

# EcoLine Wire Draw Encoder for measuring lengths up to 10 m

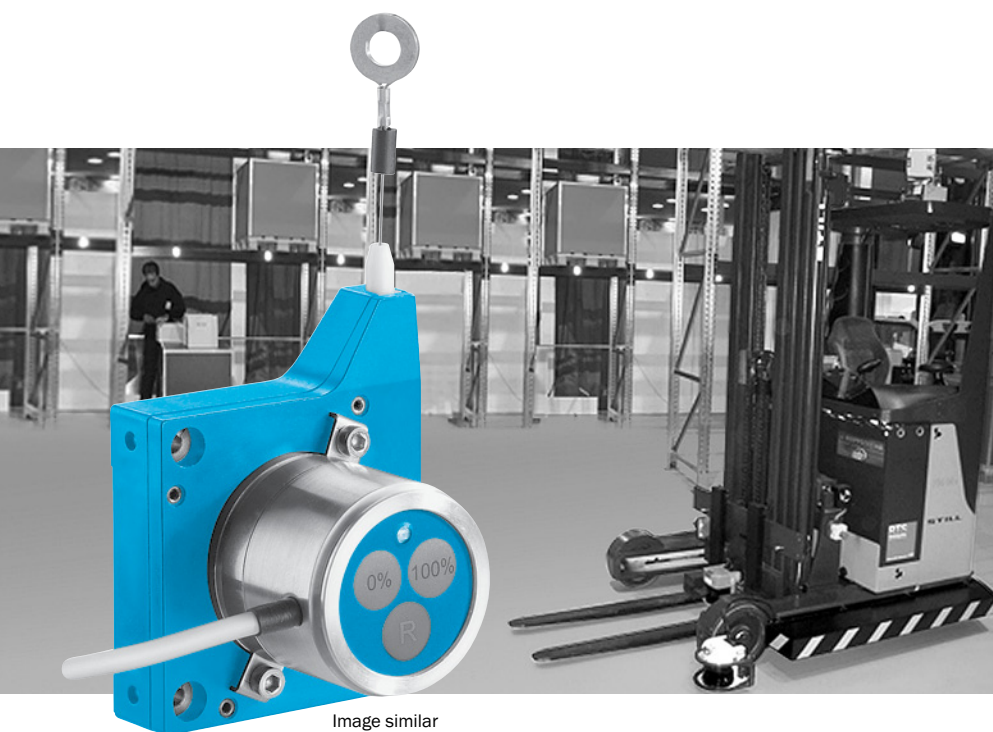
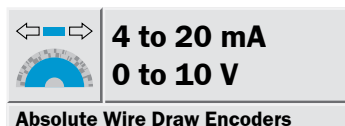


Image similar

This series also offers two versions of standalone wire draw mechanisms that when combined with SICK's existing encoder portfolio, offers an amazing solution set that far surpasses any of competitor's offering. For example, combining a DFS60 programmable encoder with the wire draw mechanism, the zero position, resolution and electrical interface can be programmed in just a matter of seconds.

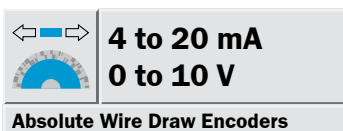
The mechanical design is compact, making it ideal for applications with limited installation space.

With all of the powerful features of the new EcoLine series, there are numerous applications for these encoders in many industries, such as automated guided vehicles, storage and conveying systems, presses, handling systems, medical applications and many other industries.

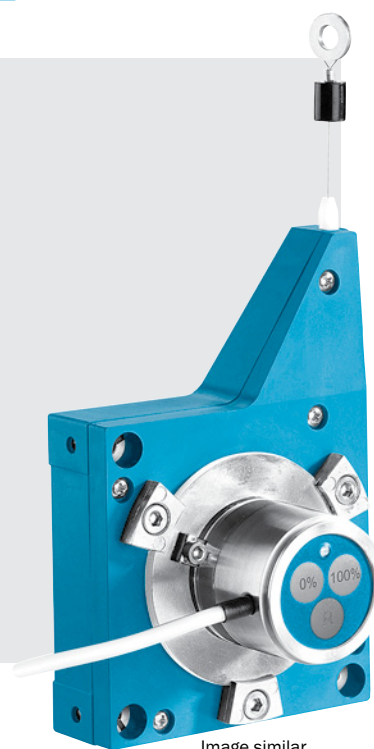


SICK's new EcoLine of wire draw encoders is a cost-effective solution for precise length/distance measurement applications. It is easy to set up and install and offers several advanced features that save time and reduce costs.

