Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S869

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.

Rinstrum Model C320 Digital Indicator

submitted by Rinstrum Pty Ltd
4/31 Henry Street
Loganholme QLD 4129

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 is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variants 1 to 2 approved – certificate issued	20/02/25
1	Variant 3 approved – certificate issued	12/03/25

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S869' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S869' 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 of Approval 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*.

Darryl Hines
Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No S869

1. Description of Pattern approved on 20/02/25

A Rinstrum model C320 digital mass indicator (Figure 1) which may be configured to form part of:

- A class (III) weighing instrument with a single weighing range of up to 10 000 verification scale intervals; or
- A class (III) weighing instrument with a single weighing range of up to 1000 verification scale intervals; or
- A class (III) 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 10 000 verification scale intervals per partial weighing range; or
- A class (III) 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 1000 verification scale intervals per partial weighing range; or
- A class (III) multiple range weighing instrument with up to three weighing ranges, in which case it is approved for use with up to 10 000 verification scale intervals per weighing range; or
- A class (III) multiple range weighing instrument with up to three 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 a resin alloy panel mount housing and includes an LCD display with 20 mm digits 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.

TABLE 1 – Specifications

Maximum number of verification scale intervals	10 000 (class (III))
	1 000 (class (III))
Minimum sensitivity	0.3 μV/scale interval
Excitation voltage	5 V DC
Maximum excitation current	116 mA
Fraction of maximum permissible error	pi = 0.5
Minimum load cell impedance	43 ohm
Maximum load cell resistance	3500 ohm
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	25 mV
Maximum tare range	-100% Max
Operating temperature range	-10°C to +40°C
Load cell connection	4 or 6 wire plus shielded
Maximum value of load cell cable length per wire cross section (*)	1691.5 m/mm^2 (6-wire only)

(*) Additional connection cable between indicator and load cell or load cell junction box. In case a 4-wire connection is used, the load cells are connected directly without a junction box or lengthening the load cell(s) cable.

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 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 Linearisation Facility

Instruments may be fitted with a linearisation correction facility having up to ten correction points.

1.5 Power Supply

Power supply may be either a 5 – 24 V DC power source or a 12/24 V DC road vehicle battery.

1.6 Additional Features

The indicator may have certain additional functions e.g. holding, check weighing (▲ /OK /▼ and backlight colours), target weighing (▲ /OK / ▼ and backlight colours), piece count and setpoint (backlight colours and/or alarm). 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.

Instruments may also be fitted with a ‘weighing unstable sample’ or ‘livestock 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.

1.7 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 of Approval 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.

Interfaces of the following types may be fitted:

- RS232 serial data interface
- Accessory port(s)
- Digital inputs/outputs
- IR optical interface

1.8 Data Storage Device

The indicator with the firmware K304 and K306 may also be provided with an integral data storage device.

For each weighing request, weighing results together with identification including date, time, print ID, preset tare and tare weight are stored into the storage device.

The use of either of these features for trade use is subject to the agreement of the applicable trade measurement authority. In any case, data from the storage device shall only be used for trade if the format of the output complies with NMI General Supplementary Certificate of Approval No S1/0B.

1.9 Verification Provision

Provision is made for the application of a verification mark.

1.10 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Rinstrum	
Indication of accuracy class	 or 	
Maximum capacity	*Max* ..... kg	#1
Minimum capacity	*Min* ..... kg	#1
Verification scale interval	*e* = ... kg	#1
Maximum subtractive tare	*T* = - .. .. kg	#2
Serial number of the instrument	…….	
Pattern approval mark for the indicator	NMI S869	
Pattern approval mark for other components	.....	#3

#1 These markings are also 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 shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

Notes:

(i) For multiple range instruments the markings shall be as above, with the exception that 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, as shown in the instrument display (e.g. '←1→')

Range	←1→	←2→	←3→ (*)
Max	…. kg	…. kg	…. kg
Min	…. kg	…. kg	…. kg
e =	…. kg	…. kg	…. kg

(*) The markings for each weighing range shall be clearly associated with an indication of the corresponding range (i.e. '←1→') to correspond to the weighing range designations shown in the instrument display.

(ii) For multi-interval instruments the markings shall be as above, with the exception that the 'Maximum capacity' and 'Verification scale interval' shall be marked for both interval ranges, e.g. as follows:

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

1.11 Sealing Provision

The calibration and setup modes of the indicator can be secured with a full setup passcode. To ensure that a full setup passcode has been set, press and hold the SELECT key, navigate to FULL and then press the OK key (F2). The text "P.CODE?" will be displayed if a full setup passcode has been set. Pressing the CANCEL key (F3) will exit this sequence.

In addition, a non-resettable calibration event counter increments each time that calibration or any parameter effecting calibration is changed and saved. The value of the calibration event counter is shown (as C followed by a number) in the display as part of the power-up display sequence, and the value at the time of verification shall be recorded on a destructible adhesive label attached to the instrument.

Any subsequent alteration to the calibration or parameters will be evident as the recorded value and the current calibration event counter value will differ.

1.12 Software

The legally relevant software are as follows:

- ADC library is identified by a checksum number E9E5AE66.
- DSD library is identified by a checksum number C53C26A5.

The instructions for accessing the checksum numbers are as follows.

- Press and hold the SELECT key until SETUP is display.
- Wait until OPER is displayed.
- Press the SELECT key until ALIBI is displayed.
- Press the OK key (F2).
- The ADC checksum and DSD checksum will be displayed.

2. Description of Variant 1 approved on 20/02/25

The Rinstrum model C350 digital indicator which is similar to the pattern but having a resin alloy desktop housing (Figure 2) and is fitted with an LCD display with 50.8 mm digits.

2.1 Power Supply

The power supply may be an AC mains power unit (100 - 240 VAC 50/60Hz) fitted within the indicator housing or a 5 - 24 V DC power source or a 12/24 V DC road vehicle battery.

Note: The switch mode power supply unit supplied for the indicator was a Mean Well model LPV-20-12 (output 12 VDC, 1.57 A) – the submittor should be consulted regarding the acceptability of alternative power supply units.

3. Description of Variant 2 approved on 20/02/25

The Rinstrum model C357 digital indicator which is similar to variant 1 but having a stainless steel housing (Figure 3).

4. Description of Variant 3 approved on 12/03/25

The Rinstrum model C357 digital indicator may also be known as AND model ADA-4417 digital indicator (Figure 4).

TEST PROCEDURE No S869

Instruments shall 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*.

Tests

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 S869 – 1

Rinstrum Model C320 Digital Indicator (Pattern)

FIGURE S869 – 2

Rinstrum Model C350 Digital Indicator (Variant 1)

FIGURE S869 – 3

Rinstrum Model C357 Digital Indicator (Variant 2)

FIGURE S869 – 4

AND model ADA-4417 Digital Indicator (Variant 3)

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