

Automatic Rail-weighbridge IND9R86

Issued to

Mettler Toledo, LLC

1150 Dearborn Drive, Worthington, Ohio 43085, USA

IND9R86, an electronic automatic rail-weighbridge instrument is fulfilling module B (Annex II) of directive 2014/32/EU on measuring instruments (MID), implemented in Swedish law by SWEDAC (The Swedish Board for Accreditation and Conformity Assessment) through STAFS 2016:1 The Measuring Instruments Regulations and STAFS 2016:7 The Regulations and Guidelines concerning automatic weighing instruments. Rise Certification Rule SPCR 302 has been applied.

Applicable essential requirements of directive 2014/32/EU

- Annex I, Essential requirements
- Annex VIII (MI-006), Automatic weighing instruments

Harmonised standards and normative documents used

- OIML R106, edition 1997, Automatic rail-weighbridges

Further applied documents

WELMEC 7.2, Software Guide (Issue 4)

CT-006-VI, 2014 Corresponding Tables Automatic Rail Weighbridges OIML R 106-1 1997 – MID 2004/22/EC MI-006 VI

Rated operating conditions

Measurand:	Mass of uncoupled and coupled rail wagons	Mechanic environment class:	NA
Measurement range:	0.4 – 140 [t]	Electromagnetic environment class:	E1 load cell, E2 indicator
Accuracy class:	0.2 train 0.5 wagons	Climatic environment:	-10°C - +40°C Non. condensing Closed (Indicator) Condensing (load cells)

Originally issued: 25 November 2009

Expiry date: 25 November 2029

This certificate replaces earlier issues.

Issued by Notified body 0402.

Martin Tillander

Bengt Gutfelt

Certificate No. 0402-MID-495001 | issue 4 | 2019-11-25

RISE Research Institutes of Sweden AB | Certification
Box 857, SE-501 15 Borås, Sweden
Phone: +46 10-516 50 00
certifiering@ri.se | www.ri.se



9P05821



The instruments / measuring systems must correspond with the following specifications:

1. Design of the instrument

1.1 Construction

Product name

IND9R86

Measuring system description

The weighing instrument is used for weighing train wagons in motion. Weighing takes place automatically as a wagon is running over the load receptor. The weighing instrument registers the bogie weight and calculates the wagon weight. The instrument is designed as well to be used as an integral control instrument.

The weighing is triggered when the first axle of the bogie axle of the wagon is detected by the wheels detector at one side of the scale and the weighing is stopped when the wheel detectors on the other side of the scale is detecting the last axle of the bogie. The weighing is performed dynamically.



Figure 1: Control unit, IND9R86

Hardware

The weighing instrument consists of an indicator and a control unit IND9R86. Furthermore there are load cells and four wheel detectors.

Indicators:	IND131/331	according to	TC7600
	IND560	-"-	TC6812
	IND780	-"-	TC6944
Load cells:	MTX	-"-	TC5408
	SLC820	-"-	TC7579

