AHS/AHM36 SSI Inox

RESISTANT, SMART, COMPACT: ENCODERS FOR HARSH ENVIRONMENTS

Absolute encoders

SICK
Sensor Intelligence.

RESISTANT, SMART, COMPACT: ENCODERS FOR HARSH ENVIRONMENTS

Product description

The AHS/AHM36 SSI Inox absolute encoders set standards in resistance to environmental influences and SSI communication. Due to the stainless-steel design and enclosure rating IP69K, the encoders are suitable for use in very harsh ambient conditions. With various mounting hole patterns and adapter flanges, the AHS/AHM36 SSI Inox absolute encoders fit into nearly every application. In addition to single-/multiturn resolution, the counting direction and other parameters, the structure of the SSI protocol to be output can be individually adapted using a programming tool. The rugged, reliable, fully magnetic sensor system achieves a maximum resolution of 14 bits for the singleturn variant and maximum 26 bits for the multiturn variant.

At a glance

- Compact 36 mm absolute encoder with maximum 26 bits (AHM36) or 14 bits (AHS36)
- Housing, flange, shaft made of stainless steel 1.4305
- IP69K enclosure rating
- Face mount flange, servo flange, blind hollow shaft
- M12 male connector or cable connection
- Programmable version: Resolution, etc. can be programmed
- Operating temperature range: –40 °C ... +100 °C

Your benefits

- High resistance to environmental influences due to stainless-steel design
- Enclosure rating IP69K and shaft sealing ring for optimal tightness
- Simple and flexible electrical installation with various configuration options (programmable SSI version)
- Easy setup for various applications allowing binary, non-binary, and non-integer resolutions with the round axis functionality (programmable version)
- Quick and easy mechanical installation with various mounting hole patterns and many different shafts
- Rugged, reliable, fully-magnetic sensors which can also be used in harsh environments

Additional information

➜ **www.sick.com/AHS_AHM36_SSI_Inox**

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.

8024135/2019-08-02
Subject to change without notice

Fields of application

- Applications with high requirements on the enclosure rating and resistance to aggressive media as well
- Particularly well-suited for use in the food and beverage industry, on packaging machines, in medical technology, and in outdoor applications in ports or offshore plants

Detailed technical data

Performance

	Singleturn	Multiturn
Number of steps per revolution max. (Resolution max.)		
Non Programmable	256 (8 Bit) 360 512 (9 Bit) 720 1,024 (10 Bit) 2,048 (11 Bit) 3,600 4,096 (12 Bit) 8,192 (13 Bit)	-
Programmable	16,384 (14 Bit)	-
Resolution max. (Number of steps per revolution max. x number of revolutions max.)		
Non Programmable	-	8 bit x 12 bit (256 x 4,096) 9 bit x 12 bit (512 x 4,096) 10 bit x 12 bit (1,024 x 4,096) 11 bit x 12 bit (2,048 x 4,096) 12 bit x 12 bit (4,096 x 4,096) 13 bit x 12 bit (8,192 x 4,096) 14 bit x 12 bit (16,384 x 4,096)
Programmable	-	14 bit x 12 bit (16,384 x 4,096)
Error limits G	0.35° (at 20 °C) [1]	
Repeatability standard deviation σ_r	0.2° (at 20 °C) [2]	

[1] In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

[2] In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

Interfaces

	Singleturn	Multiturn
Communication interface	SSI	
Process data	Position	
Parameterising data	Number of steps per revolution PRESET Counting direction Code type Shifting of position bits Position error bit SSI mode	Number of steps per revolution Resolution Number of revolutions PRESET Counting direction Code type Shifting of position bits Position error bit Round axis functionality SSI mode
Initialization time	100 ms [1]	
Position forming time	125 µs	
SSI		

[1] Valid positional data can be read once this time has elapsed.

[2] Minimum, LOW level (Clock +): 500 ns.

	Singleturn	Multiturn
Code type	Gray (non-programmable encoder) Gray, binary (programmable encoder)	
Code sequence parameter adjustable	CW/CCW configurable via cable (non-programmable encoder) CW/CCW configurable via programming tool or cable (programmable encoder)	
Clock frequency	2 MHz [2]	
Set (electronic adjustment)	H-active (L = 0 - 3 V, H = 4,0 - Us V)	
CW/CCW (counting sequence when turning)	L-active (L = 0 - 1 V, H = 2,0 - Us V)	

[1] Valid positional data can be read once this time has elapsed.

[2] Minimum, LOW level (Clock +): 500 ns.

Electrical data

Connection type	Male connector, M12, 8-pin, universal Cable, 8-wire, universal, 0.5 m Cable, 8-wire, universal, 1.5 m Cable, 8-wire, universal, 3 m Cable, 8-wire, universal, 5 m
Supply voltage range	4.5 V DC ... 32 V DC
Power consumption	≤ 1.5 W (without load)
Reverse polarity protection	✔
MTTFd: mean time to dangerous failure	230 years (EN ISO 13849-1) [1]

[1] 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.

Mechanical data

Shaft diameter	
Solid shaft, face mount flange	6 mm x 12 mm 10 mm x 12 mm 8 mm x 12 mm 3/8" x 12 mm 10 mm x 24 mm [1] 1/4" x 12 mm
Solid shaft, Servo flange	6 mm x 12 mm 8 mm x 12 mm 10 mm x 12 mm 1/4" x 12 mm 3/8" x 12 mm 6 mm x 12 mm [2]
Blind hollow shaft	6 mm 8 mm 10 mm 3/8" 1/4"
Weight	0.2 kg [3]
Shaft material	Stainless steel
Flange material	Stainless steel
Material, stator coupling	Stainless steel
Housing material	Stainless steel
Material, cable	PUR
Start up torque	1 Ncm

[1] For use with the adapters 2072298 and 2072295.

[2] For adapting to 1.25 m Ecoline wire draw mechanism; only available for multiturn variants.

[3] Relates to devices with male connector connection.

[4] Self warming of 3.5 K per 1000 revolutions/min when applying note working temperature range.

Operating torque	< 1 Ncm
Permissible shaft movement, static (for hollow shafts only)	± 0.3 mm (radial) ± 0.3 mm (axial)
Permissible shaft movement, dynamic (for hollow shafts only)	± 0.1 mm (radial) ± 0.1 mm (axial)
Permissible shaft movement (for solid shafts only)	40 N / radial 20 N / axial
Moment of inertia of the rotor	
Solid shaft, face mount flange	2.5 gcm^2
Solid shaft, Servo flange	2.5 gcm^2
Blind hollow shaft	23 gcm^2
Bearing lifetime	
Solid shaft, face mount flange	3.6 x 10^8 revolutions
Solid shaft, Servo flange	3.6 x 10^8 revolutions
Blind hollow shaft	2.0 x 10^9 revolutions
Angular acceleration	≤ 500,000 rad/s^2
Operating speed	≤ 6,000 min[1] [4]

[1] For use with the adapters 2072298 and 2072295.

[2] For adapting to 1.25 m Ecoline wire draw mechanism; only available for multiturn variants.

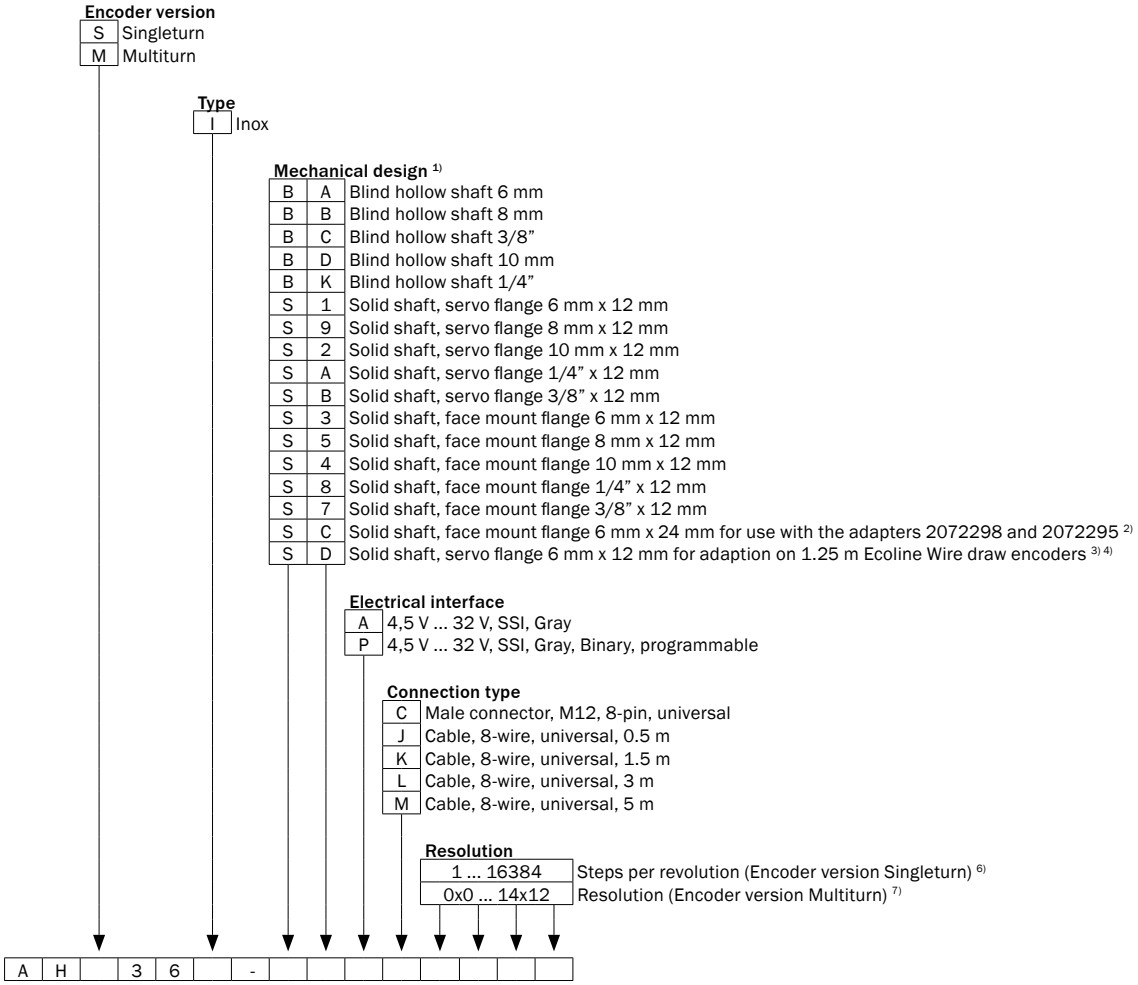
[3] Relates to devices with male connector connection.

