Electronic catchweighing instrument – CGMV (Container Gross Mass Verification)

Issued to
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Box 103, SE-285 23 Markaryd, Sweden


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

<table>
<thead>
<tr>
<th>Measurand:</th>
<th>Weight of discrete loads in tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range:</td>
<td>10e-200e</td>
</tr>
<tr>
<td>Accuracy class</td>
<td>Y(b)</td>
</tr>
<tr>
<td>Electromagnetic environment class: E3</td>
<td></td>
</tr>
<tr>
<td>Climatic environment: -25 to +55 °C</td>
<td></td>
</tr>
</tbody>
</table>

Expiry date: 11 June 2028

Issued by Notified body 0402.

Martin Tillander
Bengt Gutfelt
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
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:

<table>
<thead>
<tr>
<th>Type of program</th>
<th>Program version</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Konecranes Reachstacker</td>
<td>WC00.01_WHC00.01 - 05.02.02.0010</td>
<td>2018/05/22</td>
</tr>
</tbody>
</table>

It is possible from the working page to reach the configuration page pressing the ‘GEAR’ icon:
Then, the user has a list of choices regarding:

- System information
- Measure
- Adjust
- Preferences

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, \( \text{Max } \geq 40 \text{ t} \)
Minimum capacity, \( \text{Min } \geq 10 \text{ e, (2 t )} \)
Verification scale interval, \( e \geq 0.2 \text{ t} \)
Number of verification scale intervals, \( n \leq 200 \)

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 sensor 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

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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
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).

<table>
<thead>
<tr>
<th>Title of manual</th>
<th>Document version</th>
<th>Language of examined version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operators manual</td>
<td>SMV 108-2115 TC</td>
<td>090946 en rev a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>En</td>
</tr>
</tbody>
</table>

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.