



# DFS60E-S4AL02048

DFS60

INCREMENTAL ENCODERS

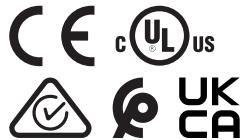
**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

Type	part no.
DFS60E-S4AL02048	1037351

Other models and accessories → [www.sick.com/DFS60](http://www.sick.com/DFS60)

## Detailed technical data

## Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	300 years (EN ISO 13849-1) <sup>1)</sup>
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<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

## Performance

<b>Pulses per revolution</b>	2,048 <sup>1)</sup>
<b>Measuring step</b>	90°, electric/pulses per revolution
<b>Measuring step deviation at binary number of lines</b>	± 0.15°
<b>Error limits</b>	± 0.3°

<sup>1)</sup> See maximum revolution range.

## Interfaces

<b>Communication interface</b>	Incremental
<b>Communication Interface detail</b>	TTL / RS-422
<b>Number of signal channels</b>	6-channel
<b>Initialization time</b>	40 ms
<b>Output frequency</b>	≤ 300 kHz
<b>Load current</b>	≤ 30 mA
<b>Operating current</b>	40 mA (without load)

## Electronics

<b>Connection type</b>	Cable, 8-wire, universal, 3 m <sup>1)</sup>
<b>Supply voltage</b>	4.5 ... 5.5 V
<b>Reference signal, number</b>	1
<b>Reference signal, position</b>	90°, electric, logically gated with A and B
<b>Short-circuit protection of the outputs</b>	✓ <sup>2)</sup>

<sup>1)</sup> The universal cable connection is positioned so that it is possible to lay it without bends in a radial or axial direction.

<sup>2)</sup> Short-circuit opposite to another channel, US or GND permissible for maximum 30 s.

## Mechanics

<b>Mechanical design</b>	Solid shaft, face mount flange
<b>Shaft diameter</b>	10 mm With flat
<b>Shaft length</b>	19 mm
<b>Weight</b>	+ 0.3 kg
<b>Shaft material</b>	Stainless steel
<b>Flange material</b>	Aluminum
<b>Housing material</b>	Aluminum die cast
<b>Start up torque</b>	0.5 Ncm (+20 °C)
<b>Operating torque</b>	0.3 Ncm (+20 °C)
<b>Permissible shaft loading</b>	80 N (radial) 40 N (axial)
<b>Operating speed</b>	≤ 9,000 min <sup>-1</sup> <sup>1)</sup>
<b>Moment of inertia of the rotor</b>	6.2 gcm <sup>2</sup>
<b>Bearing lifetime</b>	3.6 x 10 <sup>10</sup> revolutions
<b>Angular acceleration</b>	≤ 500,000 rad/s <sup>2</sup>

<sup>1)</sup> Allow for self-heating of 3.3 K per 1,000 rpm when designing the operating temperature range.

## Ambient data

<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3
<b>Enclosure rating</b>	IP67, housing side, cable connection (IEC 60529) IP65, shaft side (IEC 60529)
<b>Permissible relative humidity</b>	90 % (Condensation not permitted)
<b>Operating temperature range</b>	0 °C ... +85 °C
<b>Storage temperature range</b>	-40 °C ... +100 °C, without package
<b>Resistance to shocks</b>	50 g, 6 ms (EN 60068-2-27)
<b>Resistance to vibration</b>	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

## Certificates

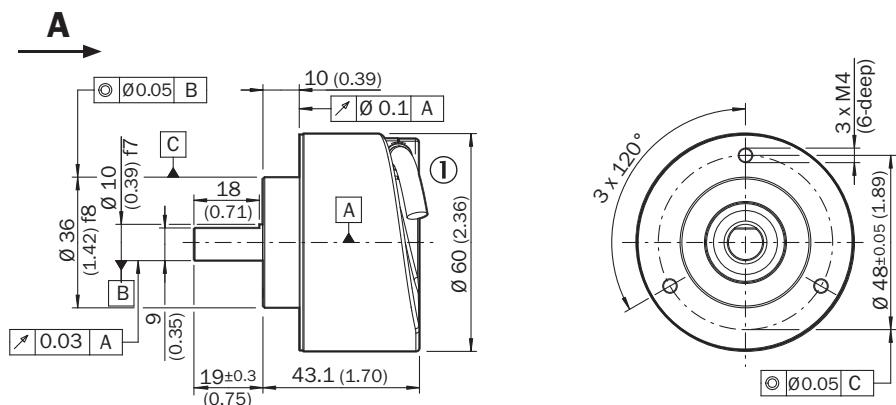
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

