Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S820

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.

Rice Lake Model Enterprises Series 1280-2A/1280-2D Digital Indicator

submitted by Rice Lake Weighing Systems
230 W Coleman St
Rice Lake
WI 54868
USA

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 & variants 1 to 5 approved – certificate issued	17/03/25

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S820' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S820' 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 S820

1. Description of Pattern approved on 17/03/25

A Rice Lake model Enterprises Series 1280-2A/1280-2D 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 (IIII) weighing instrument with a single weighing range of up to 1000 verification scale intervals.
- 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 (IIII) 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.
- 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.
- A class (IIII) 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 stainless steel enclosure with a numeric keypad and a 7” LCD touchscreen display for display of the weight value and for alphanumeric information and/or menu.

The pattern may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices (see **clause 1.7** below).

TABLE 1 – Specifications

Maximum number of verification scale intervals	10 000 (class (III)) 1000 (class (IIII))
Minimum sensitivity	1 µV/scale interval
Excitation voltage	10 V DC
Maximum excitation current	434 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	23 Ω
Maximum load cell impedance	1050 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	45 mV
Maximum tare range	-100%Max
Operating temperature range	-10°C to +40°C
Load cell connection	4 or 6 wire plus shield
Maximum value of load cell cable length per wire cross section (*)	395 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 tare device of up to the maximum capacity of the instrument may be fitted.

A pre-set taring device (keyboard-entered and/or stored) of up to the maximum capacity (or of up to the Max_1 for multi-interval instruments) may also be fitted.

1.3 Linearisation Facility

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

1.4 Display Check

A display check is initiated whenever power is applied.

1.5 Power Supply

The instrument indicator operates from mains power 100 – 240 V AC or 9 - 30 V DC power supply (not suitable for a road vehicle power supply).

Note: The last letter in the model number represents the power supply input:

- A – 100 – 240 V AC mains;
- D - 9 - 30 V DC power supply.

1.6 Additional Features

Instruments may be fitted with holding, setpoints and check functions (under/accept/over). 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.

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 General 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.

Instruments may be fitted with RS-232, RS485, Ethernet, USB (host and device), relay card, serial card, digital inputs/outputs and analogue outputs.

1.8 Multiple Baseworks Facility

(a) Individual weight display

A number of baseworks (load receptors) may be connected to a single Rice Lake model 1280 digital indicator. The indicator screen can be arranged to provide one display for each basework and one display providing a ‘total’ display. The display for each basework is identified by a number at the upper right corner of it’s display (e.g. Scale 2 R1 indicates ‘scale 2’ operating in its first range, Scale 1 R2 indicates ‘scale 1’ operating in its second range).

A particular basework/display may be selected using the up/down arrows of the indicator. The basework/display at the top of the screen is the currently selected basework/display.

(b) Summed weight display

Where two or more baseworks are connected to a single Rice Lake model 1280 indicator, the sum of the gross weight values for the individual baseworks/displays may be calculated and displayed in the summing display. The displayed sum is the arithmetic sum of the gross weight values for all individual displays.

Where the indicator is able to provide a summed indication, the instrument shall operate such that:

- The value displayed as the summed indication shall equal the mathematical sum of the measurement values displayed for each load receptor being summed.
- The scale interval of the summing indicator shall be of a value to suit the sum of the scale intervals of the primary indicators being summed and the summed result. The summing indicator shall be able to display all possible combinations of the scale intervals of all primary indicators, e.g. where the primary indicators are dual range 20 kg and 50 kg, the summing indicator must be able to indicate 70 kg, therefore the summing indicator will need a scale interval of 10 kg.

- All weight displays in the system shall display the same units of measurement (e.g. all kg or all t).
- The summed indication (and any print-out of summed indication) shall be blank or show '- - - - -' if any of the component values are below zero, or above their individual maximum capacities (Max + 9e), or have any other error.
- Neither the tare nor the pre-set tare device are operational.
- The zeroing device may operate on the all baseworks/displays (if all baseworks/displays are within the zero range).

Note regarding identification of baseworks/displays:

Where a number of baseworks are connected to and displayed by the indicator, there shall be a clear identification and correspondence between each display and its corresponding basework. This may require additional markings (e.g. to identify baseworks as '1', '2', '3' or '4'). Where a display showing the sum of weight values from different platforms is present, a clear indication of the baseworks comprising this sum shall be provided (e.g. 'Total = 1 + 2 + 3 + 4').

1.9 Data Storage Memory

The indicator may contain memory for the storage of weighing results.

For each weighing, weighing results together with identification including date and time are stored into the storage device.

The use of this feature 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 General Supplementary Certificate of Approval No S1/0B.

1.10 Verification Provision

Provision is made for the application of a verification mark.

1.11 Sealing Provision

Provision is made for access to the calibration switch within the instrument to be sealed by means of using a 'lead and wire' type seal with drilled screws, or placing destructible labels over an access hole to the calibration switch and the opposite sides of a join in the instrument housing as shown in Figure 6.

