

Australian Government

National Measurement Institute Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S193B

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.

Gedge Systems Model GS1650Mk3 Digital Indicator

submitted by	Gedge Sy	stems Pt	y Ltd
	50 Manda	rin Street	t
	Fairfield	NSW	2165

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 **1/03/17**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 3 approved – interim certificate issued	13/02/97
1	Pattern & variants 1 to 3 approved – certificate issued	7/05/97
2	Variants 4 & 5 approved – interim certificate issued	28/11/97
3	Variants 4 & 5 approved – certificate issued	16/02/98
4	Pattern & variants 1 to 5 reviewed – notification of change	30/04/03
	issued	
5	Pattern & variants 1 to 5 reviewed – notification of change issued	17/08/07
6	Pattern & variants 1 to 5 amended (submittor details) – notification of change issued	5/08/09
7	Pattern & variants 1 to 5 reviewed & updated – certificate issued	24/01/13

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI (or NSC) S193B' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI (or NSC) S193B' 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.

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 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*.

Dr A Rawlinson

TECHNICAL SCHEDULE No S193B

1. Description of Pattern

approved on 13/02/97

A Gedge Systems model GS1650Mk3 digital 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 8500 verification scale intervals and which 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	8500 (GS1650Mk3 & GS1650TMk3)
scale intervals	8500 per range (GS1650Mk3/v2 &
	GS1650Mk3/v3) (#)
Minimum sensitivity	0.66 μV/scale interval
Excitation voltage	10 [or 12] V DC (*)
Minimum load impedance	43.48 [or 27.9] Ω (*)
Maximum excitation current	230 [or 430] mA (*)

- (#) Variants 2 and 3.
- (*) Instruments are used with either the values outside **or** the values inside the brackets [...].

Instruments with 12 V DC/430 mA excitation are marked 'Option 12V430', or similar wording, on the rear panel.

1.1 Zero

Zero is automatically corrected to within $\pm 0.25e$ whenever the instrument comes to rest within 0.5e of zero. Whenever power is applied the ZERO button must be pressed to set zero.

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.

1.3 Display Check

A display check is initiated whenever power is applied or by use of the TEST/CLEAR TARE button.

1.4 Linearisation Facility

Instruments are fitted with a single-point programmable linearisation correction facility. The load point at which linearisation is to be applied may be configured (programmed) at installation.

1.5 Configuration

Instruments shall be configured in one of three formats by the use of factoryinstalled components. The configuration used is displayed whenever power is applied.

- Con00 This is the standard configuration. Whenever power is applied, the zero button must be pressed to obtain a mass display. The zero value is retained during a power failure. The tare value and the zero tracked value are not retained during a power failure and are cleared when power is applied.
- Con01 With the BR1 option (includes retention of tare value and zero tracked value during a power failure)
- Con02 With the BR2 option (as per BR1 plus a calendar/clock feature).

1.6 Verification Provision

Provision is made for the application of a verification mark.

1.7 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of either sealing screws or destructible labels on the front and rear of the indicator.

1.8 Descriptive Markings and Notices

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full		
Indication of accuracy class		
Pattern approval mark for the instrument	NMI (or NSC) S193B	
Maximum capacity	Max g or kg or t	#1
Minimum capacity	<i>Min</i> g or kg or t	#1
Verification scale interval	<i>e</i> = g or kg or t	#1
Maximum subtractive tare	<i>T</i> = g or kg or t	#2
Serial number of the instrument		

- #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*.

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.

2. Description of Variant 1

A model GS1650TMk3 digital indicator (Figure 2) which has the features of the pattern, and in addition has a keyboard-entered non-automatic pre-set taring device of up to the maximum capacity of the instrument.

approved on 13/02/97

3. **Description of Variant 2**

A model GS1650Mk3/v2 digital indicator (Figure 3). This indicator may be configured with a single range approved for use with up to 8500 verification scale intervals (VSI), or configured with multi-intervals in which case it is approved for use with up to 8500 VSI per interval range. (Note: Due to limited display digits it may not be possible to achieve 8500 VSI in more than one interval range.)

3.1 Zero

Zero is automatically corrected to within $\pm 0.25e_1$ whenever the instrument comes to rest within 0.5e₁ of zero. Whenever power is applied the ZERO button must be pressed to set zero.

3.2 Tare

A semi-automatic subtractive taring device of up to the maximum capacity of the instrument may be fitted.

3.3 **Linearisation Facility**

Instruments are fitted with a programmable three-point linearisation correction facility. The load points at which linearisation is to be applied may be configured (programmed) at installation.

3.4 **Descriptive Markings**

Instruments shall carry the markings described for the pattern (refer to clause **1.8 Markings**), with the exception of the following:

Maximum capacity	<i>Max</i> // g or kg or t	#1
Verification scale interval	<i>e</i> =/ g or kg or t	#1

4. **Description of Variant 3**

A model GS1650Mk3/v3 digital indicator (Figure 4). This indicator may be configured with a single range approved for use with up to 8500 verification scale intervals (VSI), or configured with multi-intervals in which case it is approved for use with up to 8500 VSI per interval range. (Note: Due to limited display digits it may not be possible to achieve 8500 VSIin more than one interval range.)

This model has most of the features described for the model GS1650Mk3/v2 (variant 2) and in addition has a totalising function (and associated buttons) and is fitted with an additional model GS1025 (remote) display (Figure 5). This model does not have a tare facility.

5. **Description of Variant 4**

The model GS1650Mk3/v2 multiple range indicator (Table 1). Instruments have the zero, tare and linearisation facilities described for Variant 2.

5.1 Weighing Ranges

Instruments are approved for use with up to 8500 verification scale intervals (VSI) per range. (Note: Due to limited display digits it may not be possible to achieve 8500 VSI in more than one range.)

The weighing range to be used is selected automatically.

approved on 13/02/97

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approved on 13/02/97

5.2 Descriptive Markings

Instruments shall carry the markings described for the pattern (refer to clause **1.8 Markings**, with the exception of the following:

	W1	W2	W3		
Maximum capacity	Max			g or kg or t	#1
Minimum capacity	Min			g or kg or t	#1
Verification scale interval	e =			g or kg or t	#1

6. Description of Variant 5

approved on 28/11/97

Any model of the GS1650Mk3 series in an alternative model SE02 stainless steel housing.

TEST PROCEDURE No S193B

Instruments should be tested in conjunction with any tests specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and 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 S193B – 1



Gedge Systems Model GS1650Mk3 Digital Indicator



FIGURE S193B – 2

Gedge Systems Model GS1650TMk3 Digital Indicator

FIGURE S193B – 3



Gedge Systems Model GS1650Mk3/v2 Digital Indicator

STATUS	DISPLAYED	GS1650MI3A/3 WEIGHT INDICATOR				
© ZERO	WEIGHT TOTAL					kg
ZERO	TEST	DISPLAY WEIGHT	DISPLAY	CLEAR	ADD	
GG Gedge S	ystems MAX= alia e=d=		Serial No. NSC No.	iet i		GS1650

FIGURE S193B – 4

Gedge Systems Model GS1650Mk3/v3 Digital Indicator



Gedge Systems Model GS1025 Remote Display

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