## Classifications

<b>ECLASS 5.0</b>	27270501
<b>ECLASS 5.1.4</b>	27270501
<b>ECLASS 6.0</b>	27270590
<b>ECLASS 6.2</b>	27270590
<b>ECLASS 7.0</b>	27270501

<b>ECLASS 8.0</b>	27270501
<b>ECLASS 8.1</b>	27270501
<b>ECLASS 9.0</b>	27270501
<b>ECLASS 10.0</b>	27270501
<b>ECLASS 11.0</b>	27270501
<b>ECLASS 12.0</b>	27270501
<b>ETIM 5.0</b>	EC001486
<b>ETIM 6.0</b>	EC001486
<b>ETIM 7.0</b>	EC001486
<b>ETIM 8.0</b>	EC001486
<b>UNSPSC 16.0901</b>	41112113

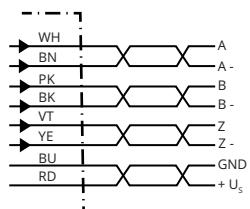
### Dimensional drawing



Dimensions in mm (inch)

① cable diameter = 5.6 mm +/- 0.2 mm bend radius = 30 mm

### PIN assignment

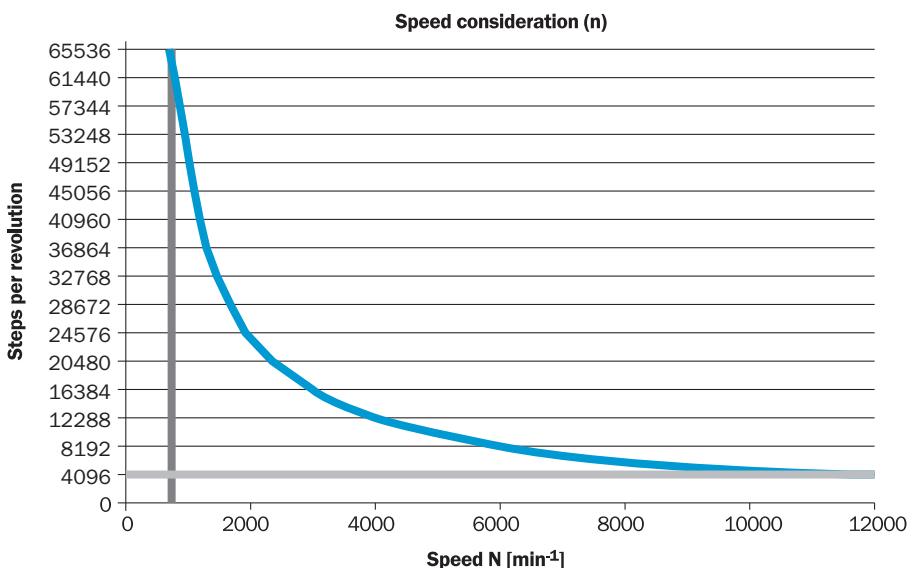


PINMale connector M12, 8-pin	PINMale connector M23, 12-pin	Wire colors (cable connection)	TTL/HTL signal	Sin/Cos 1.0 V <sub>PP</sub>	Explanation
1	6	Brown	¬A	COS-	Signal wire
2	5	White	A	COS+	Signal wire
3	1	Black	¬B	SIN-	Signal wire
4	8	Pink	B	SIN+	Signal wire
5	4	Yellow	¬Z	¬Z	Signal wire

<b>PINMale connector M12, 8-pin</b>	<b>PINMale connector M23, 12-pin</b>	<b>Wire colors (cable connection)</b>	<b>TTL/HTL signal</b>	<b>Sin/Cos 1.0 V<sub>PP</sub></b>	<b>Explanation</b>
6	3	Purple	Z	Z	Signal wire
7	10	Blue	GND	GND	Ground connection
8	12	Red	+U <sub>S</sub>	+U <sub>S</sub>	Supply voltage
-	9	-	N.c.	N.c.	Not assigned
-	2	-	N.c.	N.c.	Not assigned
-	11	-	N.c.	N.c.	Not assigned
-	7 <sup>1)</sup>	Orange	O-SET <sup>1)</sup>	N.c.	Set zero pulse <sup>1)</sup>
Screen	Screen	Screen	Screen	Screen	Screen connected to housing on encoder side. Connected to ground on control side.