[4] Self warming of 3.5 K per 1000 revolutions/min when applying note working temperature range.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP67 (according to IEC 60529) IP69K (according to IEC 60529)
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	–40 °C ... +100 °C
Storage temperature range	–40 °C ... +100 °C, without package
Resistance to shocks	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)

Type code



1) Flange adapters can be used for additional mechanical interfaces, see mounting suggestions.

2) Permissible load capacity of shaft lower than specified in technical data

3) Only for encoder version multiturn.

4) Enclosure rating always IP65 on shaft side

5) NRTL certification is only valid for working temperature of - 40 ° C to + 85 ° C.

6) See table “steps per revolution”. Programmable: steps per revolution programmable via programming tool.

7) See table “resolution”. Programmable: resolution programmable via programming tool.

Steps per revolution

	AHS36I/AHM36I
Non programmable	00256
	00360
	00512
	00720
	01024
	02048
	03600
	04096
	08192
	16384
Programmable	00001 ... 16384

Resolution

	AHS36I/AHM36I
Non programmable	08x12
	09x12
	10x12
	11x12
	12x12
	13x12
	14x12
Programmable	00x00 ... 14x12

Ordering information

Solid shaft, face mount flange

Model	Shaft diameter	Wave length	Connection type	Steps per Revolution max.	Resolution max.	Program-mable	Type	Part no.
Multiturn	1/4”	12 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S8PC014x12	1099368
	10 mm	12 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S4PC014x12	1099367
		24 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-SCPC014x12	1099370
	3/8”	12 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	-	AHM36I-S7AC008x12	1099369
			Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S3PC014x12	1099365
	8 mm	12 mm	Male connector, M12, 5-pin, universal	-	14 bit (12 bit), 4,096	✔	AHM36I-S5PC014x12	1099366
Singleturn	6 mm	12 mm	Male connector, M12, 5-pin, universal	720	-	-	AHS36I-S3AC000720	1099391
	10 mm	12 mm	Male connector, M12, 5-pin, universal	2,048 (11 Bit)	-	-	AHS36I-S4AC002048	1099393
	8 mm	12 mm	Male connector, M12, 5-pin, universal	3,600	-	-	AHS36I-S5AC003600	1099394

Solid shaft, Servo flange

- **Wave length:** 12 mm

Model	Shaft diameter	Connection type	Steps per Revolution max.	Resolution max.	Programmable	Type	Part no.
Multiturn	1/4”	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-SAPC014x12	1099363
	10 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S2PC014x12	1099362
	3/8”	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-SBPC014x12	1099364
	6 mm	Cable, 5-wire, universal, 0.5 m	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S1PJ014x12	1099382
		Cable, 5-wire, universal, 1.5 m	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S1PK014x12	1099383
		Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S1PC014x12	1099360
						AHM36I-SDPC013x12	1099371
	8 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-S9PC014x12	1099361
Singleturn	6 mm	Male connector, M12, 5-pin, universal	512 (9 bit)	-	-	AHS36I-S1AC000512	1099390
	6 mm	Male connector, M12, 5-pin, universal	8,192 (13 Bit)	-	-	AHS36I-S1AC008192	1099396
	6 mm	Cable, 5-wire, universal, 0.5 m	16,384 (14 Bit)	-	✔	AHS36I-S1PJ016384	1099387

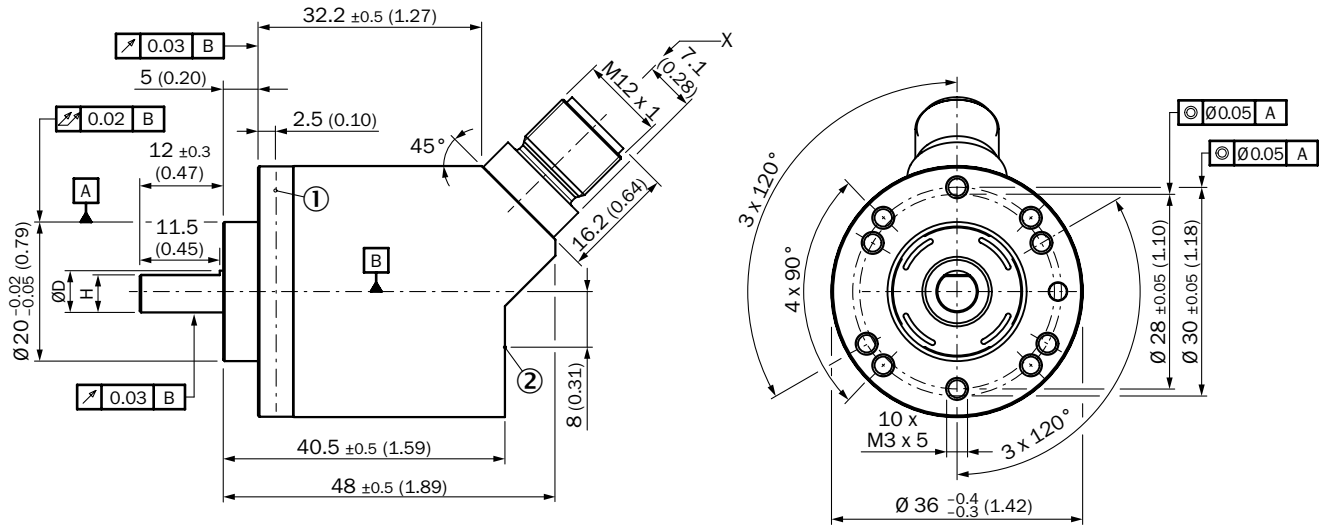
8024135/2019-08-02

Blind hollow shaft

Model	Shaft diameter	Connection type	Steps per Revolution max.	Resolution max.	Programmable	Type	Part no.
Multiturn	1/4"	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BKPC014x12	1099359
	10 mm	Cable, 5-wire, universal, 0.5 m	-	12 bit x 12 bit (4,096 x 4,096)	-	AHM36I-BDAJ012x12	1099376
		Cable, 5-wire, universal, 1.5 m	-	13 bit x 12 bit (8,192 x 4,096)	-	AHM36I-BDAK013x12	1099377
		Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BDPC014x12	1099358
	3/8"	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BCPC014x12	1099357
	6 mm	Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BAPC014x12	1099355
	8 mm	Cable, 5-wire, universal, 0.5 m	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BBPJ014x12	1099372
		Cable, 5-wire, universal, 1.5 m	-	09 bit x 12 bit (512 x 4,096)	-	AHM36I-BBAK009x12	1099373
		Cable, 5-wire, universal, 3 m	-	10 bit x 12 bit (1,024 x 4,096)	-	AHM36I-BBAL010x12	1099374
		Cable, 5-wire, universal, 5 m	-	11 bit x 12 bit (2,048 x 4,096)	-	AHM36I-BBAM011x12	1099375
		Male connector, M12, 5-pin, universal	-	14 bit x 12 bit (16,384 x 4,096)	✔	AHM36I-BBPC014x12	1099356
Singleturn	6 mm	Male connector, M12, 5-pin, universal	4,096 (12 bit)	-		AHS36I-BAAC004096	1099395
	8 mm	Male connector, M12, 5-pin, universal	360	-		AHS36I-BBAC000360	1099389
	10 mm	Male connector, M12, 5-pin, universal	256 (8 Bit)	-		AHS36I-BDAC000256	1099388
		Male connector, M12, 5-pin, universal	1,024 (10 Bit)	-		AHS36I-BDAC001024	1099392
	8 mm	Cable, 5-wire, universal, 0.5 m	16,384 (14 Bit)	-		AHS36I-BBPJ016384	1099384
	10 mm	Cable, 5-wire, universal, 0.5 m	16,384 (14 Bit)	-		AHS36I-BDPJ016384	1099385

