

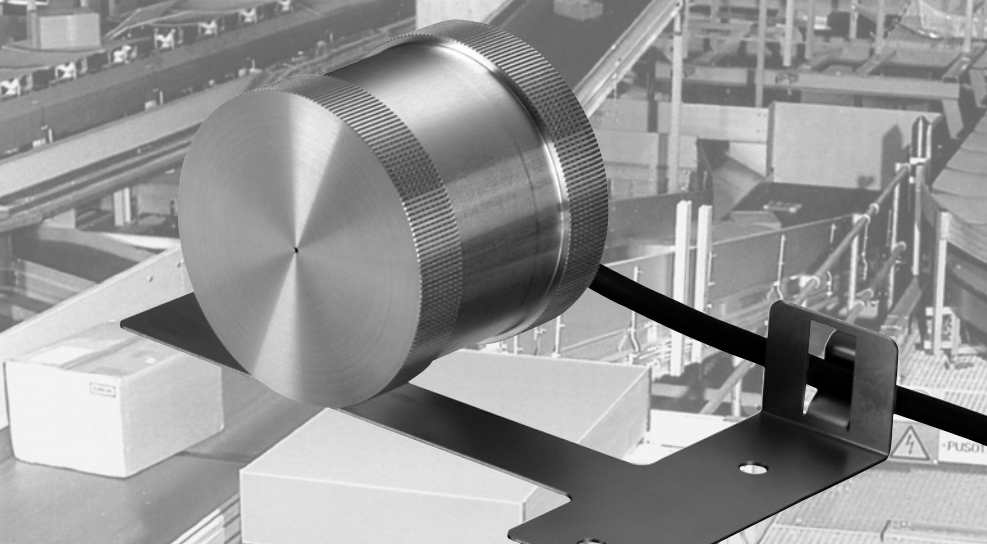
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SENSORS
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507 Kelsey Street • Delano, MN 55328
Phone 763-972-1040 Fax 763-972-1041
Toll Free 888-920-0939
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DKV60: Incremental measuring wheel encoder

DATA SHEET



The basis of the product is the DKS40 incremental encoder. The DKS40 and therefore the DKV60 utilise Mini-Disc technology, making the DKV60, extremely robust and resistant to shock and vibration. The DKV60 also features a high protection rating (IP 65).


Specify your own individual measuring wheel encoder!

Possible product variations:

- Interface
TTL/RS422, HTL/push-pull
- Measuring drum
Knurled surface,
'O' ring surface
- Cable outlet 1.5 m

The product versatility enables many uses, e. g. in:

- Woodworking machinery
- Steel and sheet processing machinery
- Storage and conveying technology
- Sorting systems
- Conveyor belts
- Textile machinery
- Printing and paper

	Number of lines 1 up to 2,000
Incremental Encoder	

The DKV60 incremental measuring wheel encoder is a cost-effective and extremely compact solution for the direct determination of position and speed of a conveyor belt.

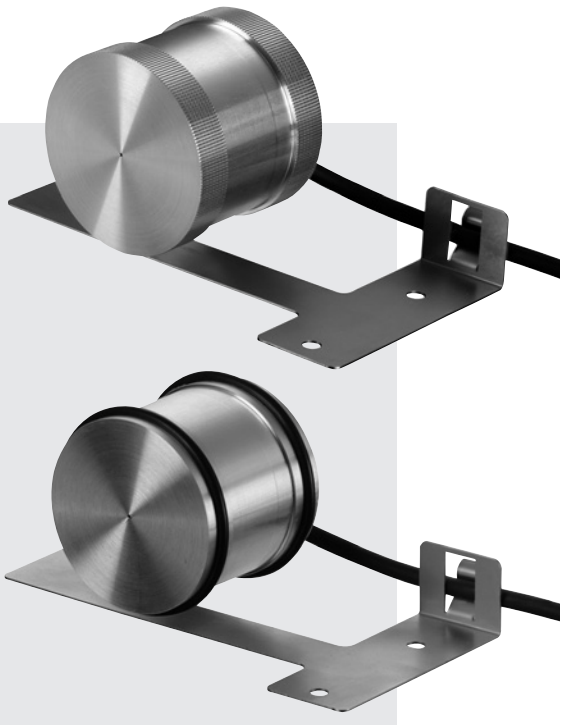
The DKV60 incremental measuring wheel encoder can be fitted directly to the conveyor belt, without the need of any mechanical accessories.

