

Datasheet

Length measurement system LMS WDG

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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

Housing

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 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	200 a
Mission time (T _M)	25 a
Nominale service life (L _{10h})	1 x 10 ¹¹ 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 and inverted signals
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

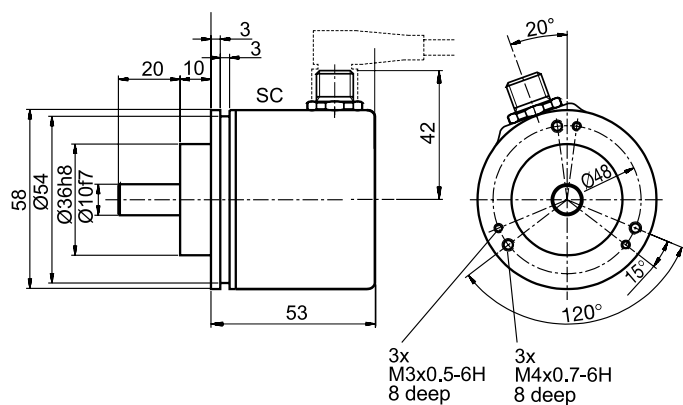
General technical data

www.wachendorff-automation.com/gtd

Options

www.wachendorff-automation.com/acc

Sensor-connector (M12x1) SC, 8-pin



Description

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

Assignment	
	SC8
	8-pin
	
Circuit	F05, R05, F24, R24
GND	1
+UB	2
A	3
B	4
N	5
Light reserve warning	-
A inv.	6
B inv.	7
N inv.	8
n. c.	-
Shield	-

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 the measuring wheels (MRA200KH, MRA200KG, MRA200NG) of 200 mm circumference

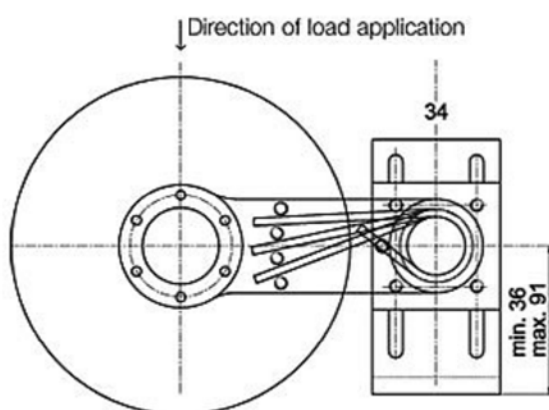
Spring travel

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

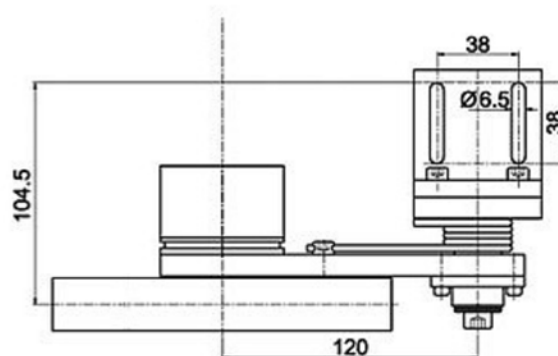
Load direction anti-clockwise

Drawings

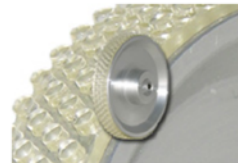
All dimensional specifications in mm



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 ²	310 gcm ²	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