The analog output is scalable with an easy push button feature that allows the user to configure the unit for different lengths.

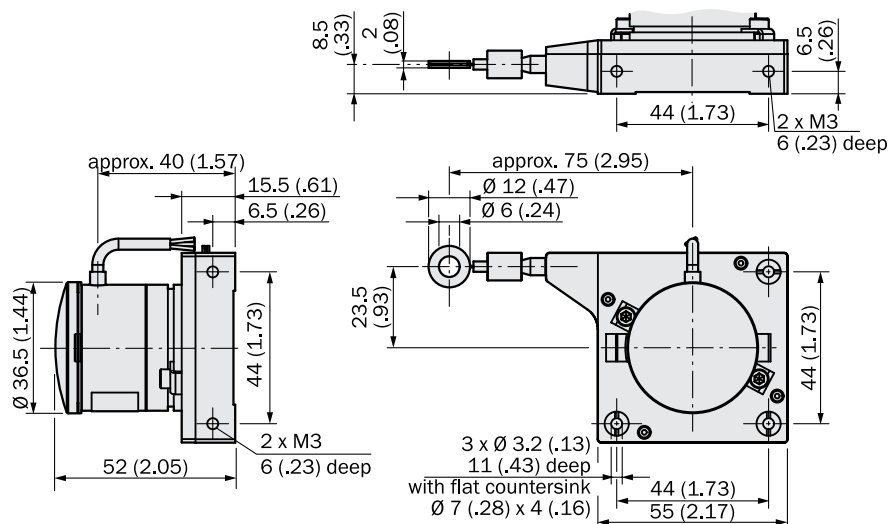


- Compact dimensions
- Light plastic housing
- Analog interfaces  
4 to 20 mA  
0 to 10 V
- Easy push button teach
- LED indication during teach process along with protective cover for the push buttons
- Connection via 1.5 m cable



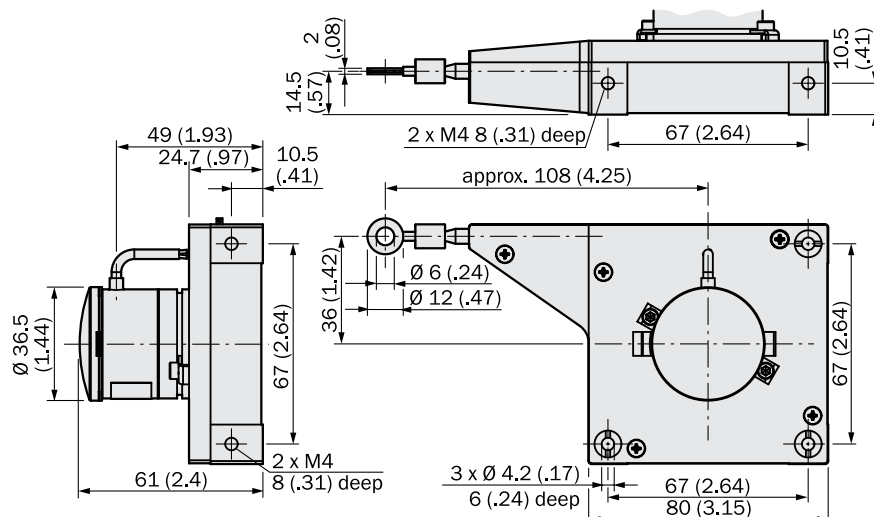
CE

#### Measuring length 1.25 m



All dimensions in mm (inch)

#### Measuring length 3 m



All dimensions in mm (inch)

#### Accessories

Connection systems (page 8)

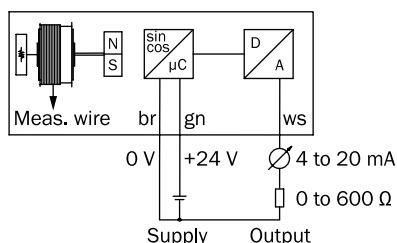
All dimensions in mm (inch)

