

## EC type-approval certificate UK 2967

Issued by:

**The National Measurement Office**  
**Notified Body Number 0126**

In accordance with the requirements of the Non-automatic Weighing Instruments Regulations 2000 (SI 2000/3236) which implement, in the United Kingdom, Council Directive 2009/23/EC, this EC type-approval certificate has been issued to:

**CAS Corporation**  
**19 Ganap-Ri**  
**Gwangjuk-Myoun**  
**Yangju-Si**  
**Gyeonggi-Do 482-841**  
**Republic of Korea**

In respect of a family of dual-interval, Class III, non-automatic weighing instruments designated the FW500 Series, and having the following characteristics:

$6 \text{ kg} \leq \text{Maximum capacity} \leq 30 \text{ kg}$

$e \geq 1 \text{ g}$

$n \leq 3000$  for Class III instruments per partial weighing range, with a maximum of two partial weighing ranges.

**Issue Date:** 05 August 2013  
**Valid Until:** 04 August 2023  
**Reference No:** TS1201/0074



**Signatory: P R Dixon**  
**for Chief Executive**

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NMO is an Executive Agency of the Department for Business, Innovation & Skills



0135



**National  
Measurement  
Office**

# Descriptive Annex

## 1 NAME AND TYPE OF INSTRUMENT

This family of instrument, designated the FW500 Series (Figure 1), comprises the FW500-C and FW500-E models. The instruments are Class III, mains or battery-operated, self-indicating, dual-interval, non-automatic weighing instruments. The instruments are designed for direct sales to the public.

## 2 DESCRIPTION

### 2.1 Construction

#### 2.1.1 Mechanical

Main features:

- Plastic construction
- Front LCD (FW500-C) or LED (FW500-E) displays with keypads (Figures 2 and 3)
- Optional rear LCD (FW500-C) or LED (FW500-E) displays
- Stainless steel load receptor
- Level indicator

#### 2.1.2 Devices

- Initial zero setting device ( $\leq 20\%$  of Max)
- Semi-automatic zero setting device ( $\leq 4\%$  of Max)
- Zero tracking device ( $\leq 4\%$  of Max)
- Zero indicator
- Net indicator
- Stable weight indicator
- Semi-automatic subtractive tare balancing device
- Low battery indicator
- Hold function
- Gravity compensation
- Calibration / set-up mode via sealed internal switch

#### 2.1.3 Load cell

The load cell is a CAS load cell, model SW, capacities as per table 3.2.

### 2.2 Operation

#### 2.2.1 Switch-on

At switch-on, a display test is performed to ensure that the displays have no defect.

### 2.2.2 Zero-tracking

Zero tracking operates provided that the instrument is within range of not more than 4% of its capacity.

### 2.2.3 Semi-automatic zero setting

The zero button operates provided that the instrument is within range of not more than 4% of its capacity.

### 2.2.4 Over-range and under-range

If the load is less than gross zero, then the display shows a “-” sign before the value. The instruments prevent the display of gross weights below -20e.

The instrument may be set to display weight up to nine divisions above Max. At greater loads the display shows “----”.

### 2.2.5 Tare

Subtractive tare balancing can be performed, the net indicator is on when a tare is active. Reduction of the Tare value is not permitted.

### 2.2.6 Hold

The Hold function is used to display the average weight value of unstable weights. The average weight flashes three times before the instrument goes back to normal mode (live weight indication).

## 3 TECHNICAL DATA

### 3.1 Power supply

The instruments operate on a 12 VDC power supply via a mains adaptor (any CE-mark mains adaptor may be used).

The instrument may also operate on a 6 V 3.2Ah battery.

### 3.2 Metrological characteristics

Model	FW500-C6 FW500-E6	FW500-C15 FW500-E15	FW500-C30 FW500-E30
Max	3/6 kg	6/15 kg	15/30 kg
Min	20 g	40 g	100 g
e =	1/2 g	2/5 g	5/10 g
T	-2.999 kg	-5.998 kg	-14.995 kg
E <sub>max</sub>	6 kg	15 kg	30 kg

Note: E<sub>max</sub> in the above table refers to the actual measuring range and does not include the dead load for the instrument.

The temperature range for the instruments is -10 °C / +40 °C.

## **4 PERIPHERAL DEVICES AND INTERFACES**

### **4.1 Interfaces**

The instrument is not fitted with any interfaces.

