

## Length measurement system LMS WDG

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

### 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 LMS WDG



- Complete system, consisting of incremental encoder, spring lever and measuring wheel
- Excellent print layout, thanks to a resolution of 0.008 mm/pulse
- Various measuring wheels for different surfaces available
- High service life, thanks to highest bearing loads and high quality suspension

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Resolution	
Max. pulses per revolution	200, 2000, 5000, 25000
PPR	

Mechanical Data	
<b>Housing</b>	
Flange	clamping flange
Flange material	aluminium
Housing cap	aluminium, powder coated
Housing	Ø 58 mm
Cam mounting	pitch 69 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. permissible shaft loading radial	220 N
Max. permissible shaft loading axial	120 N

Bearings	
Bearings type	2 precision ball bearings
Nominale service life	1 x 10 <sup>9</sup> revs. at 100 % rated shaft load 1 x 10 <sup>10</sup> revs. at 40 % rated shaft load 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

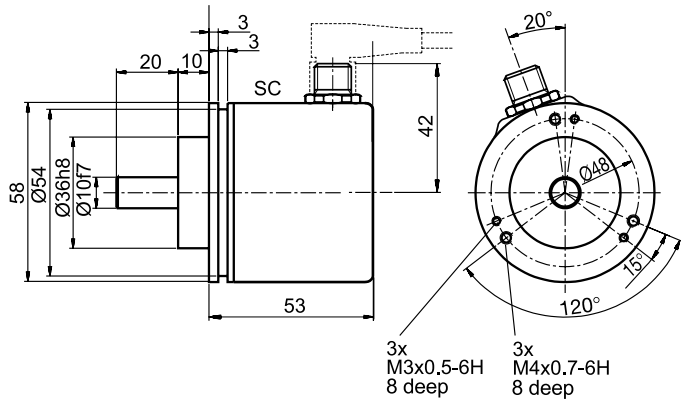
Machinery Directive: basic data safety integrity level	
MTTF <sub>d</sub>	200 a
Mission time (T <sub>M</sub> )	25 a
Nominale service life (L <sub>10h</sub> )	1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/	4,75 VDC up to 5,5 VDC: max. 100 mA
Current consumption	10 VDC up to 30 VDC: max. 100 mA
Output circuit	TTL, HTL
Pulse frequency	TTL ≤ 5000 ppr: max. 200 kHz HTL ≤ 5000 ppr: max. 200 kHz TTL > 5000 ppr: max. 2 MHz HTL > 5000 ppr: max. 600 kHz
Channels	ABN
Load	max. 40 mA / channel
Circuit protection	10 VDC up to 30 VDC, HTL only


Accuracy	
Phase offset	90° ± max. 7,5 % of the pulse length
pulse-/pause-ratio	50 % ± max. 7 %

General Data	
Weight encoder	approx. 250 g
Connection	Connector radial
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	-20 °C up to +80 °C
Storage temperature	-30 °C up to +80 °C

More information	
General technical data	
<a href="http://www.wachendorff-automation.com/gtd">www.wachendorff-automation.com/gtd</a>	
Options	
<a href="http://www.wachendorff-automation.com/acc">www.wachendorff-automation.com/acc</a>	

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

**Description**

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

Assignment	
	<b>SC8</b>
	<b>8-pin</b>
	
<b>Circuit</b>	F05, H05, F24, H24
<b>GND</b>	1
<b>+UB</b>	2
<b>A</b>	3
<b>B</b>	4
<b>N</b>	5
<b>Light reserve warning</b>	-
<b>A inv.</b>	-
<b>B inv.</b>	-
<b>N inv.</b>	-
<b>n. c.</b>	6, 7, 8
<b>Shield</b>	-

Options



### Spring lever for encoder WDG 58B

for length determination

#### Product data

##### Highlights

- Variable installation from below, from above, horizontal, vertical
- Adjustable prestressing force: 20 N, 25 N and 30 N
- Can be combined with all measuring wheels of 200 mm or 500 mm circumference

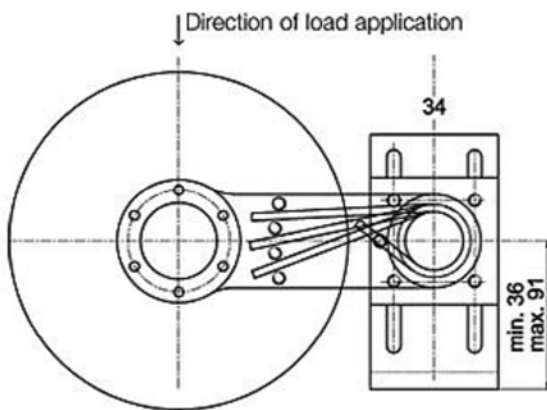
##### Spring travel

Spring travel at tension:  
 20 N = 50° approx. 90 mm  
 25 N = 45° approx. 84 mm  
 30 N = 40° approx. 77 mm

