EU-type examination certificate

Number **T12421** revision 3
Project number 3984005

Issued by

NMi Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to conformity assessment procedures mentioned in article 17 of Directive 2014/32/EU, after having established that the Measuring instrument meets the applicable requirements of Directive 2014/32/EU, to:

Manufacturer

Metrilus GmbH
Gräfenberger Str. 32
91050 Uttenreuth
Germany

Measuring instrument

Multidimensional measuring instrument

Type : MetriXFreight L135
MetriXFreight L235
MetriXFreight L335
MetriXFreight L635

Further properties are described in the annexes:
- Description T12421 revision 3;
- Documentation folder T12421-3.

Valid until

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Remarks

This revision replaces the earlier versions, including the documentation folder.

Issuing Authority

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Certification Board

NMi Certin B.V.
Thijsseweg 11
2629 JA Delft
The Netherlands
T +31 88 6362332
certin@nmi.nl
www.nmi.nl

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PRODUCTS
RvA C 681

Description

1 General information about the multidimensional measuring instrument

All properties of the multidimensional measuring instrument, whether mentioned or not, shall not be in conflict with the legislation.

1.1 Essential parts

The sensor(s);
The controller PC with measuring software.

See drawings below:

Number	Pages	Description	Remarks
12421/0-01	2	Hardware and connection overview L135	1-sensor version
12421/3-01	2	Hardware and connection overview L235&L335	2- and 3-sensor version
12421/2-01	2	Hardware and connection overview L635	6-sensor version
12421/3-02	3	Sensor placement requirements	For all versions

EMI protection measures:
- The sensor is built in a metal housing.

1.2 Essential characteristics

Characteristics valid for all versions:

Principle of operation		reflection of light
Measuring range		single interval
Electromagnetic environment class		E2
Mechanical environment class		M1
Climatic environment	temperature range	-10 °C / +55 °C
	humidity	non-condensing
	intended location	closed
Power supply voltage		24 V DC
Method of operation		automatic
Software identification		Version number 2.x.y (x, y = 0… 999, and represent the non-legally relevant part of the software) Checksum: 7378 D9AF 78B5 8803 FCBF 08D0 8296 920E or 6E5D ECC3 E6BE A7AD 9080 9DA8 A028 4B14 or 979F 8E32 90B0 3B73 BE21 6610 6E96 7BD8

The software version is displayed continuously in the bottom left corner of the measurement screen. The checksum can be seen on the digital nameplate, which can be displayed by pressing the *F6*-key of a connected keyboard.

Characteristics valid for 1-sensor version (L135):

Maximum dimension	Length	Width	Height
	max ≤ 1500 mm	max ≤ 1200 mm	max ≤ 900 mm
Minimum dimension	min ≥ 100 mm	min ≥ 100 mm	min ≥ 50 mm
Scale interval d	d ≥ 10 mm	d ≥ 10 mm	d ≥ 5 mm
Limitations of use	For dimensioning of singulated objects. Only rectangular objects and pillow shaped objects can be measured. Transparent packaging is not included in the measurement.		

Characteristics valid for 2-sensor version (L235), 3-sensor version (L335) and 6-sensor version (L635):

Maximum dimension	Length	Width	Height
	max ≤ 2600 mm (L235-L335) max ≤ 6500 mm (L635)	max ≤ 2600 mm	max ≤ 2600 mm
Minimum dimension	min ≥ 200 mm	min ≥ 200 mm	min ≥ 100 mm
Scale interval d	d ≥ 20 mm	d ≥ 20 mm	d ≥ 10 mm
Limitations of use	For dimensioning of rectangular shaped objects, and static palletized irregular shaped freight. Transparent packaging is not included in the measurement.		
Minimum spacing between adjacent objects	spacing ≥ 100 mm		

1.3 Essential shapes

The measurement area under the sensor(s) is defined on the display by virtual guidelines in the display which show the boundaries on the horizontal plane where the object needs to be placed in order to be detected and measured.

Inscriptions:
- The inscriptions have to fulfil the requirements stated in Directive 2014/32/EU Annex I clause 9 and OIML R 129 (2000) clause 8;
- The inscriptions contain limitations of use and the minimum spacing between successive objects as mentioned in the essential characteristics;
- The inscriptions plate is fixed to the electronics of the multidimensional instrument and is secured against removal by sealing or will be destroyed when removed. When the inscriptions are not easily readable by the operator, there shall be a copy of it presented by the software (by pressing the *F6*-key of a connected keyboard).