Technical data		EcoLine Analog Wire Draw Encoder BCG		05	08
<b>Measuring length</b>	1.25 m				
	3 m				
<b>Working range</b>	Configurable via Teach-In				
	Default	0 to 1 m			
<b>Drum circumference</b>	150 mm				
	230 mm				
<b>Wire diameter</b>	0.45 mm				
	0.55 mm				
<b>Weight</b> (without cable)	180 g				
	350 g				
<b>Spring return force<sup>1)</sup></b>	Approx. 1 N to 1.4 N				
	Approx. 5 N to 6.3 N				
<b>Linearity</b>	± 0.2 %				
<b>Reproducibility</b>	± 0.05 %				
<b>Operating speed</b>	4 m/sec.				
<b>Material housing</b>	Plastic, Noryl				
<b>Material wire</b>	1.4401 / PA-coated				
<b>Protection class</b> (Sensor) to IEC 60529	IP 65				
<b>Working temperature range</b>	-20 °C to +70 °C				
<b>Current output</b>	4 to 20 mA, RL ≤ 600 Ω; 3-wire connection, no galvanic isolation				
<b>Voltage output</b>	0 to 10 V, RL ≥ 10 kΩ; 3-wire connection, no galvanic isolation				
<b>Operating voltage</b>	DC 19 to 33 V				
<b>Max. current consumption</b>	80 mA				
<b>Resistance</b>					
to shocks to DIN EN 60068-2-27	50 g, 6 ms				
to vibration to DIN EN 60068-2-6	4 g Sine 5 Hz to 100 Hz				
<b>EMC</b>	DIN EN 61000-6-2; DIN EN 61000-6-3				

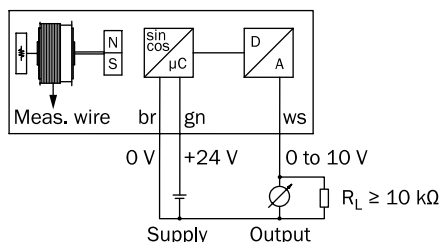
<sup>1)</sup> These values were measured at an ambient temperature of 25 °C. The values may be different at other temperatures.

#### Electrical connection

##### Current output 4 to 20 mA



##### Voltage output 0 to 10 V



#### Order information

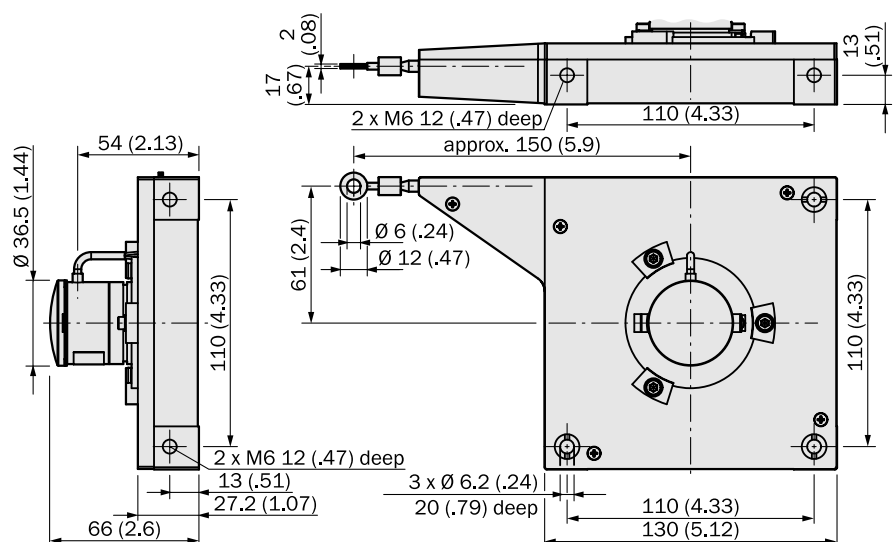
##### EcoLine Analog Wire Draw Encoders, cable outlet 1.5 m