SICK | STEGMANN

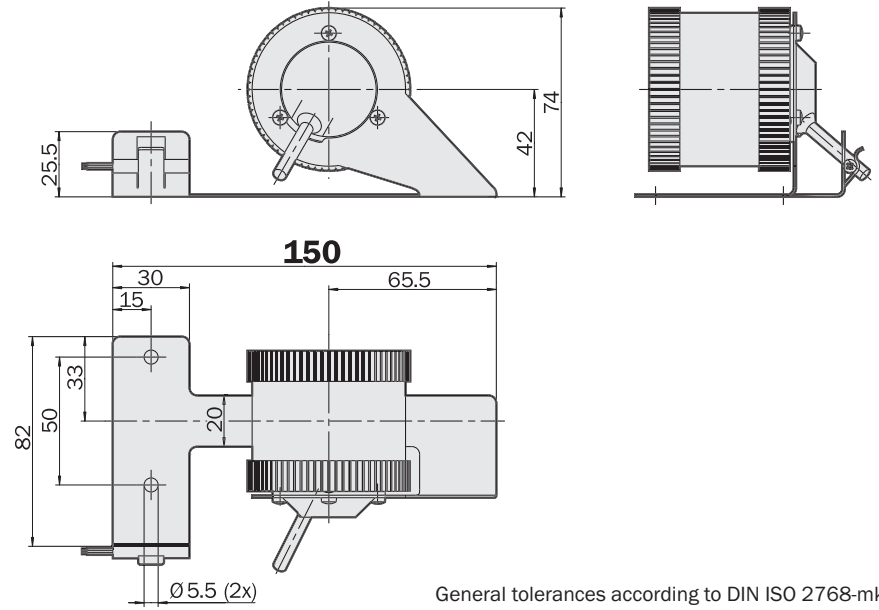
Number of lines
1 up to 2,000

Incremental Encoder

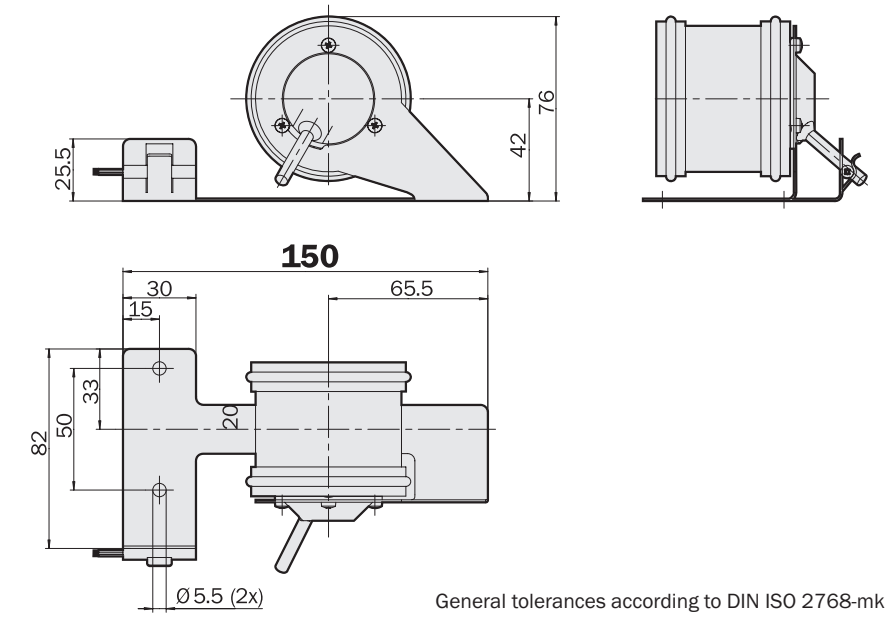
- Cable outlet
- Protection rating up to IP 65
- Electrical interfaces
 TTL and HTL