In case of multiple sensor versions, all sensors shall be clearly identified that they belong to the same instrument with the serial number mentioned in the inscriptions.

1.4 Conditional parts

The multidimensional measuring instrument may be equipped with peripheral equipment if the peripheral equipment is certified to be connected to a multidimensional measuring instrument by a Notified Body responsible for type examination under Directive 2014/31/EU or Directive 2014/32/EU taking into account the applicable electromagnetic environment class.

1.5 Non-essential parts

The multidimensional measuring instrument may be connected to non-essential devices, for example but not limited to bar code readers, second displays, etc. provided that:
- They do not present primary data;
- They do not lead to an instrument having other essential characteristics than those fixed by this certificate.

Part(s) not subject to legal control (WELMEC 7.2 clause 2):
The software may contain files or programs that have non-essential properties, for example (but not limited to) invoice modules, database modules and operating system components, provided that they do not lead to an instrument having other characteristics than those fixed by this certificate.

1.6 Non-essential characteristics

The multidimensional measuring instrument may show dimensions smaller or larger than the dimensions included in this certificate, with a remark that the values are not legal-for-trade use and this measurement data cannot be stored within the instrument.

2 Information about the main constituent parts of the multidimensional measuring instrument

2.1 The sensor(s)

2.1.1 Essential parts

Number	Pages	Description	Remarks
12421/0-04	6	Sensor specifications	-

2.1.2 Conditional parts

The sensor may be equipped with one or more of the following protective interfaces that have not to be secured:
- Ethernet.

Taking into account the applicable electromagnetic environment class where the instrument is in service:
- Any DC converter that has CE marking may be used to power the sensor(s),
- Any Ethernet switch that has CE marking may be used to connect the sensor(s).

2.2 The controller PC with measuring software

2.2.1 Essential parts

Legally relevant software parts named:
- MetriX2.ApplicationCore.dll;
- MetriX2.Infrastructure.dll;
- MetriX2.UI.Kiosk.dll;

- Data Storage file. This file is created during configuration of the system, at which time also the size is set. The file's size shall accommodate the storage of all transactions for the required number of days according to the applicable national regulations.

2.2.2 Essential characteristics

Software specification (WELMEC 7.2):
- Software type P;
- Risk Class B;
- Extension L/S/D.

Operating system:
- The software runs on the Windows or Linux operating system.

Legally relevant functions of the software:
- Calculation of the dimensions from raw measurement data;
- Offset performed at start-up and in regular time intervals with a test body provided by the manufacturer;
- Storage of dimensions into a protected file;
- Looking up dimensions from a protected file;
- Acting upon significant faults;
- Extended indication device;
- Download of legally relevant software;
- An audit trail to trace the software download. To display the audit trail, press *F5*-key of a connected keyboard to enter the database view with a connected keyboard and choose "LFT configuration changes".

Security:
- Upon hardware power-up the software is automatically started;
- Access to the operating system level is controlled using Windows/Linux policy settings;
- Access to the software configuration is protected using passwords.

Software protection:
- The software is placed on an internal hard disk in executable files;
- The software operates with protected software interfaces;
- The software configuration is protected by login passwords and checksums;
- Configuration settings that do not affect legally relevant data are not protected by checksums.

The software is fitted with a checking facility through the configuration checksum to ensure that if a modification or corruption on the parameters, that affect the legally relevant data is detected, the instrument will become inoperable.

2.2.3 Conditional parts

Taking into account the applicable electromagnetic environment class where the instrument is in service;
- Any PC which has a CE marking may be used to install the measuring software,
- Any display which has a CE marking may be used to see the measurement results,
- Any camera that has CE marking may be used to have an overview of the measurement area and the boundaries of the captured measured body on the display in colour.

A secondary display may be used, in combination with the primary display, provided that:
- It has a CE marking,
- The content of this display is either an identical copy of the primary display or displays a different, non-legally relevant user interface.

3 Seals

To secure components that may not be dismantled or adjusted by the user, the multidimensional measuring instrument has to be secured in a suitable manner on the locations indicated in the drawing:

Number	Pages	Description	Remarks
12421/0-05	1	Sealing sensor	-

4 Conditions for conformity assessment

The marks, facilities for the marks and the inscriptions on the multidimensional measuring instrument fulfil the requirements of Directive 2014/32/EU.

The multidimensional measuring instrument may be connected to a non-automatic weighing instrument provided that this instrument meets the applicable requirements of Directive 2014/31/EU for non-automatic weighing instruments.