

## Compact length measurement system LMS24



### The Measuring system includes:

Encoder WDG24C, spring lever WDGFS10000 and measuring wheel MRD40GR06

Fields of application: Pasteboard, soft plastics, textiles, wood, rubber.

### Encoder specifications

**Pulses per revolution** 1 ppr up to 128 ppr, 256 ppr, 512 ppr, 1024 ppr

### Mechanical Data

Housing encoder:

- Synchro flange: Aluminium
- Cap: Aluminium
- Shaft Ø 6 mm
- Material: stainless steel

- Spring lever: Aluminium
- Measuring wheel: Aluminium, circumference = 125 mm

Spring travel at tension: 50 N ≈ 6 mm

Max. operating speed: 12000 min<sup>-1</sup>  
Weight: ca. 100 g  
Connections: cable or connector outlet

Protection rating IP65 all around (EN 60529):

Operating temperature: -40 °C up to +80 °C  
Storage temperature: -40 °C up to +80 °C

### Machinery Directive: basic data safety integrity level

MTTF<sub>d</sub>: 200 a  
Mission time (T<sub>M</sub>): 25 a  
Nominal service life (L<sub>10h</sub>): 6.8 x 10<sup>11</sup> revs. at 12000 rpm and  
Diagnostic coverage (DC): 0 %

### Electrical Data

Power supply/ consumption: 4,75 VDC up to 5,5 VDC: max. 40 mA  
5 VDC up to 30 VDC: max. 40 mA  
10 VDC up to 30 VDC: max. 40 mA

Output circuit: TTL, RS422 compatible  
HTL

Pulse frequency: TTL up to 64 I/U: max. 20 kHz  
HTL up to 1024 I/U: max. 200 kHz

Channels: AB, ABN and inverted signals  
Load: max. 30 mA / channel  
Circuit protection: circuit type M24 only

Accuracy: Phase offset at:  
1 ppr up to 256 ppr: 90° max. ±10 % of the pulse length  
512 ppr: 90° max. ±20 % of the pulse length  
1024 ppr: 90° max. ±23 % of the pulse length  
pulse-/pause-ratio at:  
1 ppr up to 128 ppr: 50 % max. ±10 %  
256 ppr, 512 ppr, 1024 ppr: 50 % max. ±20 %

The measuring system includes:

- encoder WDG24C, measuring wheel and spring lever
- very compact construction for use in harsh conditions
- permissible bearing loads similar to our "big encoders"
- IP65 all around, optional IP67 all around
- hall effect based signal generation
- resolution up to 0,122 mm

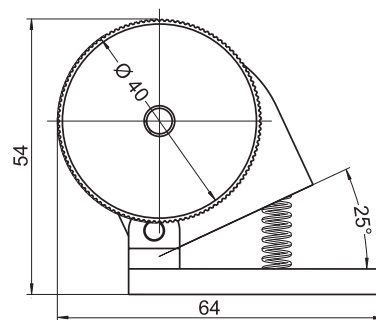
[www.wachendorff-automation.com/lms24](http://www.wachendorff-automation.com/lms24)

Further technical information on:

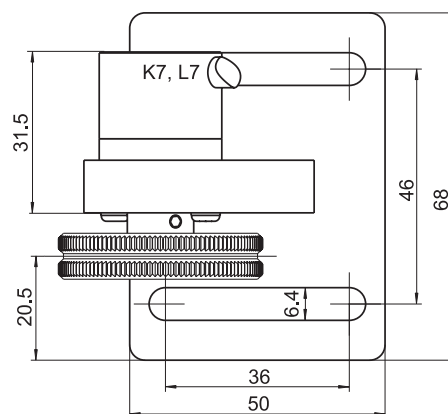
[www.wachendorff-automation.com/gtd](http://www.wachendorff-automation.com/gtd)

Matching accessories on: [www.wachendorff-automation.com/acs](http://www.wachendorff-automation.com/acs)

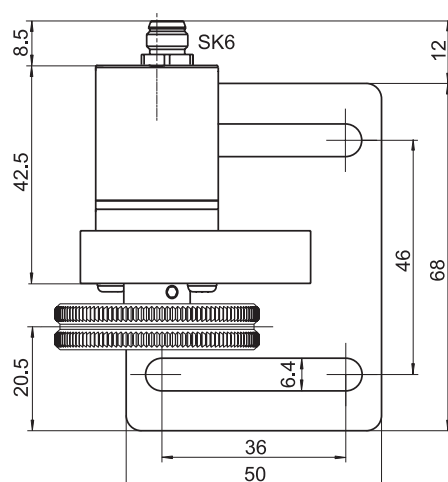
### Measuring system LMS24



### Measuring system LMS24 with cable (2 m) connection K7, L7



### Measuring System LMS24 with connector SK6



All dimensional specifications in mm.

**Optionen:**

**Cable length:**

The encoder WDG 24C can also be supplied with more than 2m of cable. Please extend the standard order code with a 3 figure number, specifying the cable length in decimetre. The max. permissible cable length is 10 metres with the output circuit M05 and M24. With output circuit M30 max. 25 m.  
Example: 3 m cable = 030

**Shafts sealed to IP67:**

The encoder WDG 24C can be supplied in a full IP67 version. When ordering please add the suffix code - AAO.

Max. RPM	Permitted Shaft-Loading		Starting-torque
	axial	radial	
3.500 min <sup>-1</sup>	30 N	45 N	approx. 1,2 Ncm

Amended specifications for shaft sealed to IP67.

