

# EU Type Examination Certificate

**No. 0200-NAWI-17599**

**A10**

**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**        **Fidelity Measurement Co., Ltd.**  
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**In respect of**    Non-automatic weighing instrument A10 with variants of modules of load receptors, load cells and peripheral equipment.  
Accuracy class III, Single interval, multi interval (dual), multirange (dual)  
Maximum capacity, Max: From 1.5 kg up to 30 kg  
Verification scale interval:  $e_i = \text{Max}_i / n_i$   
Maximum number of verification scale intervals:  $n_i = 10000$  (however, dependent on environment and the composition of the modules).  
Variants of modules and conditions for the composition of the modules 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 8 pages.

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## Descriptive annex

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## 1. Name and type of instrument

The non-automatic weighing scale designated A10 is a self-indicating weighing scale. It is Class III with single interval, multi interval (dual) or multirange (dual), supplied with 12 VDC from external mains adapter and with an internal rechargeable battery (optional).

The scales consist of analogue to digital conversion, microprocessor control circuitry, power supply, keyboard, non-volatile memory for storage of calibration and weight data, front vendor display and a customer display. The customer display is either in the rear of the weighing scale or mounted on a pole.

## 2. Description of the construction and function

### 2.1 Construction

#### Enclosures and keyboard

The weighing scale is housed in an enclosure made of ABS plastic.

The front panels of the weighing scale comprise:

- an LCD display with appropriate state indicators and 6 digits.
- A keyboard containing 12 keys plus a numerical keyboard. Each key is identified with a name and/or pictograph and is used to enter commands or data into the scale.

#### Electronics

The instruments use a single PCB, which contains all of the instrument circuitry including microprocessor, memory, AD circuitry and display. The metrological circuitry for the models of weight indicator is identical.

Additionally, there is a PCB for the different kind of interfaces.

A calibration jumper is mounted on the main board and is accessed by opening the housing.

All instrument calibration and metrological setup data are contained in non-volatile memory. The power supply accepts an input voltage of 12 VDC from the external power adapter with input from 100 to 240 VAC 50/60 Hz. The weighing scale produces a load cell excitation voltage of 5 VDC.

## 2.2 Function

The weight indicating instrument is a microcontroller based electronic scale. The weight information – appears in the digital display. The instruments are available for operation from 12 VDC supplied from an external adapter intended for 100-240 VAC 50/60 Hz and from an optional internal 6V rechargeable battery.

The primary functions provided are detailed below.

### 2.2.1 Power-up

On power-up, the weighing scale will perform a self-test, a display test and show the software version. After that it will automatically establish the current weight as a new zero reference.

### 2.2.2 Display range

The weighing scale will display weight from –Max to Max (gross weight) within the limits of the display capacity.

### 2.2.3 Zero-setting

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

Semi-automatic zero-setting range:  $\leq 4\%$  of Max.

Automatic zero-tracking range:  $\leq 4\%$  of Max.

Initial zero-setting range:  $\leq 20\%$  of Max.

Zero-setting is only possible when the load receptor is not in motion.

### 2.2.4 Zero-tracking

The weighing scale is equipped with a zero-tracking feature, which operates over a range of  $\leq 4\%$  of Max and only when the indicator is at gross zero and there is no motion in the weight display.

### 2.2.5 Semi-automatic Tare

The weighing scale is provided with a semi-automatic subtractive tare feature activated using the “TARE” key.

### 2.2.6 Automatic Tare

The weighing scale is provided with an automatic Tare device.

### 2.2.7 Preset Tare

The weighing scale is provided with a Preset Tare device. The tare value is introduced via the numeric keyboard.

### 2.2.8 Unit

The unit can be changed using the Unit key. Only allowed units is g (gram) and kg (kilogram)

### 2.2.9 Checkweighing

The weighing scale can be used for checking weight or piece value against a high or low value

### **2.2.10 Printing**

A printer may be connected to the scale. The weighing scale will transmit the current weight indication to the printer automatically or manual when the “PRINT” key is pressed.

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.

### **2.2.11 Operator information messages**

The weighing scale has a number of general and diagnostic messages, which are described in detail in the user’s guide.

### **2.2.12 Software version**

The version of the software is displayed during the power-up sequence of the instrument.

The approved software version is CE010

### **2.2.13 Totalisation**

The weighing scale has a totalisation function, adding actual weight display values to the memory automatically or manual when pressing the “Print/M+” key and the equilibrium is stable. An indicator will turn on when the totalising function is active. Pressing the “MR/unit”. key with empty load receptor will display the total accumulated weight. Pressing the “Zero” key in this mode will clear the totalised value.

### **2.2.14 Counting**

The count shown in counting mode and the unit weight, however, are not to be regarded as approved weighing results.

### **2.2.15 PLU**

The instrument has the possibility for quick access PLU’s.

### **2.2.16 Battery operation**

The weighing scale can be operated from an internal rechargeable battery, if this option is installed.

### **2.2.17 Extended display indication**

The indicator has an extended display indication function using the “CE/x10” key. This function may be used only temporarily (max 10s), and printing shall be inhibited during its functioning.