Dimensional drawing DKV60 knurled surface

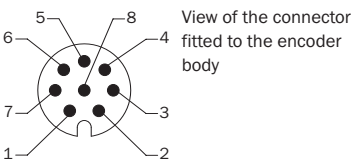


Dimensional drawing DKV60 'O' ring surface



Wire allocation/cable 8-core

8-Pin, M12 connector	Core colour	Signal TTL, HTL	Explanation
1	Brown	\bar{A}	Signal line
2	White	A	Signal line
3	Black	\bar{B}	Signal line
4	Pink	B	Signal line
5	Yellow	\bar{Z}	Signal line
6	Lilac	Z	Signal line
7	Blue	GND	Ground connection
8	Red	+U _S	Power supply ¹⁾
	Screen	Screen	Screen ²⁾



¹⁾ Potential free to housing
²⁾ Screen connected to Encoder housing. Connect screen on control side!

Accessories
 Connection systems

Technical Data to DIN 32878		DKV60	DKV									
Pulses per 200 mm	1 to 2,000											
Electrical interface	4.5 ... 5.5 V, TTL/RS 422, 6-channel											
	10 ... 30 V, HTL, 6-channel											
Mass	0.42 kg											
Reference signal												
Number	1											
Position	90° electr., logically linked with A and B											
Error limits												
Knurled surface	± 0.5 mm/m											
'O' ring surface	± 4 mm/m											
Max. operating speed	1,500 min ⁻¹											
Bearing lifetime	2 x 10 ⁹ revolutions											
Working temperature range	- 10 ... + 60 °C											
Storage temperature range	- 40 ... + 70 °C											
Permissible relative humidity ¹⁾	90 %											
EMC ²⁾												
Resistance												
to shocks ³⁾	50/7 g/ms											
to vibration ⁴⁾	20/10 ... 2000 g/Hz											
Protection class IEC 60529	IP 65											
Load current												
4.5 ... 5.5 V, TTL/RS 422	Max. 30 mA											
10 ... 30 V, HTL/push-pull	Max. 30 mA											
No-load operating current												
4.5 ... 5.5 V, TTL/RS 422	40 mA											
10 ... 30 V, HTL/push-pull	40 mA											
Initialisation time after power on	40 ms											

