

(UK2560)



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United Kingdom of Great Britain and Northern Ireland

Certificate of EC type-approval of a measuring instrument

Number: UK 2560 Revision 1

issued by the Secretary of State for Business, Innovation & Skills
Notified Body Number 0126

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

**A&D Instruments Ltd.
24-26 Blacklands Way
Abingdon Business Park
Abingdon, OX14 1DY
United Kingdom**

in respect of a class II non-automatic weighing instrument designated the GX-xx or GF-xx.

$6100 \leq n \leq 61000$ divisions

$210 \text{ g} \leq \text{Max} \leq 8100 \text{ g}$ or $1050 \text{ ct} \leq \text{Max} \leq 40500 \text{ ct}$

$0.01 \text{ g} \leq e \leq 1 \text{ g}$ or $0.1 \text{ ct} \leq e \leq 1 \text{ ct}$

$d = e/10$

$\text{Min} = 20 e$

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

This revision replaces previous versions of the certificate.

A handwritten signature in black ink, appearing to read 'P R Dixon', with a horizontal line extending to the right.

Signatory: P R Dixon
for Chief Executive
National Weights & Measures Laboratory
(Part of the National Measurement Office)
Department for Business, Innovation and Skills
Stanton Avenue
Teddington
TW11 0JZ
United Kingdom

Date: 01 March 2010
Valid Until: 28 February 2020
Reference No: T1128/0262

Descriptive Annex

1 NAME AND TYPE OF INSTRUMENT

The A&D GX-xx and GF-xx series of instruments are mains-powered, Class II, non-automatic weighing instruments, fitted with a combined semi-automatic zero setting and subtractive tare balancing device, and a semi-automatic and automatic internal calibration device. The “xx” defines any minor product variation (see Figure 1).

2 DESCRIPTION

2.1 Construction

2.1.1 Mechanical

Main features:

- 317 mm x 210 mm metal lower-case unit supports the load cell, sensor unit and internal mass. The unit also houses the main board, which incorporates the VFD. The RS232 board and port are mounted at the rear of the unit.
- Keyboard consisting of six function keys.
- Mains power adapter module, model TB-124x, providing a 12 V DC output to the weighing instrument. The “x” defines any minor product variation.

2.1.2 Load cell

The load cell is available in three different capacities:

- Max 610 g, e = 0.01 g
- Max 6100 g, e = 0.1 g
- Max 8100 g, e = 1 g

2.1.3 Keyboard

The keyboard consists of six functional keys (see Figure 1):

- ON/OFF - switches the display on and off, when the display is turned off the standby indicator is displayed.
- SAMPLE - switches the minimum weighing value (“d”) on and off and is used to enter into the function table mode.
- MODE - switches between the available weighing units and performs response adjustment and self-check.
- CAL - performs a calibration using the internal mass.
- PRINT - stores the weighing data in memory or outputs to the RS232 and displays the data memory menu.
- RE-ZERO - sets the display to zero. The re-zero key is a combined semi-automatic zero setting subtractive tare-balancing device.

2.1.4 Display

The VFD provides a 1.1 cm high, 7 segment field to display the weight value, and an additional field to display the units.

Up to 9 enunciators can be displayed, to indicate stability of equilibrium, self-calibration, processing, capacity, response time, etc.

2.1.5 Circuitry

All signal processing and communications with the load cell and the I/O are achieved from the control circuitry within the main unit. The A-D PCB is shielded for EMC compliance.

2.2 Operation

2.2.1 Switch on

On power up the instrument performs internal diagnostic tests, and a full display test, after which the unit will activate the internal self-calibration mechanism to check and if necessary reset the position of the internal calibration mass and then attempt to capture zero. If faults are detected an error message is displayed.

2.2.2 Semi-Automatic zero setting

Automatic and semi-automatic zero setting is possible between $\pm 2.0\%$ of max capacity. Operation of the semi-automatic zero within this range will cancel any current tare operations.

2.2.3 Initial zero setting

Initial zero setting is possible between $\pm 10\%$ of max capacity.

2.2.4 Zero tracking

Zero tracking operates between $\pm 2.0\%$ of maximum capacity. The maximum speed of tracking is 0.5 d per second.

2.2.5 Combined semi-automatic zero-setting and subtractive tare balancing device.

Subtractive semi-automatic tare balancing facility is provided to the maximum capacity of the instrument.

The subtractive tare and the semi-automatic zero devices are operated by the same function key, and are controlled by software.

The subtractive tare facility operates above the 2% of max capacity threshold, of the semi-automatic zero setting device and above the 10% of max capacity threshold, of the initial zero setting device.

2.2.6 Automatic and semi-automatic calibration device using internal mass

A flashing enunciator in the bottom left of the display indicates a change in the ambient temperature. The weighing instrument will then perform an automatic self-calibration.

