



Nederlands Meetinstituut

# EC type-approval certificate

Number **T7440** revision 0  
Project number 710916  
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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 Shinko Denshi Co., Ltd  
3-9-11 Yushima, Bunkyo-ku  
Tokyo 113-0034  
JAPAN

In respect of A class **I**, electronic, single-interval, **non-automatic weighing instrument**.  
Manufacturer : Shinko Denshi Co., Ltd.  
Type : HT(R)/ AT

Characteristics Max  $\leq 220$  g or Max  $\leq 1100$  ct  
 $e \geq 0.001$  g or  $e \geq 0.01$  ct  
 $e=d$  or  $e=10d$   
 $n \leq 220.000$  divisions  
Temperature range  $+10$  °C /  $+30$  °C  
In the description number T7440 revision 0 further characteristics are described.

Valid until 1 July 2018

Description and documentation The instrument is described in the description number T7440 revision 0 and documented in the documentation folder T7440-1, appertaining to this EC type-approval certificate.

Dordrecht, 1 July 2008  
NMI Certin B.V.

*1/a*

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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

See drawing 'HTR/HT/AT Block Diagram 1', drawing number 27YE001;

The electronics;

The mechanical assembly with weighing cell.

EMC protection measures:

- A ferrite core from HT-S circuitboard to HT-DP circuitboard (2 turns);
- A ferrite core from HT-IO board to RS232C connector (2 turns).

### 1.2 Essential characteristics

AC/DC Adapter: input: 230 V AC, 50/60 Hz, output: 9 V DC.

### 1.3 Essential shapes

The non-automatic weighing instrument is built according to the drawing:

- 'HTR/HT/AT View of Components', drawing number 27YM002.

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

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:

- 'HTR/HT/AT External view', drawing number 27YM001.

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 another 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. The non-automatic weighing instrument is fitted with a leveling device and a level indicator. A ring on the level indicator indicates when the maximum tilt is exceeded.

## 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.

AC/DC-adapter.

## 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
HT-DP PCB Parts Assignment	27YE003	-	Drawing Parts list (1 page)
HT-S PCB Parts Assignment	27YE005	-	Drawing Parts list (1 page)
HT-IO PCB Parts Assignment	27YE007	-	Drawing Parts list (1 page)

## 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;
- Indication of stable equilibrium;
- Calibration of internal weight via a switch on the main board (only HTR);
- Automatic span adjustment with internal calibration mass (only HTR);  
operational when:
  - After switch on
  - $\Delta t \leq 5^\circ\text{C}$
  - On every  $\leq 4$  hours
- Semi-automatic span adjustment with internal calibration mass (only HTR);
- Semi-automatic span adjustment with external calibration mass;
- Acting upon significant faults;
- Checking the display;
- Check weighing mode;
- Weight unit selection (g, mg, ct);
- Memory storage;
- Totalization.

## 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.

## 2.1.4 Non-essential parts

Display;  
Keyboard.

## 2.2 The mechanical assembly with weighing cell

### 2.2.1 Essential parts

Description	Drawing number	Rev.	Remarks
HTR/HT/AT Mechanical Unit	27YM003	-	

### 2.2.2 Essential characteristics

The maximum capacity of the weighing cell is 220 g with  $e = 0.001$  g.

### 2.2.3 Essential shapes

See the drawings in 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.