



# Datasheet

## Length measurement system LMSCA22 with encoder WDG **Configurable via NFC**

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#### **... systems and encoders**

- Complete systems
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- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

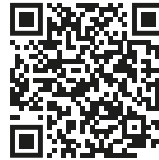
# Robust length measurement system LMSCA22 with NFC encoder WDG N



## Configurable via NFC

- Ultra compact system with spring-loaded arm, incl. via NFC configurable WDG N 36A encoder and 150 mm or 200 mm measuring wheel
- Up to 0.01 mm/impulse for measurement results
- Suitable for many surfaces
- Absorbent mounting
- Contact pressure – easily adaptable by intelligent central adjustment and patented tooth grid

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### Resolution encoder WDG N 36A

Pulses per revolution ppr 1 ppr up to 16384 ppr free selectable

### Calculation examples with

#### Measuring systems LMSxxxKH, LMSxxxKG, LMSxxxNG:

$x = 200$  mm circumference measuring wheel,  $y =$  ppr encoder,  $z =$  mm/pulse

$x : y = z$  ( $y : x =$  pulse/mm)

Example: 200 mm : 2000 ppr = 0.1 mm/pulse (10 pulses/mm)

#### Measuring system LMSxxxGR:

$x = 150$  mm circumference measuring wheel,  $y =$  ppr encoder,  $z =$  mm/pulse

$x : y = z$  ( $y : x =$  pulse/mm)

Example: 150 mm : 1500 ppr = 0.1 mm/pulse (10 pulses/mm)

### Mechanical Data

#### Housing encoder

Flange	synchro flange
Flange material	aluminium
Housing cap	stainless steel, NFC cover: Thermoplastic polyamide

#### Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.2 Ncm at ambient temperature
Shaft	Ø 6 mm shaft with flat
Shaft length	L: 11.5 mm
Permissible shaft loading	max. 80 N radial, max. 50 N axial

#### Bearings

Max. operating speed	12000 rpm
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#### Spring loaded arm

Adjustable prestressing force	0 N up to 20 N in steps of 5 N
Length of spring lever axis	74.5 mm
Material	aluminum
Contact pressure	adjustable, 3°-step equates 5 N pressure increase

### Machinery Directive: basic data safety integrity level

MTTF <sub>a</sub>	1200 a
Mission time (T <sub>M</sub> )	20 a
Nominal service life (L <sub>10h</sub> )	1.7 x 10 <sup>10</sup> revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

### Electrical Data

Power supply/ Current consumption	4.75 VDC up to 32 VDC: typ. 80 mA
Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Channels	ABN and inverted signals
Load	max. 40 mA / channel
Circuit protection	inverse-polarity and short-circuit protection

### Accuracy

Phase offset	90° ± max. 8.5 % of a period duration
pulse-/pause-ratio	50 % ± max. 7 %

### via NFC configurable

Pulses per revolution ppr	1 ppr up to 16384 ppr free selectable
Output circuit	TTL, HTL free selectable

### Environmental Data encoder WDG N with NFC

#### Noise immunity:

ESD (DIN EN 61000-4-2):	8 kV
EMC: (DIN EN 61000-4-3):	10 V/m
Burst (DIN EN 61000-4-4):	2 kV
High frequency fields (DIN EN 61000-4-6):	10 V

Surge (DIN EN 61000-4-5): 2 kV

Radio interference: According DIN EN 55011

#### NFC:

EMC:	According ETSI EN 301 489
RED:	According ETSI EN 300 330

Electrical safety: According DIN EN 61010-1, UL 61010-1, CSA C22.0 No. 61010-1-12

Vibration: 300m/s<sup>2</sup> (10 Hz up to 2000 Hz)  
(DIN EN 60068-2-6)

Shock (DIN EN 60068-2-27): 1000m/s<sup>2</sup> (6 ms)

Design: DIN VDE 0160

### General Data

Weight	approx. 270 g
Connection	Connector radial
Protection rating (EN 60529)	IP67, shaft sealed to IP65

### Operating temperature

LMSxxxKH:	-10 °C up to +70 °C
LMSxxxKG:	-10 °C up to +70 °C
LMSxxxNG:	-10 °C up to +50 °C
LMSxxxGR:	-40 °C up to +85 °C

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**Range of application measuring wheel U = 200 mm**

LMSxxxKH: Plastic, painted surfaces, paper, paste-board, wood, metal, textiles.



LMSxxxKG: Plastic, painted surfaces, paper, paste-board, wood, metal, textiles.



LMSxxxNG: Textiles.

**Range of application measuring wheel U = 150 mm**

LMSxxxGR: Wood, metal, conveyor belts, paper, textiles.

