



NATIONAL STANDARDS COMMISSION

S193
5/5/89

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S193

This is to certify that an approval for use for trade has been granted in respect of the pattern and variants of the

Gedge Systems Model GS1650 Digital Indicator

submitted by Gedge Systems
488 Church Street
Richmond VIC 3121.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/5/90.
This approval expires in respect of new instruments on 1/5/91.

Instruments purporting to comply with this approval shall be marked NSC No S193.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.

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

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating this indicator shall be within the limits specified in this approval or in any approval documentation for the other components.

Signed

Executive Director

Descriptive Advice

Pattern: approved 16/4/85

- Gedge Systems model GS1650 digital mass indicator.

Technical Schedule No S193 describes the pattern.

Variant: approved 13/11/86

1. Model GS1650T with a non-automatic taring device.

Technical Schedule No S193 Variation No 1 describes variant 1.

Varlants: approved 4/1/89

2. With a linearisation facility.
3. With BR3 option allowing modified input/output operations.

Technical Schedule No S193 Variation No 2 describes varlants 2 and 3.

Filing Advice

Supplementary Certificate of Approval No S193 dated 2/2/87 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Supplementary Certificate of Approval No S193 dated 5/5/89
Technical Schedule No S193 dated 1/7/85
Technical Schedule No S193 Variation No 1 dated 2/2/87
Technical Schedule No S193 Variation No 2 dated 5/5/89
(Incl. Test Procedure)
Test Procedure No S193 dated 1/7/85
Figure 1 dated 1/7/85



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S193

Pattern: Gedge Systems Model GS1650 Digital Indicator

Submittor: Gedge Systems
64-66 River Street
South Yarra, Victoria, 3141

1. Description of Pattern

A digital mass indicator (Figure 1) approved for use with up to 7000 verification scale intervals. The indicator may be provided with output sockets for the connection of auxiliary and/or peripheral devices.

1.1 Zero

- (a) The instrument may be zeroed to within $0.25e$, indicated by the CENTRE OF ZERO light, by operating the ACQUIRE ZERO button.
- (b) An automatic zero tracking device may be fitted which resets zero to within $0.25e$ whenever the indicator returns to zero within $0.5e$.

1.2 Tare

A semi-automatic subtractive taring device allows a mass on the load receptor of up to maximum capacity to be tared to within $0.25e$, by use of the ACQUIRE TARE button. A light designated T and/or TARE indicates that a tare has been acquired.

Tare may be cleared using the TEST/CLEAR TARE button.

The values of net, gross and tare masses may be displayed using the appropriate buttons.

1.3 Display Check

Pressing the TEST/CLEAR TARE button initiates a display check.

1.4 Marking

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	
Model number	
Accuracy class	(III)
Serial number of instrument	
Maximum capacity in the form:	Max
Minimum capacity in the form:	Min
Verification scale interval in the form:	$e = d = \dots$
Maximum subtractive tare in the form:	$T = - \dots$
NSC approval numbers - Indicator	NSC No S193
- Basework	*
- Other components (where applicable)	*
Load cell serial number(s)	*

* These may be located separately from the other markings.

1.5 Verification Mark

Provision is made for a verification mark to be applied.

TEST PROCEDURE No S193

The following tests should be carried out in conjunction with any test procedures in the approval documentation for the instrument to which this indicator is connected.

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

- ± 0,5e for loads between 0 and 500e;
- ± 1.0e for loads between 501e and 2000e; and
- ± 1.5e for loads above 2000e.

1. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity (± 2% approximately). With zero balance indicated, apply a load of, say, 2.5% of maximum capacity to the instrument, and adjust the zero control; the instrument should not rezero.

2. Zero Test

- (a) Check by means of Document 104, that when the zero light is lit, zero is set within 0,25e.
- (b) As the automatic zero tracking device resets zero when the weighing mechanism is in equilibrium within 0.5 scale interval of zero, zero should be checked, with a load equal to, say, 10 scale intervals on the load receptor. The indications with 0,25e and 0,75e additional mass on the load receptor will then be 10e and 11e respectively.

3. Range of Indication

- (a) The maximum mass indicated should not exceed the marked maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indicator should be blank or show non-numerical characters.
- (b) Below zero the indication may be blank or the mass will be indicated, prefixed by a minus sign.

4. Taring

- (a) Attempt to tare a mass above maximum capacity as determined in 3(a). On removal of the mass no tare should have been entered, and the indicator should display all zeroes.
- (b) The semi-automatic tare function should reset the mass indicator to zero within 0,25e at any load within its tare capacity. This may be checked as described under 2(a) - Zero Test.

5. Test Loads

Test loads are to be applied to the complete weighing instrument increasing in not less than 5 approximately equal steps to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

6. Multiple Indicators

Where more than one indicating system is used the variation between indications or printings for the same load shall not be greater than the absolute value of the maximum permissible error for that load on the device with the largest verification scale interval.



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2/2/87

TECHNICAL SCHEDULE No S193

VARIATION No 1

Pattern: Gedge Systems Model GS1650 Digital Indicator

Submittor: Gedge Systems
488 Church Street
Richmond Victoria 3121

1. Description of Variant 1

Model GS1650T with a non-automatic subtractive keyboard-entered taring device of up to maximum capacity of the instrument, permitting setting to within $\pm 0.5e$.

Note: The semi-automatic device of the pattern is not fitted and the ACQUIRE ZERO button is now marked ZERO.

A tare is entered by pressing the ENTER TARE button, followed by the desired tare value, and then the ENTER TARE button again.

