



DUS60

ENCODERS WITH EASY DIP SWITCH CONFIGURATION AND TIME-SAVING STATUS LEDS

Incremental encoders

SICK
Sensor Intelligence.

ENCODERS WITH VERSATILE CONFIGURATION FOR MACHINE AXES APPLICATIONS



Product description

The DUS60 is a rotary incremental encoder with built-in DIP switch configuration for the resolution, output voltage, and counting direction. The DUS60 configuration switches reduce the number of variants, enable easy replacement and quick commissioning, and increases the likelihood that spare parts will be in stock – all without any additional programming tools. The on-board status and signal LEDs and optional fault

output quickly indicate the functionality of the encoder, minimizing time required for both installation and troubleshooting. The DUS60 offers solid shaft and hollow bore mounting with rotating connectors or universal cables for quick and flexible mechanical installation. With resolutions up to 2,400 pulses, the DUS60 is ideal for factory and logistics automation applications.

At a glance

- Solid shaft or hollow bore incremental encoder
- DIP switches for configuring resolution, signal output, and counting direction
- Universal 4.5 V ... 30 V supply
- LEDs that indicate encoder status and output signal
- Rotatable M12 male connector, 4-pin or 8-pin, or universal cable outlet
- Optional fault output directly from encoder

Your benefits

- Quickly commission the encoder using the built-in DIP switches. No additional programming tool or laptop required
- Status and signal LEDs quickly indicate whether the encoder is properly connected, functional, or needs to be replaced
- Universal power supply and a rotatable connector reduce the number of variants required and provide increased installation flexibility
- Anti-dither functionality maintains a high level of productivity also in high vibration applications
- Compatible with existing and low-cost input cards with output types like Clockwise/Counterclockwise and Signal/Direction



Additional information

Fields of application	3
Detailed technical data	3
Type code	5
Ordering information	6
Dimensional drawings	8
Output function	11
Status and function display	12
PIN assignment	12
DIP switch configuration	13
Accessories	14

→ www.sick.com/DUS60

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Fields of application

Measuring the position, speed and distance in applications with low speeds and low resolution in the logistics and factory automation markets.

- Conveyor belts

- Packaging machines
- Printing machines
- Storage systems

Detailed technical data

Performance

Pulses per revolution	1 ... 2400 ¹⁾
Measuring step	90°, electric/pulses per revolution
Measuring step deviation	± 18° / pulses per revolution
Error limits	Measuring step deviation x 3
Duty cycle	≤ 0.5 ± 5 %
Initialization time	< 5 ms ²⁾

¹⁾ Available pulses per revolution see type code.

²⁾ Valid positional data can be read once this time has elapsed.

Mechanical data

	Solid shaft	Blind hollow shaft	Through hollow shaft
Mechanical interface	Solid shaft, face mount flange	Blind hollow shaft	Through hollow shaft with rear clamping Through hollow shaft with front clamping
Shaft diameter	1/4" x 10 mm 3/8" x 19 mm 6 mm x 10 mm 10 mm x 19 mm	3/8", 1/2", 5/8", 6 mm, 8 mm, 10 mm, 12 mm, 14 mm, 15 mm	
Stator coupling	-	2-point stator coupling, slot, hole diameter 63 mm – 83 mm Without stator coupling	2-point stator coupling, slot, hole diameter 63 mm – 83 mm
Mass	0.3 kg ¹⁾	0.25 kg ¹⁾	
Shaft material	Stainless steel		
Flange material	Aluminum		
Housing material	Aluminum		
Material, cable	PVC		
Start up torque	1.2 Ncm (+20 °C)	0.5 Ncm (+20 °C)	
Operating torque	1.1 Ncm (+20 °C)	0.4 Ncm (+20 °C)	
Permissible movement axial static/dynamic	-	± 0.5 mm, ± 0.2 mm	
Permissible movement radial static/dynamic	-	± 0.3 mm, ± 0.1 mm	
Permissible shaft loading radial/axial	100 N (radial) 50 N (axial)	-	
Operating speed	1,500 /min		
Moment of inertia of the rotor	33 gcm ²	50 gcm ²	
Bearing lifetime	3.6 x 10 ⁹ revolutions		
Max. angular acceleration	500,000 rad/s ²	500,000 rad/s ² 200,000 rad/s ² , isolated shaft	

¹⁾ For an encoder with connector outlet.

Electrical data

Electrical interface	4.75 V ... 30 V, TTL/HTL DIP switch, selectable output ¹⁾
Connection type	Male connector M12, 4-pin, universal ²⁾ Male connector M12, 8-pin, universal ²⁾ Cable 8 core, universal cable outlet, length 1.5 m ³⁾ Cable 8 core, universal cable outlet, length 5 m ³⁾
DIP switch parameters	
Pulses per revolution	✓
Output voltage	✓
Direction of rotation	✓
Operating power consumption (no load)	≤ 120 mA
Power consumption max. without load	≤ 1.25 W
Load current max.	≤ 30 mA, per channel
Maximum output frequency	+ 60 kHz
Reference signal, number	1
Reference signal, position	180°, electric, gated with A
Reverse polarity protection	✓
Short-circuit protection of the outputs	✓
MTTFd: mean time to dangerous failure	275 years (EN ISO 13849-1) ⁴⁾

¹⁾ The output is not selectable for DIP switch configurations E, F, and G. The output voltage value is dependent on the supply voltage.

²⁾ The universal connection is rotatable so that it is possible to position the connector in the radial or axial direction.

³⁾ The universal cable outlet is positioned in such a way, that it is possible to lay the cable in a radial or axial direction without kinking it.

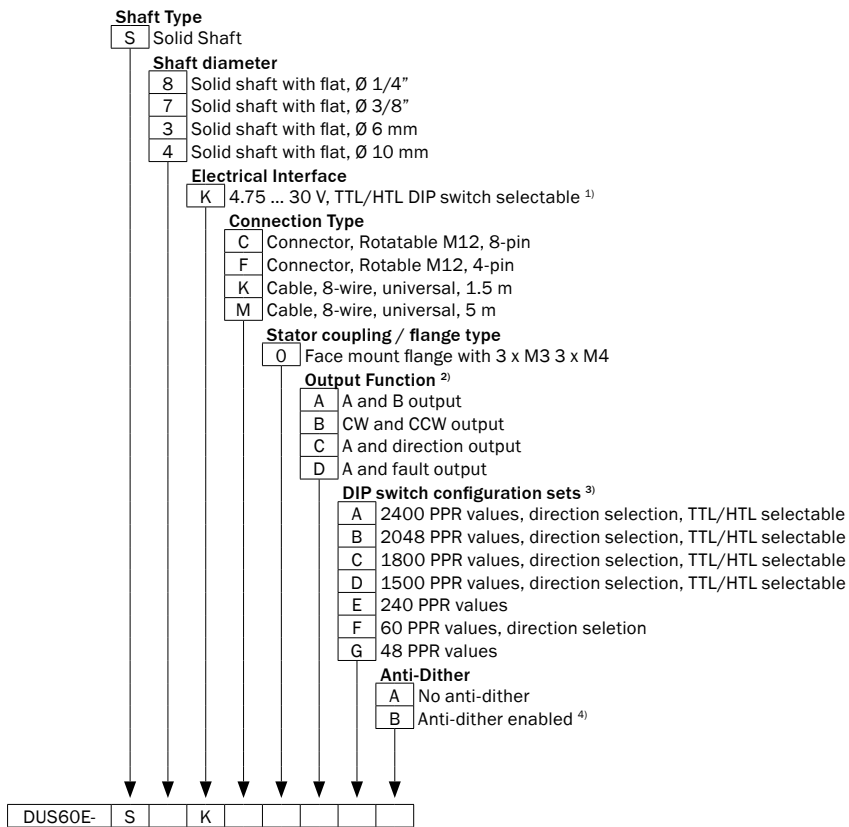
⁴⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP 65 ¹⁾
Permissible relative humidity	90 % (condensation of the optical scanning not permitted)
Working temperature range	-30 °C ... +70 °C
Storage temperature range	-40 °C ... +75 °C
Resistance to shocks	100 g (EN 60068-2-27)
Resistance to vibration	30 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

¹⁾ If the mating connector is installed and the DIP switch door is sealed with the encoder housing.

