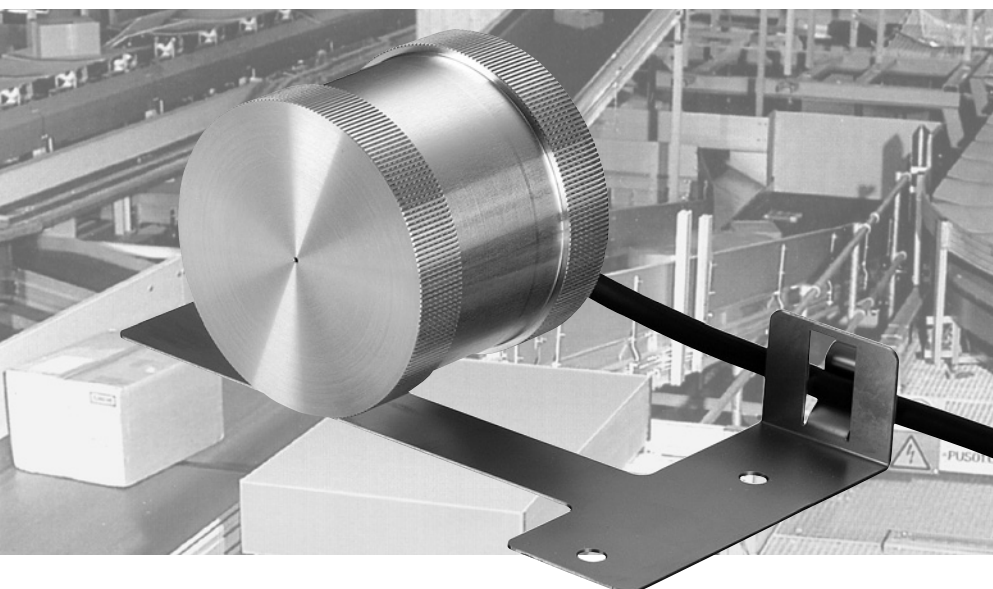


DKV60: Incremental Measuring Wheel Encoders



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).

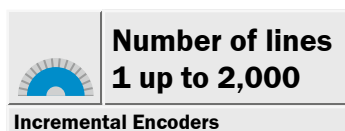
Specify your own individual Measuring Wheel Encoder!

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



UL certification not valid for all types.
See type label on the encoder.

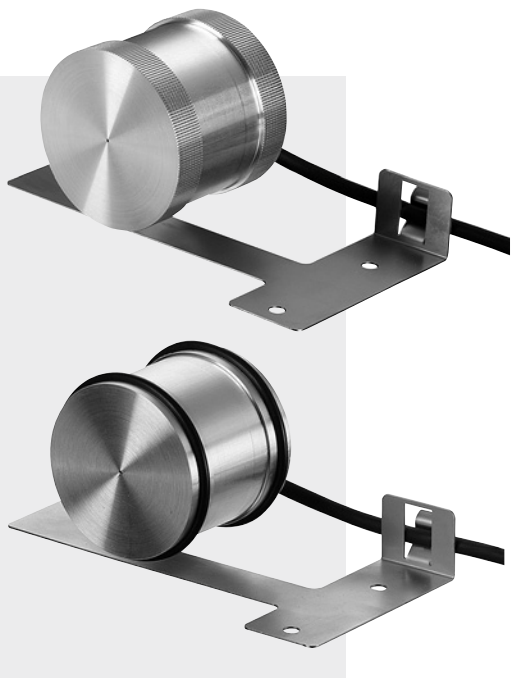
The DKV60 Incremental Measuring Wheel Encoder is a cost-effective and extremely compact solution for the direct determination of position and speed of a conveyor belt.

The DKV60 Incremental Measuring Wheel Encoder can be fitted directly to the conveyor belt, without the need of any mechanical accessories.

