

Issued by NMI Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to conformity modules mentioned in Article 13 of Directive 2014/31/EU, after having established that the measuring instrument meets the applicable requirements of Directive 2014/31/EU, to:

Manufacturer Shanghai Sunmi Technology Co., Ltd.
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China

Measuring instrument **A Non-automatic weighing instrument**
Type : S2

Further properties are described in the annexes:
– Description T11689 revision 2;
– Documentation folder T11689-1.

Valid until 27 September 2029

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Remark This revision replaces the earlier versions, except for its documentation folder.

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1 General information about the non-automatic weighing instrument

All properties of the non-automatic weighing instrument, whether mentioned or not, shall not be in conflict with the legislation.

1.1 Essential parts

The analog data processing device;
 The terminal;
 The mechanical assembly with load cell.

See block diagram:

Number	Pages	Description	Remarks
11689/0-01	1	Block diagram	-

EMI protection measures:

- A/D board shielded with metal cover;
- Ferrite on cable between main board and displays;
- Ferrite on cable between A/D board and load cell;
- Ferrite on power adaptor cable.

1.2 Essential characteristics

Accuracy class	Ⓜ or ⓂⓂ
Maximum capacity	$6 \text{ kg} \leq \text{Max} \leq 30 \text{ kg}$
Verification scale interval	$e \geq 2 \text{ g}$
Weighing ranges	Single interval Multi-interval
Maximum number of scale intervals	$n \leq 3000$
Maximum number of weighing ranges	2
Tare	$T \leq -(\frac{1}{2}\text{Max}-e)$ for instruments with one weighing range $T \leq -(\text{Max}_1-e_1)$ for multi-interval instruments
Temperature range	$-10 \text{ °C} / +40 \text{ °C}$
Power supply voltage	100 – 240 V AC 50/60 Hz
Application	Intended to be used for direct sales to the public


Software identification:

Legally relevant software	Identified on display as	Version number (x = 0...9)
SunmiScaleADFW.bin	ADFW	11xxx
ElectronicScaleService.apk.	SERVICE	1.4.xx
ScaleDisplay.apk	DISPLAY	1.0.xx

The software identification is permanently displayed in the metrology bar.

Software protection:

- The software is placed on the hard disk or similar device, in executable file(s);
- The software operates with protected software interfaces;
- The software is protected against intentional and unintentional changes by a checksum;
- The operating system prevents the software to operate if the legally relevant software has been tampered with;
- Event logger for changes in the configuration.

A CRC32 checksum is used to ensure the communication between the SunmiScaleADFW.bin and ScaleDisplay.apk. The checksum working status is indicated by a sign  on the screen.

Software specification (WELMEC 7.2):

- Software type U;
- Risk Class C;
- Extension O/S/D.

Event logger:

- After software locking any change to the configuration or parameters are recorded in the event logger. The records are protected against modifications and cannot be deleted.

The event logger can be accessed by pressing the notifications bar (in the right bottom corner of the display), followed by "show event log".

The instrument can be used as a self-service scale.

1.3 Essential shapes

Number	Pages	Description	Remarks
11689/0-02	1	Exploded view	-

The data plate is secured against removal by sealing or will be destroyed when removed.

The inscriptions Max, Min, e, as required by Directive 2014/31/EU Annex III point 1.4 are presented in the display by software.

1.4 Conditional parts

Number	Pages	Description	Remarks
11689/0-05	2	Power & Interface board	Including IC list

The instrument may be equipped with the following parts that further process the measurement result without modification under the conditions stated in the table:

Part	Condition(s)	Reference document
Simple recipient printer	CE marking present	WELMEC 2.10 clause 3.1.3
Printer	CE marking present and the part is certified to be connected to a weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.	WELMEC 2.10 clause 3.1.3
Point of Sale (POS)	CE marking present and the part is certified to be connected to a weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.	WELMEC 2.2
Point of Sale (POS) (software installed on the weighing instrument)	The part is certified to be installed on a weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.	WELMEC 2.2
Price Totalizer Price Computing Device	CE marking present and the part is certified to be connected to a weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.	WELMEC 2.10 clause 3.1.3
Price Totalizer Price Computing Device (software installed on the weighing instrument)	The part is certified to be installed on a weighing instrument by a Notified Body responsible for type examination under Directive 2014/31/EU.	WELMEC 2.10 clause 3.1.3
Electronic Funds Transfer equipment (EFT)	CE marking present and the EFT represents only the price total on the display.	-

The non-automatic weighing instrument is fitted with a levelling device and a level indicator, unless the instrument is installed in a fixed position. A ring on the level indicator indicates when the maximum tilt is exceeded.