Solid shaft



¹ Output voltage selection not available for DIP switch configurations E, F, and G. Output voltage level is dependent on supply voltage.

² See Output Function Table.

³ See Pulses per revolution table for full resolution offering within each group.

⁴ Not available for Output Function A and B output (A). Connection Type must be male connector M12, 4-pin (F).

Ordering information

Solid shaft, face mount flange

- **Shaft diameter:** 3/8"
- **Electrical interface:** TTL/HTL DIP switch, selectable output
- **Voltage area:** 4.75 V ... 30 V
- **Anti-dither:** –
- **Output function:** A and B output

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 4-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KF0ACA	1084497
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KF0ABA	1084496
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KF0AAA	1084495
Male connector M12, 8-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KC0ACA	1084494
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KC0ABA	1084493
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-S7KC0AAA	1084492

Blind hollow shaft

- **Shaft diameter:** 5/8"
- **Electrical interface:** TTL/HTL DIP switch, selectable output
- **Voltage area:** 4.75 V ... 30 V
- **Anti-dither:** –
- **Output function:** A and B output

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 4-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKFOACA	1084474
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKFOABA	1084473
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKFOAAA	1084472
Male connector M12, 8-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKCOACA	1084471
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKCOABA	1084467
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-BJKCOAAA	1084466

Through hollow shaft with front clamping

- **Shaft diameter:** 5/8"
- **Electrical interface:** TTL/HTL DIP switch, selectable output
- **Voltage area:** 4.75 V ... 30 V
- **Anti-dither:** –
- **Output function:** A and B output

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 4-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKFOACA	1084480
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKFOABA	1084479
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKFOAAA	1084478
Male connector M12, 8-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKCOACA	1084477
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKCOABA	1084476
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-TJKCOAAA	1084475

Through hollow shaft with rear clamping

- **Shaft diameter:** 5/8"
- **Electrical interface:** TTL/HTL DIP switch, selectable output
- **Voltage area:** 4.75 V ... 30 V
- **Anti-dither:** –
- **Output function:** A and B output

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 4-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKFOACA	1084486
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKFOABA	1084485
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKFOAAA	1084484

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 8-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKC0ACA	1084483
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKC0ABA	1084482
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-RJKC0AAA	1084481

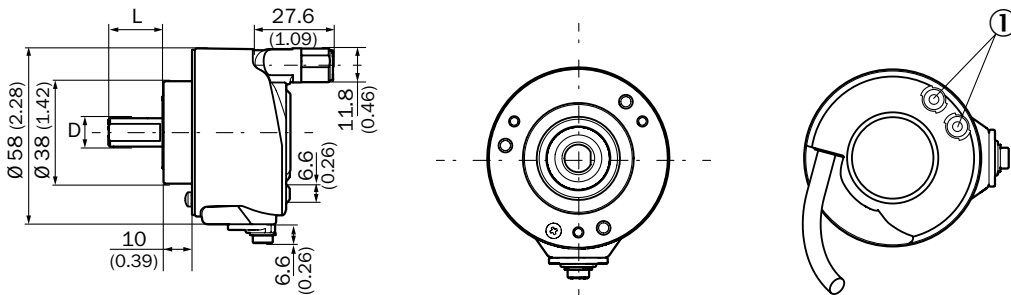
Solid shaft, face mount flange

- **Shaft diameter:** 10 mm
- **Electrical interface:** TTL/HTL DIP switch, selectable output
- **Voltage area:** 4.75 V ... 30 V
- **Anti-dither:** -
- **Output function:** A and B output

Connection type	DIP switch configuration	Type	Part no.
Male connector M12, 4-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KF0ACA	1084491
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KF0ABA	1084490
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KF0AAA	1084489
Male connector M12, 8-pin, universal	1800 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KC0ACA	1084488
	2048 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KC0ABA	1084223
	2400 PPR values, direction selection, TTL/HTL selectable	DUS60E-S4KC0AAA	1084487

Dimensional drawings (Dimensions in mm (inch))

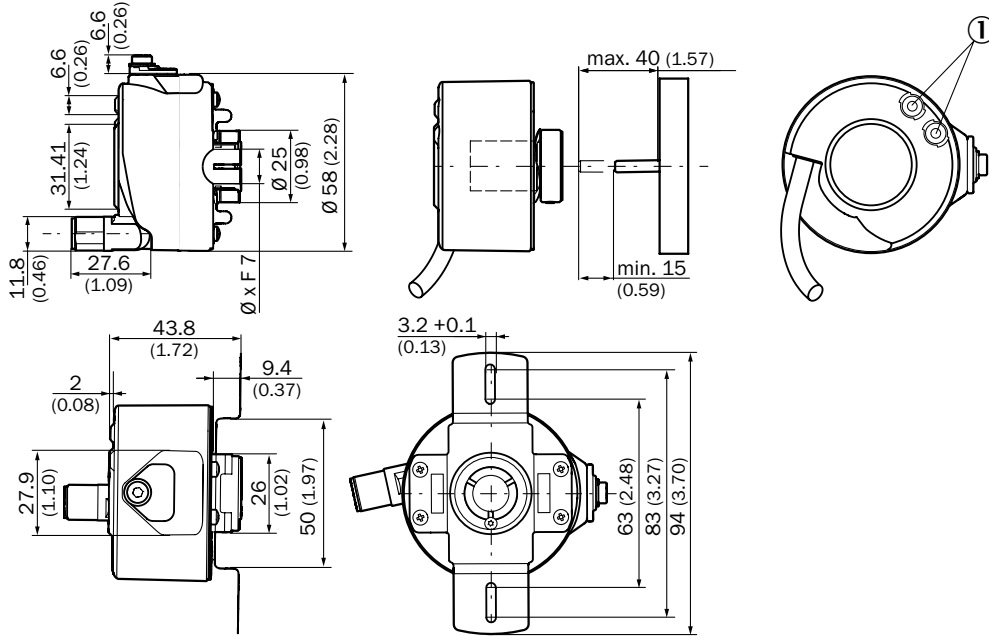
Solid shaft



① Status indicators

Type Solid shaft	Shaft Diameter D	Shaft length L
DUS60x-S3xxxxxxxx	6 mm	10 mm
DUS60x-S4xxxxxxxx	10 mm	19 mm
DUS60x-S7xxxxxxxx	3/8"	19 mm
DUS60x-S8xxxxxxxx	1/4"	10 mm