<sup>1)</sup>For electrical interfaces only: M, U, V, W with O-SET function on PIN 7 on M23 plug. The O-SET input is used to set the zero pulse to the current shaft position. If the O-SET input is applied to U<sub>S</sub> for longer than 250 ms after it has previously been open or applied to GND for at least 1,000 ms, the current shaft position is assigned zero pulse signal "Z".

### maximum revolution range



## signal outputs



CW with view on the encoder shaft in direction "A", compare dimensional drawing.

Supply voltage	Output
4,5 V ... 5,5 V	TTL
10 V ... 32 V	TTL
10 V ... 32 V	HTL

## Recommended accessories

Other models and accessories → [www.sick.com/DFS60](http://www.sick.com/DFS60)

	Brief description	Type	part no.
<b>shaft adaptation</b>			
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Bellows coupling, shaft diameter 6 mm / 10 mm, maximum shaft offset: radial ± 0.25 mm, axial ± 0.4 mm, angular +/- 4°; max. speed 10,000 rpm, -30 °C to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub</li> </ul>	KUP-0610-B	5312982
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Double loop coupling, shaft diameter 6 mm / 10 mm, max. shaft offset: radially +/- 2.5 mm, axially +/- 3 mm, angle +/- 10 degrees; max. speed 3,000 rpm, -30 to +80 degrees Celsius, torsional spring stiffness of 25 Nm/rad</li> </ul>	KUP-0610-D	5326697
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Spring washer coupling, shaft diameter 6 mm / 10 mm, Maximum shaft offset: radial +/- 0.3 mm, axial +/- 0.4 mm, angular +/- 2.5°; max. speed 12,000 rpm, -10° to +80 °C, max. torque 60 Ncm; material: aluminum flange, glass fiber-reinforced polyamide membrane and hardened steel coupling pin</li> </ul>	KUP-0610-F	5312985
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Bar coupling, shaft diameter 6 mm / 10 mm, max. shaft offset: radial ± 0.3 mm, axial ± 0.3 mm, angular ± 3°; max. speed 10,000 rpm, -10° to +80 °C, max. torque: 80 Ncm, material: fiber-glass reinforced polyamide, aluminum hub</li> </ul>	KUP-0610-S	2056407
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Claw coupling, shaft diameter 6 mm / 10 mm, damping element 80 shore blue, maximum shaft offset: radial ± 0.22 mm, axial ± 1 mm angular ± 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, -30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane</li> </ul>	KUP-0610-J	2127056
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Double loop coupling, shaft diameter 8 mm / 10 mm, max. shaft offset: radially +/- 0.25 mm, axially +/- 0.4 mm, angle +/- 4 degrees; max. speed 10,000 rpm, -30 to +120 degrees Celsius, torsional spring stiffness of 150 Nm/rad</li> </ul>	KUP-0810-D	5326704
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Bar coupling, shaft diameter 8 mm / 10 mm, max. shaft offset: radial ± 0.3 mm, axial ± 0.3 mm, angular ± 3°; max. speed 10,000 rpm, -10° to +80 °C, max. torque: 80 Ncm, material: fiber-glass reinforced polyamide, aluminum hub</li> </ul>	KUP-0810-S	5314178
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Bellows coupling, shaft diameter 10 mm/10 mm; maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. revolutions 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum clamping hubs</li> </ul>	KUP-1010-B	5312983
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Double loop coupling, shaft diameter 10 mm / 10 mm, Maximum shaft offset: radial +/- 2.5 mm, axial +/- 3 mm, angular +/- 10°; max. speed 3,000 rpm, -30° to +80 °C, max. torque 1.5 Nm; material: polyurethane, galvanized steel flange</li> </ul>	KUP-1010-D	5326703
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Spring washer coupling, shaft diameter 10 mm / 10 mm, maximum shaft offset, radial ± 0.3 mm, axial ± 0.4 mm, angle ± 2.5°, torsion spring stiffness 30 Nm/rad; material: aluminum flange, glass-fiber reinforced polyamide membrane and hardened steel coupling pin</li> </ul>	KUP-1010-F	5312986
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Bar coupling, shaft diameter 10 mm / 10 mm; maximum shaft offset: radial ± 0.3 mm, axial ± 0.2 mm, angular ± 3°; speed 10,000 rpm, -10° to +80 °Celsius, max. torque 80 Ncm; material: glass fiber-reinforced polyamide, aluminum hub</li> </ul>	KUP-1010-S	2056408
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> </ul>	KUP-1012-B	5312984