¹⁾ Condensation of the optical scanning is not permitted

²⁾ To DIN EN 61000-6-2 and DIN EN 61000-6-3

³⁾ To DIN EN 60068-2-27

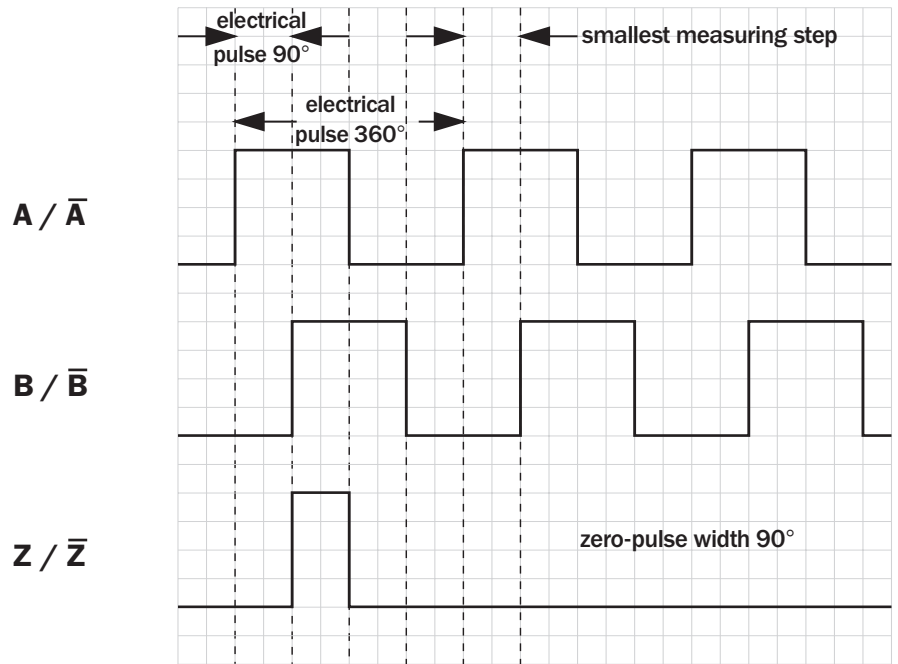
⁴⁾ To DIN EN 60068-2-6

Number of lines
1 up to 2,000

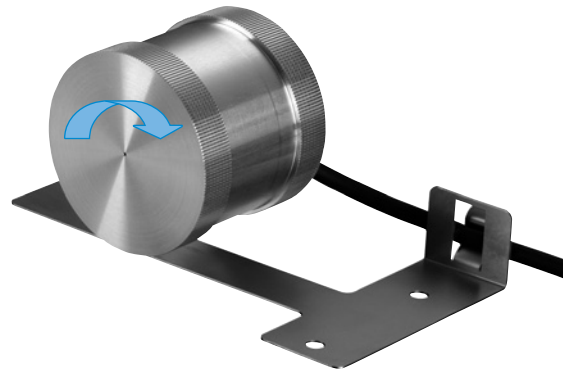
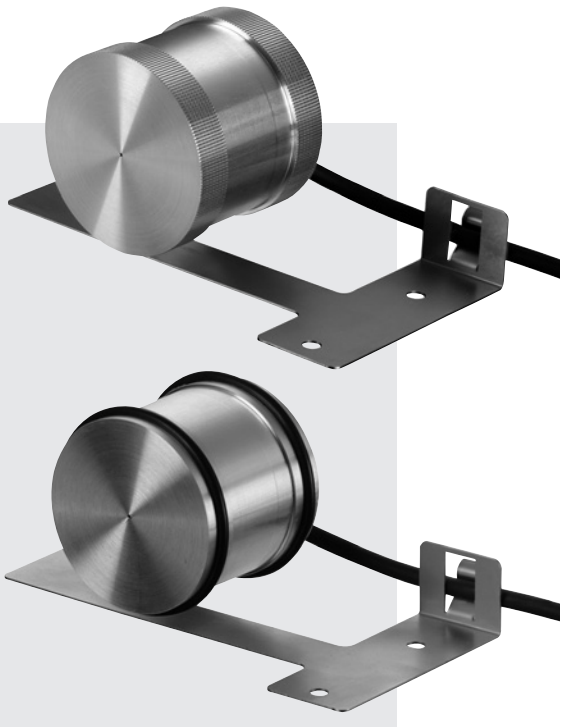
Incremental Encoder

- Cable outlet
- Protection rating up to IP 65
- Electrical interfaces
 TTL and HTL

Signal outputs



Cw looking at the measuring drum



Accessories

Connection systems

Order information

Incremental Encoder DKV60

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
D	K	V	6	0	-			K					

Electrical interface 4.5 ... 5.5 V, TTL/RS 422 6-channel = A 10 ... 30 V, HTL/push-pull 6-channel = E	Mechanical version Measuring drum, knurled surface DIN82-RAA 1 = 1 Measuring drum, 'O' ring surface EPDM, Highly abrasion-resistant = 2	Connection type Cable 8-core, 1.5 m = K Cable, universal 1.5 m with connector M12, 8-pin = P	Pulses per 200 mm Always 5 characters in clear text.
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Order example

DKV60; 4.5 ... 5.5 V, TTL/RS 422; 6-channel; Measuring drum knurled surface

Type	Part no.	Pulses/200 mm	Resolution	Smallest measuring step
DKV60-A1K00020	1035039	20	1 pulse = 10 mm	2.5 mm
DKV60-A1K00200	1035040	200	1 pulse = 1 mm	0.25 mm
DKV60-A1K01000	1035041	1000	1 pulse = 0.2 mm	0.05 mm
DKV60-A1K02000	1035042	2000	1 pulse = 0.1 mm	0.025 mm

DKV60; 4.5 ... 5.5 V, TTL/RS 422; 6-channel; Measuring drum 'O' ring surface; EPDM, Highly abrasion-resistant

