



Office for Product
Safety & Standards



OIML Member State

United Kingdom of Great Britain
and Northern Ireland

OIML Certificate No.
R51/2006-A-GB1-23.01

OIML CERTIFICATE ISSUED UNDER SCHEME A

OIML Issuing Authority **Office for Product Safety and Standards**
Stanton Avenue
Teddington
TW11 0JZ
United Kingdom

Person responsible: **Mannie Panesar**

Applicant **Topcon Technology Ltd**
Cirencester Road
Minchinhampton
Stroud
Gloucestershire
GL6 9BH
United Kingdom

Manufacturer **The applicant**

Identification of the certified type **Loadmaster Alpha 100 (or LM-100)**
(the detailed characteristics are defined in the Descriptive Annex)

This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

OIML R 51, Edition: 2006

For accuracy class: Y(b)

Issue date: 19 January 2023

The OIML Issuing Authority

Marek Bokota

Technical Manager

For and on behalf of the Office for Product Safety and Standards

This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML type evaluation report:

No. P02989-1 Type Evaluation Report dated 19 January 2023 that includes 14 pages

The technical documentation relating to the identified type is contained in documentation file:

No. P02989-1-D dated 19 January 2023

OIML Certificate History

Revision No.	Date	Description of the modification
0	19 January 2023	OIML Certificate first issued.
-	-	-

No revisions have been issued.

Important note:

Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML type evaluation report(s) is not permitted, although either may be reproduced in full.

DESCRIPTIVE ANNEX

Characteristics of the instrument:

This pattern of a battery-operated automatic catchweighing instrument, designated the Loadmaster Alpha 100 (or LM-100), comprises a weighing module, "Terminator" junction box, Head unit" control and display module, pressure transducers and sensors mounted on a wheeled loader. This pattern automatically determines the load in the bucket during the lifting process, the hydraulic pressure in the loader's arms is converted by a pressure transducer, the output being used by the indicator to display the corresponding weight.

Components/modules:

- Pressure transducer(s)
- Boom Inclinator
- Bucket sensor
- Boom sensor (Telescopic Loaders Only)
- Temperature sensor
- Chassis inclinometer
- Weighing module
- Junction box ("Terminator")
- Head unit control and display module (Isocan)

Technical data:

Maximum capacity (Max)	≤ 50,000 kg
Scale interval (e =)	≥ 10 kg
Minimum capacity (Min)	≥ 10 e
Maximum number of scale intervals	250
Pressure transducer	Danfoss type MBS 1250
Transducer measuring range	0...250 bar or 0...400 bar
Transducer output signal	4-20 mA
Minimum sensitivity	35 µV/div
Climatic environment	-25 °C to +50 °C Closed, non-condensing,: Head unit, printer Open, condensing: Weighing module, junction box, transducers, sensors
Electromagnetic environment	E3
Power supply	11-30 V DC (12 V and 24 V vehicle batteries)
Accuracy class	Y(b)

Interfaces:

- RS232
- Ethernet
- CAN 2

Devices:

- Start up display routine
- Semi-automatic zero setting ($\pm 2\%$ Max)
- Zero indicator
- Over/Under load interlocks
- Unsteady load interlock
- Preset tare (optional)
- Long-term storage device
- Printing (optional)

Software:

The legally relevant software identification shall be as follows:

Software type	Designation	Version number
Weighing module	LX100	003
Isocan	IS100	005
Database	DBIS100	003

The software identification can be displayed in the USER menu in “About System”.
All other software modules are non-legally relevant and may be freely modified.

Sealing measures:

Weighing module and rating plate sealed by a tamper-evident sticker.

Transducers sealed via serial numbers written on a tamper-evident label, itself sealed by tamper-evident sticker.

Legally relevant software and parameters sealed via software means (“Calibration counter”).

Alternatives:

1. Having the instrument fitted to a single acting hydraulic ram i.e. fork lift truck, or other single acting loader, provided no back pressure can occur. The second pressure sensor is not connected.
2. Having the instrument fitted to a Telescopic loader with a boom extension sensor.
3. Having the instrument set-up with up to 10 different attachments (bucket, grabs, tines, etc). The attachment identification is displayed at the top of the display. Each attachment is calibrated independently, with the calibration factors recalled when the attachment is selected.
4. Having the instrument operating with “kick out” relay automatically stopping the loading arm at the reference point during the lifting cycle.
5. Having the instrument fitted with up to 4 pressure sensors.

6. Having alternative legally relevant software identification as follows:

Software type	Designation	Version number
Weighing module	LX100	004
Isocan	IS100	006
Database	DBIS100	001

7. Having the instrument fitted with a Reference and Direction sensor to trigger the weighing process in place of the boom inclinometer. The weighing process is activated at a certain linear position instead of angular position.
8. Having the instrument fitted with a Gyro sensor to trigger the weighing process in place of the boom inclinometer.
9. Having the instrument fitted with a Gyro sensor in place of the bucket sensor. The Gyro sensor carries out the same function as the bucket sensor by preventing weighing outside of angular limits.
10. Having the instrument fitted with an inclinometer in place of the bucket sensor. The inclinometer carries out the same function as the bucket sensor by preventing weighing outside of angular limits.
11. Having the instrument fitted with an alternative bucket sensor (drawing number S/SR/268-8-064).
12. Having the instrument fitted with alternative pressure transducers designated Topcon MKII and MKIII 250 bar Compact. Metrological characteristics are unchanged. The Topcon MKII 250 bar Compact pressure transducer drawing number is S/SR/500-2-110. The Topcon MKIII 250 bar Compact pressure transducer drawing number is S/SR/500-2-120.
13. Having the instrument fitted with a junction box of alternative construction fitted with a modified PCB design. The weighing module assembly drawing number is S/AC/441-1-035 (alternative drawing numbers: S/AC/441-1-005, S/AC/441-1-015, S/AC/441-1-045 and S/AC/452-1-001). The weighing module circuit diagram number is P585-211 Issue 05.
14. Having the instrument fitted with an alternative pressure transducer. The alternative pressure transducers are designated "Topcon MK4 250 bar Compact". Metrological characteristics are unchanged except the maximum number of verification scale intervals which is 200. The Topcon MK4 250 bar Compact pressure transducer part number is Z782-131 or S/SR/500-2-131 (drawing number 14373789.01).