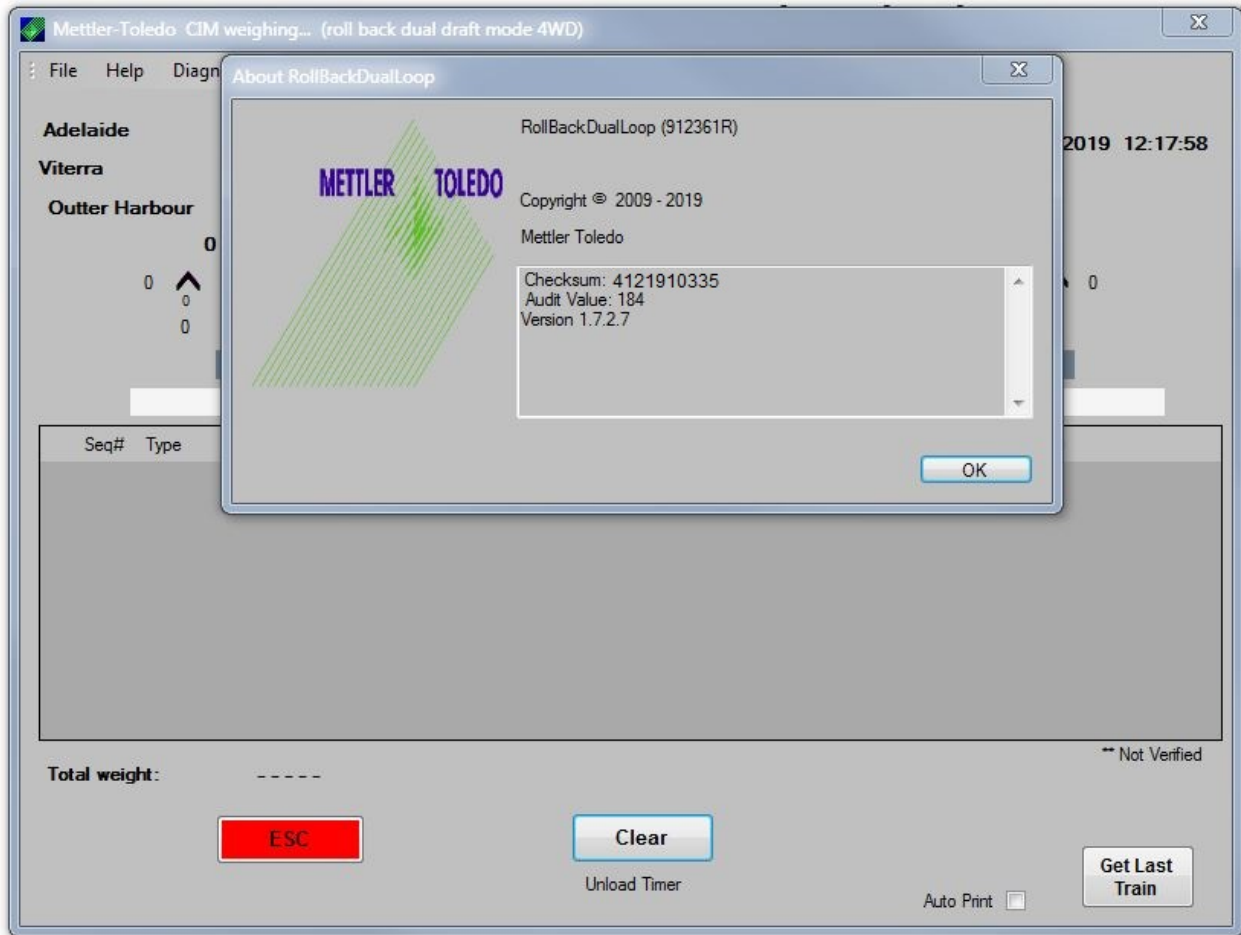
1.2 Software

The validation of software was based on the essential requirements given in MID and WELMEC Guide 7.2.

Software version

The following program versions are approved:

Type of program	Program version	Checksum
Windows Executable	1.7.xx	4121910335



The versions can be seen by pressing...Help->About

1.3 Components included for electronic function

The operating manual includes technical specifications and for example how to get access to the checksum. Dynamic settings are protected by a hardware switch.

1.4 Optional equipment and functions subject to MID requirements

None identified

1.5 Technical documentation

For market surveillance the construction, software and included components are described in 1.1, 1.2 and 1.3.

1.6 Integrated equipment and functions not subject to MID

Software to fulfil national requirements or to communicate with booking central etc. must not influence the accuracy of measurements such that the maximum permissible error is exceeded or the required functions are changed.

2. Technical data

2.1 Rated operating conditions

Measurand

Mass of uncoupled and coupled rail wagons

Measurement range

Maximum capacity, per bogie	Max ≤ 70 t
Maximum capacity, per wagon	Max ≤ 140 t
Minimum capacity,	Min ≥ 0,4 t

Scale interval,
Maximum transit speed
Direction of weighing

$d \geq 20$ kg
20 km/h
both directions

Accuracy class

0.2 Total train
0.5 Single wagon

Environments classes / influence quantities

Mechanic: NA
Electromagnetic: class E1 load cell, class E2 indicator IND131/331, IND560, IND780
Ambient temperature limits: $-10^{\circ}\text{C} - +40^{\circ}\text{C}$
Humidity: Non condensing (Indicator), Condensing (load cells)
Location: closed (Indicator)

2.2 Other operating conditions

Not applicable.