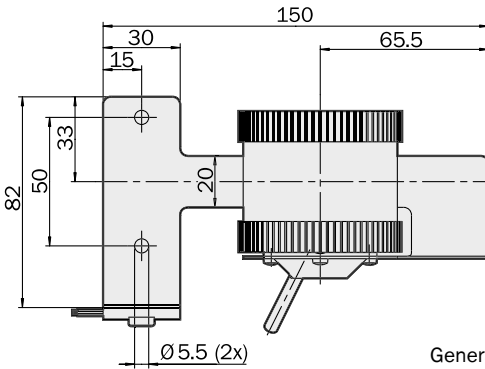
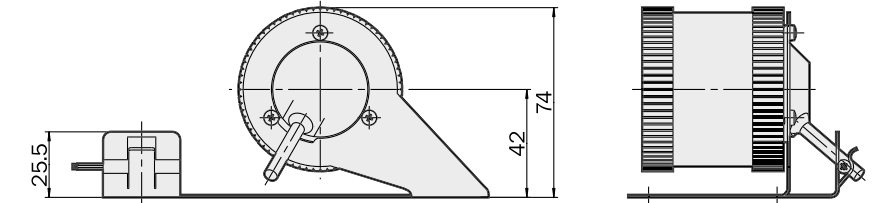
Number of lines
1 up to 2,000

Incremental Encoders

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

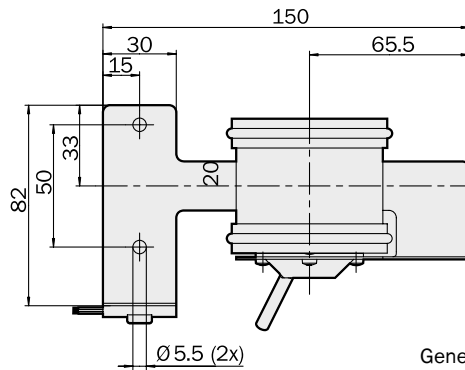
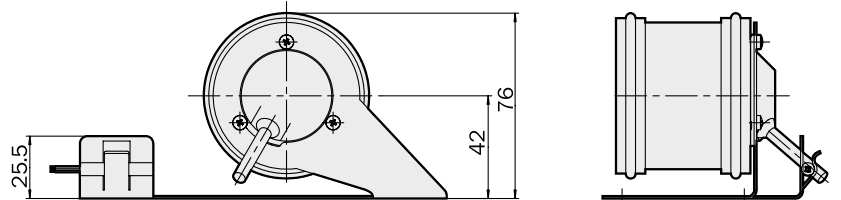


Dimensional drawing DKV60 knurled surface



General tolerances according to DIN ISO 2768-mk

Dimensional drawing DKV60 'O' ring surface



General tolerances according to DIN ISO 2768-mk

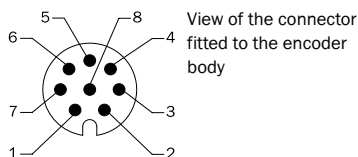


UL certification not valid for all types. See type label on the encoder.

Accessories
 Connection systems (page 7)

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!

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

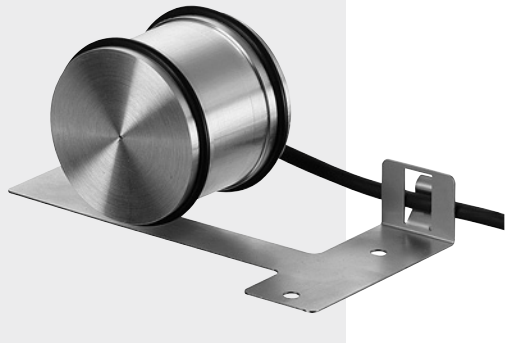
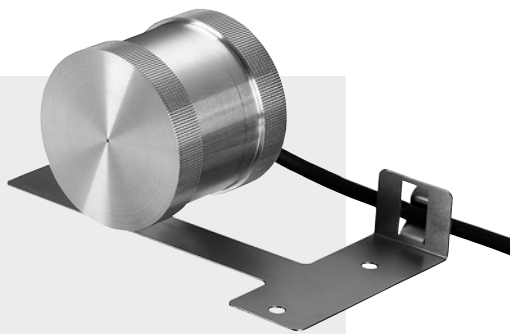
³⁾ To DIN EN 60068-2-27

