DANAK
PROD Reg. nr 7026

FORCE Certification

EU Type Examination Certificate

No. 0200-NAWI-06876

WE / CSQ / PC1

NON-AUTOMATIC WEIGHING INSTRUMENT

Issued by **FORCE Certification**
EU - Notified Body No. 0200

In accordance with the requirements in Directive 2014/31/EU of the European Parliament and Council.

Issued to **Moorange Electronics MFG (Shanghai) Co., Ltd.**
Rm 202, Building 5, No. 59 Shennan Road,
Shanghai 201108
CHINA

In respect of Non-automatic weighing instrument designated WE / CSQ / PC1with variants of modules of load receptors and load cells.
Accuracy class III, single-interval or dual-range or dual-interval (WE only)
Maximum capacity, Max: From 3 kg to 30 kg
Verification scale interval: $e_i = Max_i / n_i$
Maximum number of verification scale intervals: n = 3000 or 2×3000.
Variants of models are set out in the annex.

The conformity with the essential requirements in annex 1 of the Directive is met by the application of the European Standard EN 45501:2015 and of OIML R76:2006.

The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 12 pages.

Issued on **2019-11-11**
Valid until **2029-11-11**

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2019-11-11
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FORCE Certification references:
Task no.: 119-26561.90.70.10 and ID no.: 0200-NAWI-06876 **Signatory: J. Hovgård Jensen**

Descriptive annex

Contents

1. Name and type of instrument

The non-automatic weighing instruments designated WE / CSQ / PC1 are self-indicating desktop scales of class III with single-interval/dual-range/dual-interval, an external AC/DC mains adapter, and an internal rechargeable battery (optional).
WE and PC1 may be used for direct sale to the public, if they have the optional rear display.

Each scale consists of analogue to digital conversion, microprocessor control, power supply, keyboard, non-volatile memory for storage of calibration and weight data and a display contained within a single enclosure. Some models have an additional rear display.

2. Description of the construction and function

2.1 Construction

Enclosure

The scale is housed in a plastic enclosure. The display is placed on the front together with the key-board. It is intended to be used in shops as well as industrial environments.
A level indicator is built into the enclosure near the display.

Keyboard

The WE keyboard contains 5 keys used to control the functions of the scale, while the CSQ and PC1 keyboards contain 20 keys including the digits 0 – 9.

Display

CSQ.
The display comprises of an LCD-display with white LED backlight with 3 sections: Weight, Piece weight, and Total Count. Furthermore, the display has appropriate status indicators. The scale may have an optional identical second display placed at the rear of the scale.

PC1.
The display comprises of a LCD-display with white LED backlight with 3 sections: Weight, Unit price, and Total Price. Furthermore, the display has appropriate status indicators. The scale may have an identical second display placed at the rear of the scale.

WE.
The display comprises of a LCD-display with white LED backlight with 1 section for Weight. Furthermore, the display has appropriate status indicators. The scale may have an optional identical second display placed at the rear of the scale

Electronics

The instruments have one main board with the front display and some models may have an optional additional display board in the rear.

Models

Model	Max	e	Min	Model	No of load cells	Load cell type	E_{max}	v_{min}
WE CSQ PC1	3 kg	1 g	20 g	Single interval (WE & PC1)	1	ZEMIC L6D C3 or HBM PW6K C3 or KELI AMI C3	5 kg	≤ 1 g
	6 kg	2 g	40 g				10 kg	≤ 2 g
	15 kg	5 g	100 g				20 kg	≤ 5 g
	30 kg	10 g	200 g				35 kg	≤ 10 g
	1.5/3 kg	0.5/1 g	10/20 g	Dual-range (All models)			5 kg	≤ 0.5 g
	3/6 kg	1/2 g	20/40 g				10 kg	≤ 1 g
	6/15 kg	2/5 g	40/100 g	Dual-interval (WE)			20 kg	≤ 2 g
	15/30 kg	5/10 g	100/200 g				35 kg	≤ 5 g

2.2 Function

The weight indicating instruments are microcontroller based self-indicating electronic price computing scales / weighing scales / counting scales. The instruments are available for operation from mains at 230-240 VAC 50 Hz using an external AC/DC adapter with 10 VDC output voltage and an optional internal 6 V rechargeable battery.

The primary functions provided are detailed below.

2.2.1 Power-up

On power-up, the scale will first perform a display test. After that it will automatically establish the current weight as a new zero reference.

2.2.2 Test function

On power-up, the scale will test all memory functions followed by a display test. The display test consists of counting up the numeric digits from 0 to 9, while all indicators are on.

