

Issued by NMI Certin B.V.

In accordance with WELMEC 8.8 Issue 2, EN 45501:2015, WELMEC 2.1 Issue 4, OIML R 76-1 (2006).

Producer Mettler-Toledo (Changzhou) Measurement Technology Ltd.  
111 West Taihu Road  
Xinbei District, Changzhou  
Jiangsu 213125  
Peoples Republic of China

Measuring instrument An **Indicator**, tested as a part of a weighing instrument.

Brand : Mettler-Toledo  
Designation : IND141 or ACT350

Further properties are described in the annexes:

- Description TC8790 revision 2;
- Documentation folder TC8790-2.

An overview of performed tests is given in the annex:

- Description TC8790 revision 2.

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

Issuing Authority **NMI Certin B.V.**  
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C. Oosterman  
Head Certification Board

**NMI Certin B.V.**  
Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands  
T +31 78 6332332  
certin@nmi.nl  
www.nmi.nl

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# Description

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Project number 1901066  
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## 1 General information about the indicator

All properties of the indicator, whether mentioned or not, shall not be in conflict with the standard mentioned in the certificate.

This certificate is the positive result of the applied voluntary, modular approach, for a component of a measuring instrument, as described in WELMEC 8.8. The complete measuring system must be covered by an EC type-approval certificate or an EU-type examination certificate.

### 1.1 Essential parts

Number	Pages	Description	Remarks
8790/0-01	7	Main board with analog I/O	including parts list
8790/0-02	6	Main board with RS232/485 and digital I/O	including parts list
8790/0-03	7	Main board with DP	including parts list
8790/1-01	3	Main board 24 V version	including parts list
8790/1-02	3	Main board 12 V version	including parts list
8790/1-03	6	Main board IE	including parts list
8790/0-04	3	A/D & Power board	including parts list
8790/0-05	3	A/D & Power board	including parts list

EMI protection measures:

- The A/D board is shielded with a metal cover;
- Ferrite on the cable of the load cell, at the side of the indicator.

## 1.2 Essential characteristics

Configuration	Analog load cells	Digital load cells
Accuracy class	(III) and (III)	
Maximum number of verification scale intervals	6000	-
Load cell excitation voltage	5 V DC	-
Load cell power supply	-	12 V DC or 24 V DC
Minimum input voltage per verification scale interval	0,5 $\mu$ V	-
Minimum load cell resistance	43,5 $\Omega$	-
Maximum load cell resistance	1241 $\Omega$	-
Fraction of the maximum permissible error	0,5	0
Load cell connection	6-wire (remote sensing)	-
Maximum value of the cable length per cross wire section between the indicator and the junction box or load cells	435,5 m/mm <sup>2</sup>	-
Weighing range	Single interval	
Temperature range	-10 °C / +40 °C	
Power supply voltage	12 - 30 V DC	12 V DC or 24 V DC
Software identification	IND141	Version number: 0.xx.xxxx (x= 0...9)
	ACT350	Version number: 1.xx.xxxx (x= 0...9)
		Version number: 2.xx.xxxx (x= 0...9)

### Software:

- For versions with A/D board inside, the identification number will be displayed at start-up;
- For other versions, press & hold the green "Enter" button and see "Info" sign -> press the same button again and see "Model" menu -> press down arrow two times then software identification is visible;
- The indicator has embedded software.



# Description

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List of legally relevant functions:

- Determination stability of equilibrium;
- Zero indicating;
- Semi-automatic zero-setting;
- Initial zero-setting;
- Semi-automatic subtractive tare weighing;
- Gravity compensation;
- Adjustment / set-up mode via a switch on the main board;
- Set points;
- Weight unit selection (kg, g);
- Extended indicating, resolution 1/10 e for a period not exceeding 5 seconds after a manual command;
- Preset tare, only available when the indicator is connected to a printer.

### 1.3 Essential shapes

Number	Pages	Description	Remarks
8790/0-06	2	Exploded view and dimensional drawing	-

The descriptive markings plate is secured against removal by sealing or will be destroyed when removed and contains at least the following information:

- This certificate number TC8790;
- Producers name or mark.

Inside the cabinet is an adjustment lock, located on the main board.

### 1.4 Conditional parts

The indicator may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232;
- RS485;
- Digital I/O;
- PROFIBUS;
- PROFINET;
- Ethernet/IP.

### 1.5 Non-essential parts

Display;  
Keyboard.

## 2 Seals

To secure components that may not be dismantled or adjusted by the user, the indicator has to be secured in a suitable manner on the locations indicated in the drawings:

Number	Pages	Description	Remarks
8790/1-04	2	Sealing drawings	-

The connecting cable of the load cell or the junction box is provided with possibility to seal.

## 3 Conditions for conformity assessment

The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in WELMEC 2, 2015 clause 10, at the time of putting into use.

Other parties may use this Evaluation Certificate only with the written permission of the producer.

## 4 Reports

An overview of performed tests is given in the reports:

- No. NMI-15200562-01 dated 5 February 2016 that includes 46 pages;
- No. NMI-15200562-02 dated 5 February 2016 that includes 7 pages;
- No. NMI-15200562-03 dated 5 February 2016 that includes 7 pages;
- No. NMI-16200647-01 dated 31 March 2017 that includes 17 pages;
- No. NMI-16200647-02 dated 31 March 2017 that includes 13 pages;
- No. NMI-16200647-03 dated 31 March 2017 that includes 16 pages;
- No. NMI-1901066-01 dated 27 June 2017 that includes 9 pages;
- No. NMI-1901066-02 dated 27 June 2017 that includes 10 pages;
- No. NMI-1901066-03 dated 27 June 2017 that includes 9 pages.

A report can be a test report, an evaluation report, a type evaluation report and/or a pattern evaluation report.