⁴⁾ To DIN EN 60068-2-6

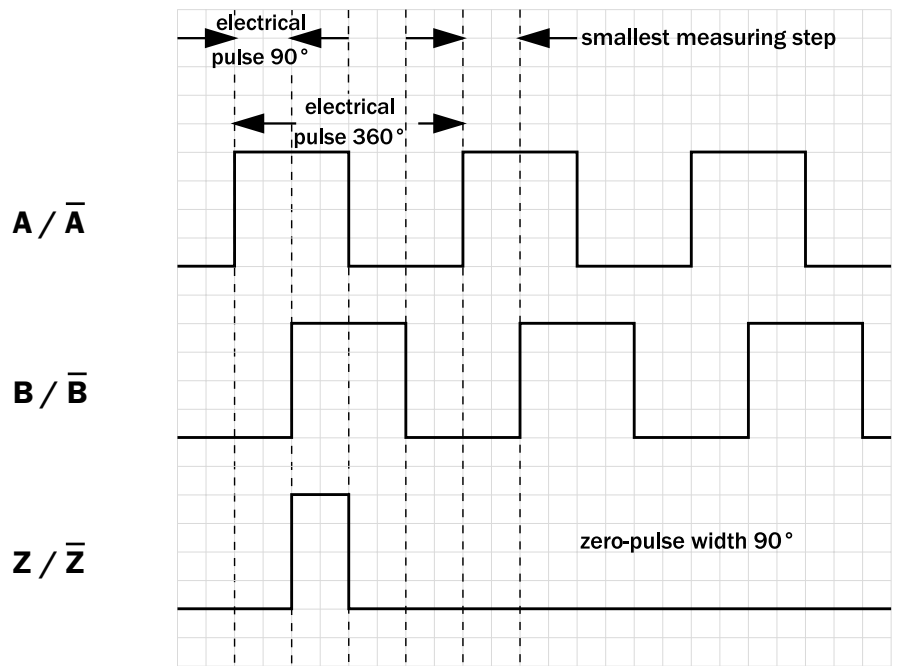
Number of lines
1 up to 2,000

Incremental Encoders

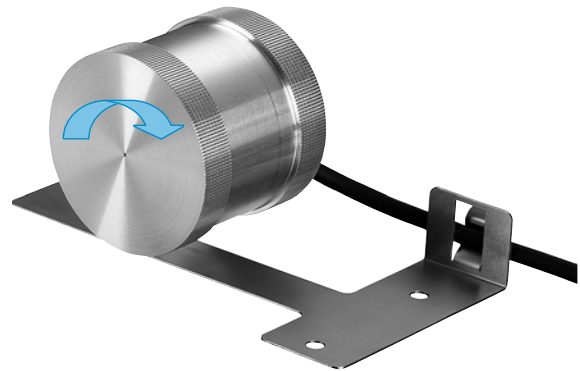
- Cable outlet
- Protection rating up to IP 65
- Electrical interfaces
 TTL and HTL



Signal outputs



Cw looking at the measuring drum



UL certification not valid for all types. See type label on the encoder.

Accessories

Connection systems (page 7)

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

¹⁾ The universal cable output is positioned so that a kink-free cable run is possible in radial or axial direction.