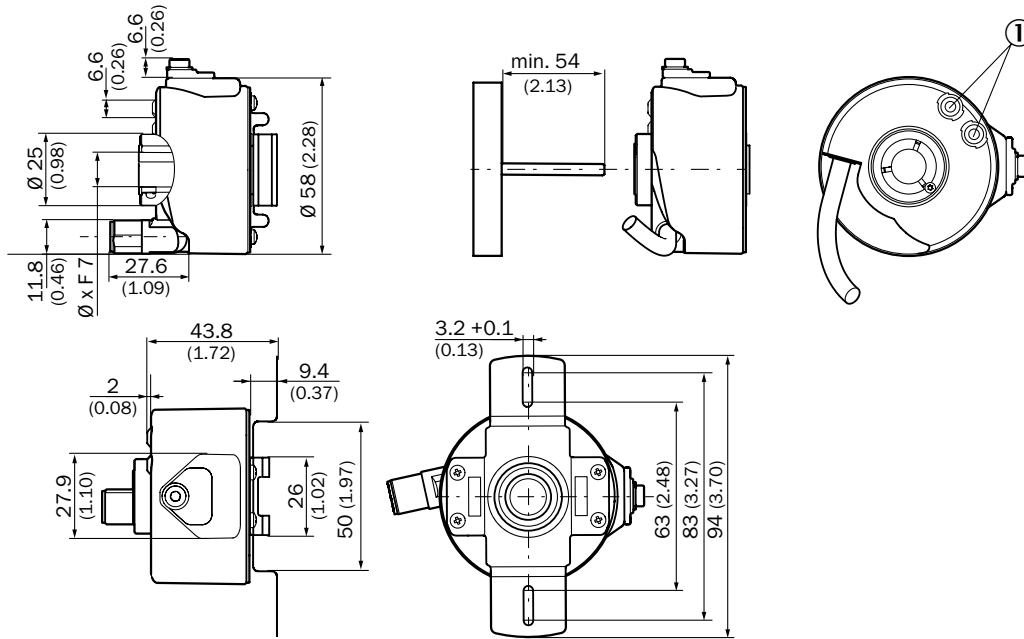
Blind hollow shaft



① Status indicators

Type	Shaft diameter XF7
Blind hollow shaft	
DUS60x-BAxxxxxxx	6 mm
DUS60x-BBxxxxxxx	8 mm
DUS60x-BCxxxxxxx	3/8"
DUS60x-BDxxxxxxx	10 mm
DUS60x-BExxxxxxx	12 mm
DUS60x-BFxxxxxxx	1/2"
DUS60x-BGxxxxxxx	14 mm
DUS60x-BHxxxxxxx	15 mm
DUS60x-BJxxxxxxx	5/8"

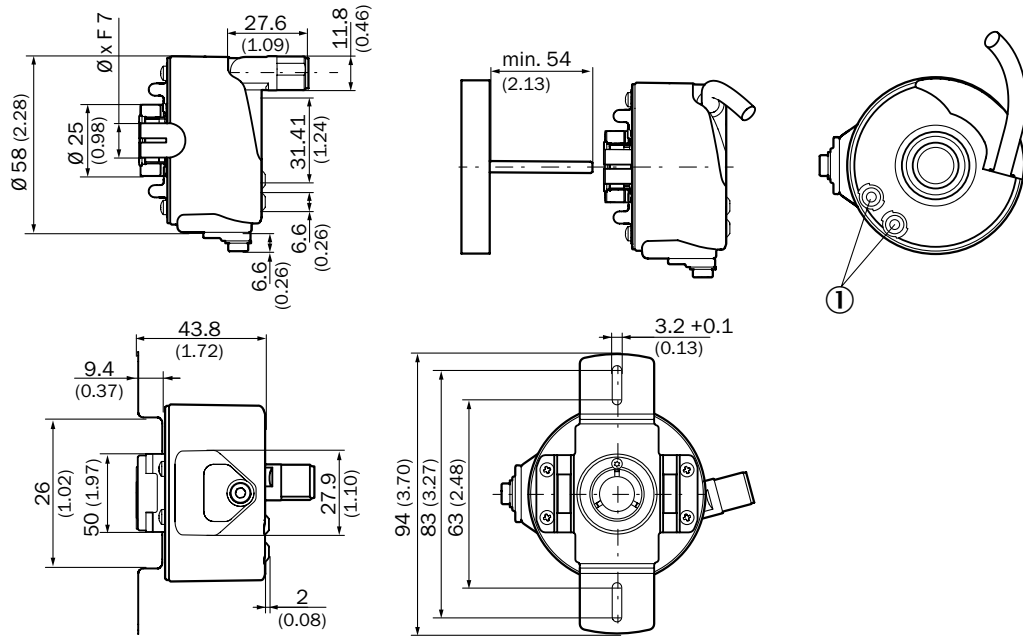
Through hollow shaft with rear clamping



① Status indicators

Type	Shaft diameter XF7
Through hollow shaft with rear clamping	
DUS60x-RAxxxxxxx	6 mm
DUS60x-RBxxxxxxx	8 mm
DUS60x-RCxxxxxxx	3/8"
DUS60x-RDxxxxxxx	10 mm
DUS60x-RExxxxxxx	12 mm
DuS60x-RFxxxxxxx	1/2"
DUS60x-RGxxxxxxx	14 mm
DUS60x-RHxxxxxxx	15 mm
DUS60x-RJxxxxxxx	5/8"

Through hollow shaft with front clamping



① Status indicators

Type	Shaft diameter XF7
Through hollow shaft with front clamping	
DUS60x-TAxxxxxxx	6 mm
DUS60x-TBxxxxxxx	8 mm
DUS60x-TCxxxxxxx	3/8"
DUS60x-TDxxxxxxx	10 mm
DUS60x-TExxxxxxx	12 mm
DuS60x-TFxxxxxxx	1/2"
DUS60x-TGxxxxxxx	14 mm
DUS60x-THxxxxxxx	15 mm
DUS60x-TJxxxxxxx	5/8"

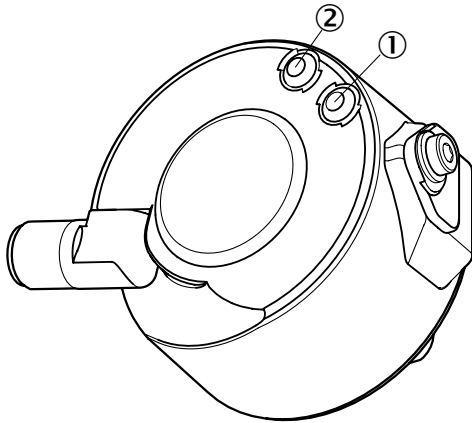
Output function

	Male connector M12, 4-pin	Male connector M12, 8-pin	Cable, 8-wire
Option A A and B output	A, B	A, A-, B, B-, Z, Z-	A, A-, B, B-, Z, Z-
Option B CW and CCW output	CW, CCW	CW, CW-, CCW, CCW-, Fault, Fault-	CW, CW-, CCW, CCW-, Fault, Fault-
Option C ¹⁾ A and direction output	A, Direction	A, A-, Direction, Direction-, Fault, Fault-	A, A-, Direction, Direction-, Fault, Fault-
Option D A and fault output	A, Fault	A, A-, B, B-, Fault, Fault-	A, A-, B, B-, Fault, Fault-

¹⁾ when direction channel is LOW, encoder is rotating in the clockwise direction. When direction channel is HIGH, encoder is rotating counter-clockwise.

