Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

No S500

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

Australian Weighing Equipment Model AJIK-8CSB Digital Indicator

submitted by Australian Weighing Equipment Pty Ltd
50 Mandarin Street
Fairfield East 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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 August 2012, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number ‘NMI S500’ and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked ‘NMI S500’ in addition to the approval number of the instrument.

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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 National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

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

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.

DESCRIPTIVE ADVICE

Pattern: approved 18 July 2007

- An Australian Weighing Equipment model AJIK-8CSB single interval digital indicator.

Variants: approved 18 July 2007

1. Model AJIK-6CSB which has fewer features than the pattern.
2. Models AJIK-8CAB and AJIK-6CAB which are in plastic housings.

Technical Schedule No S500 describes the pattern and variants 1 & 2.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S500 dated 4 June 2008
Technical Schedule No S500 dated 4 June 2008 (incl. Table 1 and Test Procedure)
Figures 1 to 3 dated 4 June 2008

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

TECHNICAL SCHEDULE No S500

Pattern: Australian Weighing Equipment Model AJIK-8CSB Digital Indicator

Submittor: Australian Weighing Equipment Pty Ltd
50 Mandarin Street
Fairfield East NSW 2165

1. Description of Pattern

An Australian Weighing Equipment model AJIK-8CSB digital mass indicator (Table 1 and Figure 1) which may be configured to form part of a weighing instrument with a single weighing range of up to 6000 verification scale intervals as listed in Table 1

The instrument has a stainless steel enclosure and has a liquid crystal display (LCD) including provision 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.

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.

TABLE 1 – Specifications

Maximum number of verification scale intervals	up to 6000 (Class III) or up to 1000 (Class III)
Minimum sensitivity	0.7 μV/scale interval
Excitation voltage	5 V DC
Maximum excitation current	116 mA

1.1 Zero

Zero may be automatically corrected to within ±0.25*e* whenever the instrument comes to rest within 0.5*e* of zero or whenever power is applied.

If the instrument comes to rest outside that range but within the zero setting range, zero may be set by pressing the zero button.

The instrument has a semi-automatic zero-setting device (to set the instrument to within ±0.25*e* of zero) with a nominal range of not more than 4% of the maximum capacity of the instrument.

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

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1.2 Tare

The indicator has automatic and semi-automatic subtractive taring devices, and a pre-set taring device, all of up to the maximum capacity of the instrument.

The automatic taring device operates such that the indicator automatically tares the instrument when a stable reading between certain values is obtained.

Pre-set tare values may be stored and recalled.

1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Power Supply

The instrument operates from 9 V DC supplied by an AC/DC mains adaptor, or from an internal rechargeable battery.

Note: The AC/DC mains adaptor supplied was a model MWD48-0901000AS power supply (9 V DC, 1 A – this also carried an Australian 'C-tick' mark N1388); the submittor should be consulted regarding the acceptability of alternative power supply units.

1.5 Additional Features

The indicator has certain additional functions (e.g. HI and LO checking function, item counting, accumulation, and percentage). However this approval relates only to use for trade of the instrument as a non-automatic weighing instrument, in which static weighing (gross or net) of product on the weighing platform is carried out.

In particular, the approval does not extend to, nor provide any endorsement by the National Measurement Institute, of the additional software or functionality. 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.

Notes: The use of the abovementioned features may or may not be appropriate in different situations. The acceptability in any particular situation must be assessed in-situ and may require consultation with the appropriate trade measurement authority. In some situations it may be necessary for a print-out of the weighing result to be produced for the method of operation to be considered acceptable. In such situations General Supplementary Certificate No S1/0/A should be consulted.

1.6 Two Basework Capability

The indicator may be connected to up to two baseworks.

The basework to be used is selected using a key marked with a SCALE symbol and is indicated by a scale symbol (

or 

- indicating either 'SCALE 1' or 'SCALE 2') appearing in the display adjacent to the 'SCALE BASE' legend.

The counting functions of the two platforms may interact, however the weighing and taring functions are independent and do not interact.

The specifications of Table 1 (for the pattern) apply in the case of each basework separately. However this indicator is able to supply a maximum excitation current of 116 mA. Where two baseworks are connected the total of the excitation currents required by both baseworks shall not exceed 116 mA.

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 No S1/0/A (in particular in regard to the data and its format).

Note particularly that 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.

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.

Data derived from any analog output or interface shall not be used for trade use.

Instruments may be fitted with RS232 serial data interfaces.

1.8 Sealing Provision

Provision is made for sealing of the instrument by preventing access to the calibration switch within the indicator housing. This may be achieved by use of a lead and wire or similar type seal between a bolt which holds together the two parts of the instrument casing, and a bolt located in a hole which would otherwise provide access to the calibration switch (Figure 2).

To ensure the calibration parameters are secured, the calibration jumper on the main board shall be set to ‘OFF’ position. Press the ‘MR’ touch button and ‘ON/OFF’ touch button simultaneously to verify if the calibration jumper is set to ‘OFF’ position. If the calibration jumper is set to ‘OFF’ position, then the calibration function should not be enabled after display check.

1.9 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.10 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Australian Weighing Equipment Pty Ltd
Indication of accuracy class	(III) or (IIII)
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 instrument	S500
Pattern approval mark for other components	..... #3

#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*.