A semi-automatic self-calibration can be performed by pressing the CAL function key.

2.2.7 Over range

Loads greater than nine divisions above maximum capacity result in an error code shown as “E” in the centre of the weight display. The stability enunciator is blanked for unstable loads.

2.2.8 Further functions and devices

- Device for weighing unstable samples (indicated by enunciator ANIMAL)
- Memory storage device
- Time and date device (GX-xx only)
- Density determination device (DS)*
- Percentage device (Pct)*
- Counting device (PC)*
- Newton device (N)*
- Custom unit device (MLt)*
- Selection of non-weighing units (OZ, Lb, LOz, OZt, dwt, GN)*

* Display of values, which are non-weighing results, are clearly identified by their units, and are not for article 1.2(a) applications under the Directive.

3 TECHNICAL DATA

3.1 Technical characteristics

3.1.1 Power supply 100 - 240 V AC 50/60 Hz providing a 12 V DC supply to the instrument.

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Peripheral devices

Any simple recipient peripheral device may be used if:

- it bears the CE mark for conformity to the EMC Directive;
- is not capable of transmitting any data or instructions into the POS other than for releasing the printout or checking for correct data transmission;
- prints weighing results and other data as received from the terminal without any modification or further processing; and
- complies with the application requirements of BS EN45501 ie sections 4.2, 4.4, 4.5, 4.6 and 4.7.

4.2 Interfaces

RS232 bi-directional protected interface.

5 APPROVAL CONDITIONS

5.1 Legends

The instrument shall bear the following legends near the display of the weighing result.

Max
Min
e =

5.1.1 The instrument shall bear the following legends

CE mark
Green M
Accuracy class
Serial number
Manufacturer's mark or name
Certificate number
T = (if \neq - Max)
Temperature 10 °C to 30 °C

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 The CE mark shall be impossible to remove without damaging it. The rating plate shall be impossible to remove without it being destroyed.

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

6.2 The wire and lead seal may have the mark of a verification officer, or alternatively, the manufacturers mark.

7 ALTERNATIVES

7.1 Having the GF-xx, which is metrologically identical to the GX-xx, but having components related to the memory and clock functions removed.

8 ILLUSTRATIONS

Figure 1 General View
Figure 2 Location of data plate
Figure 3 Sealing diagram

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
UK2560	02 March 2000	Type approval first issued
UK2560 Revision 1	01 March 2010	Certificate renewed for a further 10 years. Company address updated.