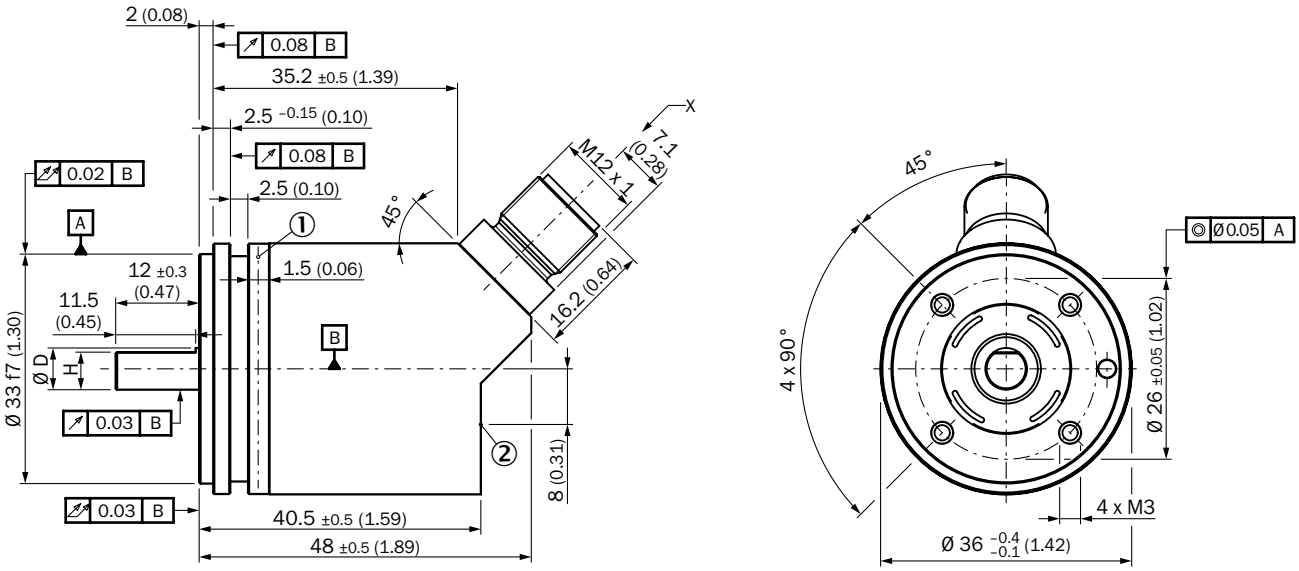
Dimensional drawings (Dimensions in mm (inch))

Solid shaft, face mount flange, connector outlet



Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

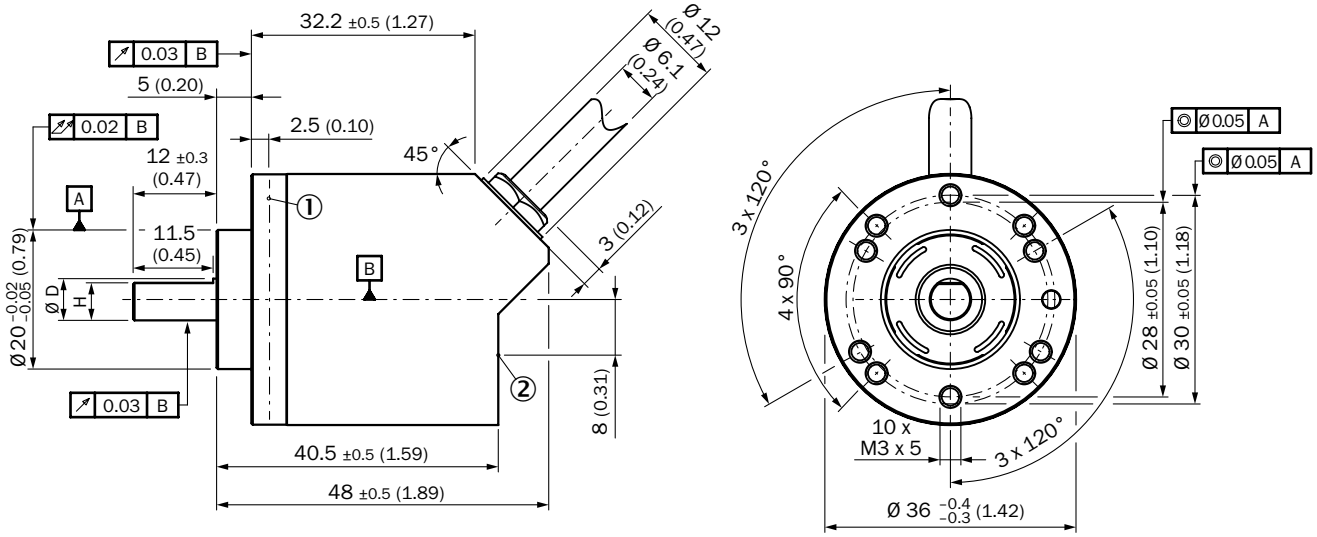
Solid shaft, servo flange, male connector



Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

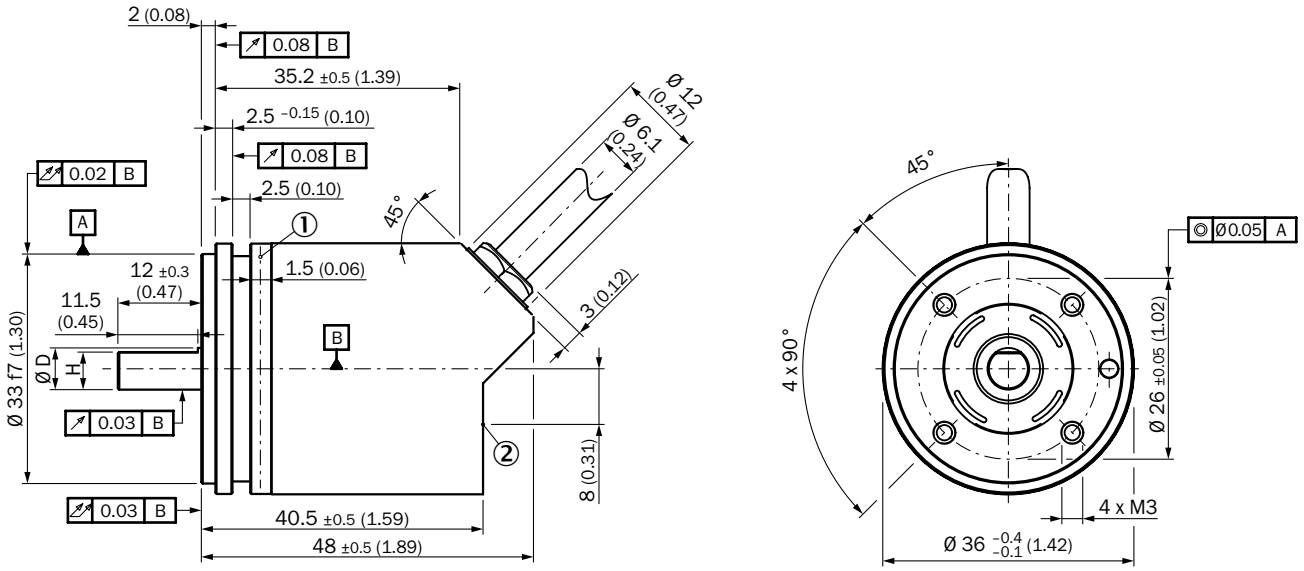
8024135/2019-08-02
Subject to change without notice

Solid shaft, face mount flange, cable outlet



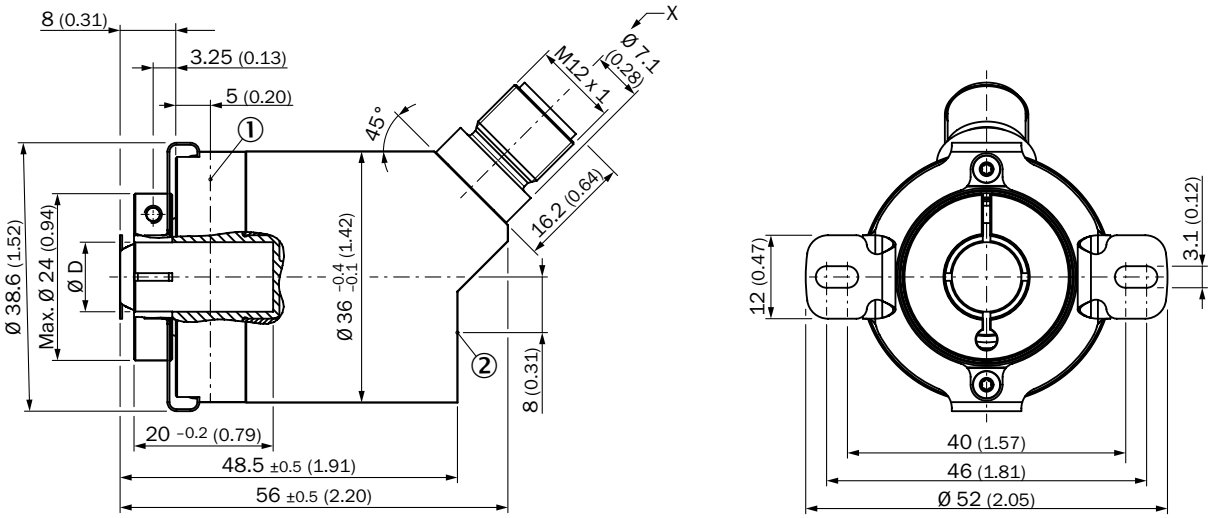
Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