### 3. Technical data

#### 3.1 Scales

The scales have the following characteristics:

Accuracy class:	III
Weighing range:	Single interval, multi interval, multi-range
Maximum number of Verification Scale Intervals:	10000 per interval/range
Maximum capacity (Max):	From 1.5 kg to 30 kg
Verification Scale Interval:	$Max_i / n_i$
Maximum tare effect:	$\leq -Max$
Excitation voltage:	5 VDC
Minimum load cell input impedance:	350 ohm
Maximum input impedance:	1050 ohm
Mains power supply:	12 VDC from external adapter for 100-240 VAC, 50/60 Hz, 6V internal rechargeable battery
Operational temperature:	-10 °C to +40 °C
Peripheral interface:	Set out in Section 4

#### 3.2 Load cells

##### 3.2.1 General acceptance of modules

Any analogue load cell(s) may be used for instruments under this certificate of type examination provided the following conditions are met:

- 1) There is a respective Part / Evaluation / Test Certificate or an OIML Certificate of Conformity (R60:2000 or R60:2017) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU
- 2) The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules ((EN 45501:2015 annex F), and any particular installation requirements). A load cell marked NH is allowed only if humidity testing to EN 45501 has been conducted on this load cell.
- 3) The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in the above EN 545501 document, or the like, at the time of EU verification or declaration of EU conformity of type.
- 4) The load transmission must conform to one of the examples shown in the WELMEC 2.4 Guide for load cells.

#### 3.3 Documents

The documents filed at FORCE (reference No. 123-31187) are valid for the weighing instruments described here.

## **4. Interfaces and peripheral equipment**

### **4.1 Interfaces**

The weighing scale may be equipped with the following protective interfaces located on the main board.

- RS-232C
- Bluetooth
- WiFi
- Digital input/output via Relay
- USB
- Ethernet

The interface does not have to be secured.

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

### **4.2 Peripheral equipment**

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

## **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, section 2 or 4 of the Directive 2014/31/EU.

#### **7.1.1 Scale**

Access to the configuration and calibration facility requires that a calibration jumper on the main board is short-circuited.

The instrument has a calibration counter that will be increased when the unit is calibrated. The value of the counter shall be noted on a tamperproof label at initial verification.

Sealing of the cover of the enclosure - to prevent access to the calibration switch and to secure the electronics against dismantling/adjustment - is accomplished by sealing of the enclosure with wire and seal.

#### **7.1.2 Peripheral interfaces**

All peripheral interfaces are “protective”; they neither allow manipulation with weighing data or legal setup, nor change of the performance of the weighing instrument in any way that would alter the legality of the weighing.

## **8. Location of CE mark of conformity and inscriptions**

### **8.1.1 CE mark**

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

### **8.1.2 Inscriptions**

Manufacturer's trademark and/or name and the type designation is located on the front panel overlay.

Indelibly printed on a brittle plastic sticker located on the front panel overlay and next to the customer display:

- $Max_i, Min_i, e_i =$
- Other inscriptions are allowed

On the inscription plate:

- Manufacturer's name and/or logo,
- Manufacturers postal address
- model no.,
- serial no.,
- type-approval certificate no.,
- Max, Min,  $e=$
- accuracy class,
- Maximum tare,
- Electrical data
- Other inscriptions are allowed.

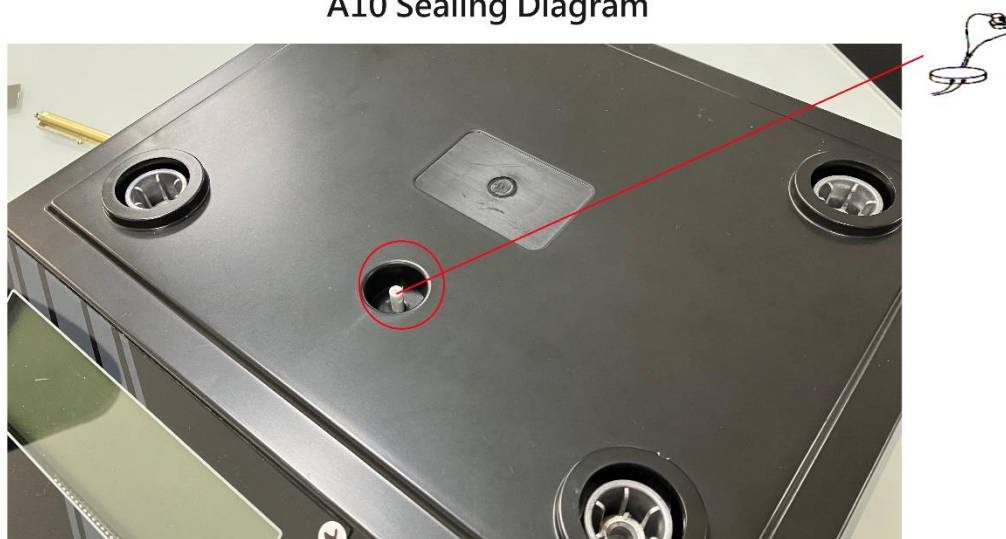


## 9. Pictures



**Figure 1** A10 scale.

### A10 Sealing Diagram



**Figure 2** Sealing of Weighing scale enclosure.