Status and function display

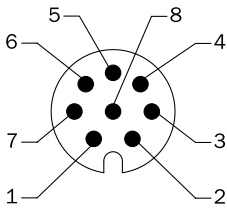
Status indicator LED



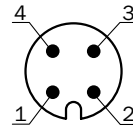
- ① Signal
- ② Fault/Power

PIN assignment

View of M12 male device connector on encoder



View of M12 male device connector on encoder



Colour of wires (cable outlet)	Male connector M12, 4-pin	Male connector M12, 8-pin	Output function				Explanation
			A	B	C	D	
Brown	-	1	A-	CW-	A-	A-	Signal
White	4	2	A	CW	A	A	Signal
Black	-	3	B-	CCW-	Direction-	B-	Signal
Pink	2	4	B	CCW	Direction	Fault (M12, 4-pin) B (M12, 8-pin and cable outlet)	Signal
Yellow	-	5	Z-	Fault-	Fault-	Fault-	Signal
Violet	-	6	Z	Fault	Fault	Fault	Signal
Blue	3	7	GND	GND	GND	GND	Ground connection
Red	1	8	U _s	U _s	U _s	U _s	Supply voltage
-	-	-	Case	Case	Case	Case	Case ground
Shielding	-	-	Shielding	Shielding	Shielding	Shielding	Shielding

DIP switch configuration

	DIP switch configuration A – 2400 pulses				
Pulses per revolution	1	10	32	100	400
	2	12	40	120	480
	3	15	48	150	600
	4	16	60	160	800
	5	20	75	200	1200
	6	24	80	240	2400
	8	30	96	300	

	DIP switch configuration B – 2048 pulses				
Pulses per revolution	1	8	64	256	1024
	2	16	128	512	2048
	4	32			

	DIP switch configuration C – 1800 pulses				
Pulses per revolution	1	9	30	120	600
	2	10	36	150	900
	3	12	40	180	1800
	4	15	60	200	
	5	18	72	300	
	6	20	75	360	
	8	24	100	450	

	DIP switch configuration D – 1500 pulses				
Pulses per revolution	1	5	15	75	1500
	2	6	20	100	
	3	10	30	150	
	4	12	60	300	

	DIP switch configuration E – 240 pulses				
Pulses per revolution	1	5	12	30	80
	2	6	15	40	120
	3	8	16	48	240
	4	10	20	60	

	DIP switch configuration F – 60 pulses				
Pulses per revolution	2	5	10	16	30
	3	6	12	20	60
	4	8	15	24	










	DIP switch configuration G – 48 pulses				
Pulses per revolution	1	3	6	12	24
	2	4	8	16	48

Accessories

Mounting systems

Flanges


Flange plates

Figure	Brief description	Type	Part no.
	Adapting Flange for Pin Block Mounting	BEF-DS-13	2076218
	Flange adapter, adaption of 36 mm spigot face mount flange to 50 mm servo flange, Aluminum, including 3 countersunk screws M4 x 10	BEF-FA-036-050	2029160
	Flange adapter, adaption of 36 mm spigot face mount flange to 58 mm square installation plate with shock-absorber, Aluminum	BEF-FA-036-060RSA	2029163
	Flange adapter, adaption of 36 mm spigot face mount flange to 60 mm square installation plate, Aluminum, including 3 countersunk screws M4 x 10	BEF-FA-036-060REC	2029162
	Flange adapter, adaption of 36 mm spigot face mount flange to 63 mm square installation plate, Aluminum, including 3 countersunk screws M4 x 10	BEF-FA-036-063REC	2034225
	Torque support, 1-sided, slotted hole, screw hole circle 63 mm - 83 mm	BEF-DS-10	2076215
	Torque support, 1-sided, slotted hole, screw hole radius 33 mm - 48.5 mm, hole width 5.1 mm	BEF-DS-12	2076217
	Torque support, 1-sided, slotted holes, screw hole circle 64.5 mm - 285.5 mm	BEF-DS-11	2076216
	Torque support, 2-sided, slotted hole, screw hole circle 63 mm	BEF-DS-09	2076214

Dimensional drawings → [page 18](#)

Mounting brackets and plates

Mounting brackets

Figure	Brief description	Type	Part no.
	Mounting bracket for encoder with spigot 36 mm for face mount flange, mounting kit included	BEF-WF-36	2029164

Dimensional drawings → [page 21](#)

Other mounting accessories

Measuring wheels and measuring wheel systems









Figure	Brief description	Type	Part no.
	Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 500 mm	BEF-MR010050R	2055227
	Aluminium measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 300 mm	BEF-MR006030R	2055634
	Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500AK	4084733

Figure	Brief description	Type	Part no.
	Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500APG	4084736
	Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500AP	4084734
	Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500APN	4084735
	Measuring wheel with O-ring (NBR70) surface, for 3/8" solid shaft, 12" circumference	BEF-MR38Z12AO	2088716
	Measuring wheel with smooth polyurethane surface, for 3/8" solid shaft, 12" circumference	BEF-MR38Z12PU	2088717
	O-ring for measuring wheels (circumference 300 mm)	BEF-OR-083-050	2064076
	O-ring for measuring wheels (circumference 500 mm)	BEF-OR-145-050	2064074
	Plastic measuring wheel with smooth plastic surface (Hytrel) for 10 mm solid shaft, circumference 500 mm	BEF-MR-010050	5312989

Dimensional drawings → [page 22](#)

Modular measuring wheel system

Figure	Brief description	Type	Part no.
	SICK modular measuring wheel system for face mount flange encoder with S4 mechanical design (10 x 19 mm solid shaft), e.g., DFS60-S4	BEF-MRS-10-U	2085714

Dimensional drawings → [page 22](#)

Shaft adaptation

Collets and clamping rings







Figure	Brief description	Type	Part no.
	Collet metal for hollow shaft, shaft diameter 1/2" (12.7 mm), outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-12Z-M	2076225
	Collet metal for hollow shaft, shaft diameter 10 mm, outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-010-M	2076220
	Collet metal for hollow shaft, shaft diameter 12 mm, outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-012-M	2076221
	Collet metal for hollow shaft, shaft diameter 14 mm, outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-014-M	2076222
	Collet metal for hollow shaft, shaft diameter 3/8" (9.525 mm), outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-38Z-M	2076224
	Collet metal for hollow shaft, shaft diameter 8 mm, outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-008-M	2076219
	Collet metal for hollow shaft, shaft diameter 15 mm, outer diameter 5/8" (15.875 mm), metal	SPZ-58Z-015-M	2076223
	Collet plastic insulated for hollow shaft, shaft diameter 1/2" (12.7 mm), outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-12Z-P	2076227
	Collet plastic insulated for hollow shaft, shaft diameter 10 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-010-P	2076230
	Collet plastic insulated for hollow shaft, shaft diameter 12 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-012-P	2076231
	Collet plastic insulated for hollow shaft, shaft diameter 3/8" (9.525 mm), outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-38Z-P	2076226
	Collet plastic insulated for hollow shaft, shaft diameter 6 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-006-P	2076228
	Collet plastic insulated for hollow shaft, shaft diameter 8 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-008-P	2076229

Figure	Brief description	Type	Part no.
	Collet plastic insulated for hollow shaft, shaft diameter 14 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-014-P	2076232
	Collet plastic insulated for hollow shaft, shaft diameter 15 mm, outer diameter 5/8" (15.875 mm), plastic	SPZ-58Z-015-P	2076233

Dimensional drawings → page 25

Shaft couplings


Figure	Brief description	Type	Part no.
	Bar coupling, shaft diameter 10 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	KUP-1010-S	2056408
	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	KUP-0610-S	2056407
	Bar coupling, shaft diameter 6 mm / 6 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	KUP-0606-S	2056406
	Bar coupling, shaft diameter 6 mm / 8 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	KUP-0608-S	5314179
	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	KUP-0810-S	5314178
	Bellows coupling, shaft diameter 10 mm / 10 mm, Maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. speed 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub	KUP-1010-B	5312983
	Bellows coupling, shaft diameter 10 mm / 12 mm, Maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. speed 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub	KUP-1012-B	5312984
	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° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub	KUP-0610-B	5312982
	Bellows coupling, shaft diameter 6 mm / 6 mm, Maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. speed 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub	KUP-0606-B	5312981
	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	KUP-1010-F	5312986
	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	KUP-0610-F	5312985