Solid shaft, servo flange, cable outlet



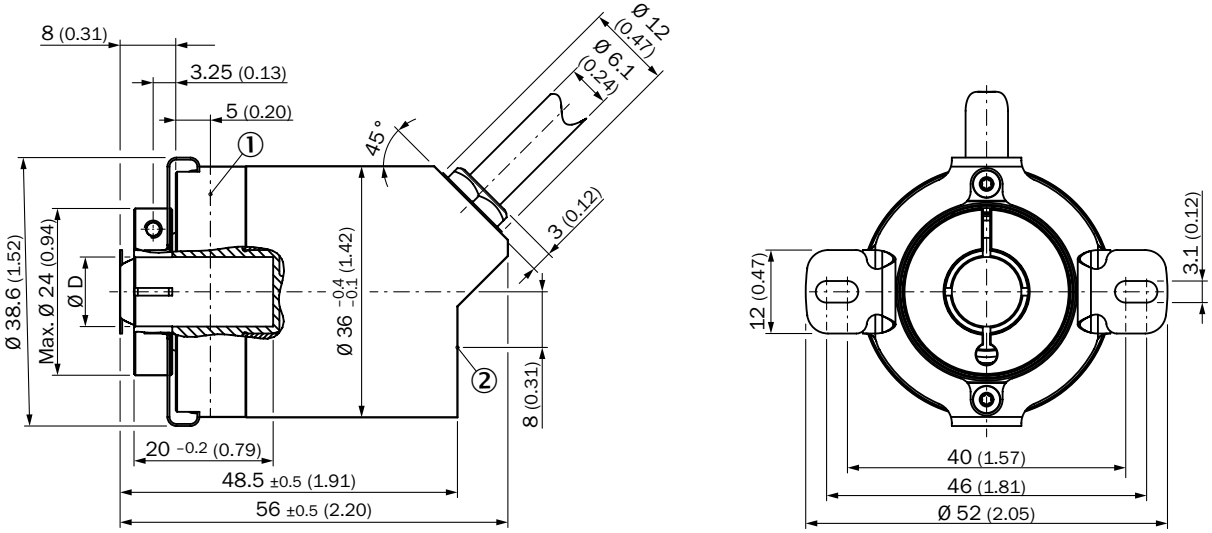
Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

Blind hollow shaft, male connector connection



Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

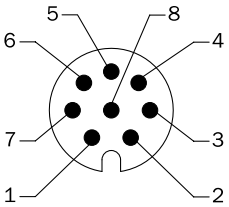
Blind hollow shaft, cable outlet



Non-tolerated dimensions according to DIN-ISO 2768-mk
① Measuring point for operating temperature
② Measuring point for vibrations

PIN assignment

Male connector M12 of the encoder



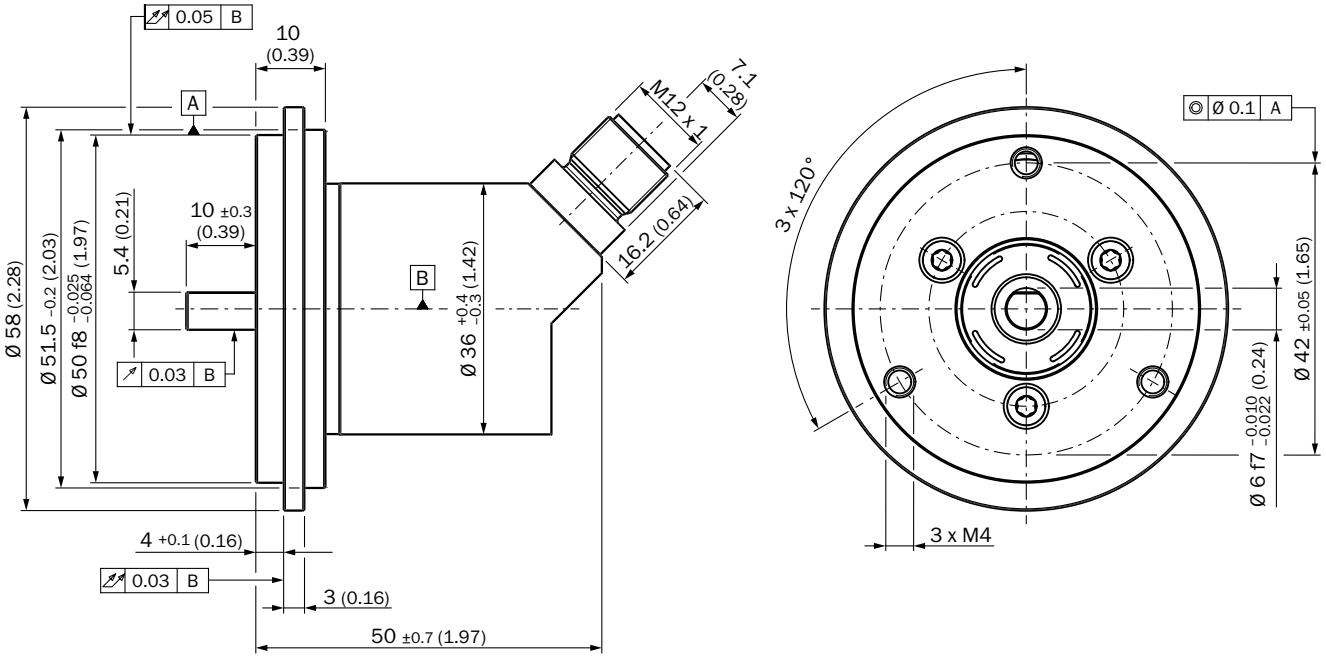
PIN, 8-pin, M12 male connector	Wire colors, cable outlet	Signal	Explanation
1	Brown	Data-	Interface signals
2	White	Data+	Interface signals
3	Black	V/$\overline{R}$	Sequence for direction of rotation
4	Pink	SET	Electronic adjustment
5	Yellow	Clock+	Interface signals
6	Lilac	Clock–	Interface signals
7	Blue	GND	Ground connection
8	Red	+US	Operating voltage
Screen	Screen	Screen	Screen connected to housing on encoder side. Connected to ground on control side.

V/$\overline{R}$ Forwards / Reverse: This input programs the counting direction for the encoder. When it is not connected, this input is set to HIGH. If the encoder shaft is rotated clockwise (to the right) as viewed when facing the shaft, it counts in ascending order. If it should count in ascending order when the shaft is rotated counterclockwise (to the left), then this connection must be permanently set to LOW level (GND).

SET This input is for electronic zeroing. If the SET cable is set to US for more than 250 ms, the mechanical position corresponds to the 0 value, i. e., the predetermined SET value.

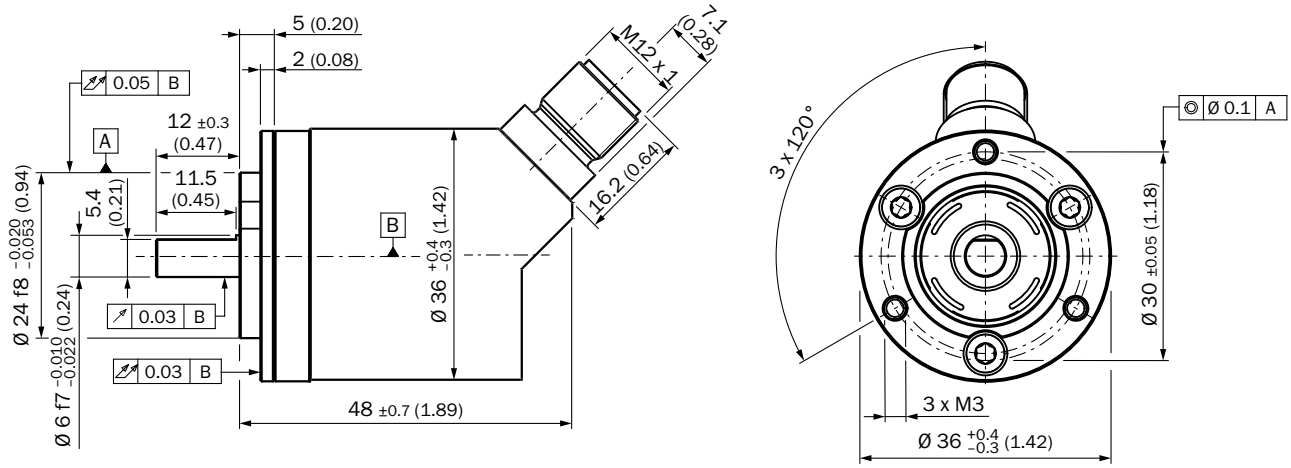
Proposed fitting

Solid shaft, face mount flange with flange adapter, centering collar D20 on D50 (BEF-FA-020-050-I, 2103985)