Type	Part no.	Description
BCG05-K1KM01PP	6039745	Meas. lengths 1.25 m, 4 to 20 mA
BCG05-L1KM01PP	6039746	Meas. lengths 1.25 m, 0 to 10 V
BCG08-K1KM03PP	6039747	Meas. lengths 3 m, 4 to 20 mA
BCG08-L1KM03PP	6039748	Meas. lengths 3 m, 0 to 10 V



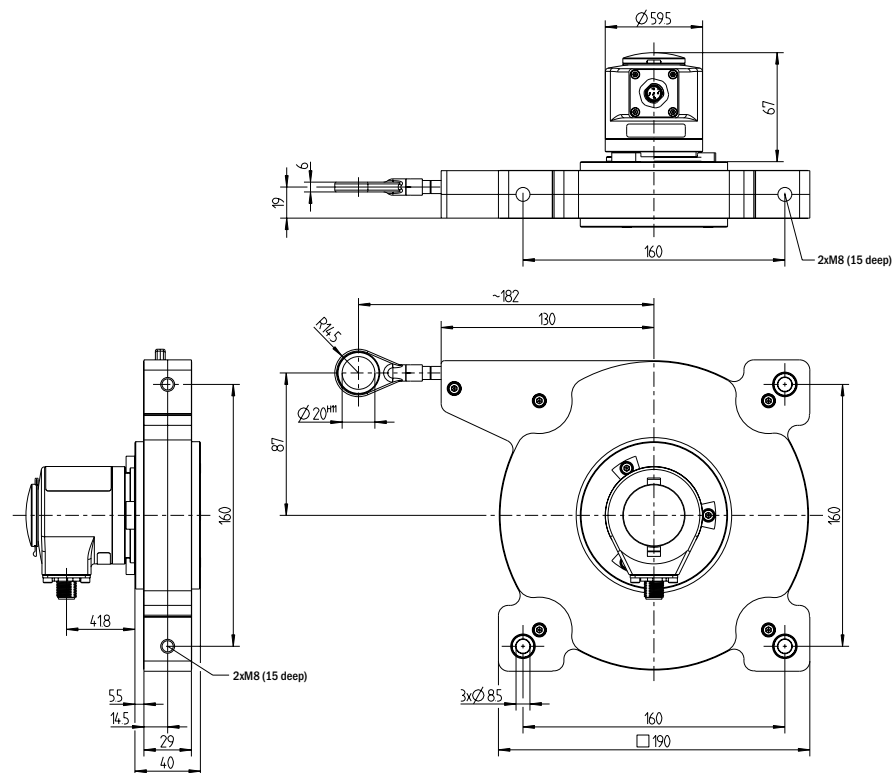
- Compact dimensions
- Light plastic housing
- Analog interfaces  
4 to 20 mA  
0 to 10 V
- Easy push button teach
- LED indication during teach process along with protective cover for the push buttons
- Connection via 1.5 m cable

### Measuring length 5 m

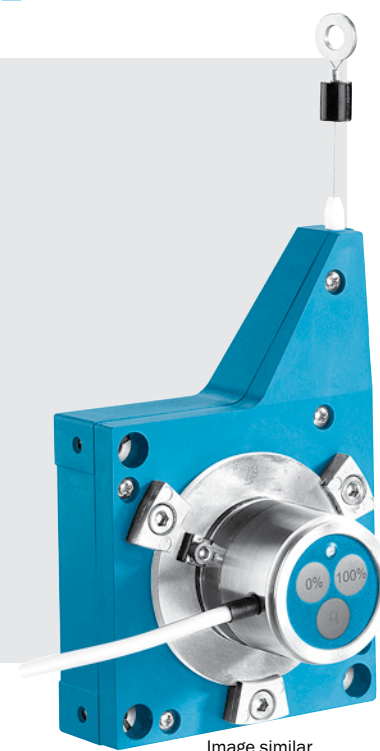


All dimensions in mm (inch)

### Measuring length 10 m



All dimensions in mm



CE

### Accessories

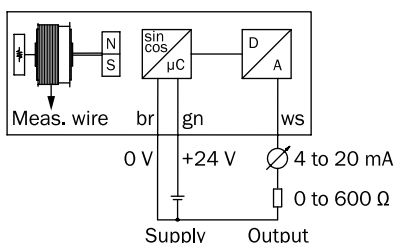
Connection systems (page 8)

