



Australian Government
Department of Industry, Science,
Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S791

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.

Atrax Model CDI-1600 Digital Indicator

submitted by Atrax Group NZ Ltd
 390a Church Street
 Penrose
 Auckland 1061
 New Zealand.

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 becomes subject to review on 1/04/25, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – certificate issued	25/03/20

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S791' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S791' in addition to the approval number of the instrument, and only by persons authorised by the submitter.

It is the submitter'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 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*.

A handwritten signature in blue ink, appearing to be 'Darryl Hines', written in a cursive style.

Darryl Hines
Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No S791

1. Description of Pattern **approved on 25/03/20**

An Atrax model CDI-1600 digital mass indicator (Figures 1) which may be configured to form part of:

- A class III weighing instrument with a single weighing range of up to 6000 verification scale intervals; or
- A class II weighing instrument with a single weighing range of up to 1000 verification scale intervals.

The instrument has a stainless steel enclosure with an LCD display for display of the weight value.

TABLE 1 – Specifications

Maximum number of verification scale intervals	6000 (class III) 1000 (class II)
Minimum sensitivity	0.6 μV /scale interval
Excitation voltage	5 V DC
Maximum excitation current	229 mA
Fraction of maximum permissible error	$p_i = 0.5$
Minimum load cell impedance	21.8 Ω
Maximum load cell impedance	1245 Ω
Measuring range minimum voltage	0 mV
Measuring range maximum voltage	30 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 (*)	800 m/mm ² (6-wire only)

(*) Additional connection cable between indicator and load cell or load cell junction box.

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.

The pattern may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices (see clause 1.5 below).

1.1 Zero

A zero-tracking device may be fitted.

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 tare device of up to the maximum capacity of the instrument may be fitted.

A non-automatic keyboard-entered pre-set subtractive tare 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.

1.4 Power Supply

The instrument operates from mains AC power (100-240 V AC, 50/60 Hz).

1.5 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 No NMI 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, PS/2 keyboard and digital inputs/outputs.

1.6 Additional Features

Instruments may be fitted with target weight function. 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 Verification Provision



Provision is made for the application of a verification mark.

1.8 Sealing Provision

Provision is made for the calibration to be sealed by using a 'lead and wire' type seal with drilled screws or using destructible labels placed over the securing screw and span switch access hole as shown in Figures 2a and 2b.

1.9 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Atrax
Model number	CDI-1600
Indication of accuracy class	 or 
Maximum capacity	<i>Max</i> kg #1
Minimum capacity	<i>Min</i> kg #1
Verification scale interval	<i>e</i> = kg #1
Serial number of the instrument
Pattern approval mark for the indicator	NMI S791
Pattern approval mark for other components #2

#1 These markings are shown near the display of the result.

#2 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.

1.10 Software Version

The software version is designated Version 02.00.45 or later.

The software version and number can be seen in the switch-on display sequence when the power is first applied to the instrument.

TEST PROCEDURE No S791

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*.

FIGURE S791 – 1



Atrax Model CDI-1600 Indicator

FIGURE S791 – 2



(a) Sealing of Lead and Wire Type



(b) Sealing of Destructible Adhesive Labels

Typical Sealing Arrangement

~ End of Document ~