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
	<ul style="list-style-type: none"> <li><b>Description:</b> 10 mm / 12 mm; maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. revolutions 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum clamping hubs</li> </ul>		
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Double loop coupling, shaft diameter 10 mm / 12 mm, Maximum shaft offset: radial +/- 2.5 mm, axial +/- 3 mm, angular +/- 10°; max. speed 3,000 rpm, -30° to +80 °C, max. torque 1.5 Nm; material: polyurethane, galvanized steel flange</li> </ul>	KUP-1012-D	5326702
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Claw coupling, shaft diameter 8 mm / 10 mm, damping element 80 shore blue, maximum shaft offset: radial ± 0.22 mm, axial ± 1 mm angular ± 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, -30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane</li> </ul>	KUP-0810-J	2128267
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Claw coupling, shaft diameter 10 mm / 10 mm, damping element 80 shore blue, maximum shaft offset: radial ± 0.22 mm, axial ± 1 mm angular ± 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, -30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane</li> </ul>	KUP-1010-J	2127054
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Shaft adaptation</li> <li><b>Product:</b> Shaft couplings</li> <li><b>Description:</b> Claw coupling, shaft diameter 10 mm / 12 mm, damping element 80 shore blue, maximum shaft offset: radial ± 0.22 mm, axial ± 1 mm angular ± 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, -30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane</li> </ul>	KUP-1012-J	2128265

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
measuring wheels and measuring wheel mechanics			
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 6 mm solid shaft, circumference 200 mm</li> </ul>	BEF-MR06200APN	4084747
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheel mechanics</li> <li><b>Description:</b> SICK modular measuring wheel system for face mount flange encoder with S4 mechanical design (10 mm x 19 mm solid shaft), e.g., DFS60-S4: with O-ring measuring wheel, circumference 200 mm</li> <li><b>Suitable for:</b> Face mount flange encoder DFS60, DBS60, AFM60, AFS60, mechanical design S4 (solid shaft 10 mm x 19 mm)</li> </ul>	BEF-MRS-10-U	2085714
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 200 mm</li> </ul>	BEF-MR010020R	2055224
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 300 mm</li> </ul>	BEF-MR010030R	2049278
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 500 mm</li> </ul>	BEF-MR010050R	2055227
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 200 mm</li> </ul>	BEF-MR10200AK	4084737
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 200 mm</li> </ul>	BEF-MR10200AP	4084738
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> </ul>	BEF-MR10200APN	4084739

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
	<ul style="list-style-type: none"> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 200 mm</li> </ul>		
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 500 mm</li> </ul>	BEF-MR10500AK	4084733
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>	BEF-MR10500AP	4084734
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>	BEF-MR10500APG	4084736
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Measuring wheels and measuring wheel mechanics</li> <li><b>Product:</b> Measuring wheels</li> <li><b>Description:</b> Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 500 mm</li> </ul>	BEF-MR10500APN	4084735

