Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Supplementary Certificate of Approval

NMI S709

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.

PT Model PT252 Digital Indicator

submitted by PT Limited
7 Marken Place
Glenfield Auckland 0632
NEW ZEALAND

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 becomes subject to review on 6/05/21, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – certificate issued	6/05/16

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number ‘NMI S709’ and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked ‘NMI S709’ 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 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*.

Dr A Rawlinson

TECHNICAL SCHEDULE No S709

1. Description of Pattern approved on 6/05/16

A PT model PT252 digital mass indicator (Figure 1a and Table 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.
- A class (III) multiple range weighing instrument with up to two weighing ranges, in which case it is approved for use with up to 6000 verification scale intervals per weighing range.
- A class (IIII) multiple range weighing instrument with up to two weighing ranges, in which case it is approved for use with up to 1000 verification scale intervals per weighing range.

The changeover between weighing ranges is automatic.

The instrument has an ABS plastic enclosure with a LCD display for display of the weight value.

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

TABLE 1 – Specifications

Maximum number of verification scale intervals	6000 or 6000 per range (class (III)) 1000 (class (IIII))
Minimum sensitivity	0.4 µV / 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 Ω
Maximum load cell impedance	1200 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	18 mV
Maximum tare range	-100% Max
Operating temperature range	-10°C to +40°C
Maximum value of load cell cable length per wire cross section	2059 m/mm^2 (6-wire)
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/automatic 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

Power for the PT Model PT252 instrument may be supplied by:

- a 12 V AC/DC mains adaptor; and/or
- an internal 7.4 V Li-ion rechargeable battery.

Note: The AC/DC mains adaptor supplied for the instrument was GEO model GS2S-012-1201000L switch mode power supply (output 12 V DC, 1 A) – the submittor should be consulted regarding the acceptability of alternative power supply units.

1.5 Additional Features

Instruments may be fitted with a number of additional functions including check functions (Under/OK/OVER), and counting. 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.

Instruments may also be fitted with a ‘weighing unstable sample’ or ‘animal weighing’ function. This function shall not be used 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 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 Certificate No S1/0/A (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 one RS-232 serial data interface.

1.7 Linearisation Facility

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

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Sealing Provision

Provision is made for access to the calibration switch within the instrument to be sealed using destructible labels placed over the span switch access hole and/or opposite sides of a join in the instrument housing in Figures 2a & 2b.

1.10 Software

The software is designated u 1-xx.

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

1.11 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	PT Limited	
Indication of accuracy class	 or 	
Maximum capacity (for each range)	*Max* ..... kg	#1
Minimum capacity (for each range)	*Min* ..... kg	#1
Verification scale interval (for each range)	*e* = ... kg	#1
Maximum subtractive tare	*T* = - ..... kg	#2
Serial number of the instrument	…….	
Pattern approval mark for the indicator	NMI S709	
Pattern approval mark for other components	.....	#3

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

#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→ |
Max	…. kg	…. kg
Min	…. kg	…. kg
e =	…. kg	…. kg

2. Description of Variant 1 approved on 6/05/16

The PT model PT253 (Figure 1b) which is similar to the pattern but having a stainless steel housing.

Power for the PT Model PT253 instrument may be supplied by:

- AC mains power (110 - 230 V AC, 50/60 Hz); or
- a 12 V DC source; and/or
- an internal 7.4 V Li-ion rechargeable battery.

TEST PROCEDURE No S709

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*.

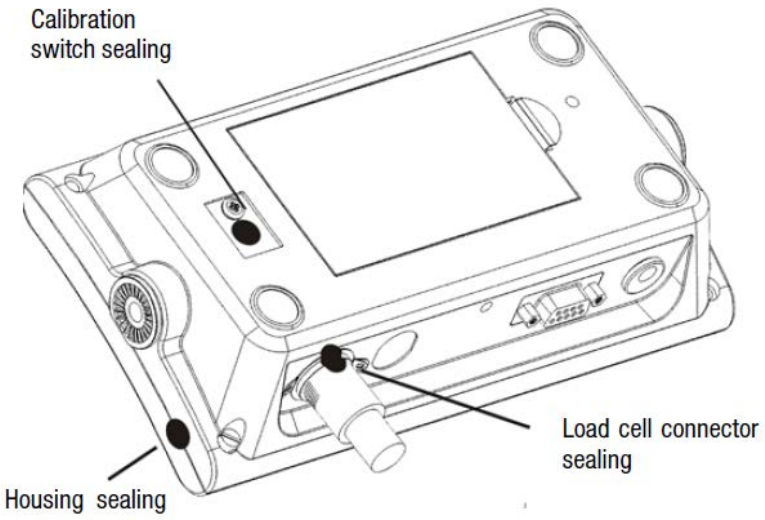
For multi-interval and multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

FIGURE S709 – 1

(a) PT Model PT252 Digital Indicator (pattern)

(b) PT Model PT253 Digital Indicator (variant 1)

FIGURE S709 – 2



(a) Typical Sealing of PT Model PT252 Digital Indicator (pattern)

(b) Typical Sealing of PT Model PT253 Digital Indicator (variant 1)

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