Dimensional drawings → page 25





Connection systems

Plug connectors and cables

Cables (ready to assemble)

Figure	Brief description	Type	Part no.
	Head A: cable Head B: cable Cable: SSI, drag chain use, PUR, halogen-free, shielded, 4 x 2 x 0.15 mm ² , Ø 5.6 mm	LTG-2308-MWENC	6027529
	Head A: cable Head B: cable Cable: CANopen, DeviceNet, drag chain use, shielded, 2 x 0.25 mm ² + 2 x 0.34 mm ² , 6.9 mm, twisted pair	LTG-2804-MW	6028328

Connecting cables with female connector

Figure	Brief description	Cable length	Type	Part no.
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded	5 m	DOL-1204-G05MAC	6038621
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PUR, shielded, 4 x 0.34 mm ² , 5.9 mm	10 m	DOL-1204-G10MAC	6041797
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded, 4 x 2 x 0.25 mm ² , Ø 7 mm	2 m	DOL-1208-G02MAC1	6032866
		5 m	DOL-1208-G05MAC1	6032867
		10 m	DOL-1208-G10MAC1	6032868
		20 m	DOL-1208-G20MAC1	6032869
	Head A: female connector, M12, 4-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded	2 m	DOL-1204-G02MAC	2088079
		20 m	DOL-1204-G20MAC	2088080

Dimensional drawings → [page 26](#)

Female connectors (ready to assemble)

Figure	Brief description	Type	Part no.
	Head A: female connector, M12, 5-pin, straight Cable: CANopen, DeviceNet, shielded	DOS-1205-GA	6027534
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: - Cable: Incremental, SSI, shielded, CAT5, CAT5e	DOS-1208-GA01	6045001

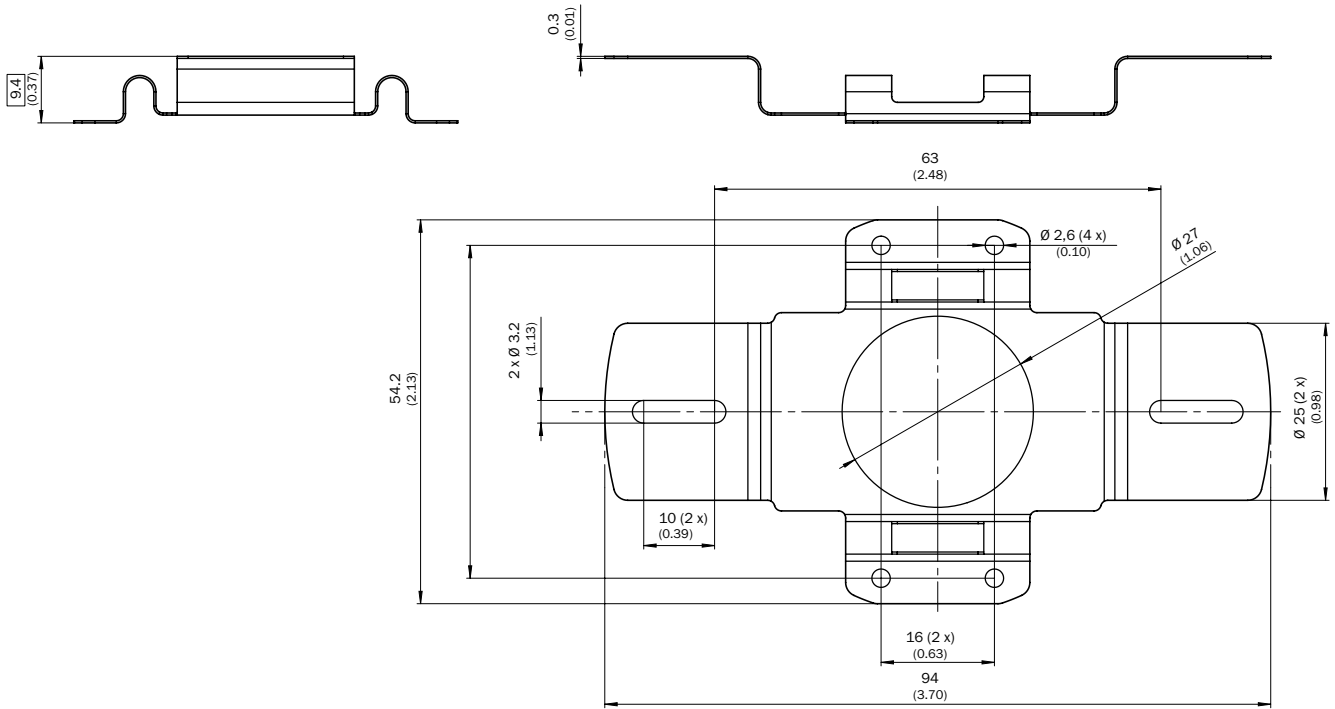
Dimensional drawings → [page 26](#)

Male connectors (ready to assemble)

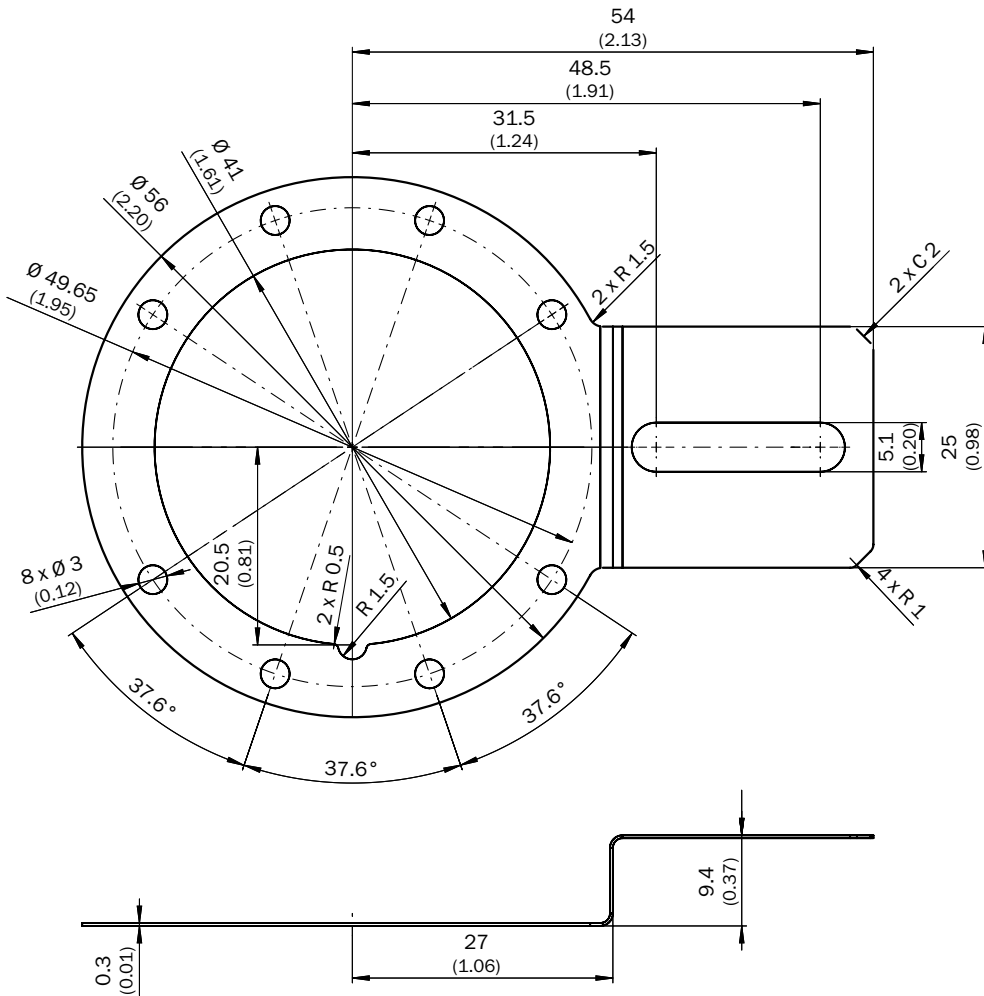
Figure	Brief description	Type	Part no.
	Head A: male connector, M12, 5-pin, straight, A-coded Cable: CANopen, DeviceNet, shielded	STE-1205-GA	6027533
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: - Cable: Incremental, shielded, CAT5, CAT5e	STE-1208-GA01	6044892

