

Nederlands Meetinstituut

# EC type-approval certificate

Number **T2290** revision 4

Project number 215281

Page 1 of 4

Issued by NMI Certin B.V.  
Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands

Notified Body Number 0122

In accordance with The Council Directive 90/384/EEC on non-automatic weighing instruments.

Applicant A&D Instruments Ltd.  
24, Blacklands Way  
Abingdon Science Park, Abingdon  
Oxford OX14 1DY  
United Kingdom

In respect of A class **(III)** or **(III)**, electronic, single- or multi-interval **non-automatic weighing instrument**.  
Manufacturer : A&D  
Type : FS..

Characteristics  $n \leq 3000$  divisions (per partial weighing range) for class **(III)** instruments with a maximum of two partial weighing ranges  
 $n \leq 1000$  divisions for class **(III)** instruments  
 $6 \text{ kg} \leq \text{Max} \leq 150 \text{ kg}$  or the equivalent in metric or imperial pounds  
In the description number T2290 revision 4 further characteristics are described.

Valid until 1 September 2013

Description and documentation The instrument is described in the description number T2290 revision 4 and documented in the documentation folder T2290-1, appertaining to this EC type-approval certificate.

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

Delft, 1 September 2003  
NMI Certin B.V.

P.P.M. van Enckevort  
Manager Certification Delft

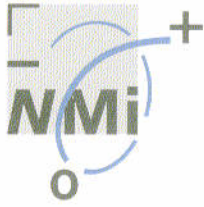
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## 1 General information about the non-automatic weighing instrument

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

### 1.1 Essential parts

Block diagram, see drawing number FS001 revision 0;  
The electronics;  
The mechanical assembly with load cell.

EMC protection measures:

- The A/D board is shielded with a metal cover;
- The cable from the main board to the A/D board is shielded.

### 1.2 Essential characteristics

Power supply: 9 V DC or internal batteries.

### 1.3 Essential shapes

The non-automatic weighing instrument is built according to drawings:

- The type, drawing number Figure 1, page 11;
- The KL type, drawing number Figure 1a, page 12.

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

The marking "not for direct sale to the public" has to be present according to regulations.

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 Verifications & Sealing, drawing number Figure 7, revision 1, page 17.

The securing component has to bear either:

- A mark of the manufacturer laid down in a notified body approved quality system (Annex II of the directive 90/384/EEC), or
- An official mark of a Member State of the EEC, or an other party to the EEA agreement.

Inside the cabinet is a calibration lock, located on the main board.

### 1.4 Conditional parts

The non-automatic weighing instrument may be equipped with peripheral equipment which is used for the applications listed in article 1(2)(a) of the EC Directive (90/384/EEC), if the peripheral equipment is certified to be connected to an EC type-approved non-automatic weighing instrument by a Notified Body appointed to certify non-automatic weighing instruments according to paragraph I of Annex II of the EC directive on Non-Automatic Weighing Instruments.

When an approved printer is connected, which is NOT manufactured by A&D, the "serial data output method" of the NAWI (Function F9) must be in the "automatic print mode" to avoid printing when not stable and/or printing in "over load" indication.

The non-automatic weighing instrument is fitted with a leveling device and a level indicator, unless the instrument is installed in a fixed position. The level indicator has a sensitivity of at least 2 mm for a tilt of 2/1000.

## 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 display's and cash drawers, provided that:

- They do not present primary data used for purposes mentioned in article 1(2)(a) of the EC Directive (90/384/EEC) unless the "preliminary observations" in Annex 1 of this directive is satisfied.
- They do not lead to an instrument having other essential characteristics than those fixed by this type-approval document.

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

### 2.1 The electronics

#### 2.1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Indicator Pod (The power board PZ2458 is only present on "B" versions)	Figure 3	0	Page 13
Analog board	Page C.2	0	
Main board	Page D.3 Page D.4	0 1	Component layout Parts list
Analog to digital converter lay out	Page 18	0	

#### 2.1.2 Essential characteristics

List of devices:

- Determination stability of equilibrium;
- Zero indicator;
- Semi-automatic zero-setting;
- Initial zero-setting;
- Zero-tracking;
- Semi-automatic subtractive tare balancing;
- Gravity compensation;
- Calibration / set-up mode via a switch on the main board;
- Acting upon significant faults;
- Checking the display;
- Limit check weighing mode;
- Changing from kg to lb (only for the countries where the use of lb is allowed and complying with the requirements of the country where the instrument is taken into service);
- Target weighing (percentage) mode;
- Comparator mode;
- Approximate indication.

## 2.1.3 Conditional parts

The interface section is located on the main board. The non-automatic weighing instrument may be equipped with one or more of the following protective interfaces that have not to be secured:  
 - RS232C.

## 2.2 The mechanical assembly with load cell

### 2.2.1 Essential parts

Description	Drawing number	Rev	Remarks
Load pan assembly	Page E.7 and E.8	-	for FS-LC..k load cell
Assembly of FV 30/60/150 basework	FV-BW-01	-	for LC-4102

### 2.2.2 Essential characteristics

$e \geq E_{max}/7200$  for load cell type FS-LC..k.  
 $e \geq E_{max}/3900$  for load cell type LC4102.

### 2.2.3 Essential shapes

See chapter 2.2.1, essential parts

## 3 Approval conditions

See chapter 1.3, essential shapes.

## 4 Seals and verification marks

See chapter 1.3, essential shapes.

## 5 CE-mark of conformity and inscriptions

The marks, facilities for the marks and the inscriptions on the non-automatic weighing instrument fulfill the requirements of article 1 of Annex IV.