



Datasheet

Length measurement system LMSCA22 with encoder WDGN **Configurable via NFC**

www.wachendorff-automation.com/lmsca22-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 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 _a	1200 a
Mission time (T _m)	20 a
Nominal service life (L _{10h})	1.7 x 10 ¹⁰ 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/s² (10 Hz up to 2000 Hz)
(DIN EN 60068-2-6)

Shock (DIN EN 60068-2-27): 1000m/s² (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

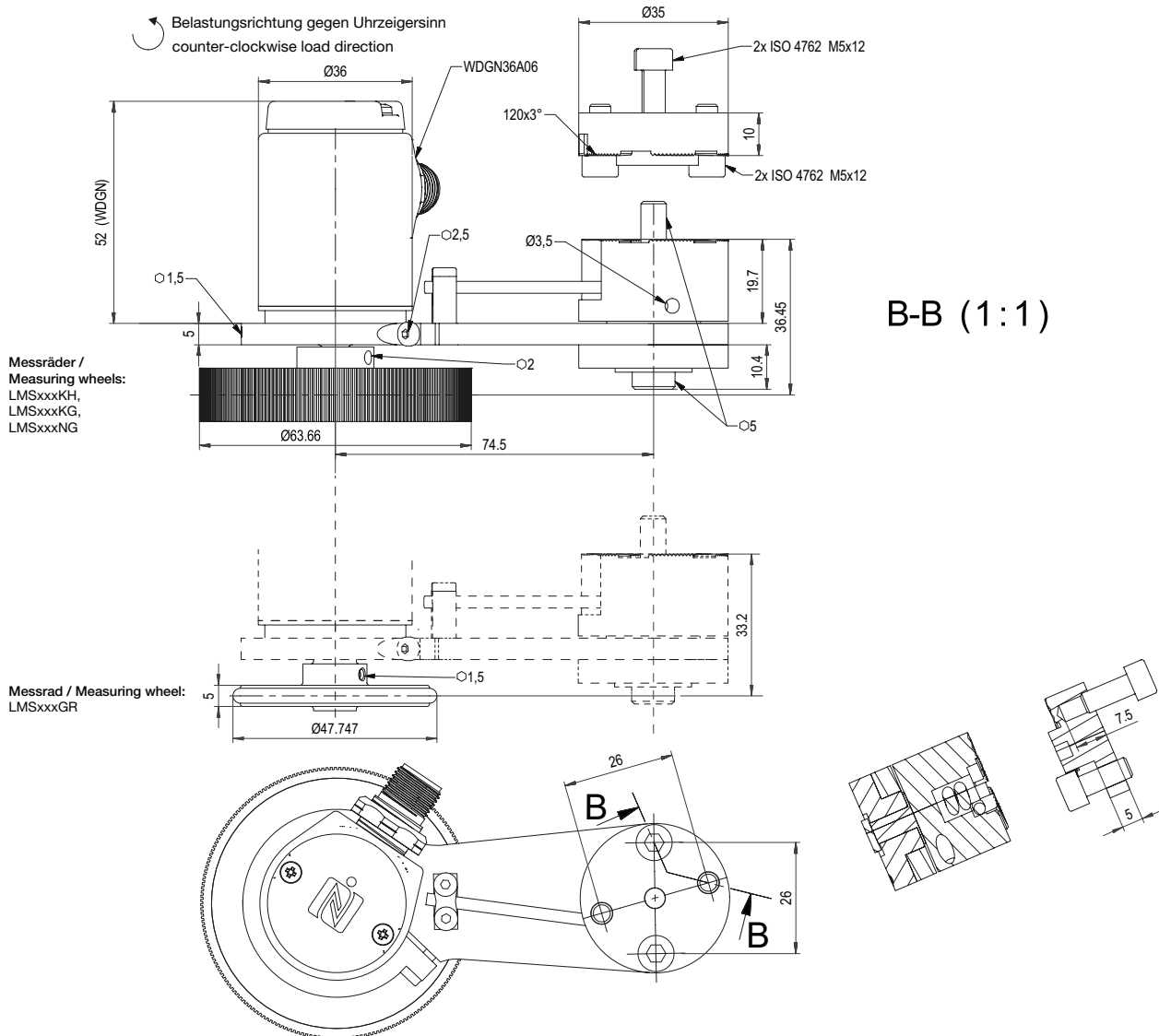
Options

www.wachendorff-automation.com/acc

Customs tariff number: 90318020

Country of origin: Germany

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.

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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