



# OIML CERTIFICATE OF CONFORMITY

## Issuing authority

Name: NMI Certin B.V.  
Address: Hugo de Grootplein 1  
3314 EG Dordrecht  
The Netherlands  
Person responsible: Ing. C. Oosterman

## Applicant

Name: SICK AG.  
Address: Nimburger Strasse 11  
D-79276 Reute  
Germany

## Manufacturer of the certified type

Name: SICK AG.  
Address: Nimburger Strasse 11  
D-79276 Reute  
Germany

## Identification of the certified type

Multi-dimensional measuring instrument for measuring cubic and rectangular, non-irregular shaped, non reflective and opaque boxes.  
Type: VMS 510

	L	W	H
Max ≤	2000 mm	1000 mm	1000 mm
$V_{max} \leq 1.2 \text{ m/s}$			
Min ≥	50 mm	50 mm	50 mm
d ≥	5 mm	5 mm	5 mm
$V_{max} \leq 2 \text{ m/s}$			
Min ≥	100 mm	100 mm	50 mm
d ≥	10 mm	10 mm	5 mm



**OIML Member State**  
The Netherlands

**OIML Certificate N° R129/2000-NL1-06.01 revision 1**

Project number 601851  
Page 2 of 2

Maximum objects processed: 960 per minute

Temperature range 0 °C / + 40 °C

This Certificate attests the conformity of the above mentioned type (represented by the sample or samples identified in the associated Test Report, the description and the appertaining documentation folder), with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R129  
Edition 2000 (E)

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

This 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 Test Reports:

N° R129/2000-NL1-06.01A, that includes 64 pages;  
N° R129/2000-NL1-06.01B, that includes 64 pages.

This revision replaces the earlier version.

The Issuing Authority  
Ing. C. Oosterman  
Manager Product Certification

13 February 2007

\*  
\* \*

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 Test Report is not permitted, although either may be reproduced in full.

## 1 General information about the multi-dimensional measuring instrument

All properties of the multi-dimensional measuring instrument, whether mentioned or not, may not be in conflict with the legislation.

### 1.1 Essential parts

See drawing Blockschaltbild, drawing number 601851-001 page 6 of 6.  
The processor with indicator.  
The sensors.

### 1.2 Essential characteristics

Power supply:

- 24V DC  $\pm$  15%
- 110V - 230 V AC, 50/60 Hz.

Multi-dimensional measuring instrument for measuring cubic and rectangular, non-irregular shaped, non-reflective and opaque boxes. The smallest rectangular box that fully encloses the object shall be determined.

The above-mentioned limitations of use shall be clearly marked on the nameplate on a visible place to the operator.

### 1.3 Essential shapes

The multi-dimensional measuring instrument is built according to the drawings:

- Grundeinheit, drawing number 9070317;
- Laser Measuring scanner, drawing number 9070318 and 9070319;

Program version of the tested software: V1.20.xxxx

By switch-on of the instrument the software number will be present in the display.

The nameplate is secured against removal by sealing or will be destroyed when removed. The nameplate mentions at least the information and markings as mentioned in OIML R129, art 8.1.

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

- Sealing concept VMS510, drawing number E\_26577;
- Sealing concept VMS510, drawing number E\_26582;
- Sealing concept VMS510, drawing number E\_26584;
- Sealing concept VMS510, drawing number E\_26588;
- Sealing concept CDM F. NMI, drawing number E\_16018.

### 1.4 Conditional parts

The multi-dimensional measuring instrument may be connected to an automatic weighing instrument provided that this instrument fulfils the requirements of the OIML recommendation R51.

The multi-dimensional measuring instrument may be equipped with peripheral equipment, if the peripheral equipment is certified to be connected.

## 1.5 Non-essential parts

The multi-dimensional measuring instrument may be connected to non-essential devices, for example but not limited to bar code readers, foot switches and second display's, provided that:

- They do not present transaction data.
- They do not lead to an instrument having other essential characteristics than those fixed by this document.