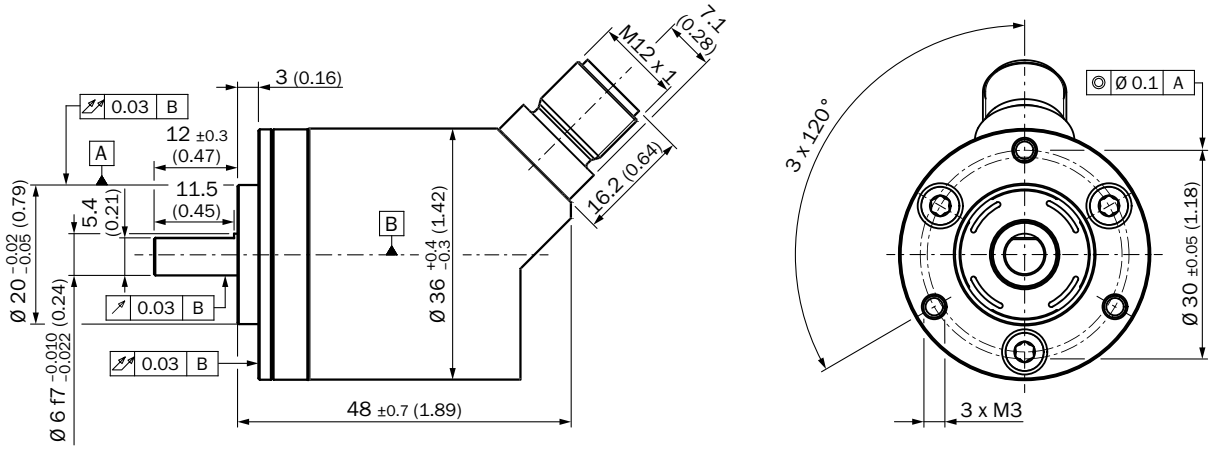
Order example for 6 mm shaft diameter: AHx36I-S3xx0xxxxx + BEF-FA-020-050-I (adapter is not pre-assembled)

Solid shaft, face mount flange with flange adapter, centering collar D20 on D24 (BEF-FA-020-024-I, 2103982)



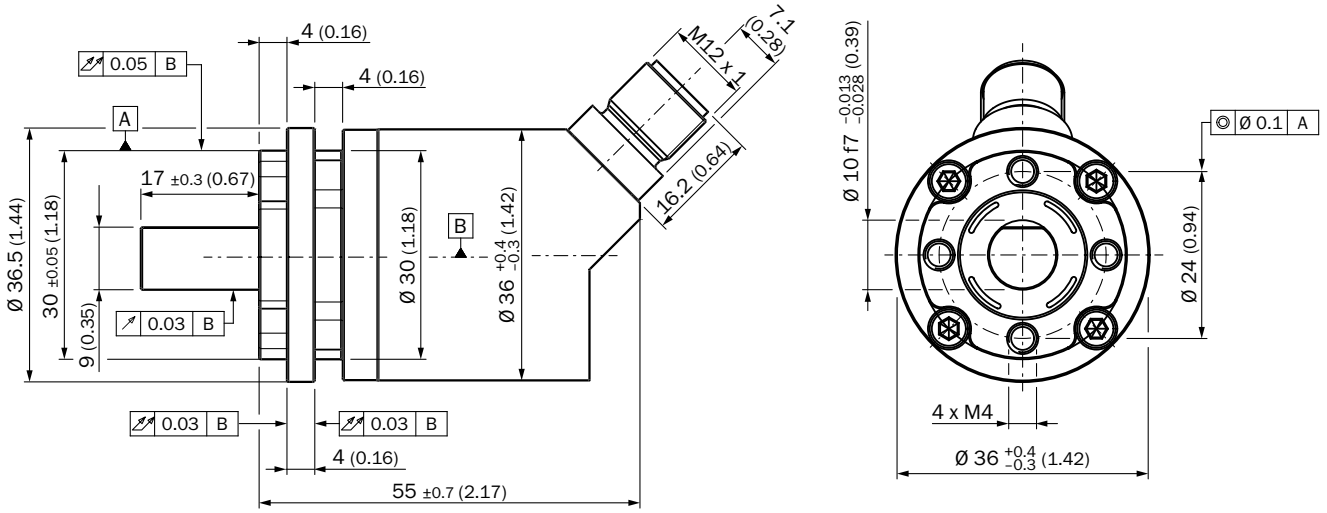
Order example for 6 mm shaft diameter: AHx36I-S3xx0xxxxx + BEF-FA-020-024-I (adapter is not pre-assembled)

Solid shaft, face mount flange with flange adapter, centering collar D20 on D36, 2 mm high (BEF-FA-020-036-2-I, 2103984)



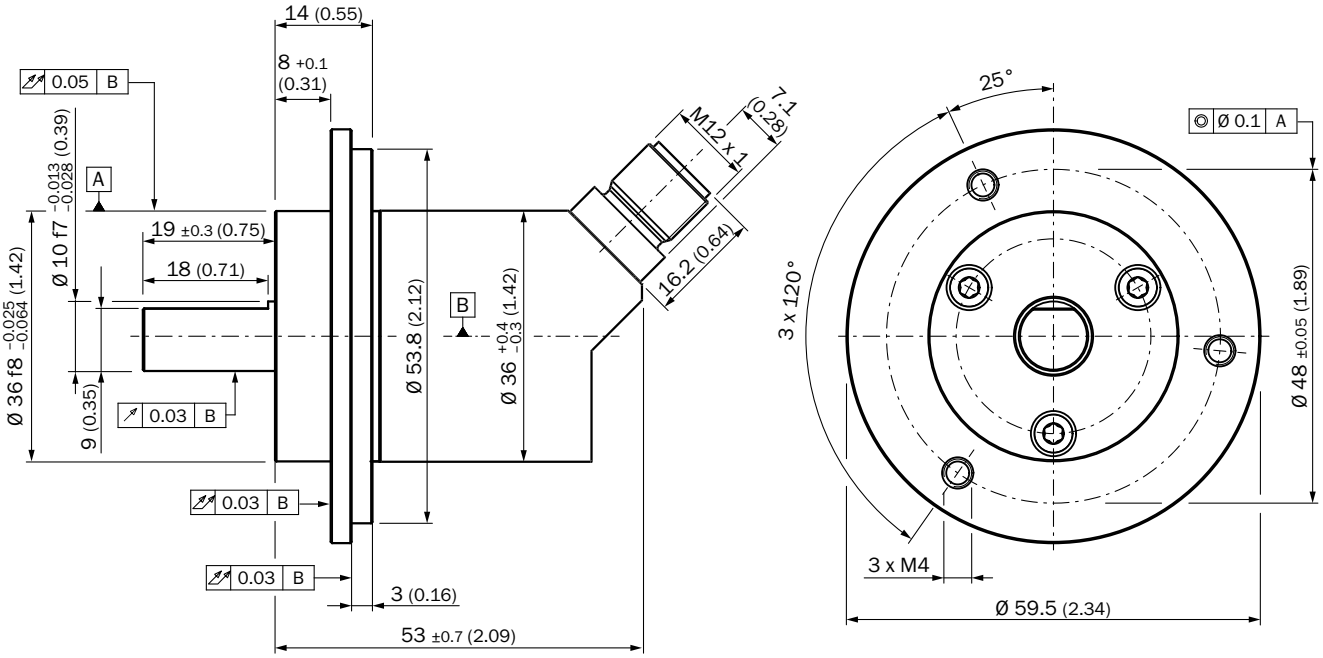
Order example for 6 mm shaft diameter: AHx36I-S3xx0xxxxx + BEF-FA-020-036-2-I (adapter is not pre-assembled)

Solid shaft, face mount flange with flange adapter, centering collar D20 on D30 (BEF-FA-020-030-I, 2103983)



Order example for 10 mm shaft diameter: AHx36I-SCxx0xxxxx + BEF-FA-020-030-I (adapter is not pre-assembled)

Solid shaft, face mount flange with flange adapter, centering collar D20 on D36 (BEF-FA-020-036-I, 2103986)



Order example for 10 mm shaft diameter: AHx36I-SCxx0xxxxx + BEF-FA-020-036-I (adapter is not pre-assembled)

