



# Datasheet



NFC(무선데이터통신기술)를 통해 구동가능한 길이측정용 엔코더

## Length measurement system LMSCA32 with encoder WDN

**Configurable via NFC**

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

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관련 동영상 링크

# Robust length measurement system LMSCA32 with NFC encoder WDG



**Configurable via NFC**

- NFC기능을 갖춘 스프링 장착 암을 장착한 (50mm또는 200mm측정 휠) 초소형 WDG-36A 엔코더 시스템
- 최대 0.01MM/펄스의 측정결과 산출가능
- 다양한 표면소재에 적용 가능
- 부속품 설치가능
- 접촉 압력- 중앙조정 및 특허받은 톱니 그리드로 손쉬운 조작가능

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



## Resolution encoder WDG 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 |
|----------------------|-----------|

### 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>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 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<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 WDG 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: (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: (even) Plastic, painted surfaces, paper, paste-board, wood, metal, textiles.



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



LMSxxxNG: (pimpled) Textiles.

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



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

#### More information

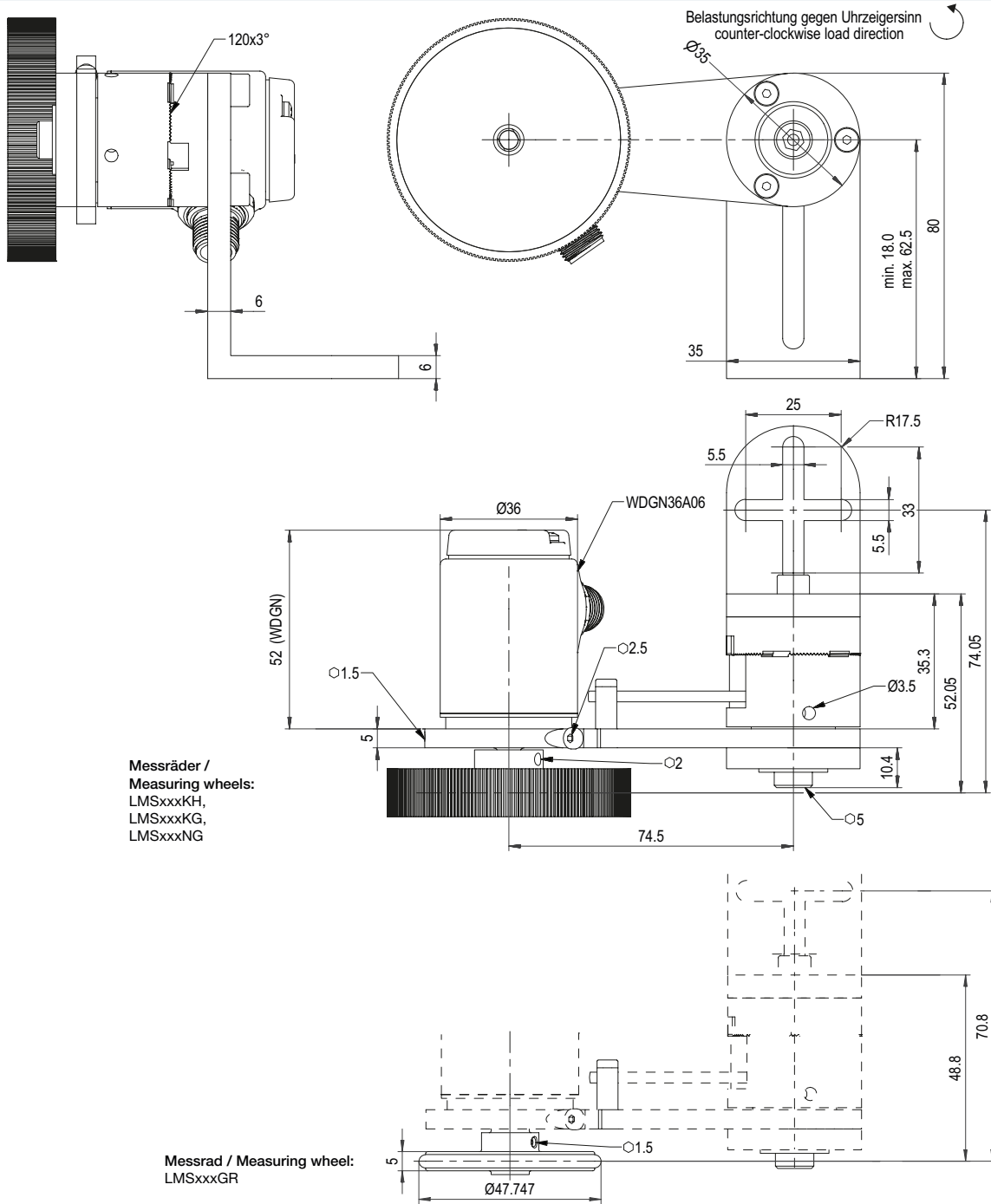
General technical data and safety incremental encoders

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

Options

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

Sensor-connector (M12x1) SC, 8-pin



Description

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

| Assignment  |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|
|             | SC8<br>8-pin                                                                        |
| Steckerbild |  |
| 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:                                                |
|----------------------------|----------------------------------------------------------------------|
| 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.                        |
|                            |                                                                      |

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)