## 2 Information about the main constituent parts of the multi-dimensional measuring instrument

### 2.1 The processor with indicator

#### 2.1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Grundeinheit	9070317	6	
EK Analog	9085930	1	
SAP - BOM EK Analog	2030277	--	6 pages
EK Digital	9083700	4	2 pages
SAP - BOM EK Digital	2029439	--	24 pages
EK Netzteil	9082100	2	
SAP – BOM EK Netzteil	2028878	--	2 pages
EK Laser	9082206	2	
SAP – BOM EK Laser	2028923	--	3 pages
EK Stecker	9082435	5	
SAP – BOM EK Stecker	2028990	--	4 pages



## 2.1.2 Essential characteristics

The instrument communicates to a computer by means of a data string transmission.

Obligatory telegram part: M;LLLL;WWWW;HHHH;AAAAAAAA;BBBBBBBB;CCCC;DDDD;EEEE

Data Fields for Obligatory Calibration Part:

M	Unit ["M"] for metric
LLLL	Length [mm] of the smallest fully-enveloping cube
WWWW	Width [mm] of the smallest fully-enveloping cube
HHHH	Height [mm] of the smallest fully-enveloping cube
AAAAAAAA	The unique serial number of the master
BBBBBBBB	The unique serial number of the slave (for VMS 520, in VMS510 = 00000000)
CCCC	Index (object counter)
DDDD	Measuring status
EEEE	CRC16 for the above-mentioned data fields

The above-mentioned data fields are all of a fixed length.

## 2.1.3 Conditional parts

The interface section is located on the interface boards.

The multi-dimensional measuring instrument may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS-232 / RS422;
- CAN;
- Ethernet;
- I/O connector.

## 2.1.4 Non-essential parts

Display.



## 2.2 The sensors

### 2.2.1 Essential characteristics

The one laser sensors Model VMD510, measures the:

- Height and the width with an accuracy of 5 mm x 5 mm by a maximum conveyor speed of 1.2 m/s;  
The Incremental encoder Model DKV 60-E1Z0-S03 measures the length with an accuracy of 5 mm and the displacement of the belt with an accuracy of 0.2 mm.
- Height with an accuracy of 5 mm and the width with an accuracy of 10 mm by a maximum conveyor speed of 2 m/s;  
The Incremental encoder Model DKV 60-E1Z0-S03 measures the length with an accuracy of 10 mm and the displacement of the belt with an accuracy of 0.2 mm.

### 2.2.2 Essential shapes

See the drawings:

For the laser sensor:

- Grundeinheit, drawing number 9070317 revision 6;

For the Incremental encoder:

- Incremental measuring wheel encoder DKV 60-E1Z0-S03, Technical information, 601851-002;
- MBL-Incremental encoder DKV60, drawing number 9105303.

## 3 Approval conditions

See chapter 1.3, essential shapes.

## 4 Seals and verification marks

See chapter 1.3, essential shapes.



Description	Drawing number	Rev.	Remarks
Blockschaltbild	601851-001	--	page 6 of 6
Grundeinheit	9070317	6	
Laser Measurement scanner	9070318	--	
Laser Measurement scanner	9070319	1	
Sealing concept VMS510	E_26577	--	
Sealing concept VMS510	E_26582	--	
Sealing concept VMS510	E_26584	--	
Sealing concept VMS510	E_26588	--	
Sealing concept CDM F. NMI	E_16018	--	
EK Analog	9085930	1	
SAP - BOM EK Analog	2030277	--	6 pages
EK Digital	9083700	4	2 pages
SAP - BOM EK Digital	2029439	--	24 pages
EK Netzteil	9082100	2	
SAP – BOM EK Netzteil	2028878	--	2 pages
EK Laser	9082206	2	
SAP – BOM EK Laser	2028923	--	3 pages
EK Stecker	9082435	5	
SAP – BOM EK Stecker	2028990	--	4 pages
DKV 60-E1Z0-S03 Technical information	601851-002	--	3 pages
DKV60	9105303	--	