8024135/2019-08-02

Accessories

Mounting systems

Flanges

Flange plates

Figure	Brief description	Type	Part no.
	Stator coupling on hole circle 63 mm	BEF-DS08	2072206
	Flange adapter centering collar D20 on D24, material: stainless steel	BEF-FA-020-024-I	2103982
	Flange adapter centering collar D20 on D30, material: stainless steel, stainless steel	BEF-FA-020-030-I	2103983
	Flange adapter centering collar D20 on D36, 2 mm high, material: stainless steel, stainless steel	BEF-FA-020-036-2-I	2103984
	Flange adapter centering collar D20 on D36, material: stainless steel, stainless steel	BEF-FA-020-036-I	2103986
	Flange adapter centering collar D20 on D50, material: stainless steel, stainless steel	BEF-FA-020-050-I	2103985

Dimensional drawings ➜ page 20

Mounting brackets and plates

Mounting brackets

Figure	Brief description	Type	Part no.
	Mounting bracket for encoder with centering hub 20 mm, including mounting kit for face mount flange, mounting kit for face mount flange included	BEF-WF-20	2066393

Dimensional drawings ➜ page 24

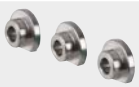
Other mounting accessories

Measuring wheels and measuring wheel systems

Figure	Brief description	Type	Part no.
	Aluminium measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 200 mm	BEF-MR006020R	2055222
	Measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 300 mm	BEF-MR006030R	2055634
	O-ring for measuring wheels (circumference 200 mm)	BEF-OR-053-040	2064061
	O-ring for measuring wheels (circumference 300 mm)	BEF-OR-083-050	2064076

Dimensional drawings ➜ page 24

Servo clamps

Figure	Brief description	Type	Part no.
	Servo clamps, small, for servo flange (clamping claws, mounting eccentric), 3 pcs, without mounting hardware, without mounting hardware	BEF-WK-RESOL	2039082

Dimensional drawings ➜ page 24

Shaft adaptation

Shaft couplings

Figure	Brief description	Type	Part no.
	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 °C to +120 °C, max. torque 80 Ncm; material: stainless steel bellows, aluminum hub	KUP-0606-B	5312981
	Double-loop coupling, shaft diameter 6 mm / 6 mm, maximum shaft offset: radial ± 2.5 mm, axial ± 3 mm, angular ± 10°; max. speed 3,000 rpm, –30 °C to +80 °C, max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-0606-D	5340152
	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 80 Ncm; material: stainless steel bellows, aluminum hub	KUP-0610-B	5312982
	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	KUP-0610-D	5326697
	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
	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	KUP-0810-D	5326704
	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 80 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1010-B	5312983
	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	KUP-1010-D	5326703
	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
	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 80 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1012-B	5312984
	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	KUP-1012-D	5326702

Dimensional drawings ➜ page 24

Connection systems

Plug connectors and cables

Cables (ready to assemble)

Figure	Brief description	Type	Part no.
	Head A: cable Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 4 x 2 x 0.15 mm², 7.8 mm	LTG-2308-MWENC	6027529
	Head A: cable Head B: Flying leads Cable: SSI, TTL, HTL, PUR, halogen-free, shielded, 4 x 2 x 0.25 mm² + 2 x 0.5 mm² + 2 x 0.14 mm², 7.8 mm, UV and saltwater-resistant	LTG-2612-MW	6028516

8024135/2019-08-02
Subject to change without notice

Connecting cables

Figure	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 4 x 2 x 0.25 mm², 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

Dimensional drawings ➜ page 25

Connection cables

Figure	Brief description	Length of cable	Type	Part no.
	Head A: female connector, terminal box, 8-pin, straight Head B: male connector, D-Sub, 9-pin, straight Cable: Incremental, PVC, shielded	0.5 m	DSL-0D08-G0M5AC3	2061739
	Head A: female connector, M12, 8-pin, straight Head B: male connector, D-Sub, 9-pin, straight Cable: SSI, PUR, halogen-free, shielded, 4 x 2 x 0.15 mm²	0.5 m	DSL-2D08-G0M5AC2	2048439

Field-attachable connectors

Figure	Brief description	Type	Part no.
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: - Cable: shielded	YF12ES8-0050S5586A	2097334
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: - Cable: shielded	YM12ES8-0050S5586A	2097337

Dimensional drawings ➜ page 25

Further accessories

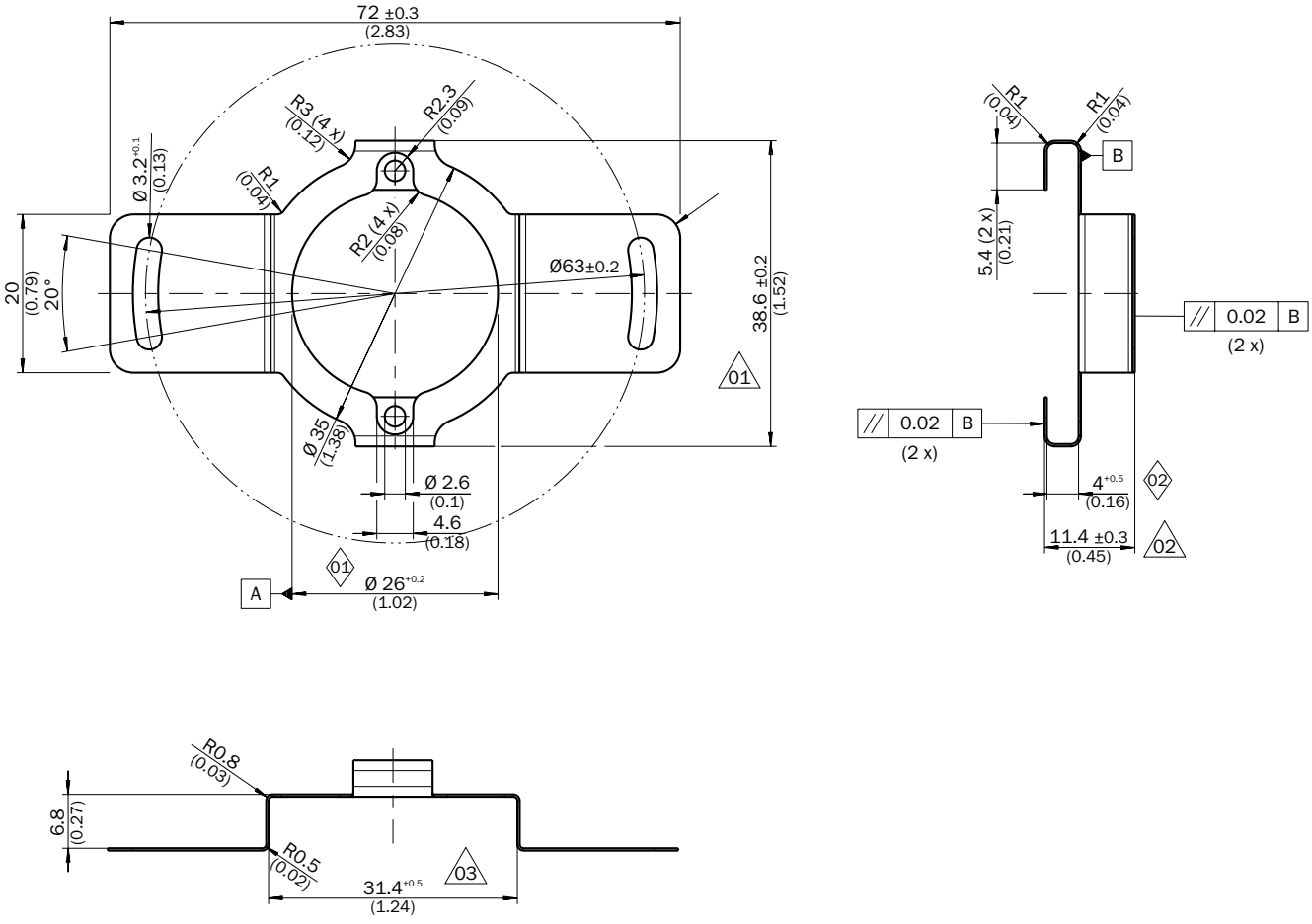
Programming and configuration tools

Figure	Brief description	Type	Part no.
	USB programming unit, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders	PGT-08-S	1036616
	Programming unit display for programmable SICK DFS60, DFV60, AFS/AFM60, AHS/AHM36 encoders, and wire draw encoder with DFS60, AFS/AFM60 and AHS/AHM36. Compact dimensions, low weight, and intuitive operation.	PGT-10-Pro	1072254