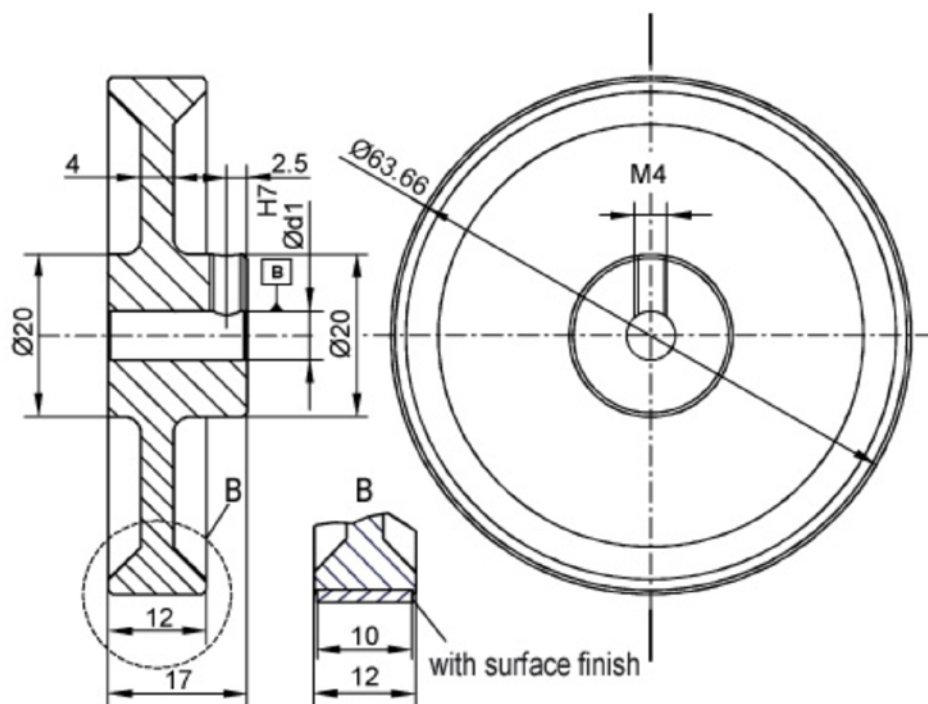
1 LMSxxxKH Ungreased metal, steel profiles, painted surfaces, plastics, paper, pasteboard, wood, textiles, leather, wire.

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

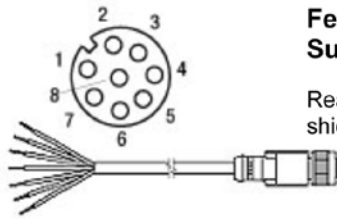
3 LMSxxxNG Carpets, coarse textiles.

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 outletång SC8, 8 pin, IP67

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

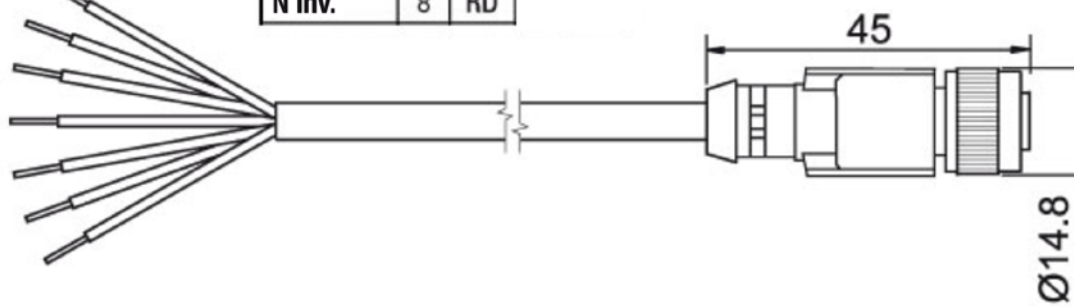
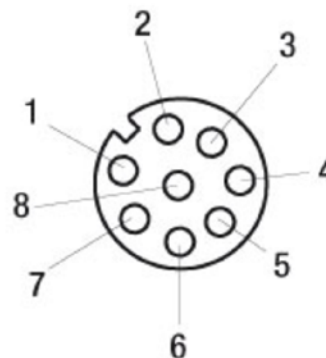
Product data

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
A inv.	6	PK
B inv.	7	BU
N inv.	8	RD



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