



NATIONAL STANDARDS COMMISSION
WEIGHTS AND MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S160

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

TEC Model WI-22 Digital Indicator

submitted by Swift-M.I.P. Pty Ltd
149-155 Milton Street
ASHFIELD NSW 2131

on behalf of Tokyo Electric Co Ltd
14-10, 1-Chome, Uchikanda
Chiyoda-Ku
Tokyo, Japan

are suitable for use for trade, when used in a Commission-approved weighing instrument.

The approval is subject to review on or after 1/12/88.

Instruments purporting to comply with this approval shall be marked NSC No S160 in addition to the approval number of the pattern to which they are connected.

The approval may be withdrawn if instruments are used other than as described in the drawings and specifications lodged with the Commission.

Conditions of Approval

1. The number of scale intervals applicable to any weighing instrument in which this indicator is used, shall be no greater than the number of verification scale intervals approved for the indicator (3000), the basework, or the load cell(s) whichever is the smallest.
2. The additional display functions of the variants shall be in accordance with the requirements of General Supplementary Certificate No S1/0.

Signed

J. Kelly
Executive Director

Descriptive Advice

Pattern: approved 3/11/83
. TEC model WI-22 digital indicator.

Variants: approved 3/11/83

1. With various alternative display functions.
2. As a counting indicator in which case it is known as a model SK-12.

Technical Schedule No S160 dated 29/11/83 describes the pattern and variants.

Filing Advice

The documentation for this approval comprises:

Certificate of Approval No S160 dated 29/11/83
Technical Schedule No S160 dated 29/11/83
Test Procedure No S160 dated 29/11/83
Figures 1 and 2 dated 29/11/83.

29/11/83



NATIONAL STANDARDS COMMISSION
TECHNICAL SCHEDULE No S160

Pattern: TEC Model WI-22 Digital Indicator

Submitter: Swift-M.I.P. Pty Ltd
149-155 Milton Street
ASHFIELD NSW 2131.

1. Description of Pattern

A digital mass indicator (Figure 1) displaying up to 3000 scale intervals. An output socket may be provided for the connection of a peripheral or auxillary device.

1.1 Zero

The instrument is automatically corrected to zero within 0.25e, indicated by the zero light illuminating, when the button marked Z is pressed.

1.2 Display Check

Switching on power causes the indicator to display 0 to 9 sequentially, all indicator lights to flash, and then all to blank until the Z button is pressed.

1.3 Tare

- (a) Semi-automatic tare is selected by pressing the button marked T.
- (b) Tare can be digitally preset by pressing the button marked PT, followed by the value of tare required.

In both cases, the tare may be of any capacity up to the capacity of the instrument.

1.4 Markings

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

Manufacturer's name or mark	
Model number	
NSC approval numbers - Indicator	NSC No S160
- Other components
Accuracy class	(III)
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 = -*

The indicator is also marked NOT TO BE USED FOR SELLING DIRECT TO THE PUBLIC.

1.5 Verification And Sealing

Provision is made for a verification mark to be applied. The provision for sealing shown in Figure 1 is not mandatory.

2. Description of Variants

2.1 Variant 1

With various alternative display functions. Figure 2 shows the approved models and functions.

2.2 Variant 2

The indicator as a counting instrument in which case it is known as a model SK-12.

TEST PROCEDURE No S160

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

- $\pm 0,5e$ for loads between 0 and 500e;
- $\pm 1,0e$ for loads between 501e and 2000e; and
- $\pm 1,5e$ for loads above 2000e.

1. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity ($\pm 2\%$ 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

Check by means of Document 104, that when the zero light is lit, zero is set within 0,25e.

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 or show non-numerical symbols.
- (b) Below zero the indication should 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 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.