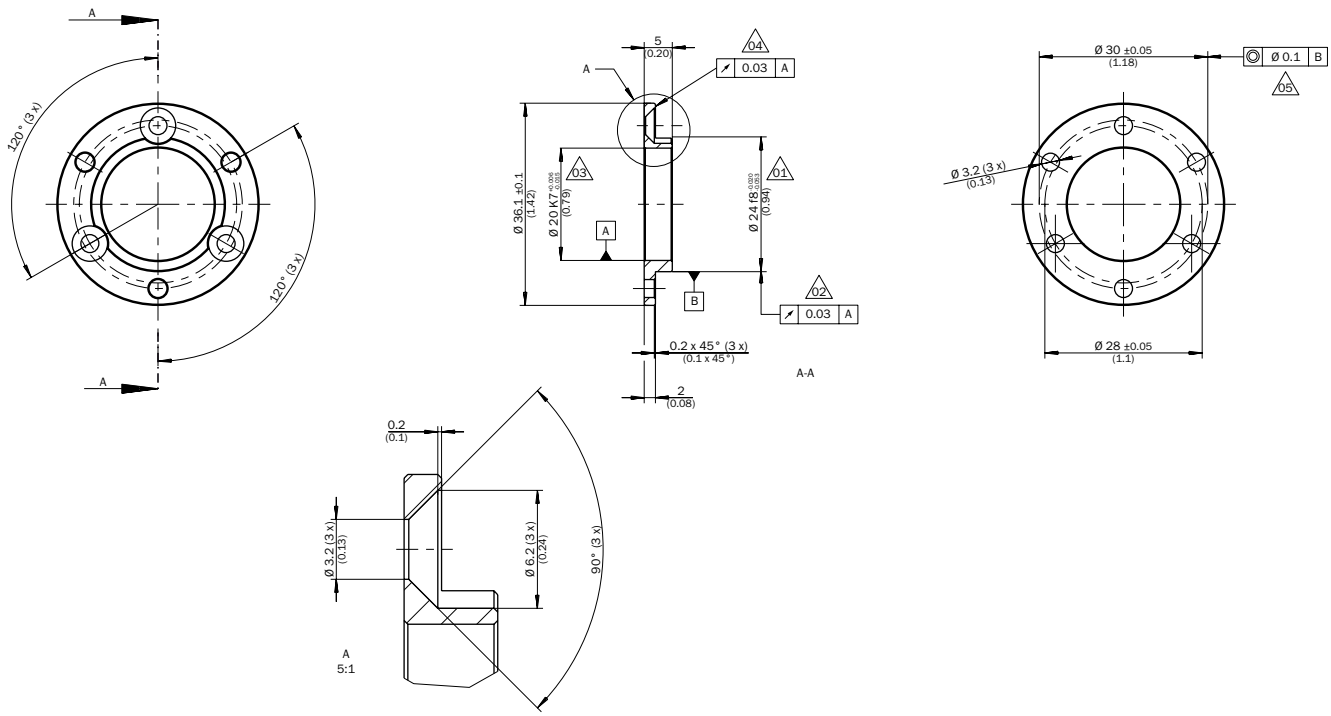
Dimensional drawings for accessories (Dimensions in mm (inch))

