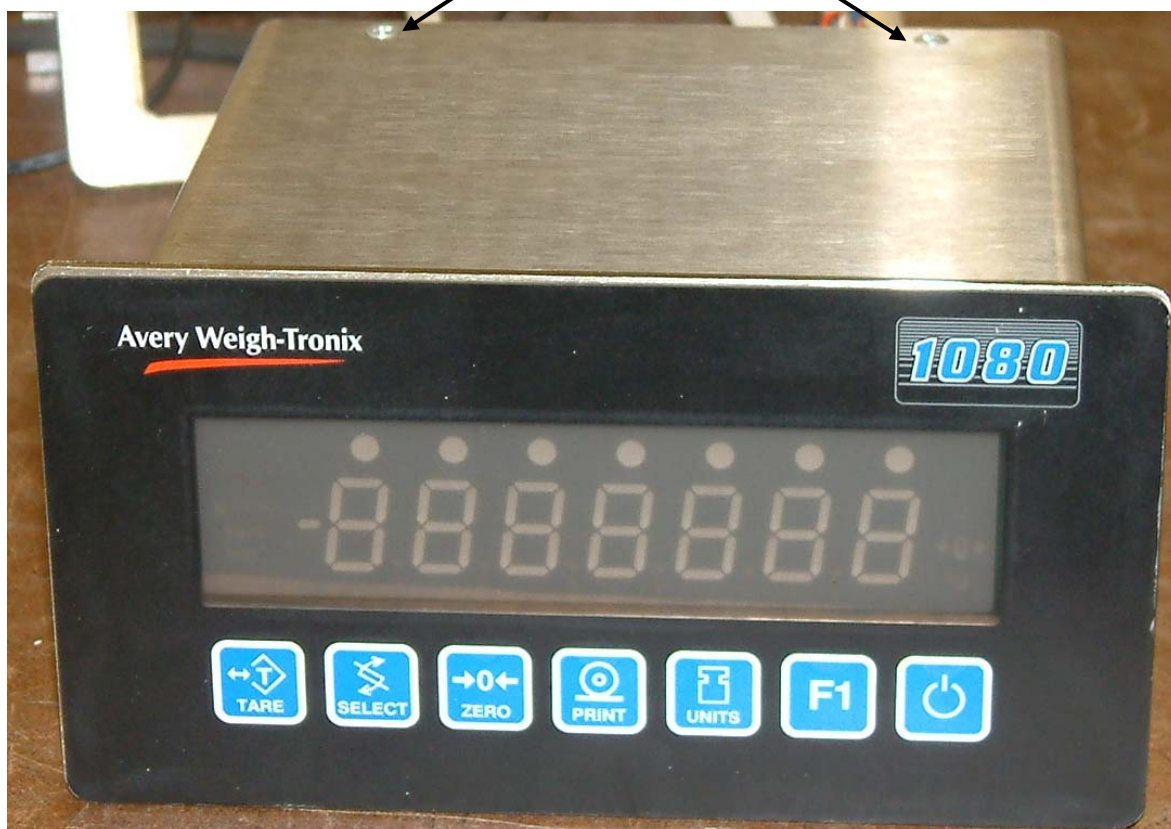
Instruments shall be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 1999*.

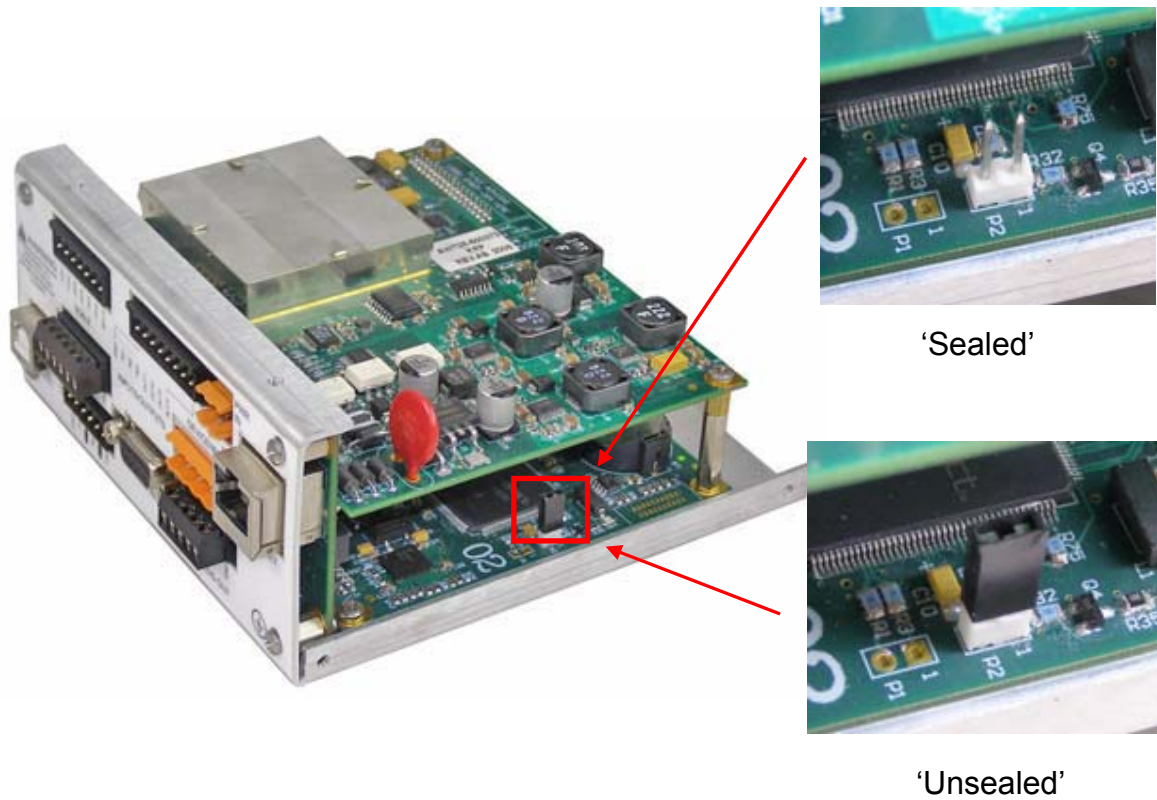
FIGURE S542 – 1

For sealing purposes a destructible adhesive label may be applied over one of these screws, or other location to prevent access within the indicator housing.



Avery Weigh-Tronix Model 1080 Indicator

FIGURE S542 – 2



Avery Weigh-Tronix Model 1080 Indicator – Sealing Jumper on Main PCB