Dimensional drawings → [page 26](#)

BEF-DS-10

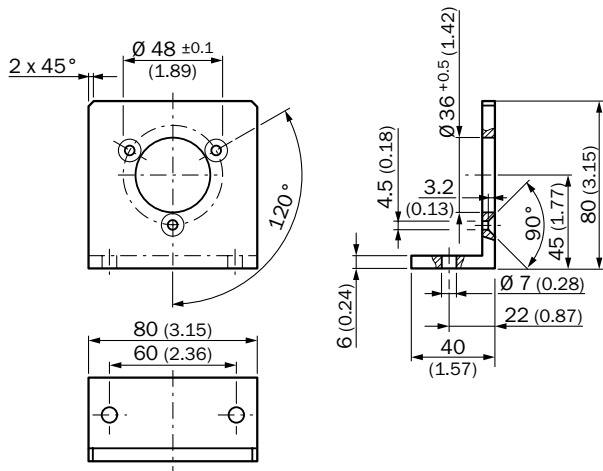


BEF-DS-12



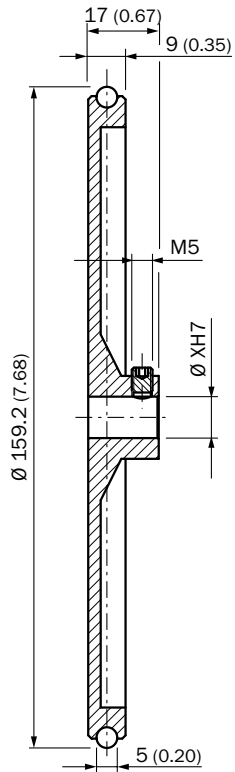
Mounting brackets and plates

BEF-WF-36

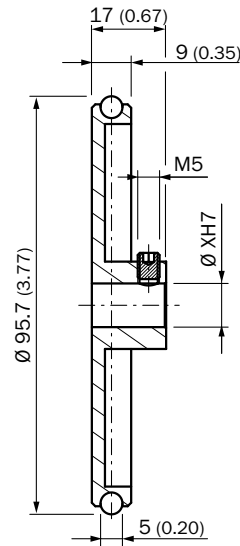


Other mounting accessories

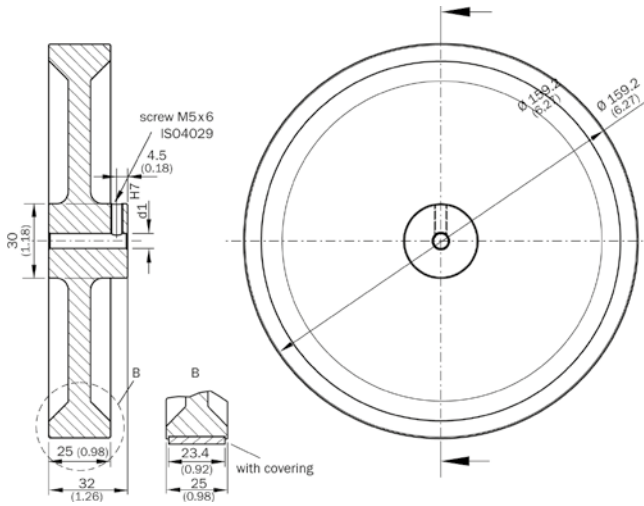
BEF-MR010050R



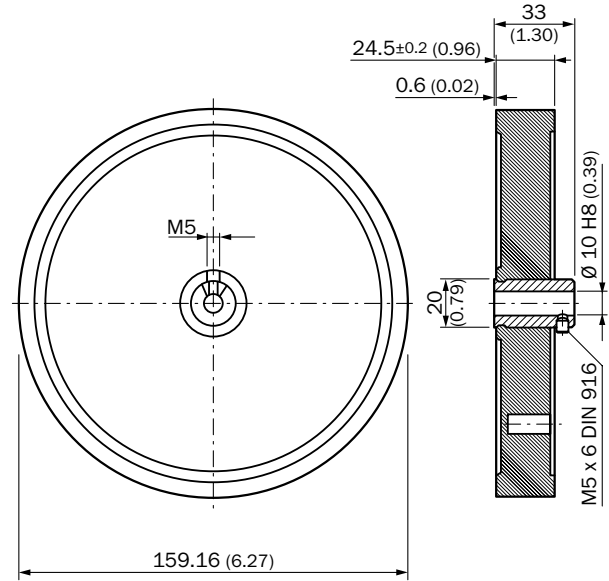
BEF-MR006030R



BEF-MR10500AK
 BEF-MR10500APG
 BEF-MR10500AP
 BEF-MR10500APN

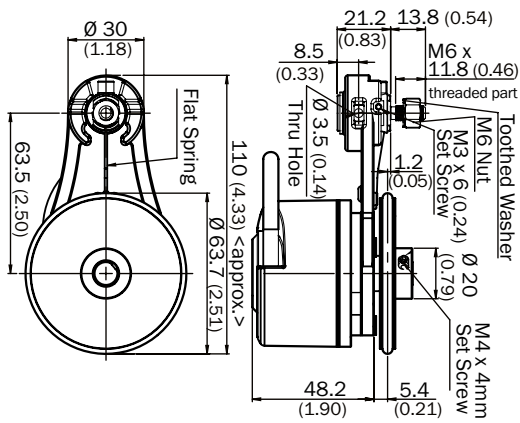


BEF-MR-010050