**More information**

General technical data and safety incremental encoders

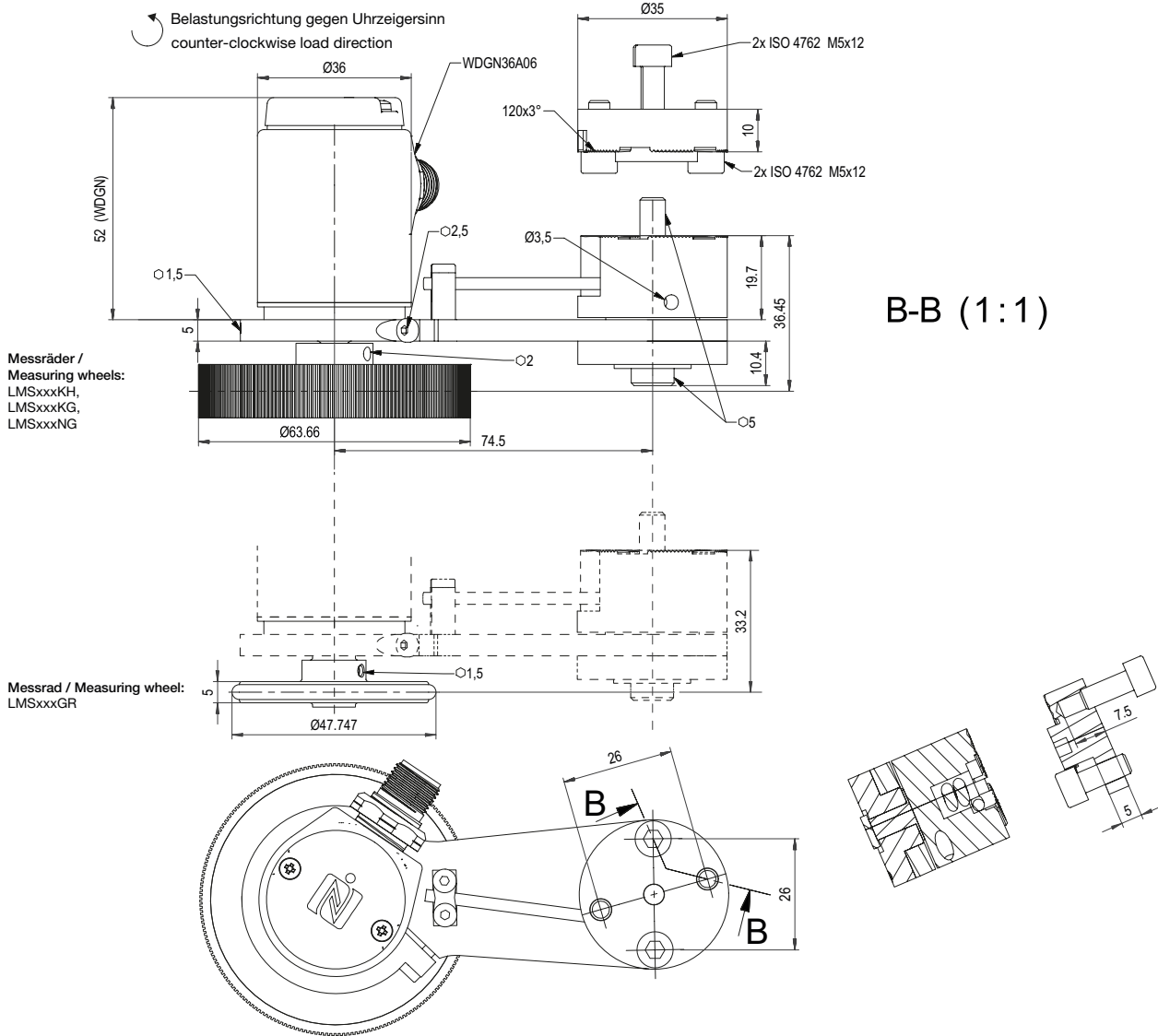
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Options

[www.wachendorff-automation.com/acc](http://www.wachendorff-automation.com/acc)

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**Sensor-connector (M12x1) SC, 8-pin**



**Description**

SC8 radial, 8-pin, connector connected to encoder housing

Assignment	
	SC8
	8-pin
GND	1
+UB	2
A	3
B	4
N	5
A inv.	6
B inv.	7
N inv.	8
Shield	-

Order No.:



Measuring wheel U = 200 mm	Range of application:
LMSCA22WDGNBASKH	Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles.
LMSCA22WDGNBASKG	Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles.
LMSCA22WDGNBASNG	Textiles.
Measuring wheel U = 150 mm	Range of application:
LMSCA22WDGNBASGR	Wood, metal, conveyor belts, paper, textiles.

For further assistance please feel free to contact us.  
 We would be happy to help you to find the measurement wheel, cable length or other accessory to optimize your application.



For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
[http://www.wachendorff-automation.com/distributors\\_worldwide.html](http://www.wachendorff-automation.com/distributors_worldwide.html)



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