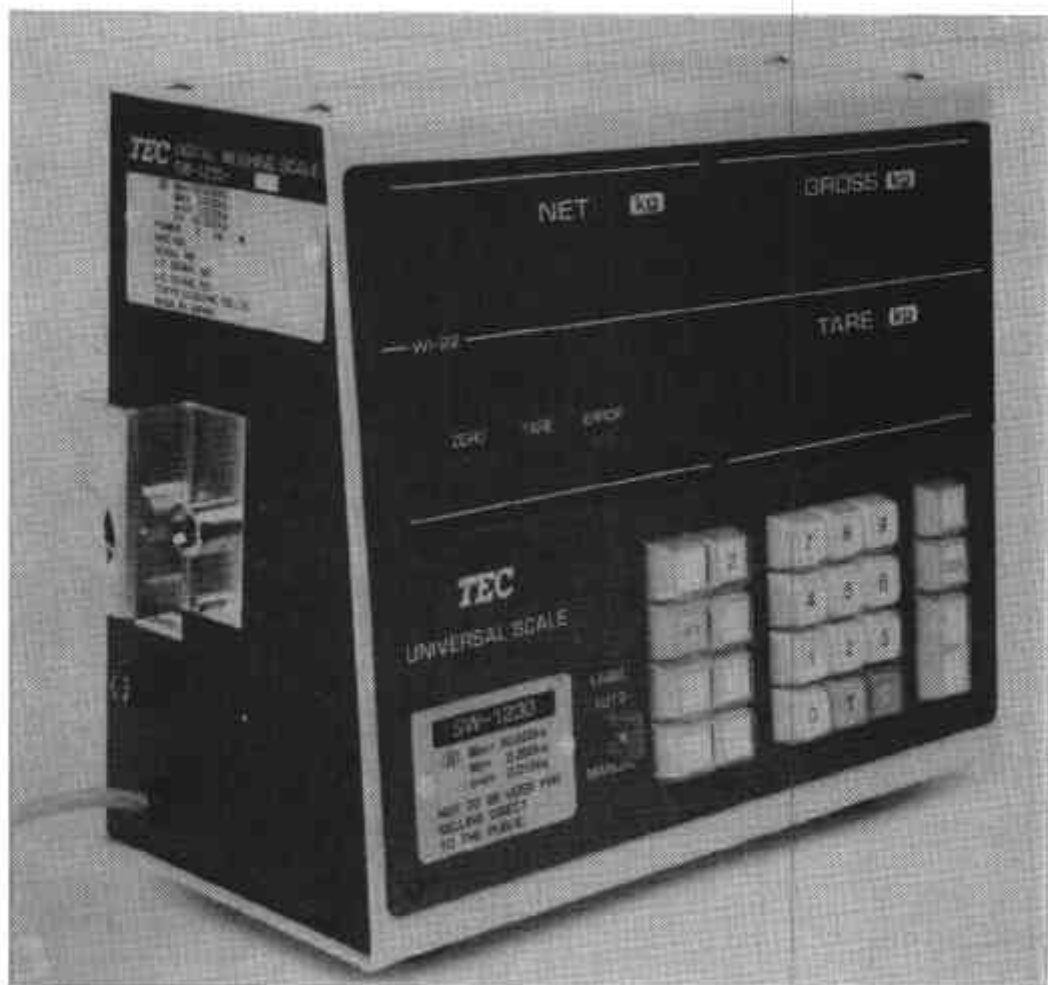
5. Test Loads

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. Counting Tests

At each of the test loads (increasing) above, enter a unit mass equal to 1 verification scale interval. The displayed count should be correct to ± 1 count.

FIGURE S160 - 1



TEC Model WI-22 Digital Indicator

29/11/83

FIGURE S160 - 2

CLASSIFICATION	MODEL	DISPLAY COMBINATIONS	
2 DISPLAYS	WI-11	GROSS KG	NET KG
	WI-12	NET KG	TARE KG
	WI-13	Σ NET KG	NET KG
		Σ GROSS KG	GROSS KG
		or	
3 DISPLAYS	WI-21	Σ NET KG	GROSS KG
		NET KG	
	WI-22	NET KG	GROSS KG
		TARE KG	
	WI-23	GRAND-TOTAL KG	SUB-TOTAL KG
		GROSS KG	
	WI-24	Σ NET KG	Σ TARE KG
		NET KG	
	WI-25	+/- WEIGHT KG	SET WEIGHT KG
		WEIGHT KG	
	SK-12	COUNT	WEIGHT/PIECE KG
		WEIGHT KG	

Approved Models and Displays