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

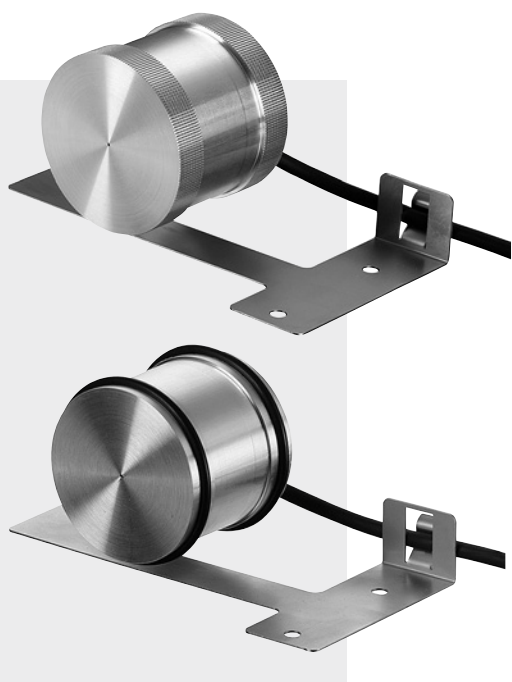
Type	Part no.	Pulses/200 mm	Resolution	Smallest measuring step
DKV60-E1K00020	1035047	20	1 pulse = 10 mm	2.5 mm
DKV60-E1K00200	1035048	200	1 pulse = 1 mm	0.25 mm
DKV60-E1K01000	1035049	1000	1 pulse = 0.2 mm	0.05 mm
DKV60-E1K02000	1035050	2000	1 pulse = 0.1 mm	0.025 mm

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

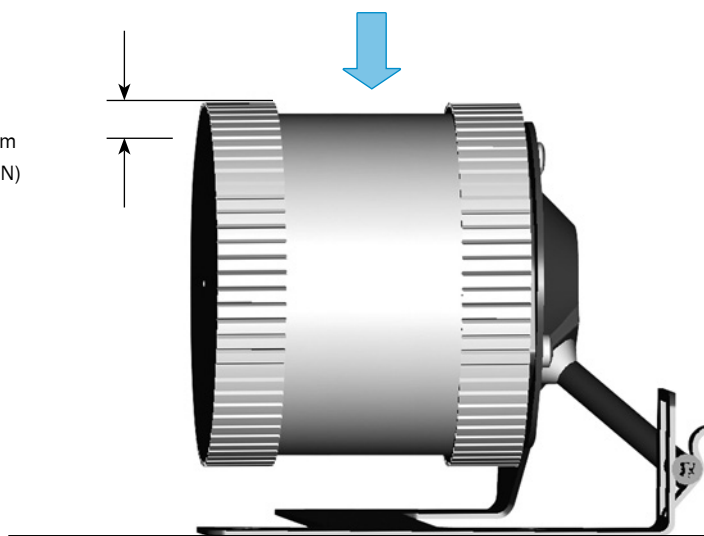
	Number of lines
	1 up to 2,000
Incremental Encoders	

