



Ministry of Business, Innovation & Employment

Wellington, New Zealand

CERTIFICATE OF APPROVAL

Weights and Measures Regulations 1999 Part 1 Regulations 5 and 6

Current Date of Issue: 01 July 2013
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Certificate 2113

Overseas Certificate No: OIML R76/2006-NL1-12.38

This certifies that the Keli Sensing Technology XK3118K5 (Digital Indicator), Weighing Instrument described overleaf has been approved as suitable for trade use subject to any conditions stated in the schedule:

Figure 1 - Model XK3118K5 Digital Indicator



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Under delegated authority from the Chief Executive of The Ministry of Business, Innovation & Employment

Note: This is not an approval to any person but only with respect to the type and pattern of weight, measure, or weighing or measuring instrument.

SCHEDULE

Pattern:	Weighing Instrument
Make:	Keli Sensing Technology
Model:	XK3118K5 (Digital Indicator)
Manufacturer:	Keli Sensing Technology (Ningbo) Co., Ltd - China
Submitter:	Scale Systems NZ Ltd, Palmerston North, New Zealand
Verification Scale Interval:	See Description
Class:	III (or) IIII
Conditions of Approval:	<ol style="list-style-type: none">1. The approval does not include the use of the indicator as an automatic weighing instrument.2. The acceptability of the indicator in a weighing instrument must meet the criteria detailed in this certificate.3. This Certificate only covers compliance with respects to the relevant sections of the Weights and Measures Act and Regulations and should not be construed as guarantee of compliance with any safety requirements.4. MAPSS reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Description:

A Keli Sensing Technology Model XK3118K5 digital indicator is approved to configure with a single interval, Class III non-automatic weighing Instrument ($n \leq 3000$ max) or a Class IIII non-automatic weighing Instrument ($n \leq 1000$ max).

1. Construction

The pattern comprises a stainless steel enclosure with a LED type display and operator interface as shown in Figure 1.

TABLE 1 – Specifications when used with Analogue load cells

Max No. of verification scale intervals	III ($n \leq 3000$ max) or IIII ($n \leq 1000$ max)
Minimum sensitivity	1.5 μ V/scale interval
Excitation voltage	5 V DC
Minimum load cell impedance	43.8 Ω
Maximum load cell impedance	1050 Ω
Fraction of maximum permissible error	0.5
Temperature range	-10°C to +40°C
Load cell connection	6-wire shielded

2. Display Check

A display check is initiated whenever power is applied.
The software identification (Version number V0.1) is displayed at start-up.

3. Power Supply

The instrument operates from a mains AC power supply 110–240 V AC 50/60 Hz.

4. Interfaces:

The instruments may be fitted with RS232 type interfaces for the connection of auxiliary and/or peripheral devices:

Note: The Auxiliary devices shall meet the following conditions:

- (i) have no function that would cause a variation in the display of the measured or computed quantities
- (ii) is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation, or

As indicated from by the Measurement and Product Safety Service (Type Approvals).

5. CRITERIA for using the indicator with a certain basework:

The conditions to be met are:

- a) The excitation voltage used is within the range approved for the basework
- b) The maximum load applied to the basework (live load plus any dead load does not exceed the load cell maximum capacity)
- c) The verification scale interval is not less than the minimum value specified
- d) The number of verification scale intervals is less than or equal to the n max specified
- e) The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval document / technical specifications of the indicator).

i.e. Indicator Sensitivity $\leq (1000 \times E_x \times LC_Sens \times e) / (N \times E_{max})$, where

E_x = Excitation from indicator (V)

LC_Sens = load cell sensitivity (mV/V)

e = verification scale interval of the instrument (kg)

N = number of load cells

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μ V)

ZERO SETTING DEVICES:

Zero is automatically corrected to within $\pm 0.25e$ whenever power is applied and whenever the instrument comes to rest within $0.5e$ of Zero.

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.

Zero Tracking Device:

Zero tracking operates when the indication is at zero, or at a negative Net value equivalent to Gross Zero, when the weight display is stable. The range must be set to 4% of maximum capacity or less, and can be disabled by the user.

TARE:

The indicator may be fitted with a semi-automatic subtractive tare device of up to the maximum.

METROLOGICAL MARKINGS:

Instruments carry the following markings:

Manufacturer's mark, or name:

Accuracy class: III

Pattern approval number: **2113**

Maximum capacity Maxkg #

Minimum capacity Minkg #

Verification scale interval e =kg #

Maximum subtractive tare T = -kg

Serial number of the instrument

These markings are also shown near the display of the result.

Sealing:

(i) A switch within the indicator enclosure provides access to calibration adjustments of the indicator.

The indicator is sealed to prevent access within the indicator housing. This may be achieved by applying destructible adhesive labels on opposite sides of a join in the indicator housing or using lead/plastic and wire type seals with drilled screws. See Sealing photo (figure 2).

(ii) In addition, the connecting cable of the load cell or the junction box must be sealed.

Mark of Verification:

The destructible adhesive label seal or a lead plug type seal used for sealing the instrument shall carry a Mark of Verification. Removal of seal deems the instrument not verified.

Levelling:

-10°C to +40°C

Figure 2 - Typical Sealing Methods