Technical data		EcoLine Analog Wire Draw Encoder BCG	13	19
<b>Measuring length</b>	5 m			
	10 m			
<b>Working range</b>	Configurable via Teach-In			
	Default	0 to 5 m		
<b>Drum circumference</b>	385 mm			
	555 mm			
<b>Wire diameter</b>	0.45 mm			
	0.55 mm			
<b>Weight</b> (without cable)	900 g			
	2,200 g			
<b>Spring return force<sup>1)</sup></b>	Approx. 4,5 N to 7 N			
	Approx. 8.9 N to 12 N			
<b>Linearity</b>	± 0.2 %			
	± 0.3 %			
<b>Reproducibility</b>	± 0.05 %			
<b>Operating speed</b>	4 m/sec.			
<b>Material housing</b>	Plastic, Noryl			
<b>Material wire</b>	1.4401 / PA-coated			
	1.4404			
<b>Protection class</b> (Sensor) to IEC 60529	IP 65			
<b>Working temperature range</b>	-20 °C to +70 °C			
<b>Current output</b>	4 to 20 mA, $R_L \leq 600 \Omega$ ; 3-wire connection, no galvanic isolation			
<b>Voltage output</b>	0 to 10 V, $R_L \geq 10 k\Omega$ ; 3-wire connection, no galvanic isolation			
<b>Operating voltage</b>	DC 19 to 33 V			
	DC 18 to 36 V			
<b>Max. current consumption</b>	80 mA			
<b>Resistance</b>				
to shocks to DIN EN 60068-2-27	50 g, 6 ms			
to vibration to DIN EN 60068-2-6	4 g Sine 5 Hz to 100 Hz			
<b>EMC</b>	DIN EN 61000-6-2; DIN EN 61000-6-3			

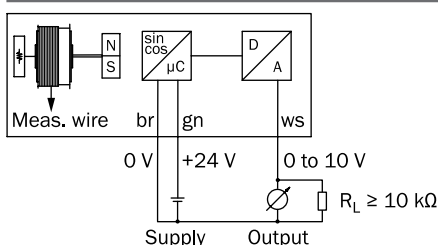
<sup>1)</sup> These values were measured at an ambient temperature of 25 °C. The values may be different at other temperatures.

### Electrical connection

#### Current output 4 to 20 mA



#### Voltage output 0 to 10 V



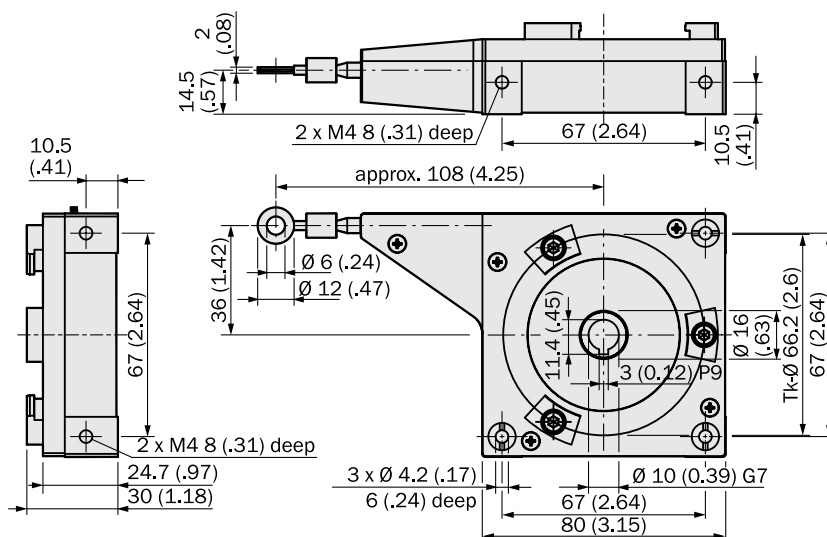
### Order information

#### EcoLine Analog Wire Draw Encoders, cable outlet 1.5 m

Type	Part no.	Description
BCG13-K1KM05PP	6039749	Meas. lengths 5 m, 4 to 20 mA
BCG13-L1KM05PP	6039750	Meas. lengths 5 m, 0 to 10 V
BCG19-K1CM10PP	6048294	Meas. lengths 10 m, 4 to 20 mA
BCG19-L1CM10PP	6048295	Meas. lengths 10 m, 0 to 10 V

