EU-TYPE EXAMINATION CERTIFICATE

0402-MID-SC0484-18

Electronic catchweighing instrument – CGMV (Container Gross Mass Verification)

Issued to

Konecranes Lifttrucks AB

Box 103, SE-285 23 Markaryd, Sweden

A Electronic catchweighing instrument- CGMV 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 Instrument. 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 R51, edition 2006, Automatic catchweighing Instruments

Further applied documents

WELMEC 7.2, Software Guide (Issue 2015)

Rated operating conditions

Measurand:	Weight of discrete loads in tonnes		
Measurement range:	10e-200e	Electromagnetic environment class:	E3
Accuracy class	Y(b)	Climatic environment:	-25 to +55 °C

Expiry date: 11 June 2028

Issued by Notified body 0402.

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6P09600

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

1. Design of the instrument

1.1 Construction

Product names

CGMV (Container Gross Mass Verification)

Measuring system description

The CMGV is designed to weigh containers statically during a regular lift cycle with top pick spreader. The system is based upon pressure sensors in the lifting cylinders, boom angle sensor and a proximity switch to identify the correct position of the boom when retracted. A soon as the container is picked up and the boom is retracted the user can ask for the legal weighting pressing a dedicated button on the HMI. The system is capable to evaluate the machine conditions and retrieve the container weight.

When a weighing of a container should be performed the operator first must fulfil the things below to make the weighing button appear on the display.

- Lift the container above ground.
- Retract the boom completely.
- The machine must be standing on lever ground (inclination less than six percentages).
- The machine must be standing still.
- The weight of the container must be within the min and max of the weigh, see plate.

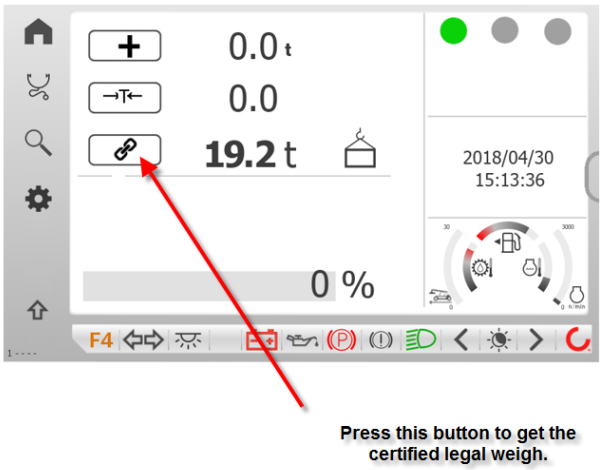


Figure 1: Preview in display MD4 before weight indication

After pressing it takes a couple of seconds before the weigh value appears in a popup

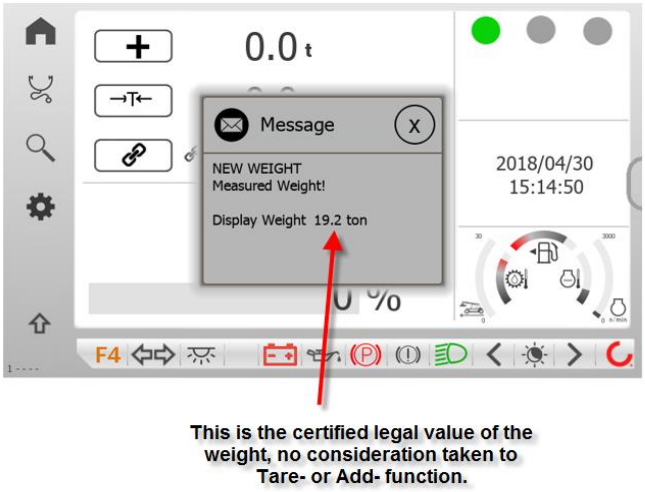


Figure 2: View in display MD4 with weight indication

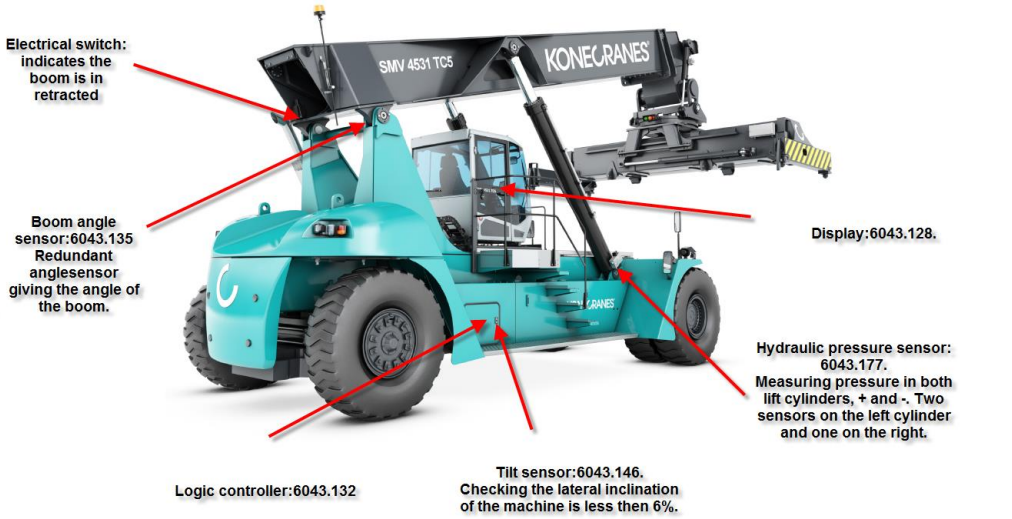


Figure 3: Lift truck with weighing system CMGV installed.