### **4.2 Peripheral devices**

The following peripheral devices may be connected to the interfaces provided:

- Peripheral devices that have been issued with a test certificate by a Notified Body responsible for type approval under Directive 2009/23/EC; or
- Peripheral devices without a test certificate under the following conditions:
  - it bears the CE marking for conformity to the EMC Directive;
  - it 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;
  - it prints weighing results and other data as received from the weighing instrument without any modification or further processing;
  - it complies with the applicable requirements of EN45501, i.e. 4.2, 4.4, 4.6 and 4.7.

A printing device may print additional information such as date or number to identify the printed weighing result(s) or sets of weighing results.

## **5 APPROVAL CONDITIONS**

This certificate is issued subject to the following conditions:

### **5.1 Legends and inscriptions**

**5.1.1** The remote display bears the following legends on or near the display:

Max  
Min  
e =

**5.1.2** The instrument shall bear the following legends (Figure 4):

Accuracy class  
CE marking  
Green M  
Serial number  
Manufacturer's mark or name  
Certificate number  
T = - (if T ≠ - Max)

The markings and inscriptions shall fulfil the requirements of Paragraph 1 of Annex IV of the Directive 2009/23/EC.

## **6 LOCATION OF SEALS AND VERIFICATION MARKS**

**6.1** The data plate is secured, either by sealing or by being of a form such that it is destroyed when removed.

**6.2** Components that may not be dismantled or adjusted by the user (load cell, calibration switch) must be secured by a wire and seal solution or by a suitable. The securing mark may be either:

- a mark of the manufacturer and/or manufacturer's representative, or
- an official mark of a verification officer.

Figure 5 shows the sealing of the calibration switch.

**6.3** Verification marks, and the CE-marking, are located on, or adjacent to, the data plate situated at the back of the display.

## **7 ALTERNATIVES**

**7.1** Having the instruments manufactured by the following companies:

CAS (Zhejiang) Electronics Co., Ltd,  
99# Changjiang Road  
Jiashan County  
Zhejiang Province  
China

CAS Elektronik San. Tic. A.S.  
Yukari Dudulu, Bostanci Cad. Mevdudi Sokak No: 34  
Umraniye-Istanbul / Turkey

## **8 ILLUSTRATIONS**

- Figure 1 FW500 Series  
Figure 2 FW500-C display and keypad  
Figure 3 FW500-E display and keypad  
Figure 4 Rating plate example  
Figure 5 Calibration switch sealing method

## **CERTIFICATE HISTORY**

ISSUE NO.	DATE	DESCRIPTION
UK 2967	05 August 2013	Type approval first issued.
-	-	No revisions have been issued.



