



# Datasheet

## Length measurement system LMSCA32 with encoder WDN **Configurable via NFC**

[www.wachendorff-automation.com/lmsca32-wdgn](http://www.wachendorff-automation.com/lmsca32-wdgn)

### Wachendorff Automation

#### ... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

## Robust length measurement system LMSCA32 with NFC encoder WDGn



**Configurable via NFC**

- Ultra compact system with spring-loaded arm, incl. via NFC configurable WDGn 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
- Easy to dismantle through pre-assembled angle bracket

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### Resolution encoder WDGn 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:<br>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 |
|----------------------|-----------|

#### 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<br>5 N pressure increase |

### Machinery Directive: basic data safety integrity level

|                                          |                                                                        |
|------------------------------------------|------------------------------------------------------------------------|
| MTTF <sub>d</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<br>load and 12000 rpm |
| Diagnostic coverage (DC)                 | 0 %                                                                    |

### Electrical Data

|                     |                                                                      |
|---------------------|----------------------------------------------------------------------|
| Power supply/       | 4.75 VDC up to 32 VDC: typ. 80 mA                                    |
| Current consumption |                                                                      |
| Pulse frequency     | HTL up to 16384 ppr: max. 600 kHz<br>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 WDGn 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,<br>CSA C22.0 No. 61010-1-12 |
| Vibration:<br>(DIN EN 60068-2-6) | 300m/s <sup>2</sup> (10 Hz up to 2000 Hz)                         |
| 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 |

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



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



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



LMSxxxNG: Textiles.  
(pimpled)

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



LMSxxxGR: Wood, metal, conveyor belts, paper, textiles.  
(even)

#### More information

General technical data and safety incremental encoders  
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

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

Customs tariff number: 90318020  
Country of origin: Germany



Order No.:



| Measuring wheel U = 200 mm | Range of application:                                                |
|----------------------------|----------------------------------------------------------------------|
| LMSCA32WDGNBAS <b>KH</b>   | Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles. |
| LMSCA32WDGNBAS <b>KG</b>   | Plastic, painted surfaces, paper, pasteboard, wood, metal, textiles. |
| LMSCA32WDGNBAS <b>NG</b>   | Textiles.                                                            |
|                            |                                                                      |
| Measuring wheel U = 150 mm | Range of application:                                                |
| LMSCA32WDGNBAS <b>GR</b>   | Wood, metal, conveyor belts, paper, textiles.                        |
|                            |                                                                      |

The length measuring system is also available without a mounting bracket. Order number: LMSCA22WDGNBASxx

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.

**WACHENDORFF**  
The Encoder Experts

**Authorized Distributor**

For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.

<https://www.wachendorff-automation.com/contact-sales-en/>

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