Type	Part no.	Pulses/200 mm	Resolution	Smallest measuring step
DKV60-A2K00020	1035043	20	1 pulse = 10 mm	2.5 mm
DKV60-A2K00200	1035044	200	1 pulse = 1 mm	0.25 mm
DKV60-A2K01000	1035045	1000	1 pulse = 0.2 mm	0.05 mm
DKV60-A2K02000	1035046	2000	1 pulse = 0.1 mm	0.025 mm

DKV60; 10 ... 30 V, HTL/push-pull; 6-channel; Measuring drum knurled surface

Type	Part no.	Pulses/200 mm	Resolution	Smallest measuring step
DKV60-E1K00020	1035047	20	1 pulse = 10 mm	2.5 mm
DKV60-E1K00200	1035048	200	1 pulse = 1 mm	0.25 mm
DKV60-E1K01000	1035049	1000	1 pulse = 0.2 mm	0.05 mm
DKV60-E1K02000	1035050	2000	1 pulse = 0.1 mm	0.025 mm

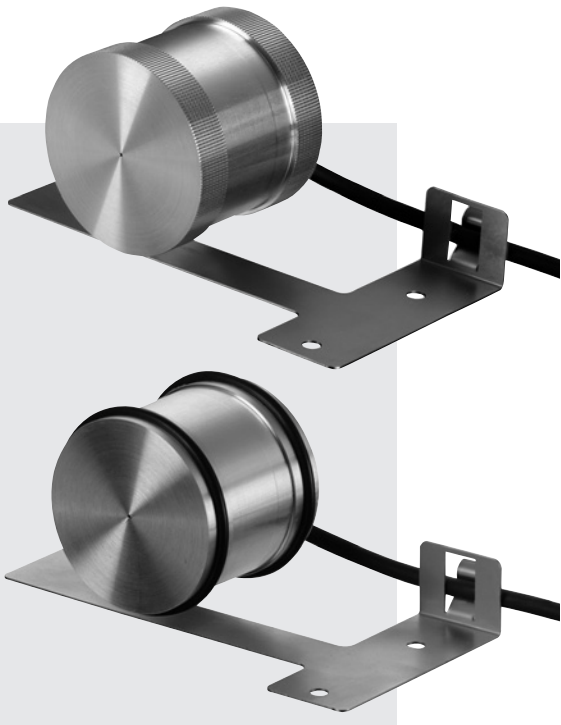
DKV60; 10 ... 30 V, HTL/push-pull; 6-channel; Measuring drum 'O' ring surface; EPDM, Highly abrasion-resistant

Type	Part no.	Pulses/200 mm	Resolution	Smallest measuring step
DKV60-E2K00020	1035051	20	1 pulse = 10 mm	2.5 mm
DKV60-E2K00200	1035052	200	1 pulse = 1 mm	0.25 mm
DKV60-E2K01000	1035053	1000	1 pulse = 0.2 mm	0.05 mm
DKV60-E2K02000	1035054	2000	1 pulse = 0.1 mm	0.025 mm

Number of lines
1 up to 2,000

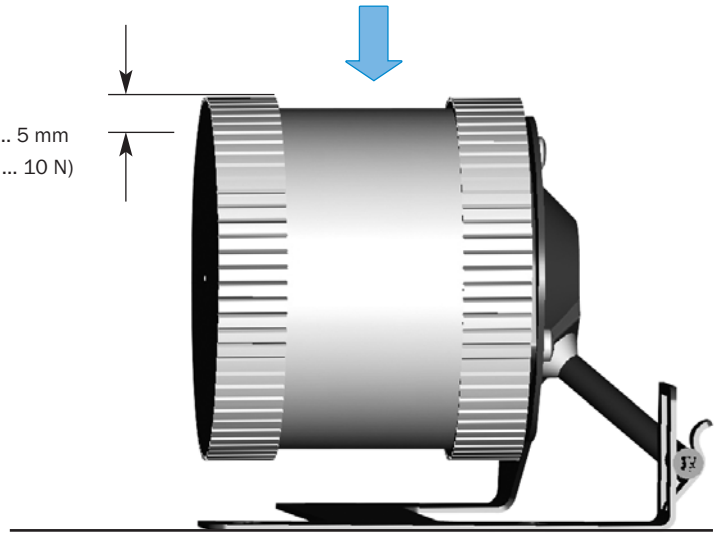
Incremental Encoder

- Cable outlet
- Protection rating up to IP 65
- Electrical interfaces
TTL and HTL



