



HEXAGON

NEXT**SENSE**

**CALIPRI C4X**

Data Sheet

Measurement module “Wheel Diameter”



Doc. ID: CMM1005  
Rev. No: 01  
Date: 2022-08-08

**CALIPRI**  
**C4X**



## 1 APPLICATION

The “Wheel Diameter“ module allows for the precise measurement of the rail vehicle wheel diameter. The flange diameter is measured in order to calculate the rolling circle diameter. Additionally, the following values can also be calculated automatically: diameter difference axle, diameter difference bogie and diameter difference coach.

The wheel diameter gauge (D-Gauge) is used to perform the measurement and is included in this module offering. The patented gauge is robust, has no moveable components and can be easily mounted (switchable magnet) on the wheel. A measurement can be performed quickly and easily on the installed wheel, even in difficult conditions.

All of the measured variables are displayed on the sensor and tablet PC within a few seconds. These results can then be compared automatically with your reference values.

### Measured variables:

- DS – Flange diameter
- Dlk – Rolling circle diameter
- DDA – Diameter difference axle (n)
- DDD – Diameter difference bogie (e)
- DDW – Diameter difference coach



Wheel Diameter measurement with sensor and D-Gauge



## 2 TECHNICAL DATA

Depending on your wheel diameter dimensions, you can choose between 3 different D-Gauge versions.

	<b>D-750</b>	<b>D-1050</b>	<b>D-1350</b>
<b>Measurement range*</b> <b>CALIPRI C40, C42:</b>	470 – 750 mm (1'6" - 2'5")	670 – 1050 mm (2'2" - 3'5")	970 – 1350 mm (3'2" - 4'5")
<b>CALIPRI C41:</b>	550 – 750 mm (1'9" - 2'5")	800 – 1050 mm (2'7" - 3'5")	1100 - 1350 mm (3'7" - 4'5")
<b>Net weight</b>	kg (2.2 lbs)	1.3 kg (2.9 lbs)	1.4 kg (3.1 lbs)
<b>Shipping weight</b>	4.2 kg (9.3 lbs)	6.0 kg (13.2 lbs)	8.0 kg (17.6 lbs)
<b>Package size (Hard shell case)</b>	60 x 50 x 20 cm (1'11" x 1'7" x 7.8")	100 x 20 x 45 cm (3'3" x 7.8" x 1'5")	130 x 15 x 40 cm (4'3" x 5.9" x 1'3")
<b>Product ID</b>	CMM1005/750	CMM1005/1050	CMM1005/1350
<b>Accuracy</b>	Absolute accuracy: < ± 200 µm Repeatability: < ± 100 µm		
<b>System requirement</b>	Measurement module "Wheel Profile"		
<b>Compatibility</b>	CALIPRI C41, CALIPRI C42		
<b>Standards &amp; certificates</b>	<p>CALIPRI is approved and uses i.a. in Germany (DB), Austria (ÖBB), Switzerland (SBB), France (SNCF), China (Chengdu Railway Bureau) and the Czech Republic (SŽDC).</p> <p>This measuring module has been successfully tested according to JCGM100: 2008, DIN V ENV 13005: 1999-06, DIN EN 13715: 2001-01, DIN EN 15313: 2016-09 and DIN 27201-9: 2017-06.</p>		
* Refers do the flange diameter			



### 3 SCOPE OF SUPPLY AND SERVICES

- Software license measurement module “Wheel Diameter”
  - 1 measurement method (FlangeDiameter)
  - In case of supplementary order: activation via remote access
- Wheel diameter gauge (D-Gauge) incl. calibration certificate
  - Mechanical supporting gauge for the wheel diameter measurement
  - USB stick with the gauge calibration specifications included
  - Delivered in hard shell case for the purpose of shipment and storage



**Diameter gauges**  
D-750 / D-1050 / D-1350

#### **Add-On**

„D-Gauge modification“

- Additional magnet (permanent magnet) for a better adhesion
- Product ID: CSM9001.

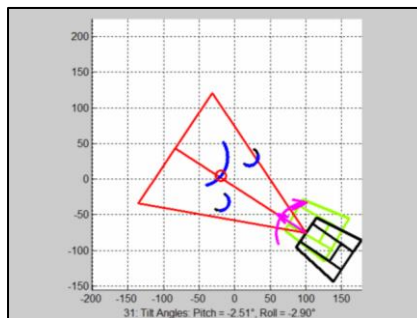
## 4 MEASUREMENT PROCESS



D-Gauge fixture



Measurement

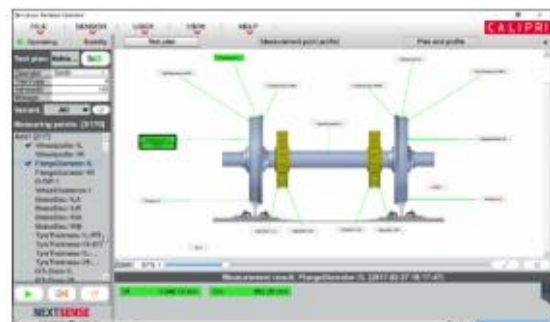


Sensor guidance (Tutor)



Measurement result on sensor

AND



Measurement results on tablet PC

Offer & Live demonstrations:  
[sales@nextsense-worldwide.com](mailto:sales@nextsense-worldwide.com)



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**NEXTSENSE**

NEXTSENSE GmbH  
Straßganger Straße 295, 8053 Graz, AUSTRIA  
Phone +43 316 232 400 - 0, Fax +43 316 232 400 - 599  
office@nextsense-worldwide.com  
nextsense-worldwide.com | hexagonmi.com