A light designated TARE indicates that a tare has been acquired.

The values of gross and net mass may be displayed using the appropriate buttons.

Tare may be cleared using the TEST/CLEAR button.

TEST PROCEDURE

The non-automatic taring device shall permit setting of tare to within $\pm 0.5e$ at any load within its capacity. A tare should not be able to be acquired above the marked tare capacity.



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TECHNICAL SCHEDULE No S193

VARIATION No 2

Pattern: Gedge Systems Model GS1650 Digital Indicator.

Submittor: Gedge Systems
488 Church Street
Richmond VIC 3121.

1. Description of Variants

1.1 Variant 2

With a programmable single-point linearisation facility.

1.2 Variant 3

With factory-installed components, known as the BR3 option, which enables the following operations when used with a serial input/output board:

- (a) Retention of zero and tare values after a power failure;
- (b) Computer entry of stored keyboard-entered tare values; and
- (c) Remote or computer-controlled operation of the Indicator keyboard.

TEST PROCEDURE No S193

VARIATION No 2

Instruments should be tested in conjunction with any tests specified in the approval documentation for the weighing instrument to which this indicator is connected, and in accordance with any relevant tests specified in the Inspector's Handbook.

The results shall not exceed the maximum permissible errors specified in Document 118, 2nd Edition, October 1986.



NATIONAL STANDARDS COMMISSION

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1/10/87

NOTIFICATION OF CHANGE

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S193

CHANGE No 1

The following change is made to the approval documentation for the
Gedge Systems Model GS1650 Digital Indicator

submitted by Gedge Systems
488 Church Street
Richmond Victoria 3121.

In Technical Schedule No S193 dated 1/7/85, clause 1.4 Marking should be amended as shown (in part) below, to include an additional footnote:

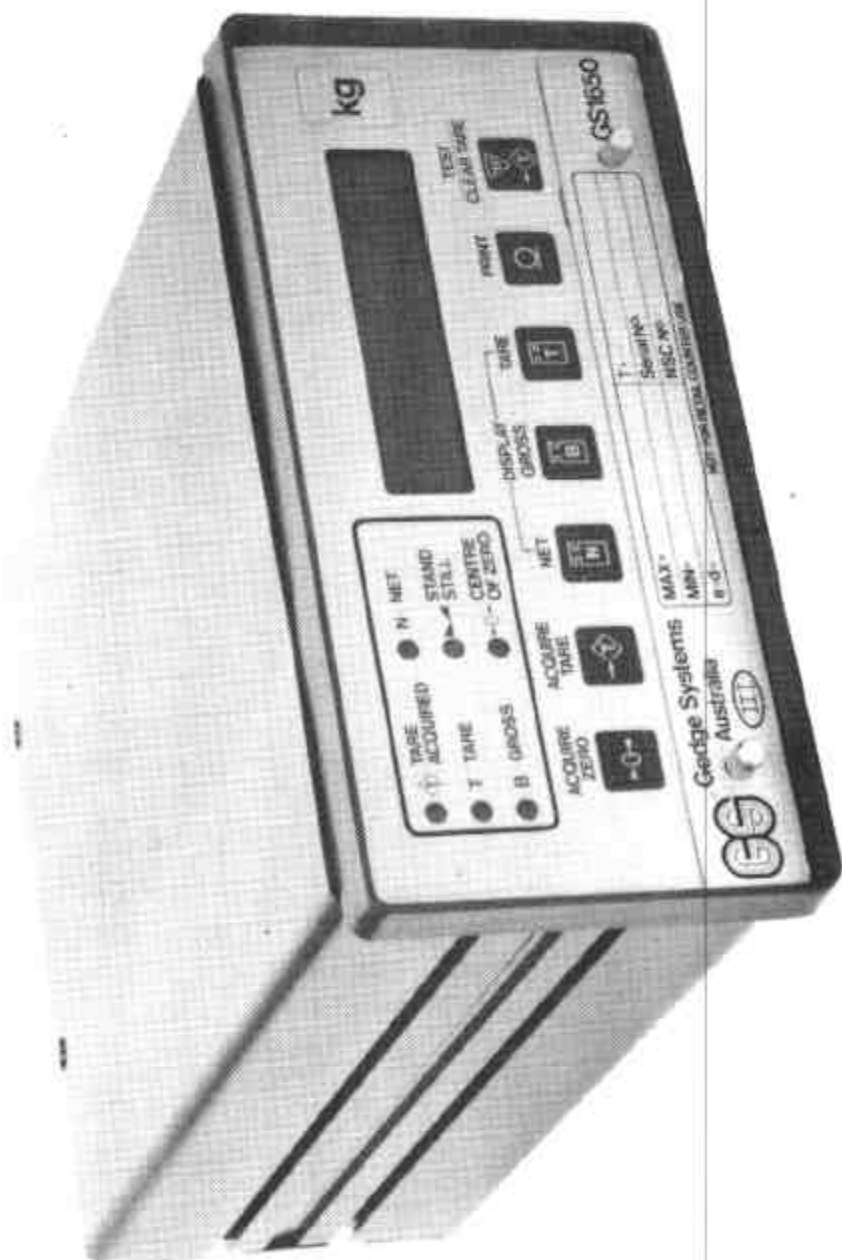
Max #
Min #
e = d = ... #

Repeated adjacent to each reading face if not already
in that vicinity.

Signed

Acting Executive Director

FIGURE S193 - 1



Gedge Systems Model GS1650 Indicator