**Examples for industrial counters:**



**C48C SERIES - 1/16 DIN counters**

- LCD, 7 segment, 2 line 6 digit display
- display of counter value and batch or preset value at the same time

Further information at:

[www.wachendorff-prozesstechnik.de/c48c](http://www.wachendorff-prozesstechnik.de/c48c)



**Compact preset counter and tachometer CUB5**

- 8 digit display
- 36 mm x 72 mm
- display of position, rotation-speed, flow-rate
- optional relays output cards

Further information at:

[www.wachendorff-prozesstechnik.de/cub5](http://www.wachendorff-prozesstechnik.de/cub5)

**Further industrial counters:**

[www.wachendorff-prozesstechnik.de/emg](http://www.wachendorff-prozesstechnik.de/emg)

**Ordering information:**

Output circuit:				
Resolution ppr	Power supply VDC	Output circuit	Light reserve warning	Order key
max. 64	4,75 - 5,5	TTL, RS422 comp., inverted	-	M05
max. 1024	5 - 30	HTL inverted	-	M30
max. 64	10 - 30	HTL inverted	-	M24

**Channels:** AB, ABN

**Pulses per revolution ppr:**

Output circuit M24 and M05: 16, 32, 64  
Output circuit M30: 1 up to 128, 256, 512, 1024

Electrical connections:			ABN
Order key	Outgoing	Description	
cable: (Length 2 m standard)			
K7	radial	shield not connected	•
L7		shield connected to encoder housing	•
SK6	axial	connector 6-pin	-

**Optionen:**

Empty = Without option  
AAO = IP67 all around  
In decimetre = Cable length

LMS = spring lever and measuring wheel

**Order No.:**

Example	WDG 24C	64	ABN	M24	K7		LMS
Your system	WDG 24C						LMS

### Montageanleitung Vollwellengeber,

Assembly instructions shaft encoder, Notice de montage codeur rotatif à arbre plein, Instrucciones de montaje encoder ad albero pieno, istruzioni di montaggio encoders de eje saliente.

	WDGI ( <b>Stecker</b> , connector, connecteur, conector, spina): -40 °C ... +85 °C (-4 °F ... +176 °F) WDG* + WDGI ( <b>Kabel</b> , cable, Câble, Cable, cavo)**: -20 °C ... +80 °C (-4 °F ... +176 °F) Option: * -40 °C ... +80 °C (-40 °F ... +176 °F) ** -40 °C ... +85 °C (-40 °F ... +185 °F) 1Vss (1Vpp): -10 °C ... +70 °C (14 °F ... +158 °F) 58T: -10 °C ... +70 °C (58T: +14 °F ... +158 °F)		-30 °C...+80 °C (-22 °F...+176 °F)
	<b>Montage nur qualifiziertes Personal</b> , Assembly only qualified personnel, Montage par qualifié personnel, Montaggio solo personale qualificato, Montaje solamente personal cualificado		
<b>Sicherheitsmassnahmen/safety instructions:</b> Die Produkte dürfen nur in industrieller Umgebung und im NICHT sicherheitsrelevanten Bereich eingesetzt werden. The products are only designed and produced for use in industrial environments and NOT for use in safety related applications.			
	DIN EN 100015-1		

Kabel ø cable, Câble, Cable, cavo	R1	R2	Temperatur Temperature, Température, Temperatura, Temperatura
≤ 7 mm	31,5 mm	94,5 mm	T > -20 °C (-4 °F)
> 7 mm	41,5 mm	124,5 mm	T > -20 °C (-4 °F)
≤ 7 mm	46,5 mm	139,5 mm	T > -40 °C (-40 °F)
> 7 mm	62,3 mm	186,9 mm	T > -40 °C (-40 °F)

58B  
58D  
58K  
58S  
58T  
58V  
63B  
70B  
90B

40A  
50B  
58A  
58B  
58C  
58D  
58K  
58T  
63B

24A 58V  
24C 63B  
40A 70B  
50B 90B  
58A  
58B  
58C  
58D  
58K  
58S  
58T

40S  
53S  
53V

40A  
58B  
58D  
58K  
58S  
58T  
58V

63Q  
67Q  
115T  
115M

58A + MG58A

Standard (no IP67)	F <sub>r</sub> max.	F <sub>a</sub> max.
24A/C, 40A/S, 58K	80 N	50 N
50B	120 N	70 N
53S, 53V	20 N	10 N
58A	125 N	70 N
58B, 58T, 63B/Q	220 N	120 N
WDG58D	400 N	400 N
WDGI58D	500 N	500 N
70B, 90B	200 N	150 N
115T/M, 58C	200 N	120 N
58S, 58V	100 N	100 N

Gewinde (8.8) Screw thread, Filet, Rosca, filetto	Empfohlenes Anzugsdrehmoment Recommended starting torque Moment de rotation recommandé appliqué à l'écrou Par de apriete recomendado coppia di spunto consigliata
M3	1 Nm
M4	2 Nm
M5	3 Nm
M6	6 Nm
<b>Mutter</b> , Screw nut, écrou, Tuerca, dado, M20x1,5	8 Nm

Frühwarnausgang Early-warning output Sortie d'alerte Salida de advertencia prematura uscita di preavvertimento	IRLED	IRLED
<b>Schaltung</b> Circuit Couplage Commutación collegamento	G24, I24, G05, I05, 524	high / low

**Abstand zu Störquellen!**  
Distance to sources of interference!  
Distance aux source des parasites!  
Distancia a las fuentes de interferencias!  
Distanza dalle fonti di disturbo!

\*Nur, only, seulement, solamente, soltanto G24, H24, I24, R24, F24, P24, R30:  
hat Verpolschutz, ist kurzschlussfest; Protection against polarity reversal, short circuit protection; Protección contro l'inversione di polarità Protection court-circuit; Protegido contra inversión de polaridad, protección contra cortocircuito; protezione contro inversione di polarità, protezione contro corto circuito

	L <sub>MAX</sub>
	100m
	150m

