



Australian Government

Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/331

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.

Tscale Model T28-III-6K-MR Weighing Instrument

submitted by Load Sensors Pty Ltd
Unit 7, 13 Holbeche Road
Arndell Park NSW 2148

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 is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 4 approved – certificate issued	23/01/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/331' and only by persons authorised by the submittor.

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.


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 read 'Darryl Hines', is written over a large, empty oval shape.

Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 6/4C/331

1. Description of Pattern **approved on 23/01/24**

A Tscale model T28-III-6K-MR class  non-automatic self-indicating multi-interval weighing instrument (Figure 1a and Table 1) with a verification scale interval (e_1) of 0.001 kg up to 3 kg and a verification scale interval (e_2) of 0.002 kg from 3 kg up to the maximum capacity of 6 kg, and with a minimum capacity of 0.02 kg.

The instrument may be provided with a single LCD display for the operator, or may also be provided with a customer display integrated into the body of the instrument (Figure 1c). Instruments shall be marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording) unless two displays are present.

Power for the Tscale T28-III-6K-MR instrument may be supplied by either:

- an AC/DC mains adaptor; or/and
- an internal rechargeable 6 V DC sealed lead-acid battery.

Note: The AC/DC mains adaptor supplied for the instrument was FLYPOWER model PA06H120K0500AD power supply (output 12 V DC, 0.5 A) – the submitter should be consulted regarding the acceptability of alternative power supply units.

1.1 Zero

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

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.

A zero-tracking device may be fitted.

1.2 Tare

A semi-automatic subtractive tare device of up to 5.998 kg may be fitted.

1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Levelling

The instrument is provided with adjustable feet and a level indicator.

The instrument is to be used in a level condition as indicated by the level indicator.

1.5 Alternative Unit

Instruments may be operated displaying kilograms (kg) or grams (g) by pressing the 'TARE/UNIT' key for 4 seconds.

1.6 Additional Features

Instruments may be fitted with check weighing functions using orange/green/red colours and/or beep sounds. 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.

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 means of a destructible label placed over an ABS slice covering the access hole to the calibration switch underneath the instrument (Figure 2), and then preventing access within the instrument housing. This may be achieved by applying a destructible adhesive label placed over one of access holes to the screw in the instrument housing as shown in Figure 2.

1.9 Software


The application software is designated U1.xx, and the legally relevant software is designated U1.10.

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

The legally relevant software version and number can be accessed by pressing the 'ZERO' and 'TARE/UNIT' keys simultaneously and then releasing the keys during the switch-on display sequence.

1.10 Descriptive Markings and Notices

(a) Instruments carry the following markings:

Manufacturer's mark, or name written in full	Tscale
Name or mark of manufacturer's agent	Load sensors Pty Ltd
Indication of accuracy class	
Pattern approval mark for the instrument	NMI 6/4C/331
Maximum capacity	<i>Max</i> g or kg #1
Minimum capacity	<i>Min</i> g or kg #1
Verification scale interval	<i>e</i> = g or kg #1
Maximum subtractive tare	<i>T</i> = - g or kg #2
Serial number of the instrument

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

#2 This marking is required if *T* is not equal to *Max*.

(b) In addition, instruments shall carry a notice stating NOT FOR TRADING DIRECT WITH THE PUBLIC, or similar wording unless two displays are present.

Note:

For multi-interval instruments the markings shall be as above, with the exception that the 'Maximum capacity' and 'Verification scale interval' shall be marked for both interval ranges, e.g. as follows:

Maximum capacity	<i>Max</i>/..... g or kg
Verification scale interval	<i>e</i> =/..... g or kg

2. Description of Variant 1 **approved on 23/01/24**

The Tscale model T28-III series instruments in certain other multi-interval capacities as listed in Table 1 below (the pattern is shown in **bold**).

TABLE 1

Model	Maximum Capacity (<i>Max₁ / Max₂</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e₁ / e₂</i>)	Maximum Subtractive Tare Capacity (<i>T = - ...</i>)	Zemic L6D C3 Load Cell (<i>E_{max}</i>)
T28-III-6K-MR	3 / 6 kg	0.02 kg	1 / 2 g	5.998 kg	8 kg or 10 kg
T28-III-15K-MR	6 / 15 kg	0.04 kg	2 / 5 g	14.995 kg	20 kg
T28-III-25K-MR	15 / 25 kg	0.1 kg	5 / 10 g	24.990 kg	30 kg or 35 kg

3. Description of Variant 2 **approved on dd/yy/mm**

The Tscale model T28-III series instruments in certain single interval capacities as listed in Table 2 below.