Figure 1 FW500 Series

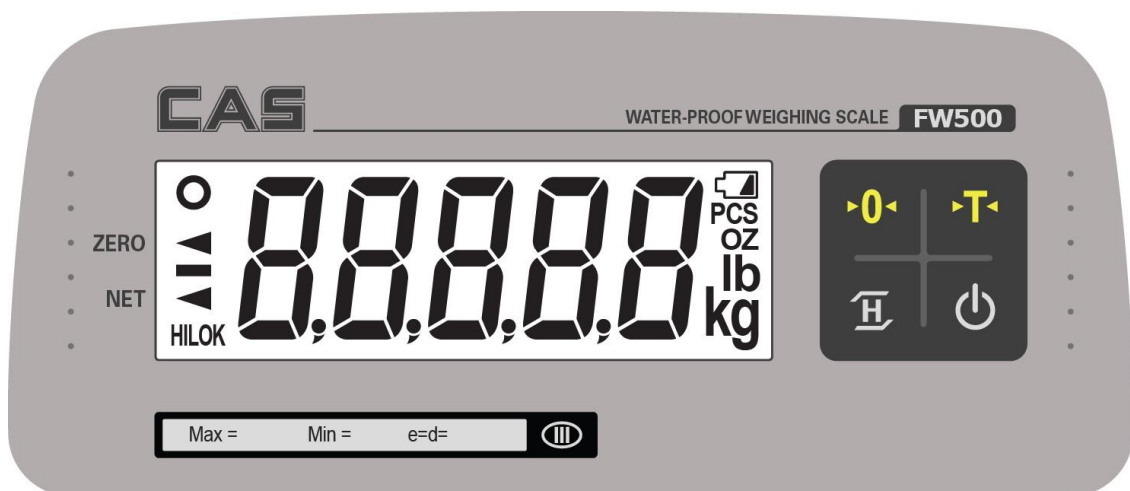
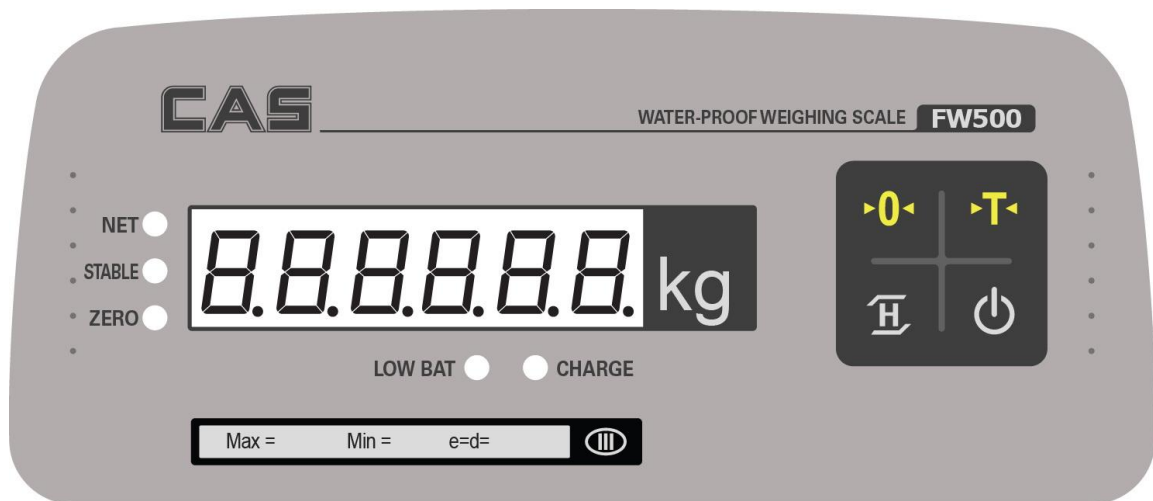
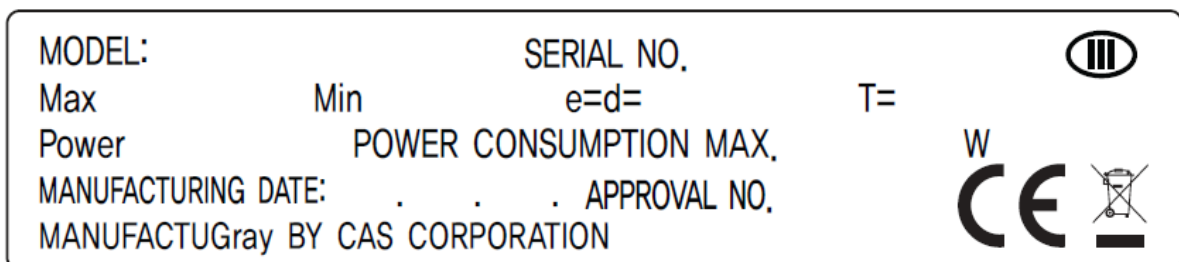