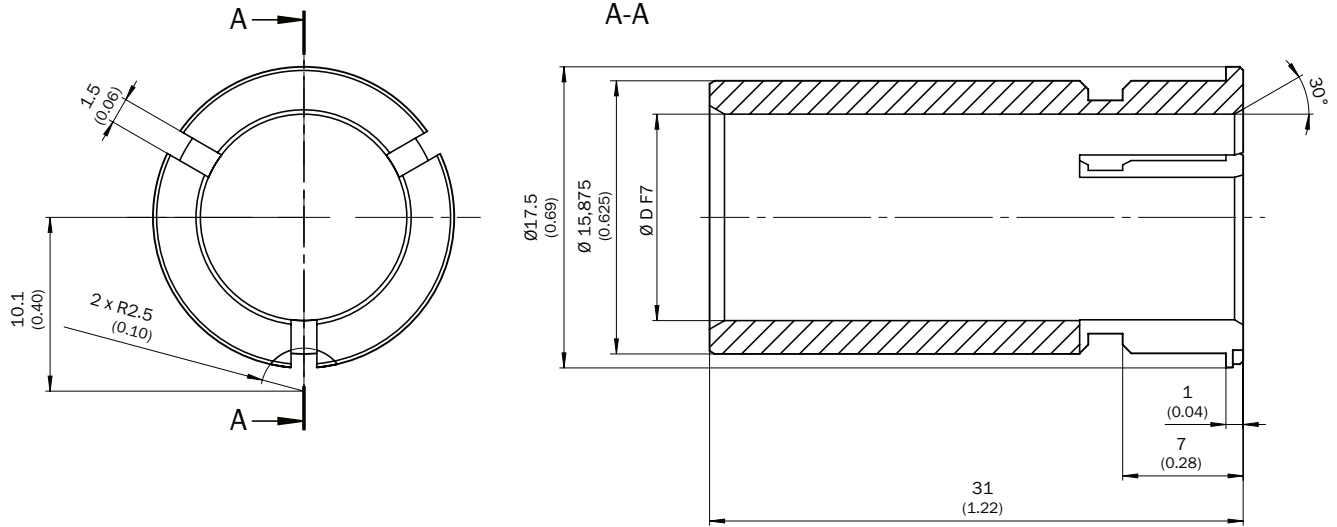
Other mounting accessories

BEF-MRS-10-U



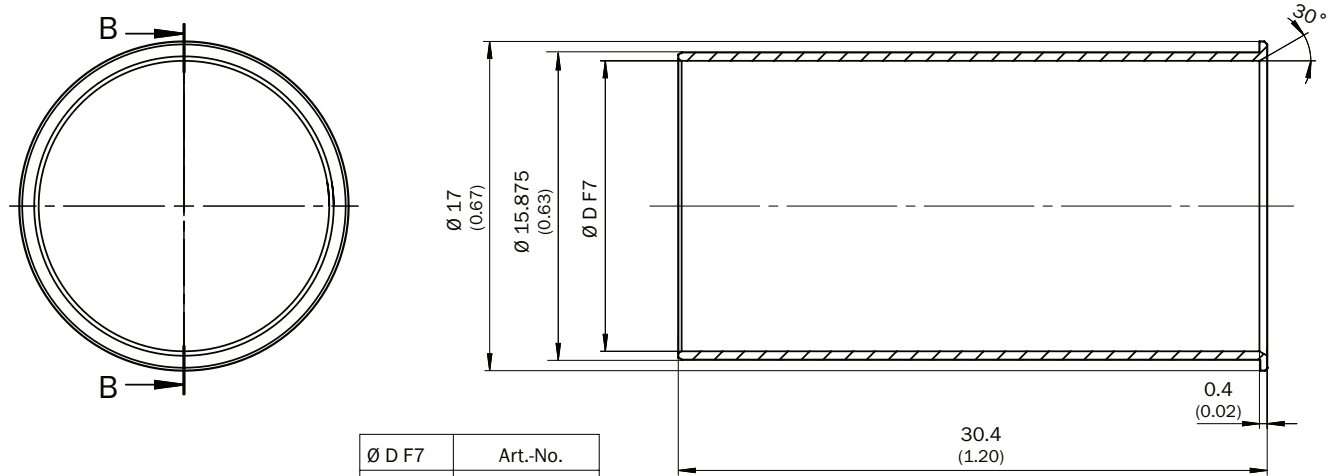
Shaft adaptation

SPZ-58Z-xxx-M



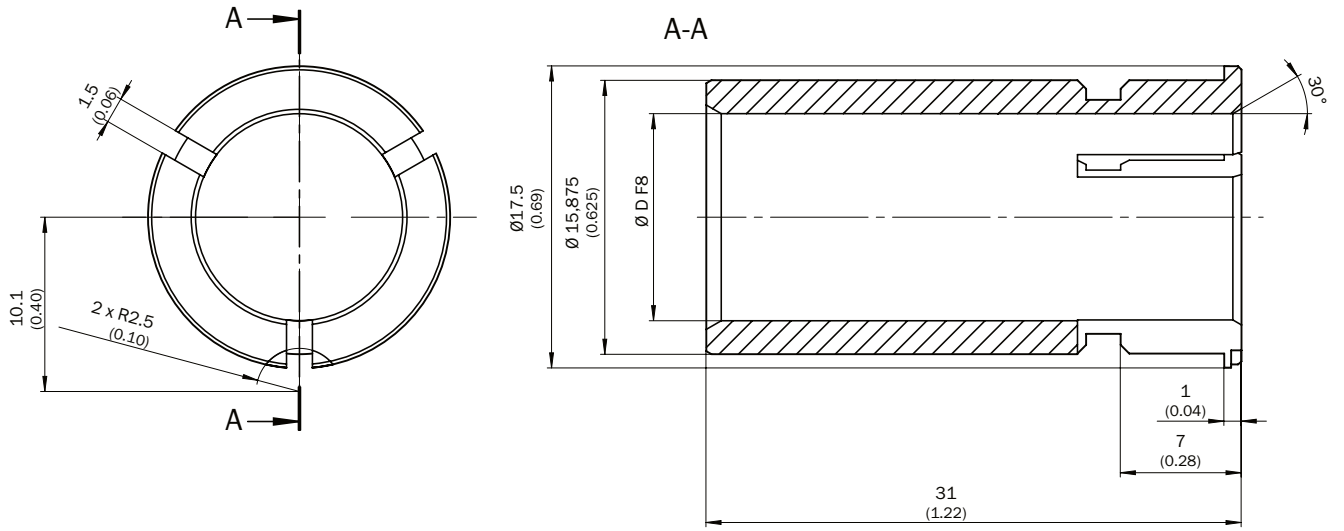
Ø D F7	Art.-No.
8	2076219
3/8" (9.525)	2076224
10	2076220
12	2076221
1/2" (12.7)	2076225
14	2076222

SPZ-58Z-015-M



Ø D F7	Art.-No.
14	2076232
15	2076233

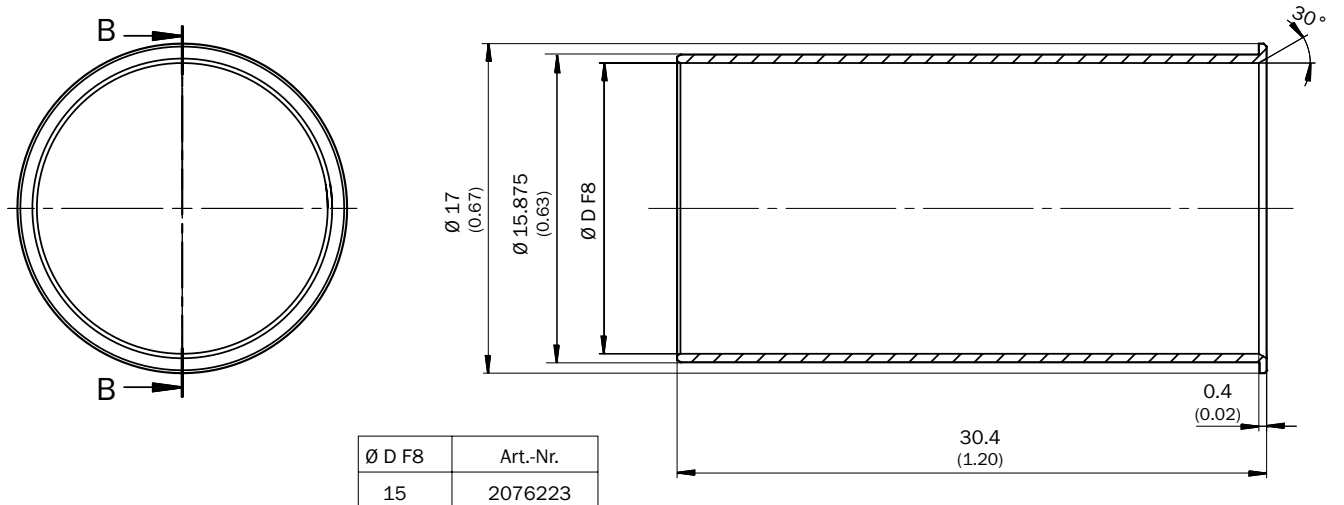
SPZ-58Z-xxx-P



\varnothing D F8	Art.-No.
6	2076228
8	2076229
3/8" (9.525)	2076226
10	2076230
12	2076231
1/2" (12.7)	2076227