TABLE 2

Model	Maximum Capacity (<i>Max</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e</i>)	Maximum Subtractive Tare Capacity (<i>T = - ...</i>)	Zemic L6D C3 Load Cell (<i>E_{max}</i>)
T28-III-3K-M	3 kg	0.02 kg	1 g	2.999 kg	5 kg
T28-III-6K-M	6 kg	0.04 kg	2 g	5.998 kg	8 kg or 10 kg
T28-III-15K-M	15 kg	0.1 kg	5 g	14.995 kg	20 kg
T28-III-25K-M	25 kg	0.2 kg	10 g	24.990 kg	30 kg or 35 kg

4. Description of Variant 3 **approved on dd/yy/mm**

The Tscale model T28 series instruments (Figure 1b) which are similar to the pattern but without check weighing functions in certain multi-interval capacities as listed in Table 3 below.

TABLE 3

Model	Maximum Capacity (<i>Max₁ / Max₂</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e₁ / e₂</i>)	Maximum Subtractive Tare Capacity (<i>T = - ...</i>)	Zemic L6D C3 Load Cell (<i>E_{max}</i>)
T28-6K-MR	3 / 6 kg	0.02 kg	1 / 2 g	5.998 kg	8 kg or 10 kg
T28-15K-MR	6 / 15 kg	0.04 kg	2 / 5 g	14.995 kg	20 kg
T28-25K-MR	15 / 25 kg	0.1 kg	5 / 10 g	24.990 kg	30 kg or 35 kg

5. Description of Variant 4

approved on dd/yy/mm

The Tscale model T28 series instruments (Figure 1b) which are similar to variant 3 in certain single interval capacities as listed in Table 4 below.

TABLE 4

Model	Maximum Capacity (<i>Max</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e</i>)	Maximum Subtractive Tare Capacity (<i>T = - ...</i>)	Zemic L6D C3 Load Cell (<i>E_{max}</i>)
T28-3K-M	3 kg	0.02 kg	1 g	2.999 kg	5 kg
T28-6K-M	6 kg	0.04 kg	2 g	5.998 kg	8 kg or 10 kg
T28-15K-M	15 kg	0.1 kg	5 g	14.995 kg	20 kg
T28-25K-M	25 kg	0.2 kg	10 g	24.990 kg	30 kg or 35 kg

TEST PROCEDURE No 6/4C/331

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

For multi-interval and multiple range instruments with verification scale intervals of $e_1, e_2 \dots$, apply e_1 for zero adjustment, and maximum permissible errors apply $e_1, e_2 \dots$, as applicable for the load.

FIGURE 6/4C/331 – 1



(a) Tscale Model T28-III Weighing Instrument (Operator Side)

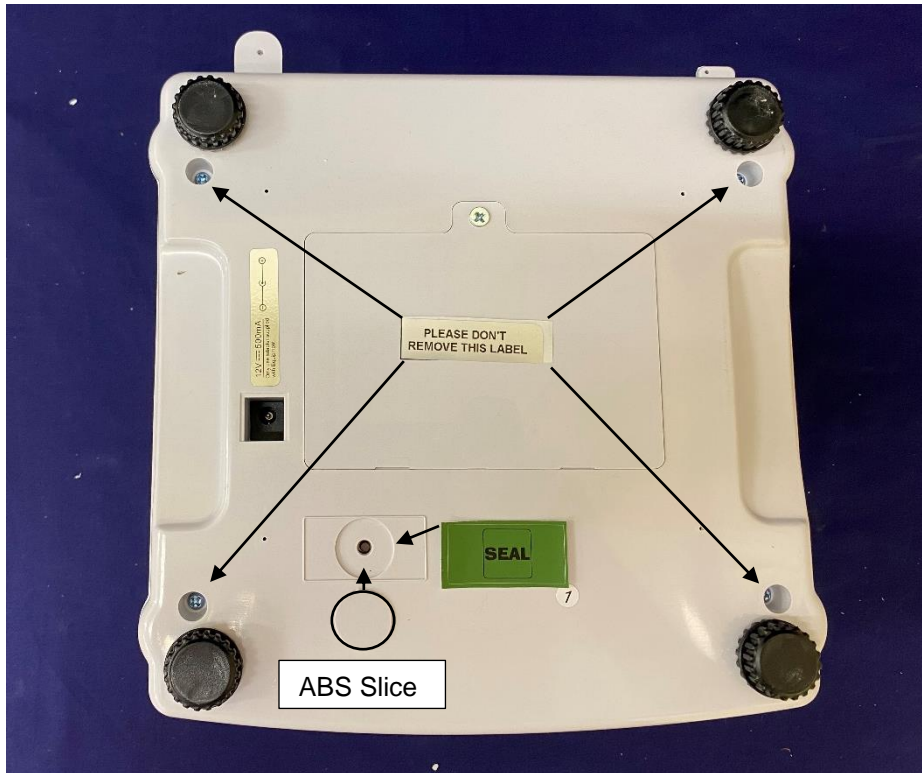


(b) Tscale Model T28 Weighing Instrument (Operator Side)



(c) Tscale Model T28 Weighing Instrument (Customer Side)

FIGURE 6/4C/331 – 2



Showing Typical Sealing

~ End of Document ~