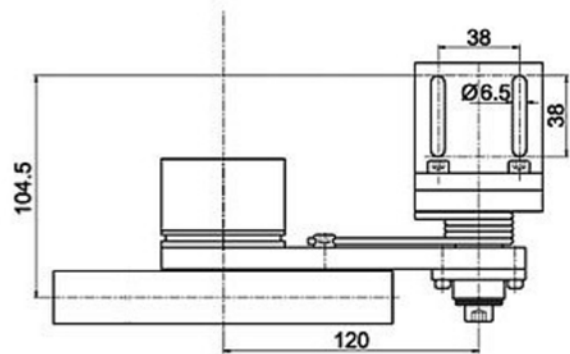
Load direction anti-clockwise

#### Drawings

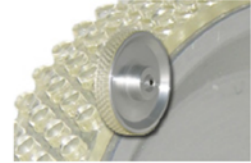
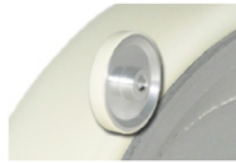
All dimensional specifications in mm



Spring lever, cross section



## Measuring wheels



### Product data

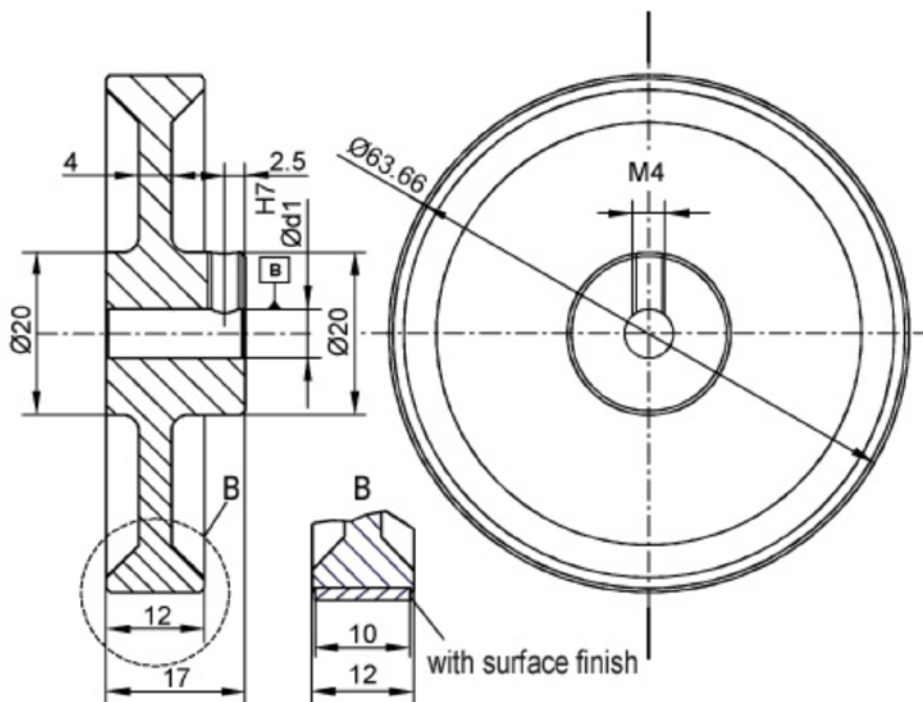
	MRA200KH	MRA200KG	MRA200NG
Circumference	200 mm	200 mm	200 mm
Surface finish	Synthetic (Hytrel, even)	Synthetic (Hytrel, chequered)	Rubber, fluted
Moment of inertia	310 gcm <sup>2</sup>	310 gcm <sup>2</sup>	50 up to 60
Wheel body material	Aluminium	Aluminium	Aluminium
Standard bore-hole	Ø 10 mm	Ø 10 mm	Ø 10 mm
Width	12 mm	12 mm	12 mm
Weight	60 g	60 g	60 g
Fields of application	*1	*2	*3

\* Fields of application measuring wheel circumference = 200 mm

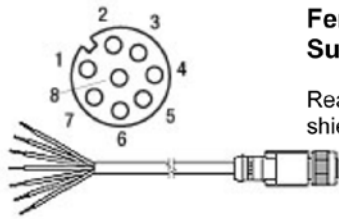
- 1 LMSxxxKH Ungreased metal, steel profiles, painted surfaces, plastics, paper, pasteboard, wood, textiles, leather, wire.
- 2 LMSxxxKG Ungreased metal, painted surfaces, plastics, paper, pasteboard, wood, textiles, glass, flooring.
- 3 LMSxxxNG Carpets, coarse textiles.