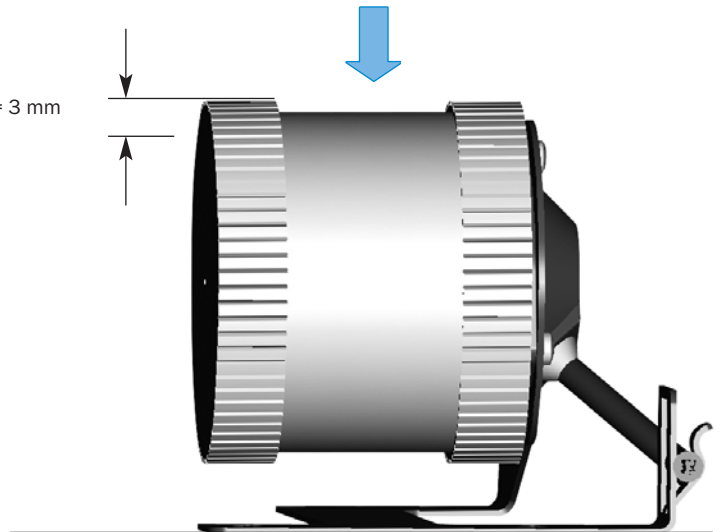
Working position/force

Working position/
 force = 2 ... 5 mm
 (5 ... 10 N)

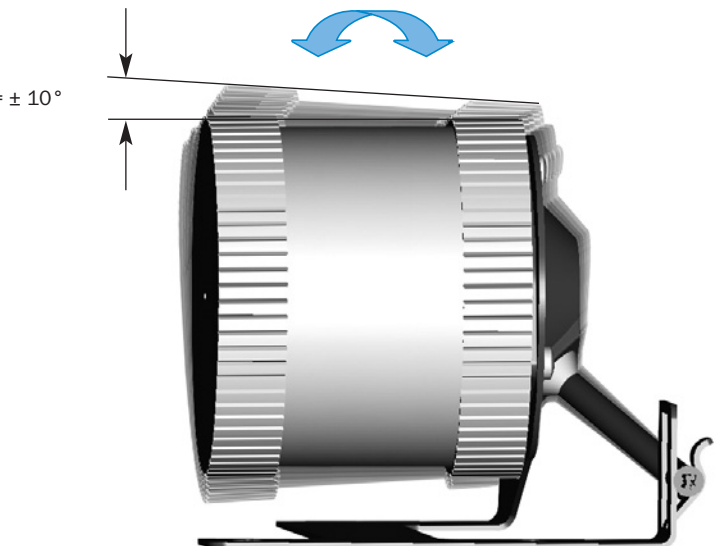


Max. deflection

Max. deflection Y = 3 mm



Max. deflection X = ± 10°

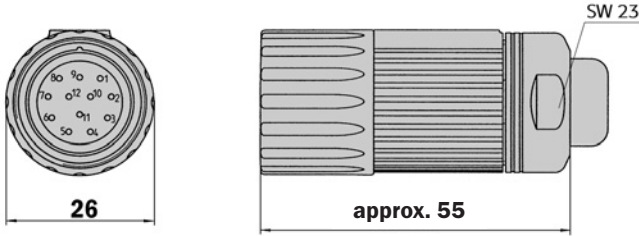


Dimensional drawings and order information

Screw-in system M23, 12-pin

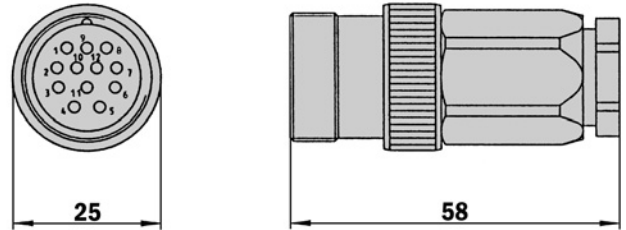
Cable connector M23 female, 12-pin, straight, screened