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



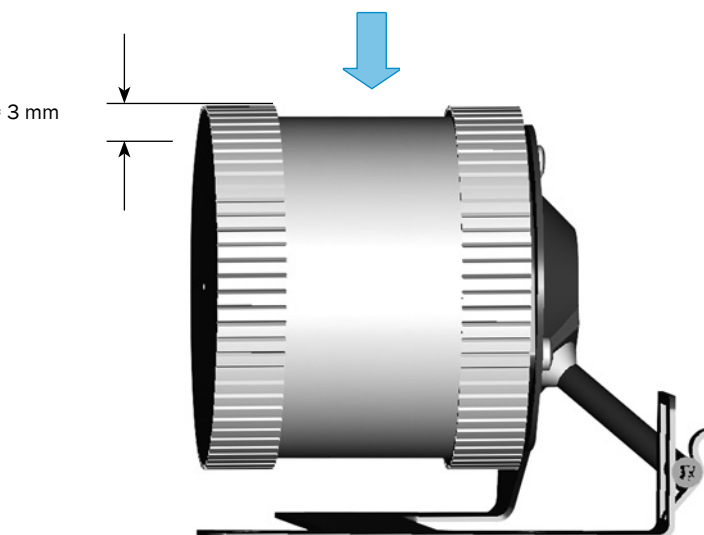
Working position/force

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

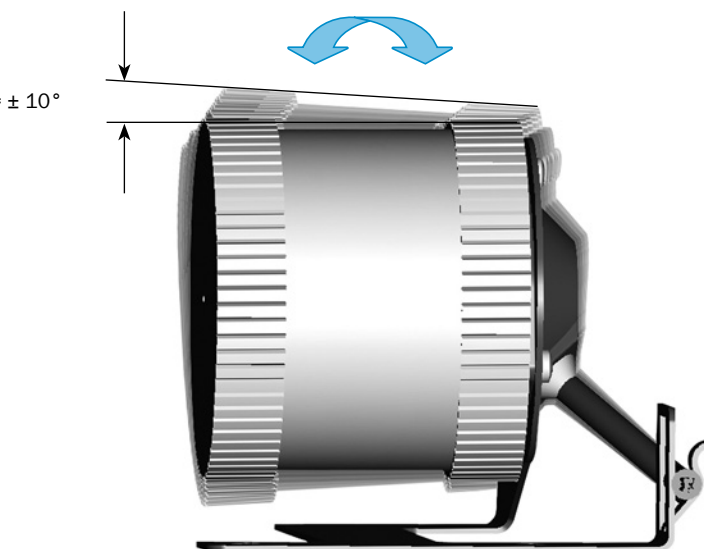


Max. deflection

Max. deflection Y = 3 mm



Max. deflection X = ± 10°



UL certification not valid for all types. See type label on the encoder.

Accessories
Connection systems (page 7)

Dimensional drawings and order information

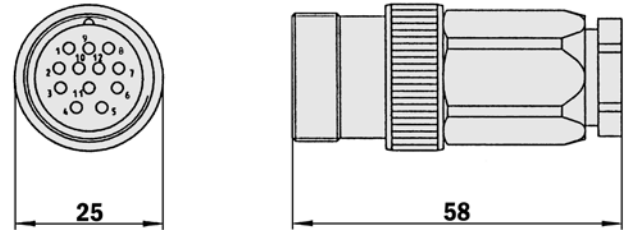
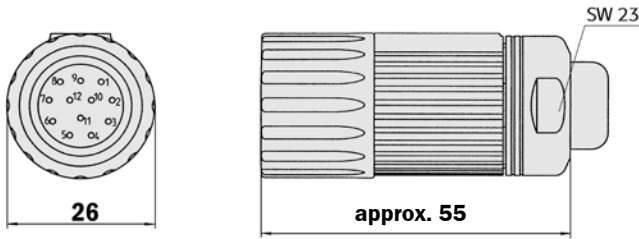
Screw-in system M23, 12-pin

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

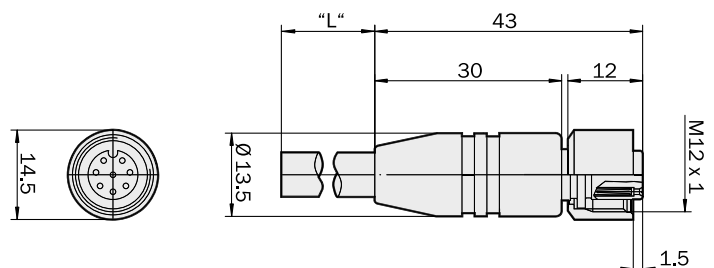
Type	Part no.	Wires	Explanation
LTG-2512-MW	6027531	12	
LTG-2612-MW	6028516	12	UV and salt water resistant

'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
DOL-1208-G02MAC1	6032866	8	2.0 m
DOL-1208-G05MAC1	6032867	8	5.0 m
DOL-1208-G10MAC1	6032868	8	10.0 m
DOL-1208-G20MAC1	6032869	8	20.0 m



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