### Drawings

All dimensional specifications in mm



Female connector KI-8-67-10-S



**Female connector KI-8-67-10-S**  
**Suitable for encoder with sensor connector outletıbgang SC8, 8 pin, IP67**

Ready-made shielded connection cable with female cable connector straight, shield connected.

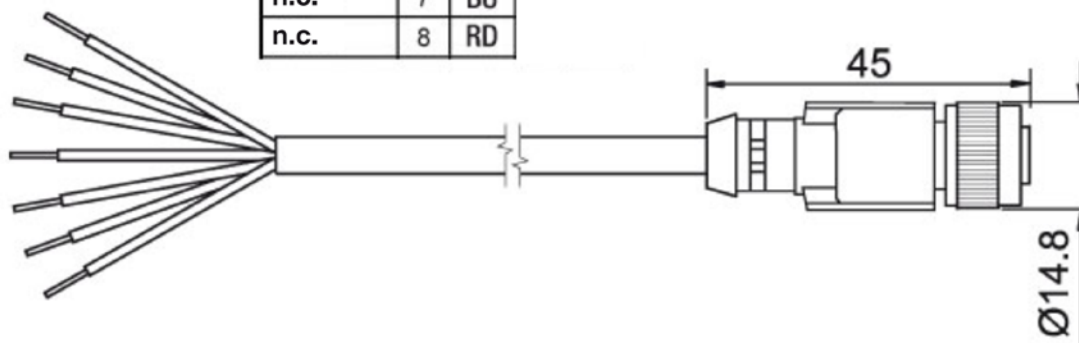
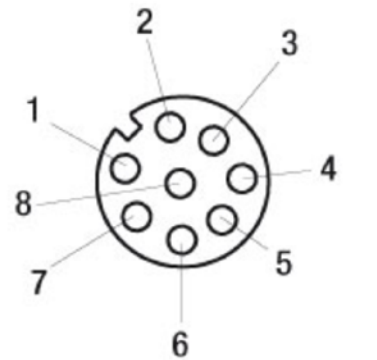
**Product data**

Construction of female connector	straight with ready made, shielded cable, shield connected
No. of contacts	8-pin
Finish of contact	Metal, CuZn, gold
Connection	Coupling, M12 x 1, straight
Grip	Plastic, TPU, blue
Union nut	Metal, CuZn, nickel
Encoder protection	only when mated max. IP67
Order number(s)	
KI-8-67-10-S	Female connector with cable (10 m)

**Drawings**

All dimensional specifications in mm

Assignment		
GND	1	WH
+UB	2	BN
A	3	GN
B	4	YE
N	5	GY
n.c.	6	PK
n.c.	7	BU
n.c.	8	RD



Order No.:

mm/pulses	Pulses	LMS100024KH10	LMS100005KH10	LMS100024KG10	LMS100005KG10	LMS100024NG10	LMS010005NG10	LMS010024KH10	LMS010005KH10	LMS010024KG10	LMS010005KG10	LMS010024NG10	LMS004005NG10	LMS004024KH10	LMS004005KH10	LMS004024KG10	LMS004005KG10	LMS000824NG10	LMS000805NG10	LMS000824KH10	LMS000805KH10	LMS000824KG10	LMS000805KG10	LMS000824NG10	LMS000805NG10	
1,0	200	•	•	•	•	•																				
0,1	2000					•	•	•	•	•	•															
0,04	5000											•	•	•	•	•	•									
0,008	25000																	•	•	•	•	•	•			
<b>VDC</b>																										
10 up to 30 HTL		•		•		•		•		•		•		•		•		•		•		•		•		•
4,75 up to 5,5 TTL			•		•		•		•		•		•		•		•		•		•		•		•	
<b>Range of appl.*</b>		1	1	2	2	3	3	1	1	2	2	3	3	1	1	2	2	3	3	1	1	2	2	3	3	

\* Range of application measuring wheel U = 200 mm

**1 LMSxxxKH** Ungreased metal, steel profiles, painted surfaces, plastics, paper, pasteboard, wood, textiles, leather, wire.

**2 LMSxxxKG** Ungreased metal, painted surfaces, plastics, paper, pasteboard, wood, textiles, glass, flooring.

**3 LMSxxxNG** Plastics, paper, pasteboard, wood, textiles, fleece, carpet, cable measuring.

For further assistance please feel free to contact us.

We would be happy to help you to find the suitable resolution, 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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