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Bearing block for servo and face mount flange encoder. The heavy-duty bearing block is used to absorb very large radial and axial shaft loads. Particularly when using belt pulleys, chain sprockets, friction wheels. Operating speed max. 4,000 rpm<sup>1</sup>, axial shaft load 150 N, radial shaft load 250 N, bearing service life 3.6 x 10<sup>9</sup> revolutions</li> </ul>	BEF-FA-LB1210	2044591
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for encoder with spigot 36 mm for face mount flange</li> <li><b>Items supplied:</b> Mounting kit included</li> </ul>	BEF-WF-36	2029164
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter, adaptation of face mount flange with 36 mm centering hub to 50 mm servo flange, aluminum, including 3 flat head screws M4 x 10</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> <li><b>Items supplied:</b> Including 3 countersunk screws M3 x 10</li> </ul>	BEF-FA-036-050	2029160
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter, adaptation of face mount flange with 36 mm centering hub to 60 mm square mounting plate, aluminum, including 3 flat head screws M4 x 8</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> <li><b>Items supplied:</b> Including 3 countersunk screws M4 x 8</li> </ul>	BEF-FA-036-060REC	2029162
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter, adaptation of face mount flange with 36 mm centering hub to 58 mm square mounting plate with shock absorbers, aluminum</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> </ul>	BEF-FA-036-060RSA	2029163
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter, adaptation of face mount flange with 36 mm centering hub to 63 mm square mounting plate, aluminum, including 3 flat head screws M4 x 8</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> <li><b>Items supplied:</b> Including 3 countersunk screws M4 x 8</li> </ul>	BEF-FA-036-063REC	2034225
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter, adaptation of face mount flange with 36 mm centering hub to 100 mm servo flange with 60 mm centering hub, aluminum</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> </ul>	BEF-FA-036-100	2029161
	<ul style="list-style-type: none"> <li><b>Description:</b> Flange adapter (adapts size 60 face mount flange encoder to bearing block with part. no. 2044591)</li> </ul>	BEF-FA-036-050-019	2063378
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting angle spring-loaded, for flange with centring collar 36 mm, working temperature range -40° ... +120°C</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> </ul>	BEF-WF36F	4084775

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-pin, straight, A-coded</li> <li><b>Signal type:</b> Incremental</li> <li><b>Cable:</b> CAT5, CAT5e</li> <li><b>Description:</b> Incremental, shielded</li> <li><b>Connection systems:</b> IDC quick connection</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.34 mm<sup>2</sup></li> </ul>	STE-1208-GA01	6044892
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, Incremental</li> <li><b>Items supplied:</b> JST including sealing</li> <li><b>Cable:</b> 3 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> SSI, shielded, Incremental</li> </ul>	DOL-0J08-G3M0AA6	2048591
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, Incremental</li> <li><b>Items supplied:</b> JST including sealing</li> <li><b>Cable:</b> 1.5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> SSI, shielded, Incremental</li> </ul>	DOL-0J08-G1M5AA6	2048590
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Items supplied:</b> JST including sealing</li> <li><b>Cable:</b> 0.5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded, SSI</li> </ul>	DOL-0J08-G0M5AA3	2046873
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Items supplied:</b> JST including sealing</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded, SSI</li> </ul>	DOL-0J08-G05MAA3	2046876
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Items supplied:</b> JST including sealing</li> <li><b>Cable:</b> 10 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded, SSI</li> </ul>	DOL-0J08-G10MAA3	2046877
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M23, 12-pin, straight, A-coded</li> <li><b>Signal type:</b> HIPERFACE®, SSI, Incremental</li> <li><b>Description:</b> HIPERFACE®, shieldedSSIIncremental</li> <li><b>Connection systems:</b> Solder connection</li> </ul>	STE-2312-GX	6028548
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M23, 12-pin, straight, A-coded</li> <li><b>Signal type:</b> HIPERFACE®, SSI, Incremental</li> <li><b>Description:</b> HIPERFACE®, shieldedSSIIncremental</li> <li><b>Connection systems:</b> Solder connection</li> </ul>	STE-2312-G01	2077273
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Male connector, M23, 12-pin, straight</li> <li><b>Signal type:</b> Incremental</li> <li><b>Cable:</b> 0.35 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded</li> </ul>	STL-2312-GM35AA3	2061621
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Male connector, M23, 12-pin, straight</li> <li><b>Signal type:</b> Incremental</li> <li><b>Cable:</b> 1 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded</li> </ul>	STL-2312-G01MAA3	2061622
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, JST, 8-pin, straight</li> <li><b>Connection type head B:</b> Male connector, M23, 12-pin, straight</li> <li><b>Signal type:</b> Incremental</li> <li><b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Incremental, shielded</li> </ul>	STL-2312-G02MAA3	2061504

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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