#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.

2. Description of Variants

2.1 Variant 1

The model AJIK-6CSB indicator (Figure 3a) which is similar to the model AJIK-8CSB (pattern), but which has a reduced set of functions and keys (e.g. the AJIK-6CSB does not have the automatic tare function of the pattern). In addition, the AJIK-6CSB does not have provision for connection of a second basework.

2.2 Variant 2

The models AJIK-8CAB and AJIK-6CAB indicators (Figure 3b) which are similar to the pattern and variant 1 respectively, except that these models have an ABS plastic enclosure (whereas the AJIK-8CSB and AJIK-6CSB have a stainless steel enclosure).

In addition connections to external items (i.e. basework, peripheral equipment) are via connectors on the enclosure (whereas the AJIK-8CSB and AJIK-6CSB use direct cabling through the enclosure).

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

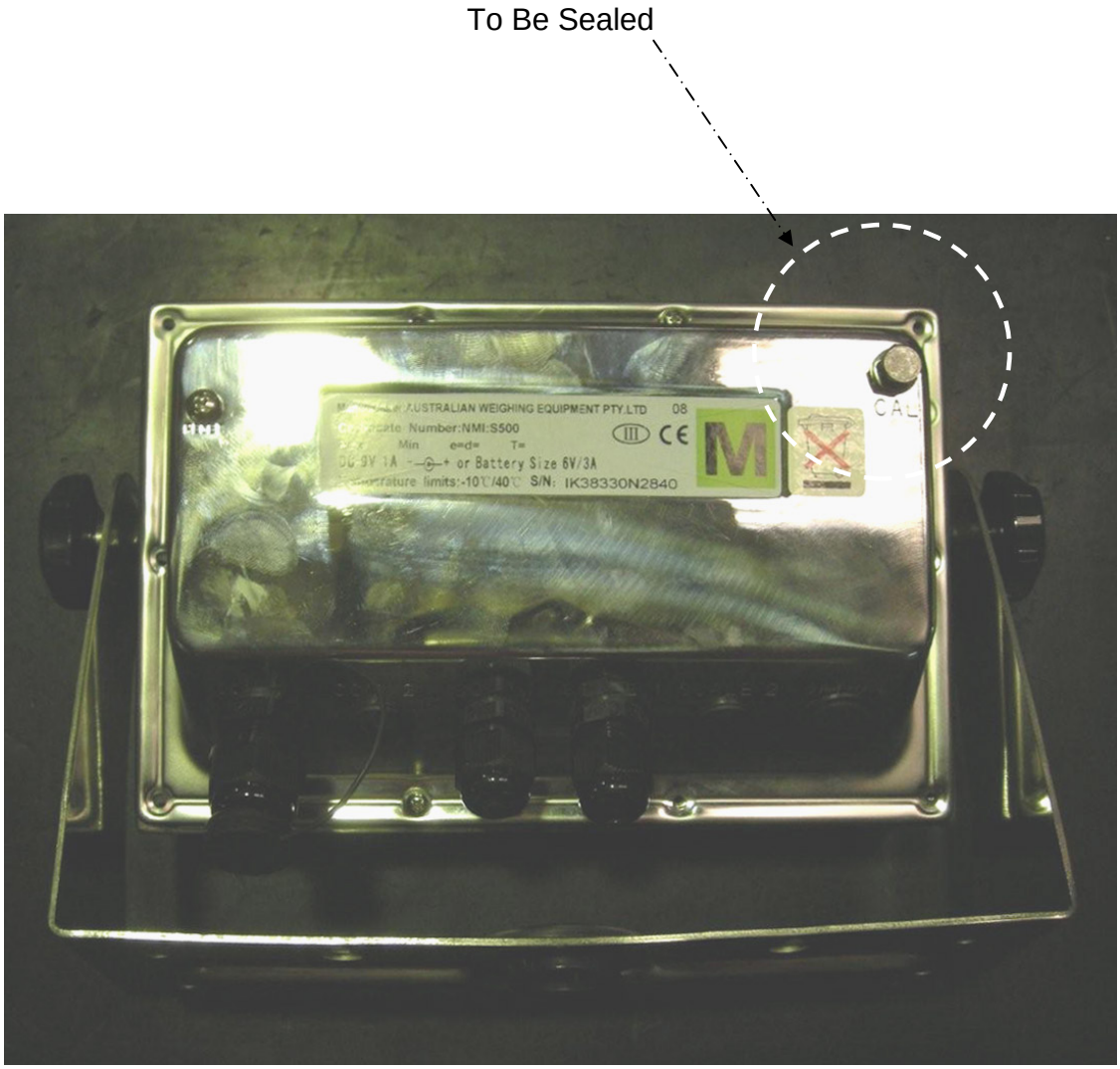
Maximum Permissible Errors at Verification/Certification

The maximum permissible errors are specified in Schedule 12 of the *National Measurement Regulations 1999*.

FIGURE S500 – 1

Australian Weighing Equipment Model AJIK-8CSB Digital Indicator

FIGURE S500 – 2



Typical Sealing Arrangement

FIGURE S500 – 3

(a) Model AJIK-6CSB

(b) Model AJIK-6CAB