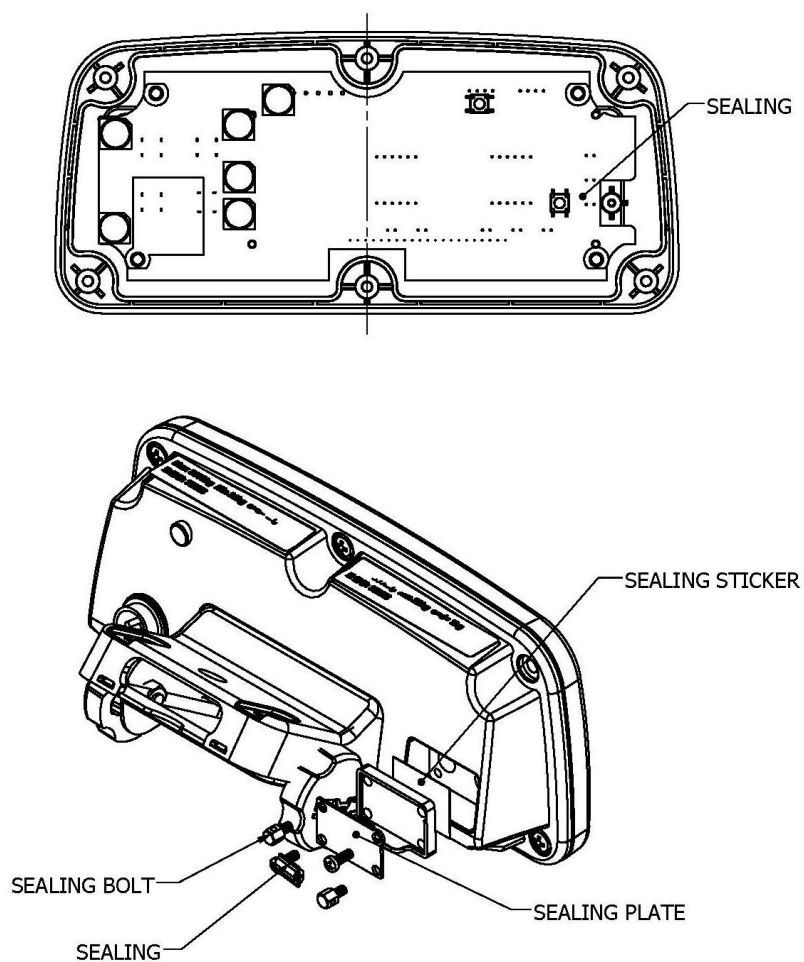
Figure 2 FW500-C display and keypad



**Figure 3** FW500-E display and keypad



**Figure 4** Rating plate example



**Figure 5 Calibration switch sealing method**



Member State of OIML  
United Kingdom of Great Britain  
and Northern Ireland

OIML Certificate No  
R76/1992-GB1-13.05

## OIML CERTIFICATE OF CONFORMITY

Issuing authority: **National Measurement Office**

Person responsible: **Paul Dixon – Product Certification Manager**

Applicant: **CAS Corporation  
19 Ganap-Ri  
Gwangjuk-Myoun  
Yangji-Si  
Gyeonggi-Do 482-841  
Republic of Korea**

Manufacturer: **The applicant**

Identification of the  
certified pattern: **FW500 Series**

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report) with the requirements of the following Recommendation of the International Organisation of Legal Metrology (OIML):

**OIML R 76 - Edition 1992(E) for accuracy class: [III]**

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

This certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the certificates reference number and the name of the OIML Member State in which the certificate was issued, partial quotation of the certificate or of the associated test report is not permitted, though they may be reproduced in full.

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**for Chief Executive**

The conformity was established by tests and examination described in the associated pattern evaluation report P01124 which includes 13 pages.

### Characteristics of the instrument:

This FW500 Series comprises the FW500-C and FW500-E models, which are dual-interval, Class III, non-automatic weighing instruments.

The instruments are self-indicating and mains or battery-powered, and may be used for direct sales to the public.

### Construction:

- Plastic construction
- Front LCD (FW500-C) or LED (FW500-E) displays with keypads
- Optional rear LCD (FW500-C) or LED (FW500-E) displays
- Stainless steel load receptor
- Level indicator

### Devices:

- Initial zero setting device ( $\leq 20\%$  of Max)
- Semi-automatic zero setting device ( $\leq 4\%$  of Max)
- Zero tracking device ( $\leq 4\%$  of Max)
- Zero indicator
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- Stable weight indicator
- Semi-automatic subtractive tare balancing device
- Low battery indicator
- Hold function
- Gravity compensation
- Calibration / set-up mode via sealed internal switch

### Load cell:

The load cell is a CAS load cell, model SW, capacities as follows.

### Technical data:

Model	FW500-C6 FW500-E6	FW500-C15 FW500-E15	FW500-C30 FW500-E30
Max	3/6 kg	6/15 kg	15/30 kg
Min	20 g	40 g	100 g
e =	1/2 g	2/5 g	5/10 g
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E <sub>max</sub>	6 kg	15 kg	30 kg

Note: E<sub>max</sub> in the above table refers to the actual measuring range and does not include the dead load for the instrument.

The temperature range for the instrument is -10 °C / +40 °C.

The instruments operate on a 12 VDC power supply via a mains adaptor. The instrument may also operate on a 6 V 3.2Ah battery.

Interfaces: None

Seals:

The calibration and setup parameters can only be accessed via the sealed switch located on the main board.

### **Certificate History**

ISSUE NO.	DATE	DESCRIPTION
R76/1992-GB1-13.05	05 August 2013	Type approval first issued