2.2.3 Display range

The scales will display weight from -Max (tare function) to Max +9e (gross weight).

2.2.4 Zero-setting

Zero-setting range: ±2 % of Max.
Initial zero-setting range: ≤ ±10 % of Max.
Zero-setting is only possible when the load receptor is not in motion.

2.2.4.1 Semi-automatic zero-setting

Pressing the ZERO key causes a new zero reference to be established and ZERO annunciator to turn on, indicating that the display is at the centre of zero.

2.2.4.2 Zero-tracking

The scales are equipped with a zero-tracking feature, which operates over a range of ±2 % of Max and only when the scale is at zero and there is no motion in the weight display.

2.2.5 Tare

The instrument models are provided with a semi-automatic subtractive tare.

2.2.5.1 Semi-automatic tare

The instrument models are provided with a semi-automatic subtractive tare.
Pressing the "TARE" key will enter the current weight value as the new tare weight value, if the tare function is not already active. The weight display will automatically change to the net weight display mode and turn on the NET annunciator. This tare value can be cleared by pressing the TARE key, when there is no load on the load receptor. This tare entry cannot take place if the load receptor is in motion.

On PC1 consecutive tare operation cannot be performed.

2.2.5.2 Preset tare

The CSQ is provided with a preset tare function.

Pressing the TARE key with the load tray empty and keying in a numeric value will load the preset tare value.

2.2.6 Totalization

PC1 can perform totalization of the transactions when a printer is connected.

The printer is detected automatically.

2.2.7 Printing

A printer may be connected to the optional serial data port.

The printing will not take place if the load receptor is not stable, if the gross weight is less than zero, or if the weight exceeds Max.

2.2.8 Counting

The CSQ scale is primarily intended for counting while WE has a simplified counting function.
The count shown in counting mode however, is not to be regarded as an approved weighing result.

2.2.9 Operator information messages

The weight display can show a number of general and diagnostic messages, which are described in detail in the User's Manual.

2.2.10 Software version

The scales do not have software separation. The software versions for the different models are as follows:

WE:	100112
PC1:	200116
CSQ :	300112

On CSQ and PC1 can the software version be seen by pressing the T and 5 key simultaneously.
On WE can the software version be seen by holding the print key at power up and during the count-down sequence.

2.2.11 Battery operation (optional)

The scale models are supplied with 10 VDC from an external AC/DC adapter and can be operated from an optional internal 6 V rechargeable battery. The scale contains the circuitry necessary to re-charge the battery when the scale is connected to the mains power.

2.2.12 Gravity compensation

If the scale is to be used a different place than the one of verification, then the g-value for the place of verification shall be entered into the following parameters, before the calibration and verification is performed.
CSQ: LF-/
PC1: T-3
WE: LF-7 or UF-9

After the verification the parameter shall be set to the g-value for the place of use.
This adjustment is sealed.

3. Technical data

3.1 Scales

The WE / CSQ / WE scales have the following characteristics:

Accuracy class:	III
Weighing range:	Single-interval or dual-range or dual-interval (WE only)
Maximum number of Verification Scale Intervals:	3000 (single interval) or 2×3000 (dual-range) or 2×3000 (dual interval) (WE only)
Maximum capacity (Max):	3 kg to 30 kg
Verification Scale Interval(e_i):	≥ 0.5 g
Minimum capacity (Min_i):	20 e_i
Maximum tare effect:	≤ -Max
Excitation voltage:	5 VDC
Mains power supply:	10 VDC / 230-240 VAC, 50 Hz using external AC/DC adapter, 6 V internal battery (optional)
Operational temperature:	-10 °C to +40 °C
Peripheral interface:	Set out in Section 4

3.2 Load cells

Zemic load cells type L6D C3 or HBM load cells PW6K C3 or KELI AMI C3 according to the table in Section 2.1.

3.3 Documents

The documents filed at FORCE (reference No. T209996) are valid for the weighing instruments described here.

4. Interfaces and peripheral equipment

4.1 Interfaces

The interfaces are characterised “Protective interfaces” according to paragraph 8.4 in annex I of the Directive.

4.1.1 RS-232 interface (optional)

The scales may be equipped with a RS-232 interface for connection to a computer or to a printer.

4.2 Peripheral equipment

The instrument may be connected to any simple printer with a CE mark of conformity using a screened cable.

5. Approval conditions

5.1 Measurement functions other than non-automatic functions

Measurement functions that will enable the use of the instrument as an automatic weighing instrument are not covered by this type approval.

