Nederlands Meetinstituut

EC type-approval certificate

Number **T6676** revision 3
Project number 704316

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
An electronic, single-interval, single range **non-automatic weighing instrument**.
Manufacturer : Shinko Denshi
Type : HJ(R)-..K.. and HJ(R)-CE series
"R" = model with internal calibration mass

Characteristics

Type	HJ(R)-..K..	
Accuracy class	(II)	
Max	17 ~ 62 kg	85000 ~ 310000 ct
e ≥	1 g	5 ct
d ≥	d = e or d = 0.1 e	
n	≤ 62000	
Tare	≤ 100% of Max	
Temperature range	5 °C / 35 °C	

Type	HJ(R)-CE		
Accuracy class	(I)	(II)	
Max	6200 g	1.2 kg ~ 15 kg	6000 ~ 75000 ct
e ≥	0.1 g	0.1 g	1 ct
d ≥	d = e or d = 0.1 e		
n	≤ 62000	≤ 42000	≤ 31000
Tare	≤ 100% of Max		
Temperature range	10 °C / 30 °C		

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Type	HJ(R)-CE		
Accuracy class	(I)		(II)
Max	620 g	220 g ~ 420 g	1100 ~ 3100 ct
e ≥	0.01 g		1 ct
d ≥	d = e or d = 0.1 e		
n	≤ 62000	≤ 42000	≤ 31000
Tare	≤ 100% of Max		
Temperature range	10 °C / 30 °C		

Type	HJ-21 KCE & HJ-31 KCE	
Accuracy class	(II)	
Max	21 kg ~ 31 kg	100000 ~ 150000 ct
e ≥	1 g	5 ct
d ≥	0.1 g	d = e
n	≤ 31000	≤ 30000
Tare	≤ 100% of Max	
Temperature range	10°C / 30°C	

In the description number T6676 revision 3 further characteristics are described.

Valid until 23 December 2014

Description and documentation: The instrument is described in the description number T6676 revision 3 and documented in the documentation folder T6676-4, appertaining to this EC type-approval certificate.

Remarks: This revision EC type-approval certificate replaces the earlier versions, including its documentation folder.

Dordrecht, 3 July 2007
NMi Certin B.V.

Ing. C. Oosterman
Manager Product Certification

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

The electronics;
The mechanical assembly with load cell.

EMC protection measures:
- The A/D board is shielded with a metal cover;
- The scale is completely made of metal;
- HJ(R)-..K..: See block diagram 2, drawing number 22YE002;
- HJ(R)-CE: See block diagram 2, drawing number 22YE014;

Other protection measures:
- HJ(R)-..K..:IP65 water- and dust-proof.

1.2 Essential characteristics

Power supply:
- By external power supply: 12 V DC or;
- By internal battery: 7.2 V.

1.3 Essential shapes

The non-automatic weighing instrument is built according to the drawings:
- HJ(R)-..K..: External view (with pole), drawing number 22YM001;
- HJ(R)-..K..: External view, drawing number 22YM002;
- HJ(R)-CE: External view, drawing number 20YM066;
- HJ(R)-CE: External view, drawing number 22YM070;
- HJ-CE: External view, drawing number 22YM077;
- HJ(R)-..K..: View of components, drawing number 22YM004;
- HJ(R)-..K..: View of components, drawing number 20YM052;
- HJ(R)-CE: View of components, drawing number 22YM072;
- HJ(R)-CE: View of components, drawing number 20YM059.
- HJ-CE: View of components, drawing number 22YM078.

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 drawings:
- HJ(R)-..K..: Sealing, drawing number 22YM007;
- HJ(R)-CE: External view, drawing number 20YM066;
- HJ(R)-CE: External view, drawing number 22YM070;
- HJ-CE: External view, drawing number 22YM077.

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 instrument 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 levelling 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.

Internal battery (optional);
External power supply.

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
HJ(R)-..K..: Block diagram 1 HJ(R)-..K..: Block diagram 2	22YE001 22YE002	04.10.7 04.10.7	
HJ(R)-CE: Block diagram 1 HJ(R)-CE: Block diagram 2	22YE013 22YE014	05.04.26 05.04.29	
HJ(R)-..K..: Main board	22YE003	04.6.15	Incl. IC list (2 pages)
HJ(R)-CE: Main board	22YE015	05.04.29	Incl. IC list (2 pages)
HJ(R)-..K..: Viba-2A PCB	22YE013	04.10.13	Incl. IC list (2 pages)
HJ(R)-..K..: RS232C & Power board	22YE005 22YE005	04.6.15 2004.10.13	Drawing IC list
HJ(R)-CE: RS232C & Power board	22YE017	05.04.29	Incl. IC list (2 pages)

2.1.2 Essential characteristics

List of devices:
- Determination stability of equilibrium;
- Zero indicator;
- Initial zero-setting;
- Zero-tracking;
- Combined semi-automatic zero-setting and subtractive tare balancing;
- Indication of stable equilibrium;
- Calibration / set-up mode via a switch on the main board;
- Automatic span adjustment with internal calibration mass (optional);
- Semi-automatic span adjustment with internal calibration mass (optional);
- Acting upon significant faults;
- Checking the display;
- Memory storage;
- Weight unit selection (kg, g, ct).
- Changing from Net to Gross;
- Auxiliary indicating device with differentiated scale interval;
- Totalization (Accumulation function).

2.1.3 Conditional parts

Description	Drawing number	Rev.	Remarks
HJK-BT PCB Battery circuit board	22YE011	04.6.15	Incl. IC list (2 pages)
HJK-LM PCB Limit output board	22YE009	04.6.15	

The interface section is located on separate interface boards. The non-automatic weighing instrument may be equipped with one or more of the following protective interfaces that have not to be secured:
- RS232C;
- RS422A (optional);
- Limit outputs (optional).

2.1.4 Non-essential parts

Display;
Keyboard.

2.1.5 Non-essential characteristics

Counting device (Parts counting);
Percentage indication (%);
Check weighing mode (Limit function).

2.2 The mechanical assembly with load cell

2.2.1 Essential parts

Description	Drawing number	Rev.	Remarks
HJ(R)-..K..: Mechanical Unit	22YM005	2004/06/08	
HJ(R)-CE: Mechanical Unit HJ(R)-CE: Mechanical Unit HJ(R)-CE: Mechanical Unit	20YM012 22YM071 22YM075	2005/02/01 2006/08/02 2007/01/31	
HJ(R)-CE: Tuning-Fork sensor HJ(R)-CE: Tuning-Fork sensor	20YM058 22YM076	2005/04/21 2007/02/01	

2.2.2 Essential characteristics

The maximum capacity of the weighing cell is identical to the maximum capacity of the non-automatic weighing instrument.
- For HJ(R)-..K..: e ≥ 1 g;
- For HJ(R)-CE: e ≥ 0.01 g.

The voltage applied to the weighing sensor is 5 V DC.

2.2.3 Essential shapes

Description	Drawing number	Rev.	Remarks
HJ(R)-..K..: View of components HJ(R)-..K..: View of components	22YM004 20YM052	2004/06/08 2005/04/20	
HJ(R)-CE: View of components HJ(R)-CE: View of components HJ-CE: View of components	22YM072 20YM059 22YM078	2006/08/02 2005/04/22 2007/01/31	

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.