NMO

OIML

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and Northern Ireland

OIML Certificate No
R51/2006-GB1-16.01

# OIML CERTIFICATE OF CONFORMITY

Issuing authority: **NMO**

Person responsible: **Max Linnemann – Head of Certification Body**

Applicant: **AMCS Ltd.**
**Fanningstown**
**Crecora**
**Co. Limerick**
**Ireland**

Manufacturer: **The applicant**

Identification of the certified pattern: **Vehicle Data Hub (VDH)**

This certificate attests the conformity of the above-mentioned pattern (represented by the samples identified in the associated test report) with the requirements of the following Recommendation of the International Organisation of Legal Metrology (OIML):

**OIML R 51 - Edition 2006(E)** for **accuracy classes: Y(a) and Y(b)**

This certificate relates only to the metrological and technical characteristics of the pattern of the instrument concerned, as covered by the relevant OIML International Recommendation.

This certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the certificates reference number and the name of the OIML Member State in which the certificate was issued, partial quotation of the certificate or of the associated test report is not permitted, though they may be reproduced in full.

**Issue Date:** 07 April 2016
**Reference No:** TS0101/0014

**G Stones**
**Technical Manager**
***For and on behalf of the Head of Certification Body***

UKAS PRODUCT CERTIFICATION
**0135**

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**NMO is part of the Regulatory Delivery directorate within the Department for Business, Innovation & Skills**

The conformity was established by testing and examinations described in the associated Evaluation Report P01832 which includes 13 pages.

## Characteristics of the instrument:

This pattern automatically determines the weight of the loaded containers during the lifting process, then the weight of the empty containers on the way down to determine the net weight of refuse emptied.

Construction:

This pattern of an automatic catchweighing instrument, designated the Vehicle Data Hub (VDH), comprises one load cell, electronic equipment and position sensors mounted on a waste collection vehicle.

The weight data is displayed on an indicator mounted near the operating console and recorded.

This pattern uses one load cell connected to a single weighing board. Two instruments (two load cells into two weighing boards) may be connected in a master-slave arrangement, allowing both weights to be added to obtain the total weight, for example for large trade containers. Two displays are used in this configuration, each display showing the individual net weight for the instrument (combined weights are recorded but not displayed).

Devices:

- Dynamic weighing (weighing window)
- Semi-automatic zero-setting (optional)
- Determination of net weight
- Data storage on On-board computer (not covered under this certificate)

Technical data:

The system has the following technical characteristics:

| | Individual container | Trade container |
|---|---|---|
| Max (kg) | 300 | 600 |
| Min (kg) | 2.5 | 5.0 |
| e = (kg) | 0.5 | 1.0 |

Load cell : Flintec PC2H ($E_{max}$ = 2000 kg)
Load cell rated output signal : 2.0 mV/V
Temperature range : -10 °C to +40 °C
Power supply : 17-32 V DC
Display location : Rear of the vehicle, near operating console
Accuracy class : Y(a) or Y (b)

Software:

The firmware identification is displayed on system start-up and is visible until the first lift is performed. The designation and version number shall be as follows:

VDH: V1.X.Y

with X and Y reflecting non-legally relevant changes to the software.

Interfaces:

The indicator may be fitted with the following interfaces:

- CAN
- RS232 (Display and/or OBC)
- RS485 (Display and/or OBC)
- Input for RFID Antenna
- 6 wire ADC inputs for load cells
- wire ADC input for Potentiometer
- General Purpose Input/Output lines (for use with sensors or DC signals)

Alternatives:

1 Having a modified firmware designated as VDH: V2.X.Y, with X and Y reflecting non-legally relevant changes to the software. This firmware includes a data storage device which can be used instead of the On-board computer.

2. Having a modified firmware designated VDH: V3.X.Y, with X and Y reflecting non-legally relevant changes to the software. This firmware includes a semi-automatic zero-setting device. The zero-setting device operates on individual weighers only; an interlock prevents the operation of the device for tilt angles exceeding 10%. The Up and Down weights (Gross and Tare weights, as opposed to Net weight only) comply with the accuracy requirements in OIML R51 2006 when using this firmware.

3 The instrument may be fitted with an AMCS SPL79-880kg ($E_{max}$ = 880 kg) load cell instead of a Flintec PC2H ($E_{max}$ = 2000 kg) load cell.

4. Having a modified configuration comprising two load cells (on one lifter) connected to a single weighing board.

   This configuration may be used to weigh individual or trade containers if the lifter is fitted with an extra wide chair. The specifications for both individual and trade containers in this case are: Max = 300 kg, e = 0.5 kg, Min = 2.5 kg.

   The load cells may be either a pair of Flintec PC2H ($E_{max}$ = 2000 kg) load cells or a pair of AMCS SPL79-880kg ($E_{max}$ = 880 kg) load cells.

5. Having the instrument fitted with an Elite Transducers DT4650 load cell ($E_{max}$ = 1000 kg), or a pair of DT4650 load cells in the configuration described in Alternatives 4.

6. Having modified software allowing the summation of left and right weight indications. The combined weight is indicated as Trade.

7. The instrument may be fitted with a Flintec PC5H ($E_{max}$ = 2000 kg) load cell instead of a Flintec PC2H ($E_{max}$ = 2000 kg) load cell.

8. Having the instrument and lift installed on a fixed platform (e.g. waste compactor).

9. The zero-setting described in Alternative 2 can also be triggered directly through the VDH Manager program.

**CERTIFICATE HISTORY**

| ISSUE NO. | DATE | DESCRIPTION |
|---|---|---|
| R51/2006-GB1-16.01 | 07 April 2016 | Certificate first issued. |
| - | - | No revisions have been issued. |