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
Konecranes Reachstacker	**WC00.01_WHC00.01 - 05.02.02.0010**	2018/05/22

It is possible from the working page to reach the configuration page pressing the 'GEAR' icon:

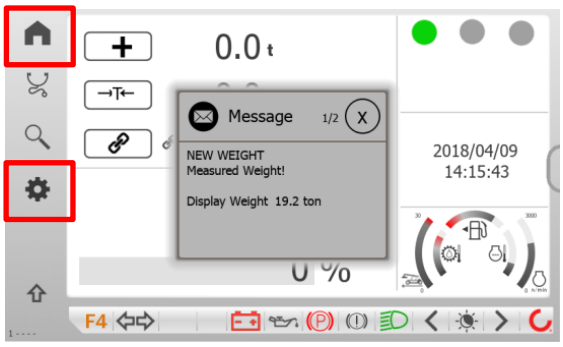


Figure 4: Main view of display MD4.

Figure 5: Access to software information

Then, the user has a list of choices regarding:

- System information
- Measure
- Adjust
- Preferences

Figure 6: Access to software information

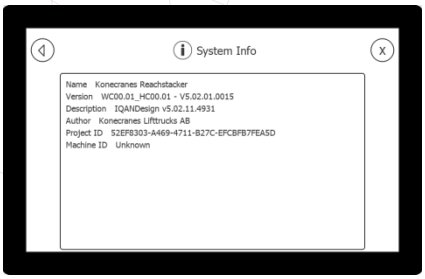


Figure 7: Access to software information

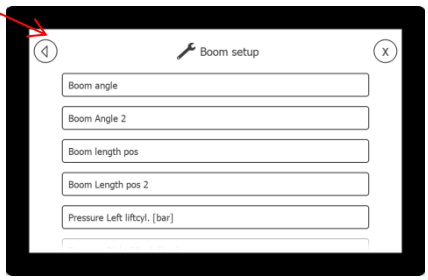


Figure 8: Access to software information

In system page the following information are given:

- Software name
- Software version
- IQAN design version
- Author
- Project ID

1.3 Components included for electronic function

Reference to constructions file and layout:
- Topological scheme: 452366
- Electric scheme: 452444_06

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
See operating manual.

2. Technical data

2.1 Rated operating conditions

Measurand
Container within the measuring range with weight expressed in tonnes.

Measurement range

Maximum capacity,	Max ≥40 t
Minimum capacity,	Min ≥10 e, (2 t)
Verification scale interval, e	e ≥ 0,2 t
Number of verification scale intervals,	n ≤ 200

Accuracy class
Y(b)

Environments classes / influence quantities

Mechanic:	class NA
Electromagnetic:	class E3
Ambient temperature limits:	-20°C to +55°C for sensors, -10-- + 55 °C for measuring box MC3
Humidity:	non condensing
Location:	closed

2.2 Other operating conditions
Not applicable

3. Interfaces and compatibility conditions
CAN, digital I/O and Ethernet

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

No special requirements identified.

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

No special measuring tasks are identified.

6. Security measures

6.1 Sealing

The pressure and angle sensors shall have a clearly visible serial number and identification number.
A seal shall be applied on each senor according to figure 9.