Type	Part no.	Contacts
DOS-2312-G	6027538	12



Cable connector M23, 12-pin, straight, screened

Type	Part no.	Contacts
STE-2312-G	6027537	12



Connector M23 female, 12-pin, straight, cable 11-cores, 4 x 2 x 0.25 + 2 x 0.5 + 1 x 0.14 mm² with screening, cable diameter 7.8 mm

Type	Part no.	Contacts	Cable length
DOL-2312-G02MLA3	2030682	12	2.0 m
DOL-2312-G07MLA3	2030685	12	7.0 m
DOL-2312-G10MLA3	2030688	12	10.0 m
DOL-2312-G15MLA3	2030692	12	15.0 m
DOL-2312-G20MLA3	2030695	12	20.0 m
DOL-2312-G25MLA3	2030699	12	25.0 m
DOL-2312-G30MLA3	2030702	12	30.0 m

Connector M23 female, 12-pin, straight, cable 12-cores, 4 x 2 x 0.25 + 2 x 0.5 + 2 x 0.14 mm² with screening, capable of being dragged, cable diameter 7.8 mm

Type	Part no.	Contacts	Cable length
DOL-2312-G1M5MA3	2029212	12	1.5 m
DOL-2312-G03MMA3	2029213	12	3.0 m
DOL-2312-G05MMA3	2029214	12	5.0 m
DOL-2312-G10MMA3	2029215	12	10.0 m
DOL-2312-G20MMA3	2029216	12	20.0 m
DOL-2312-G30MMA3	2029217	12	30.0 m

Cable 8 core, per meter, 4 x 2 x 0.15 mm² with screening, cable diameter 5.6 mm

Type	Part no.	Wires
LTG-2308-MWENC	6027529	8

Cable 11-core, per meter, 4 x 2 x 0.25 + 2 x 0.5 + 1 x 0.14 mm² with screening, cable diameter 7.5 mm

Type	Part no.	Wires
LTG-2411-MW	6027530	11

Cable 12 core, per meter, 4 x 2 x 0.25 + 2 x 0.5 + 2 x 0.14 mm² with screening, capable of being dragged, cable diameter 7.8 mm

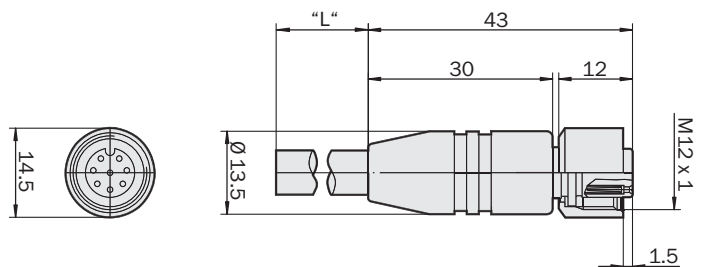
Type	Part no.	Wires	Explanation
LTG-2512-MW	6027531	12	
LTG-2612-MW	6028516	12	UV and salt water resistant

'O' ring surface EPDM (for replacement), Set (2 pieces) 55.0 x 4.0 mm

Type	Part no.
'O' ring SET DKV60	6032709

Female connector M12, 8-pin, straight, pre-wired with cable 8-wire, 4 x 2 x 0.25 mm², screened, flexible (adapter side)

Type	Part no.	Contacts	Cable length
DOS-1208-G02MAC1	6032866	8	2,0 m
DOS-1208-G05MAC1	6032867	8	5,0 m
DOS-1208-G10MAC1	6032868	8	10,0 m
DOS-1208-G20MAC1	6032869	8	20,0 m



Australia

Phone +61 3 9497 4100
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 5091-4900
E-Mail sac@sick.com.br

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-250
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-2822 7084
E-Mail info@sick-india.com

Italia

Phone +39 011 79 79 65
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

Republic of Korea

Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Republika Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

Russia

Phone +7 495 775 05 34
E-Mail denis.kesaev@sickautomation.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2365-6292
E-Mail sickgrc@ms6.hinet.net

Türkiye

Phone +90 216 587 74 00
E-Mail info@sick.com.tr

USA

Phone +1 937-454-1956
E-Mail sales@stegmann.com

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