



CANCELLED

013
31-12-90

NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S131

This is to certify that an approval has been granted by the Commission that the pattern and variant of the

Yamato Model EDI-301 Digital Indicator

submitted by Yamato Weighing Systems Pty Ltd
16 Gertrude Street,
Arncliffe, New South Wales, 2205,

are suitable for use for trade when replacing the indicator in any Commission-approved weighing instrument.

The approval of the pattern and variant is subject to review on or after 1/8/87.

All instruments purporting to comply with this approval shall be marked NSC No S131 in addition to the approval number of the pattern to which they are connected.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

1. An instrument fitted with a Yamato model EDI-301 digital indicator shall have a maximum number of 3000 scale intervals.
2. The number of scale intervals applicable to the weighing instrument in which this indicator is used, shall be no greater than the number of verification scale intervals approved for the basework, or the load cell(s) or the indicator, whichever is the smallest.

Signed

H. Pelin
Executive Director

Descriptive Advice

Pattern: approved 30/7/82

- . Yamato model EDI-301 digital indicator.

Variant: approved 30/7/82

1. With an output socket for a peripheral device.

Technical Schedule No S131 dated 25/8/82 describes the pattern and variant.

Filing Advice

The documentation of this approval consists of:

Certificate of Approval No S131 dated 25/8/82
Technical Schedule No S131 dated 25/8/82
Test Procedure No S131 dated 25/8/82
Figures 1 and 2 dated 25/8/82

25/8/82



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S131

Pattern: Yamato Model EDI-301 Digital Indicator

Submitter: Yamato Weighing Systems Pty Ltd,
16 Gertrude Street,
Arncliffe, New South Wales, 2205.

1. Description of Pattern

A digital mass indicator (Figures 1 and 2) capable of displaying up to 3000 scale intervals. It may replace the indicator in any Commission-approved weighing instrument.

1.1 Zero

Zero to within 0.25e, indicated by the CENTRE ZERO light illuminating, may be obtained either semi-automatically using the ZERO push-button, or automatically whenever the instrument comes to rest within 0.5e of zero.

1.2 Tare

1.2.1 Semi-automatic Tare

Use of the subtractive tare push-button marked T, allows a mass of up to maximum capacity on the load receptor to be tared to within 0.25e, and is indicated by the TARE light illuminating. On removal of the mass, the value of the tare prefixed by a minus sign is displayed.

1.2.2 Digital Tare

A non-automatic subtractive taring device can be used to enter a tare in 1e increments using a 0 to 9 keyboard. The use of tare is indicated by the TARE light illuminating. Although a digital tare greater than maximum capacity may be entered, the instrument will still blank when a gross mass greater than the maximum capacity plus 10e is deposited on the load receptor.

1.2.3 Clear

A push-button marked C clears the entered tare.

1.2.4 Incorrect-tare Light

A light marked INCORRECT TARE indicates when an incorrect use of tare has been attempted.

1.3 Display Check

On application of power the indicator displays flashing "8's", then will blank, and then display zero if within the zero range.

1.4 Markings

The instrument is marked with the following data, grouped together in one location:

Manufacturer's name or mark	Headwork NSC No¶
NSC approval numbers in the form:	Indicator NSC No S131
	Basework NSC No
	Load cell(s) NSC No ...
Accuracy class in the form:	<u>III</u>
Maximum capacity in the form:	Max*
Minimum capacity in the form:	Min*
Verification scale interval in the form:	e = d =*
Maximum subtractive tare in the form:	T = -
Serial number of instrument	
Load Cell serial number(s)	

1.5. Sealing

- (i) The indicator is sealed either by a lead and wire seal, the wire being threaded through holes in two retaining screws in the indicator cover (Figure 1), or alternatively, with sealing plugs on either side of the indicator, one of which acts as a stamping plug.
- (ii) A stamping plug is fitted to the rear of the indicator housing (Figure 2).

2. Description of Variant

2.1 Variant 1

The pattern with an output socket for a peripheral device.

The socket should be sealed (Figure 2) when not connected to an approved peripheral device.

* These markings are repeated in the vicinity of each reading face if not already there.

¶ This approval number should be included where the existing headwork is retained as part of the modified instrument.

TEST PROCEDURE No S131

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.

Accuracy Requirements

The maximum permissible errors are:

- $\pm 0.5e$ for loads between 0 and 500e;
- $\pm 1e$ for loads between 501e and 2000e; and
- $\pm 1.5e$ for loads above 2000e.