The non-automatic weighing instrument may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232;
- Ethernet;
- USB host;
- Audio;
- Drawer kick.

Power supply:

- Brand Jiangsu Chenyang Electron Co.Ltd, type CYSE65-240250.

1.5 Non-essential parts

The non-automatic weighing instrument may be connected to non-essential devices, for example but not limited to bar code readers, foot switches, second displays and cash drawers, provided that:

- They do not present primary data used for purposes mentioned in Article 1(2), (a) to (f) of Directive 2014/31/EU unless the "Preliminary observation" in Annex I of the Directive is satisfied;
- They do not lead to an instrument having other essential characteristics than those fixed by this certificate.

Other non-essential parts:

- Internal printer;
- Label printer
- Touchscreen.

2 Information about the main constituent parts of the non-automatic weighing instrument

2.1 The analog data processing device

2.1.1 Essential parts

Number	Pages	Description	Remarks
11689/0-03	1	A/D board	Including IC list

Legally relevant files:

- SunmiScaleADFW.bin.

2.1.2 Essential characteristics

List of legally relevant functions:

- Determination stability of equilibrium;
- Zero indicating;
- Semi-automatic zero-setting;
- Initial zero-setting;
- Zero-tracking;
- Semi-automatic subtractive tare weighing;
- Preset tare;
- Gravity compensation (protected by the hardware sealing under the platter);
- Adjustment / set-up mode via a button on the A/D board (protected by the hardware sealing under the platter);
- Acting upon significant faults.

2.2 The terminal

2.2.1 Essential parts

Legally relevant files:

- scaledisplay.apk;
- ElectronicScaleService.apk.

2.2.2 Essential characteristics

Operating system:

- Android.

List of legally relevant functions:

- Price-computing;
- Net calculation based upon a gross weight value and a tare value;
- Download of legally relevant software.

If used for direct sales to the public and equipped with a printer the following legally relevant functions may be present:

- Indications other than primary indications;
- Indication of additional information;
- Memory storage;
- PLU;
- Non-weighed articles;
- Totalisation;
- Price labelling.

When the certified point of sale software is installed on the non-automatic weighing instrument, the point of sale will perform the legally relevant functions listed in its certificate, while the terminal (with display software) will not perform these functions.

2.2.3 Conditional parts

Number	Pages	Description	Remarks
11689/0-04	1	Mainboard	Including IC list

2.3 The mechanical assembly with load cell

2.3.1 Essential parts

Number	Pages	Description	Remarks
11689/0-06	3	Load cell data sheet	-

2.3.2 Essential characteristics

$e \geq E_{max}/10000$, or $e_1 \geq E_{max}/10000$ for multi-interval instrument;
 Excitation voltage 5 V DC.

2.3.3 Essential shapes

Number	Pages	Description	Remarks
11689/0-07	2	Load cell assembly	-

3 Seals

To secure components that may not be dismantled or adjusted by the user, the non-automatic weighing instrument has to be secured in a suitable manner on the locations indicated in the drawing:

Number	Pages	Description	Remarks
11689/0-08	2	Sealing	-

Inside the cabinet is an adjustment push button, located on the A/D board.

4 Conditions for conformity assessment

The marks, facilities for the marks and the inscriptions on the non-automatic weighing instrument fulfil the requirements of point 1 of Annex III of Directive 2014/31/EU.

In case the non-automatic weighing instrument is equipped with a Point Of Sale the conformity assessment procedure of WELMEC 2.2 Issue 3 clause 2.2 shall be taken into account.

This non-automatic weighing instrument was previously placed on the market under the name "Changzhou Sunmi Scale Technology Co. Ltd."