3. Interfaces and compatibility conditions

- Serial communications (RS232, RS485)
- USB
- Ethernet
- Programmable Logic Control (PLC)

4. Requirements on production, putting into use and utilisation

4.1 Requirements on production

No special requirements identified.

4.2 Requirements on putting into use

No special requirements identified.

4.3 Requirements for consistent utilisations

5. Control of the measuring tasks of the instrument in use

No special measuring tasks are identified.

6. Security measures

6.1 Sealing

Indicators

Sealing of the control unit IND9R86:

The enclosure is sealed using a wire seal threaded through holes in the lower right corner of the enclosure and of the front door.

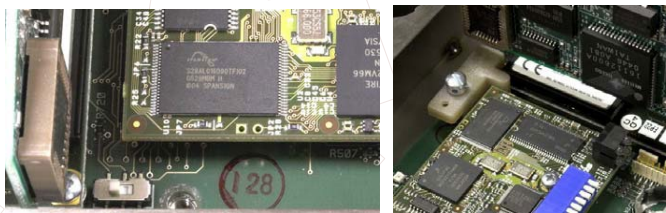


Control unit, IND9R86

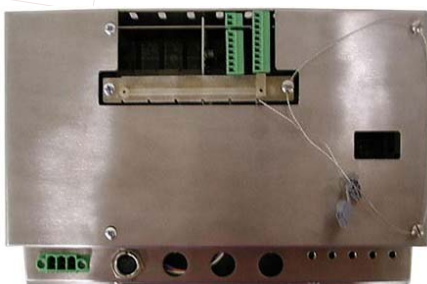
Sealing of the IND780:

Make sure that the metrology switch (S1) is placed in the approved position (On).
The switch S1, located in the indicator is found by opening the lower side of the (main) unit.

Panel Enclosure Sealing



Metrology Security Switch (left) and Cover Installed (right)



Sealing of the IND780, Rear panel mounting screws with sealing wire

Sealing of the IND331:

A control mark is placed over the top and bottom of the enclosure.



Sealing of the IND331, metrological data is secured when the box is sealed as seen above

6.2 Data logger

Data storage device or printer is required in case the instrument is used for trading transaction.

7. Labelling and inscriptions

7.1 Information to be borne by the instrument

The marking on the instrument shall contain the following information:

- the name of the manufacturer
- the serial number
- the designation or type name (according to “**Product name**” on page 2)
- the EC-type examination certificate number, 0402-MID-495001
- weighing method - partial weighing
- maximum wagon weight
- minimum wagon weight
- not to be used to weigh liquid products
- maximum transit speed
- direction of weighing
- wagons pushed or pulled
- power supply
- temperature range
- accuracy class
- maximum capacity
- minimum capacity
- scale interval, d
- speed range
- maximum number of axles per vehicle (a max)
- serial number of the load cells
- software ID and version
- checksum of the software

7.2 Conformity marking in accordance to MID article 21

The instrument shall be marked in accordance to MID article 21 which e.g. describes the CE-marking together with M, year of marking and the notified body number.

7.3 Further inscriptions, if necessary

No further inscriptions considered necessary.

8. Manuals

The following manuals are to accompany the different systems in the official language of the country of use (the manufacturer is responsible for the translation of approved documents).

<i>Program version</i>	<i>Title of manual</i>	<i>Document version</i>	<i>Language of examined version</i>
64064897	IND9R86	R06	English

9. Testing and examination

Testing and examination has been carried out in accordance with report number P704586-03:rev1 dated 2009-01-16 and a report P704586-05 dated 2009-10-22 were issued and are held by RISE. The principal characteristics, approval conditions are set out in this certificate. All the plans, schematic diagrams and documentations are recorded under reference file 9P05821.