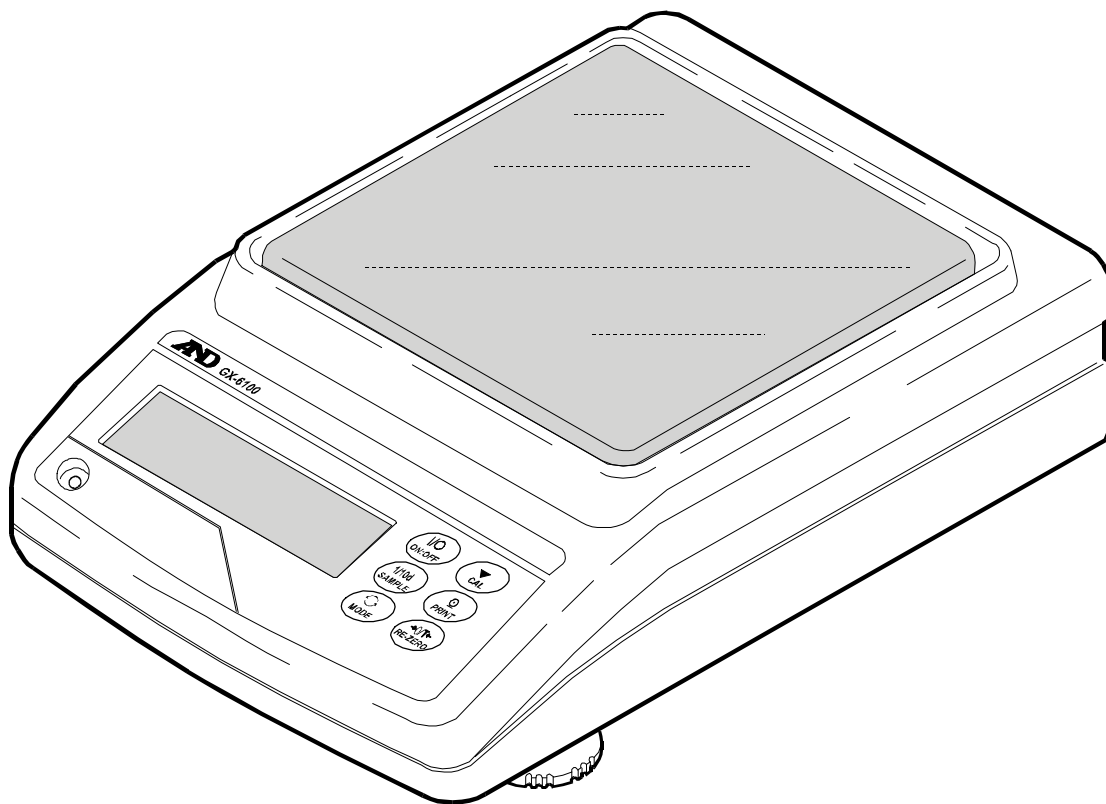


Figure 1 General View

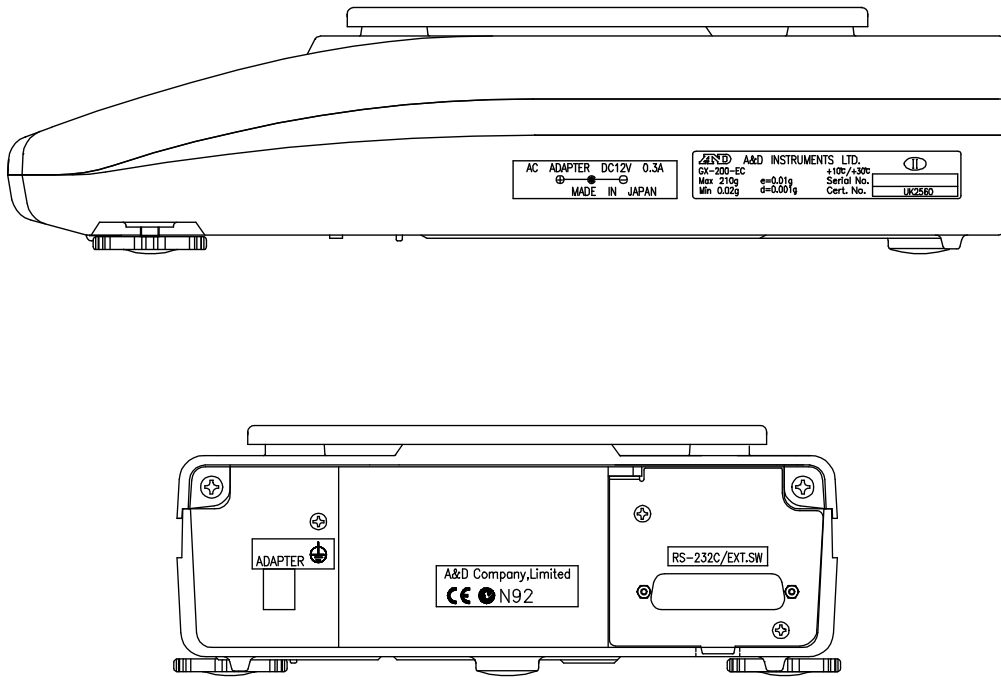


Figure 2 Location of data plate and CE marking

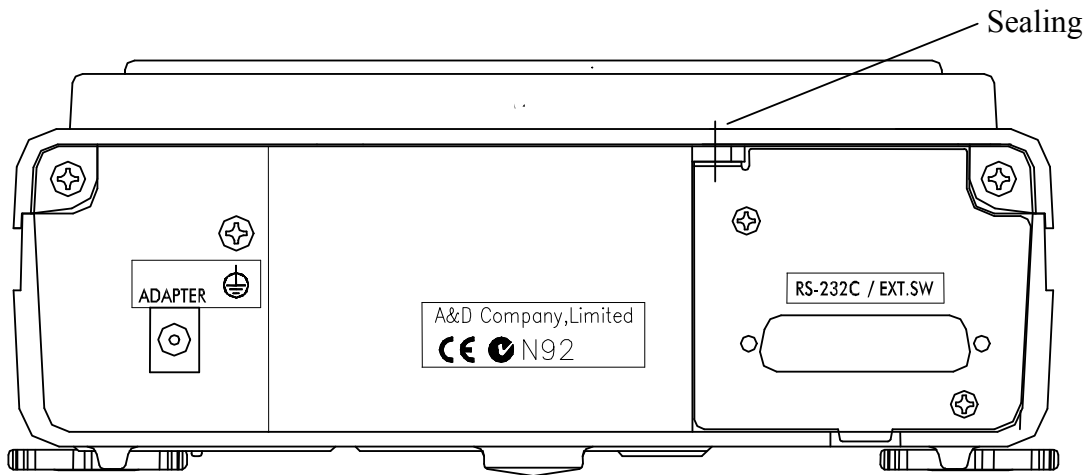


Figure 3 Sealing diagram

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