SPZ-58Z-014-P

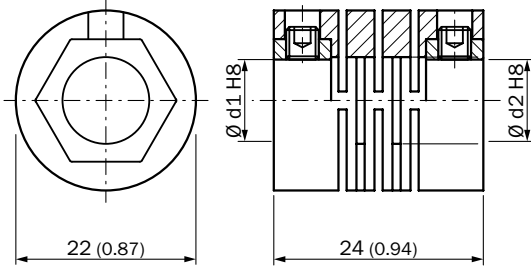
SPZ-58Z-015-P



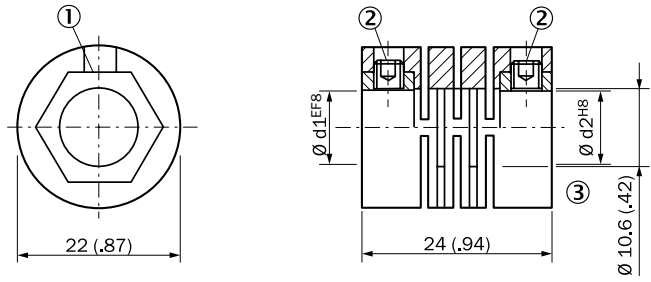
\varnothing D F8	Art.-Nr.
15	2076223

Shaft adaptation

KUP-xxxx-S

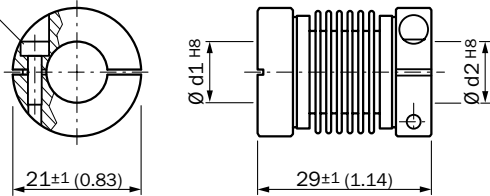


KUP-0608-S
KUP-0810-S

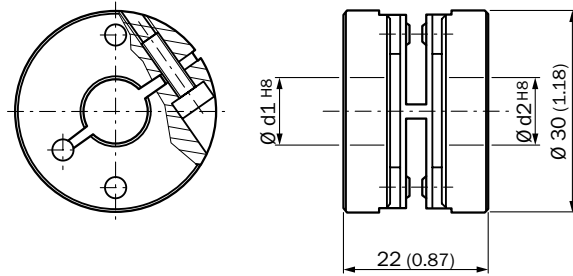


KUP-xxxx-B

Cheese-head screw
M2.5 x 8, DIN 912 A2

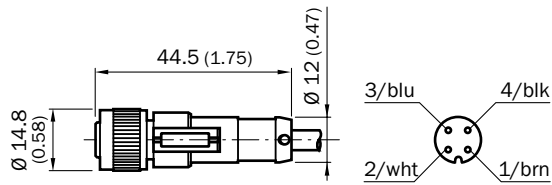


KUP-1010-F
KUP-0610-F

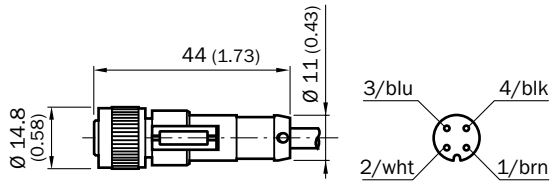


Plug connectors and cables

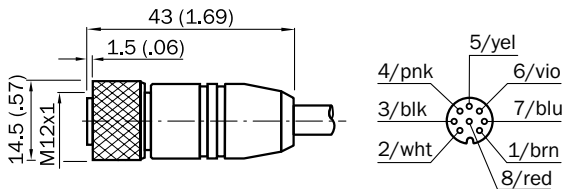
DOL-1204-GxxMAC



DOL-1204-G10MAC



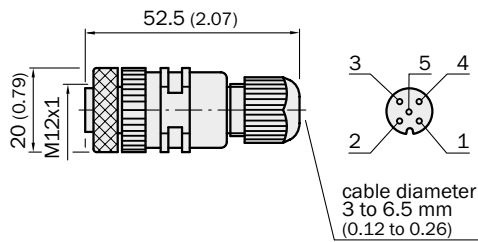
DOL-1208-GxxMAC1



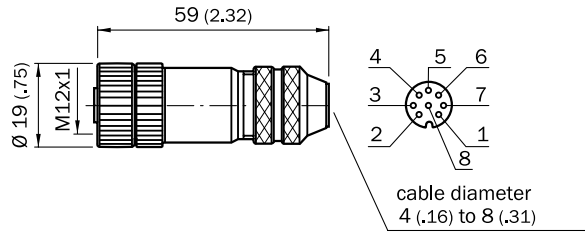
All dimensions in mm (inch)

Plug connectors and cables

DOS-1205-GA

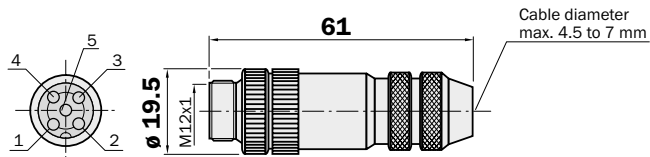


DOS-1208-GA01

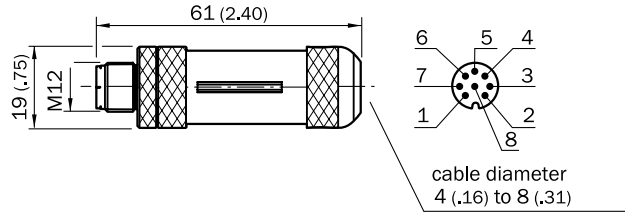


Plug connectors and cables

STE-1205-GA

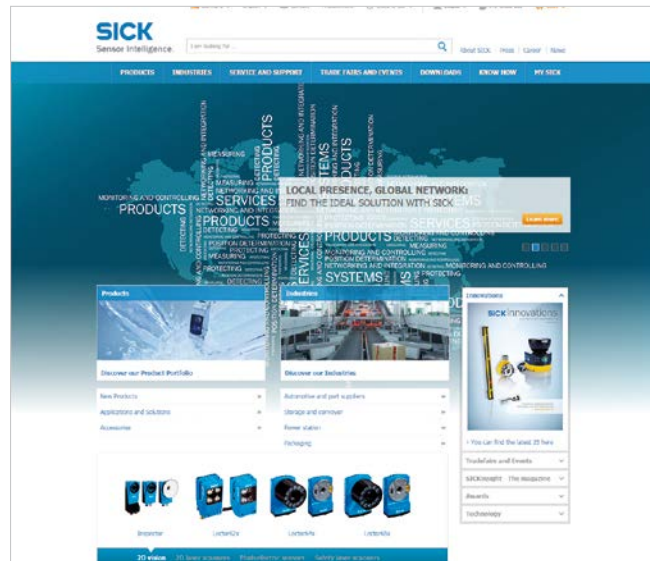


STE-1208-GA01



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