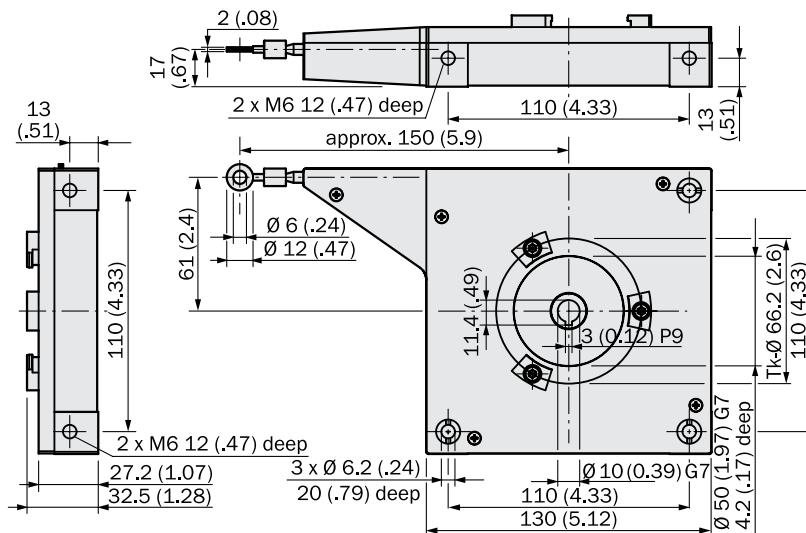
- Compact dimensions
- Light plastic housing
- All servoflange encoders suitable:  
AFM60 SSI,  
ATM60 PROFIBUS,  
ATM60 CANopen®,  
ATM60 DeviceNet,  
DFS60,  
SKM36 HIPERFACE® via  
flange adapter

#### Measuring length 3 m



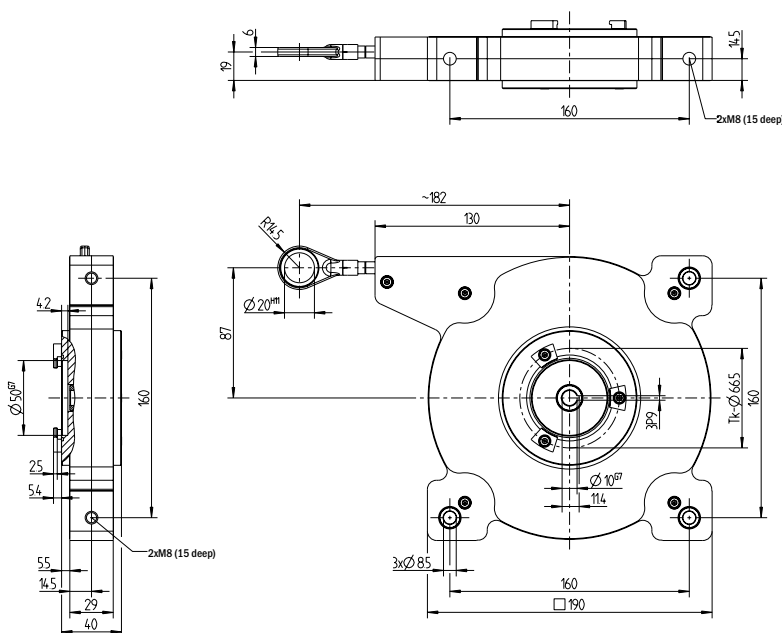
All dimensions in mm (inch)

#### Measuring length 5 m



All dimensions in mm (inch)