The following tests should be carried out in conjunction with any test procedures in the Technical Schedule for the instrument to which the pattern is connected:

1. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity ($\pm 2\%$ approximately). Satisfactory setting may be checked by the following method:

- (a) With zero balance indicated, apply a load of, say, 2.5% of maximum capacity to the instrument, and press the ZERO button; the instrument should not re-zero; and
- (b) reduce the load to say, 1.5%, and again press the ZERO button; the instrument should indicate zero balance.

2. Zero Test

As the automatic zero tracking resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to, say, 10e 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 maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indicator should be blank.
- (b) Below zero the indicator should display mass as a negative quantity.

4. Taring

Attempt to tare a mass above maximum capacity. On removal of the mass no tare should have been entered, and the indicator should display all zeroes.

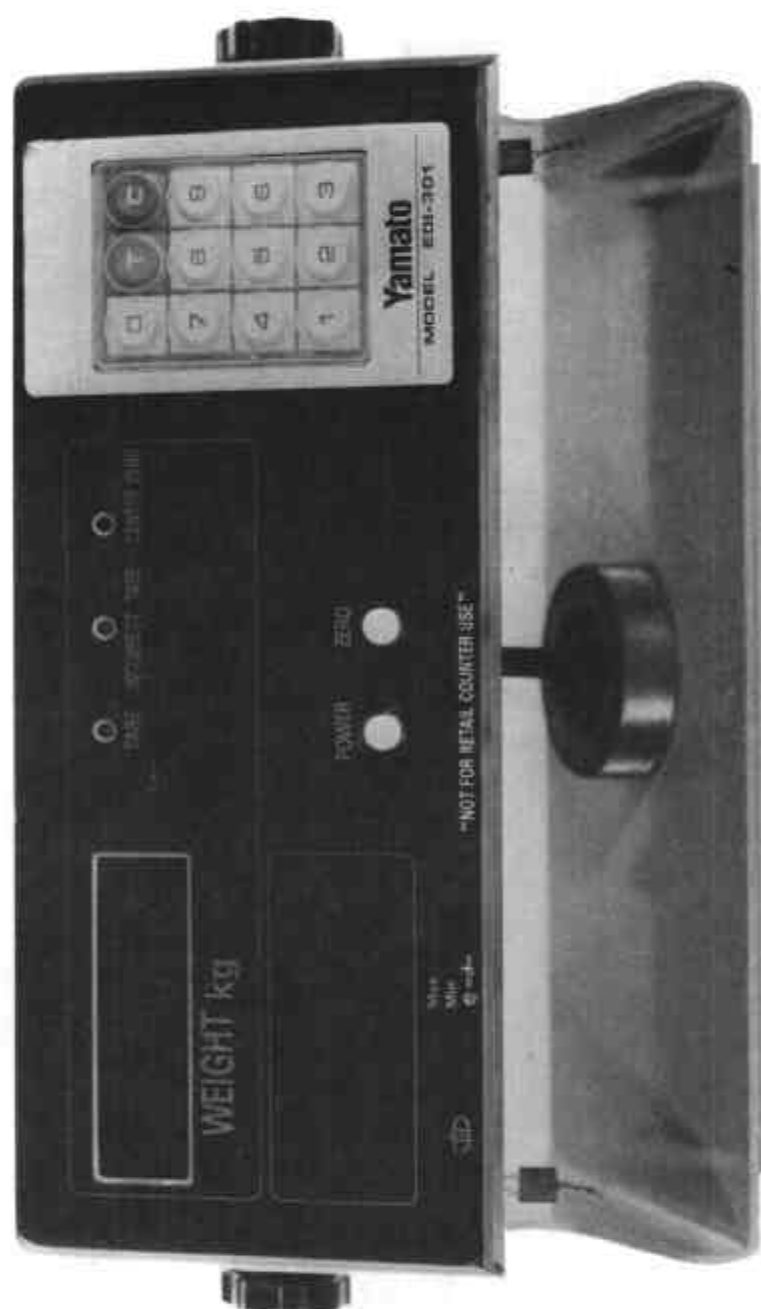
5. Test Loads

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.

6. Multiple Indicators

Where the existing headwork is retained and used in conjunction with the pattern, 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.

FIGURE S131 - 1



Front View Of Model EDI-301

FIGURE S131-2



Rear View of Model EDI-301 - Including Sealing