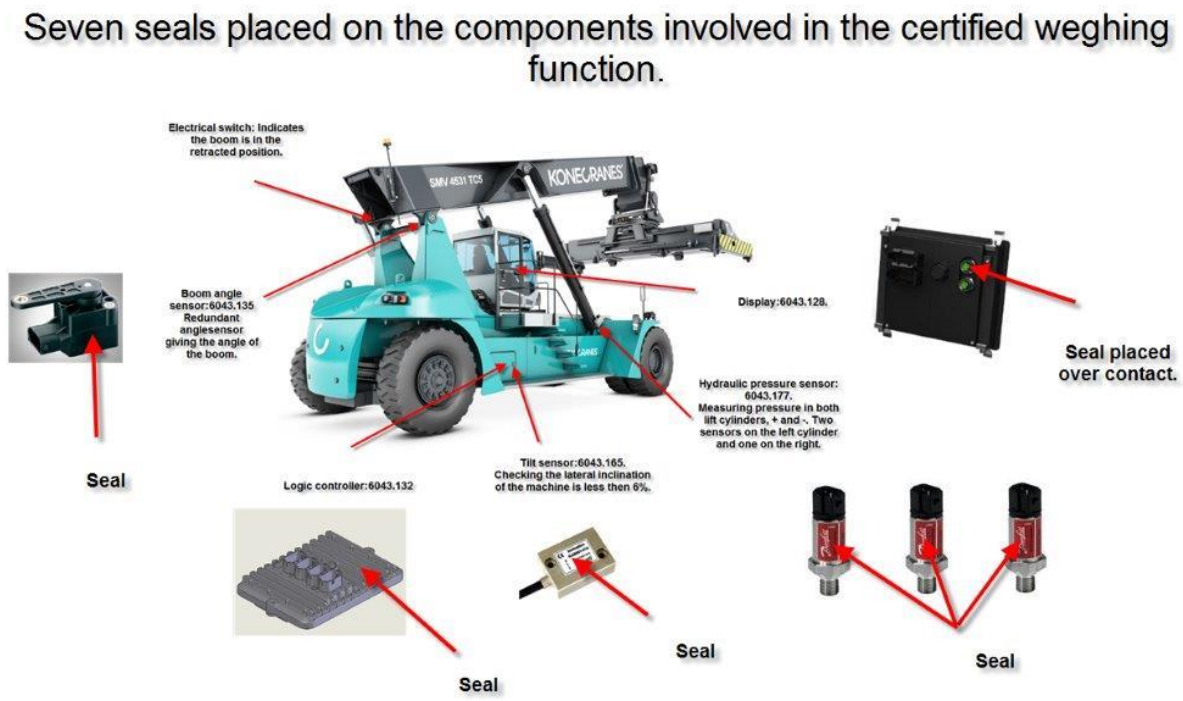


Figure 9 Markings on type plate

6.2 Data logger

There is no mandatory requirement to have a data storage device.

7. Labelling and inscriptions

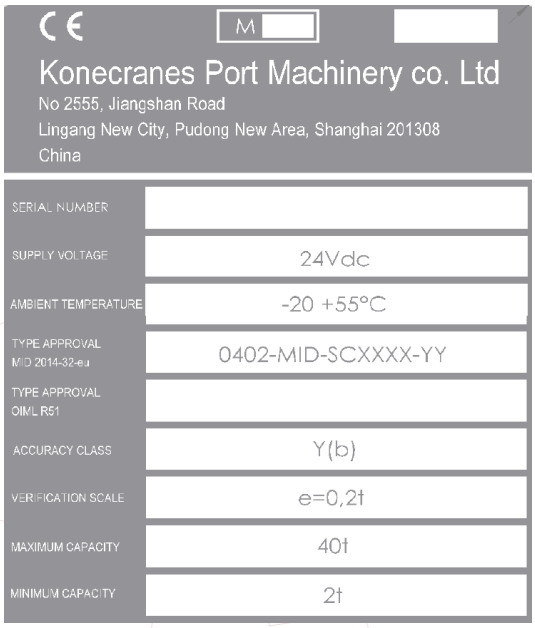
7.1 Information to be borne by the instrument

The marking on the instrument shall contain the following information:
The descriptive plate mounted on the instrument
shall contain the following information:

Name or identification mark of the manufacturer
Serial number and type designation
Number of EC type examination certificate
Accuracy class
Verification scale interval, e
Maximum capacity, Max
Minimum capacity, Min
Temperature range
Electrical supply

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.



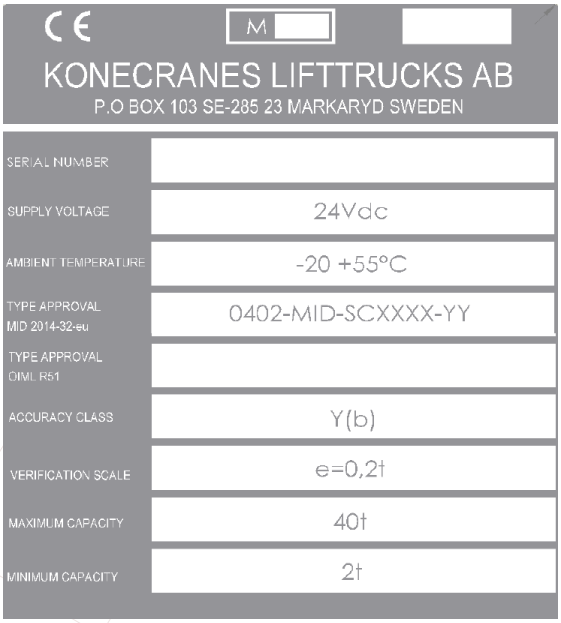


Figure 10, 11 Example of type plate marking

7.3 Further inscriptions, if necessary

N.A.

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).

Title of manual	*Document version*	*Language of examined version*
Operators manual SMV 108-2115 TC	090946 en rev a	En

9. Testing and examination

Testing and examination has been carried out in accordance with report 6P06900-1. The principal characteristics, approval conditions are set out in this certificate. All the plans, schematic diagrams and documentations are recorded under reference file 6P09600.