#### Measuring length 10 m



All dimensions in mm

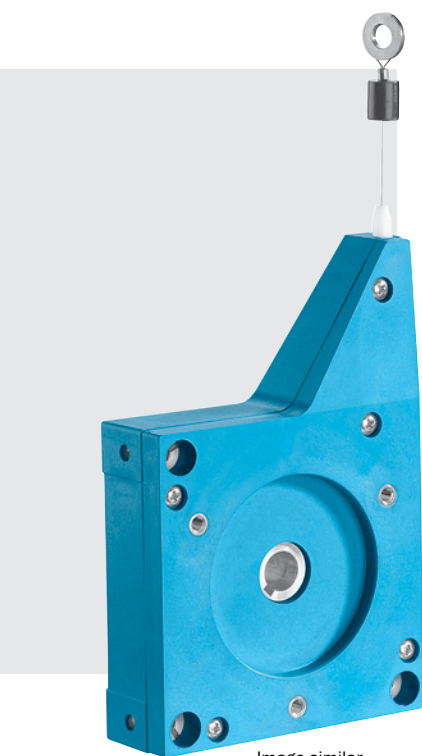


Image similar



Technical data		EcoLine Wire Draw Mechanism MRA-	G080	G130	G190
Measuring range	3 m				
	5 m				
	10 m				
Drum circumference	230 mm				
	385 mm				
	555 mm				
Wire diameter	0.55 mm				
Weight	250 g				
	800 g				
	1,900 g				
Spring return force <sup>1)</sup>	Approx. 5 N to 6,3 N				
	Approx. 4.5 N to 7 N				
	Approx. 9 N to 12 N				
Linearity	± 0.1 %				
Reproducibility	± 0.05 %				
Life of Wire Draw Mechanism <sup>2)</sup>	1 Mio. cycles				
Operating speed	4 m/sec.				
Material Housing	Plastic, Noryl				
Material Wire	1.4401 / PA-coated				
	1.4410 stainless steel				
Working temperature range	-20 °C to +70 °C				

<sup>1)</sup> These values were measured at an ambient temperature of 25 °C. The values may be different at other temperatures.

<sup>2)</sup> Average values, which depend on the loading.

#### Order information

##### EcoLine Wire Draw Mechanism incl. mounting assembly for Encoders with Servo Flange

Type	Part no.	Description
MRA-G080-103D3	5322778	Measuring length 3 m
MRA-G130-105D3	5322779	Measuring length 5 m
MRA-G190-110D3	5326242	Measuring length 10 m

#### Encoder selection

Type	Part no.	Description
AFM60B-S1AC08192	1037863	AFM60 SSI/Gray, M12, Resolution 13 x 12 Bit
A3M60B-S1PB13X13	1051018	A3M60B PROFIBUS
ATM60-C1H13X13 + AD-ATM60-KR2CO	1030025 + 2029232	ATM60 CANopen® + adapter KR2 2 x PG
ATM60-D1H13X13 + AD-ATM60-KR2DN	1030018 + 2029229	ATM60 DeviceNet + adapter KR2 2 x PG
DFS60B-S1PK10000 + PGT-08-S	1036756 + 1036616	DFS60 programmable, 1.5 m cable + Programming Tool
SKM36-HVV0-K02 + BEF-FA-025-050	1035601 + 2032622	SKM36 HIPERFACE® + flange adapter

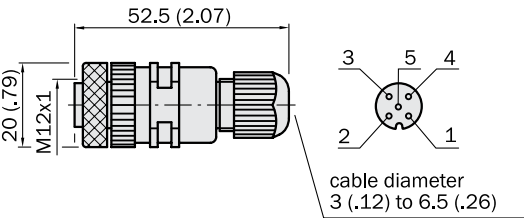
Wire Draw Mechanism with already mounted Encoder from SICK on request.  
EthernetIP, EtherCAT, Profinet on request.

Connection systems

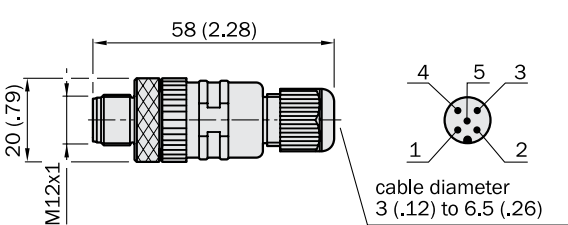
Dimensional drawings and order information

Round screw-in system M12, field attachable

Cable connector female M12, 5-pin, straight		
Type	Part no.	Contacts
DQS-1205-G	6009719	5



Cable connector male M12, 5-pin, straight		
Type	Part no.	Contacts
STE-1205-G	6022083	5











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