5.2 No consecutive tare

Consecutive tare operation shall be disabled on the price-computing scales.

5.3 Counting operation is not approved for NAWI

The count shown as result of the counting function is not covered by this NAWI approval.

6. Special conditions for verification

None.

7. Securing and location of seals and verification marks

7.1 Securing and sealing

Seals shall bear the verification mark of a notified body or alternative mark of the manufacturer according to ANNEX II module F or D of Directive 2014/31/EU.

7.1.1 Scale

Access to the configuration and calibration facility is achieved by switching a calibration switch on the mainboard. Access is done by taking the top enclosure off the scale. Sealing of the access to the calibration switch is accomplished either by two stickers on opposite sides of the enclosure covering the upper and the lower part of the enclosure or by a wire and seal on a metal stick coming out of the enclosure. There is a sticker positioned in the bottom in two opposite corners.

8. Location of CE mark of conformity and inscriptions

8.1 Scale

8.1.1 CE mark

CE mark and supplementary metrological marking shall be applied to the scale according to article 16 of Directive 2014/31/EU.

8.1.2 Inscriptions

Manufacturer's trademark, type designation, Max_i, Min_i, and e_i= shall be located near the display(s).

On a label located on the side of the scale enclosure:

- Manufacturer's name and/or trademark
- Postal address of manufacturer
- Type designation
- Accuracy class
- Max_i, Min_i, e_i =
- Tare (if T ≠ -Max)
- EU type examination certificate number
- Model no., serial no., electrical data and other inscriptions

9. Pictures

Figure 1 PC1 scale

Figure 2 PC1 scale – rear view

Figure 3 WE scale

Figure 4 WE scale – rear view

Figure 5 CSQ front

Figure 6 CSQ back shown with optional rear display

Figure 7 Sealing with stickers of PC1 / WE / CSQ scales.

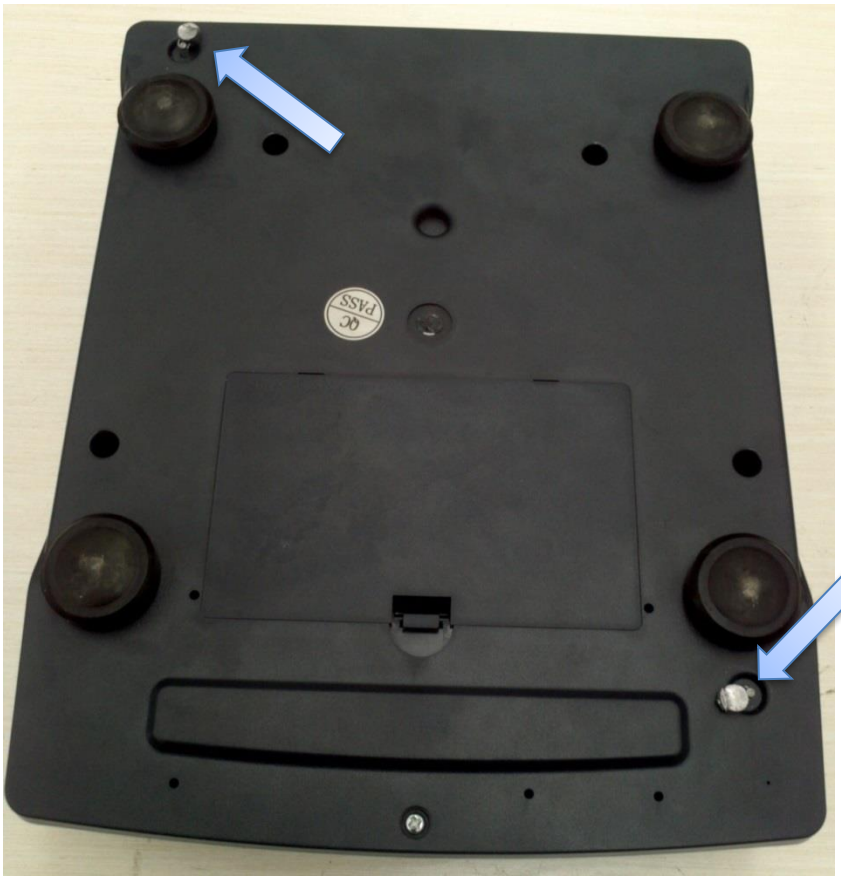

Figure 8 Sealing with wire and seal of PC1 / WE / CSQ scales.

Figure 9 Alternative trademark, which may be used on the scales instead of HiWEIGH.