Alternatively the indicator is sealed by recording the audit trail counter on verification.

Access to allow changing of set-up parameters including calibration parameters must be protected by a passcode.

The indicator automatically increments a configuration and/or calibration value (audit trail number) each time the indicator is re-configured and/or calibrated.

The value(s) of these counters may be recorded on a destructible adhesive label attached to the instrument (e.g. as CONFIG x, CAL y).

Any subsequent alteration to the calibration or configuration will be evident as the recorded values and the current counter values will differ.

The instructions for accessing the configuration and calibration audit trail are as follows (starting from the normal weighing mode):

- Press the  key to enter Main Menu.
- Press the ‘Audit Trail’ key and then the ‘Configuration’ counter, ‘Calibration’ counter and last calibration date are displayed

1.12 Software Version

The software is designated version V2.xx, where ‘xx’ refers to the identification of non-legally relevant software.

The instructions for accessing the software id are as follows (starting from the normal weighing mode):

- Press the  key to enter Main Menu.
- Press the ‘Audit Trail’ key and then the software ID information is displayed.

1.13 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer’s mark, or name written in full	Rice Lake Weighing Systems
Model number	…….
Indication of accuracy class	
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 S820
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 shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

Note:

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

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	R1	R2	R3
Max	…. kg	…. kg	…. kg
Min	…. kg	…. kg	…. kg
e =	…. kg	…. kg	…. Kg

2. Description of Variant 1 approved on 17/03/25

The Rice Lake model 1280-3A/1280-3D (Figure 2) which is similar to the pattern but in a wall mount version.

3. Description of Variant 2 approved on 17/03/25

The Rice Lake model 1280-4A/1280-4D (Figure 3) which is similar to the pattern but in a panel mount version.

4. Description of Variant 3 approved on 17/03/25

The Rice Lake model 1280-5A/1280-5D (Figure 4) which is similar to variant 2 but having a 7” LCD touchscreen display without numeric keypad.

5. Description of Variant 4 approved on 17/03/25

The Rice Lake model 1280-6A/1280-6D (Figure 5) which is similar to variant 2 but having a 12” LCD touchscreen display without numeric keypad.

6. Description of Variant 5 approved on 17/03/25

The pattern and variants 1 to 4 which are approved for use with NMI approved Rice Lake models RL5416D and RL5416DC series digital load cells as described in the documentation of approval NMI S812 for the instruments which are approved with reference to document NMI R 76 dated October 2015 or earlier.

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.
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TEST PROCEDURE No S820

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 S820 – 1

Rice Lake model 1280-2A/1280-2D (Pattern)

FIGURE S820 – 2

Rice Lake model 1280-3A/1280-3D (Variant 1)

FIGURE S820 – 3

Rice Lake model 1280-4A/1280-4D (Variant 2)

FIGURE S820 – 4

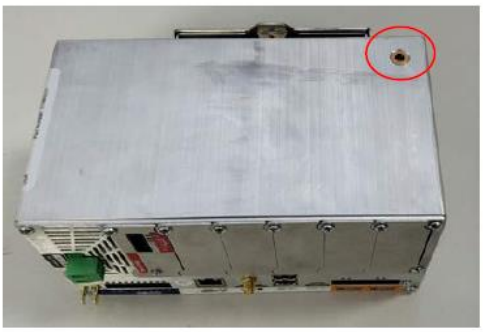
Rice Lake model 1280-5A/1280-5D (Variant 3)

FIGURE S820 – 5

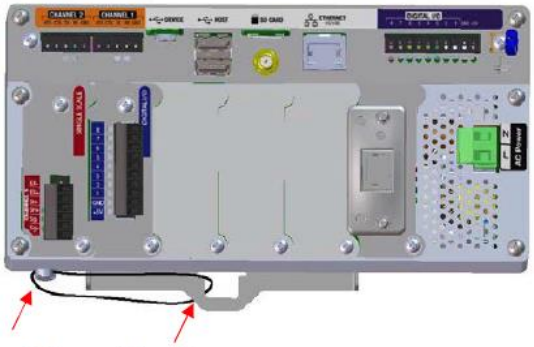
Rice Lake model 1280-6A/1280-6D (Variant 4)

FIGURE S820 – 6

Panel mount version / bare 1280 controller:



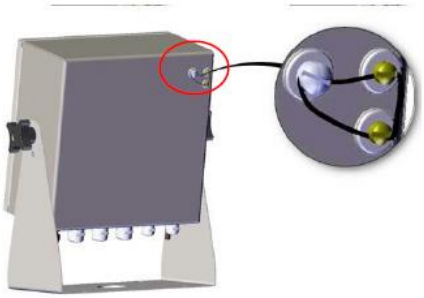
Paper seal location



Wire seal location

Universal enclosure:

Paper seal location



Wire seal location

Typical Sealing Methods

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