Flanges

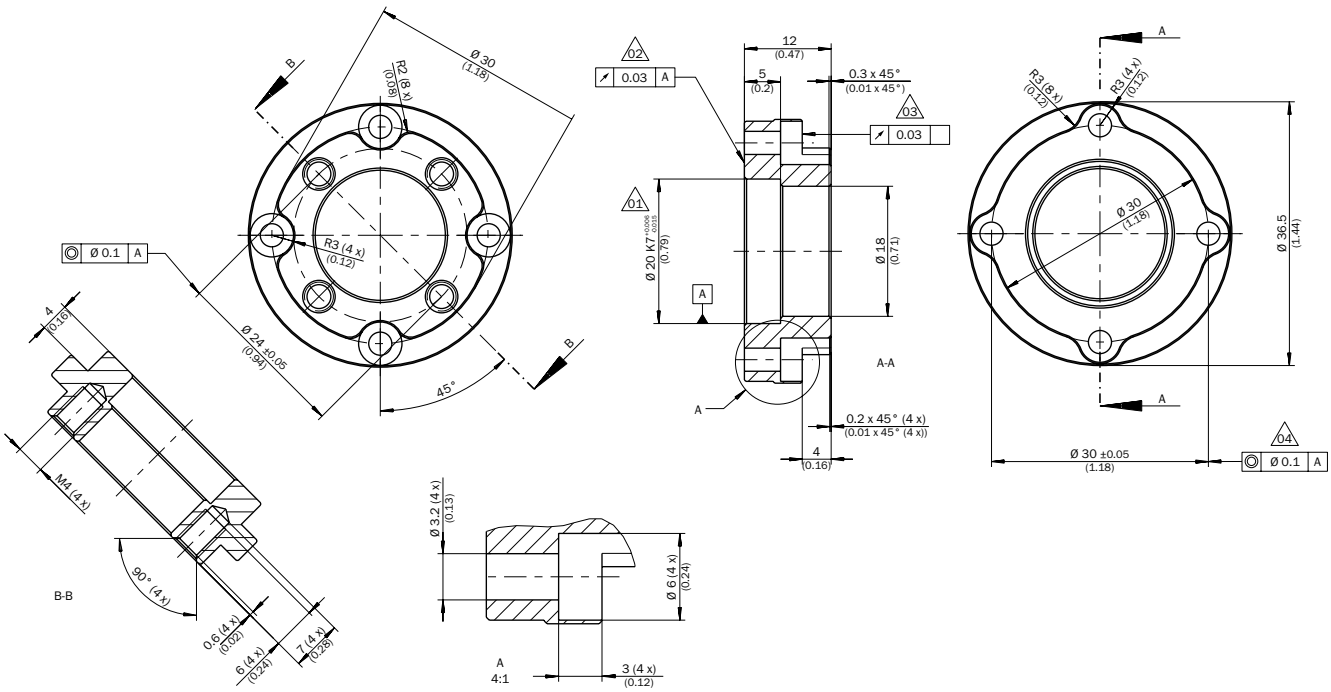
BEF-DS08



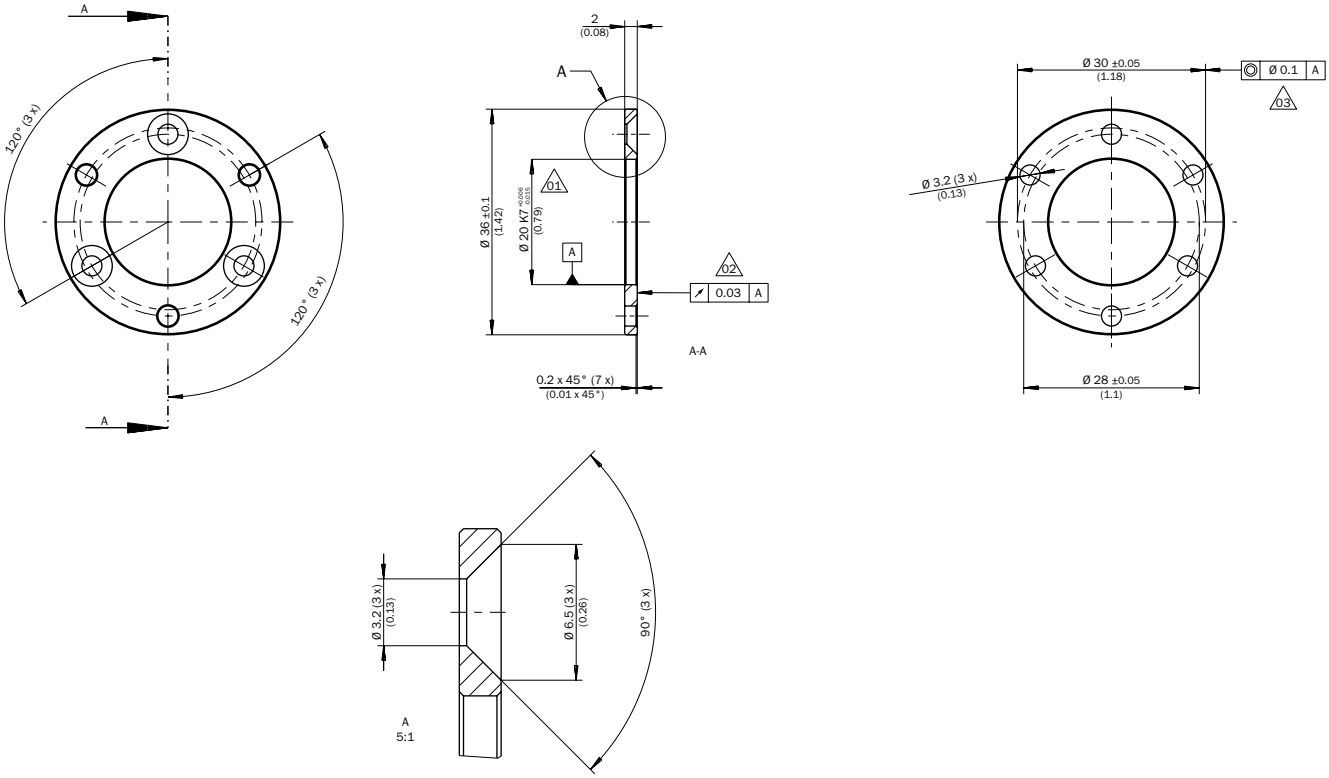
BEF-FA-020-024-I



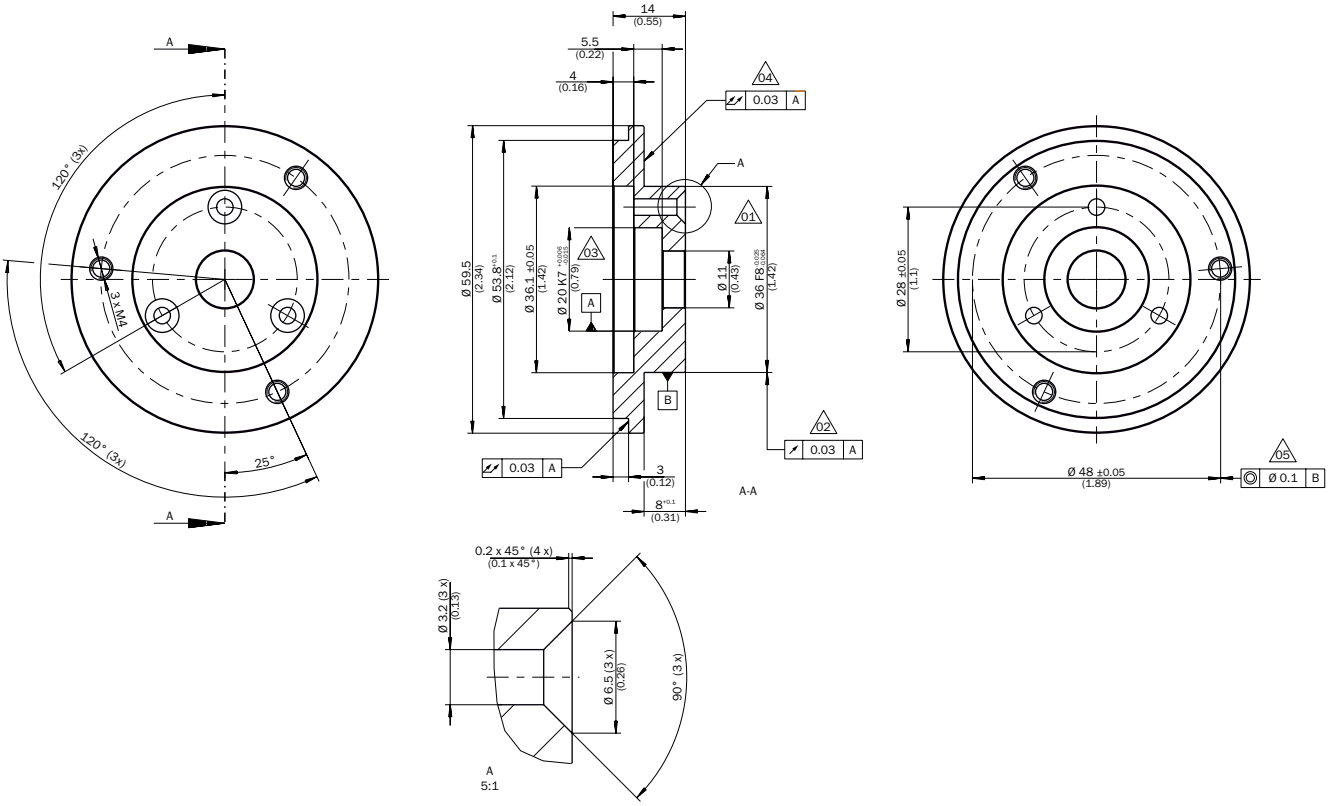
BEF-FA-020-030-I



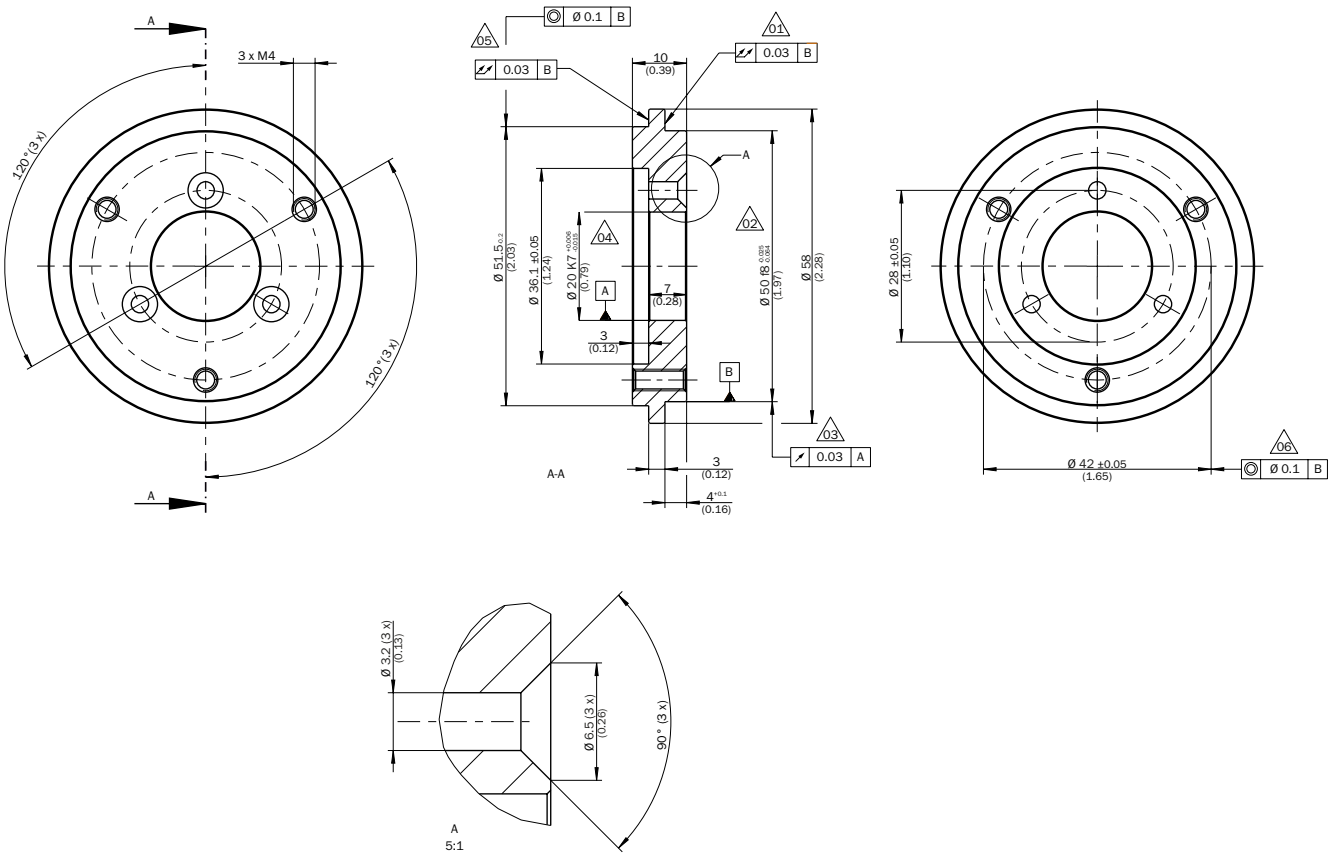
BEF-FA-020-036-2-I



BEF-FA-020-036-I

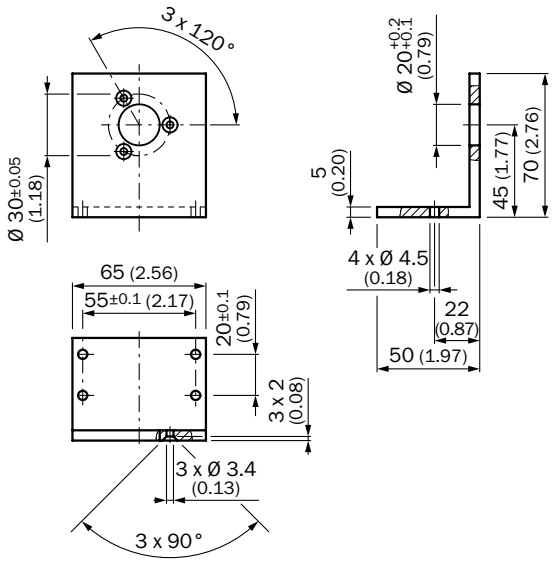


BEF-FA-020-050-I



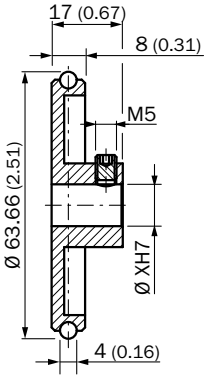
Mounting brackets and plates

BEF-WF-20

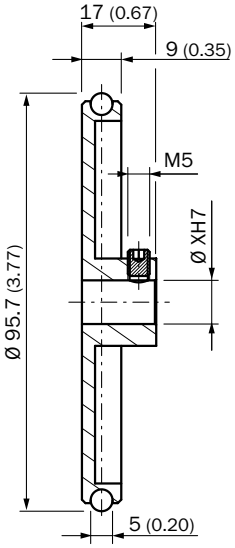


Other mounting accessories

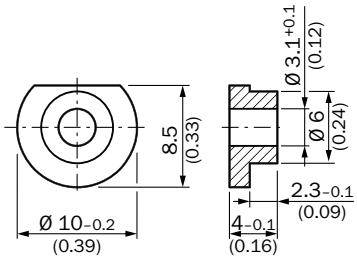
BEF-MR006020R



BEF-MR006030R

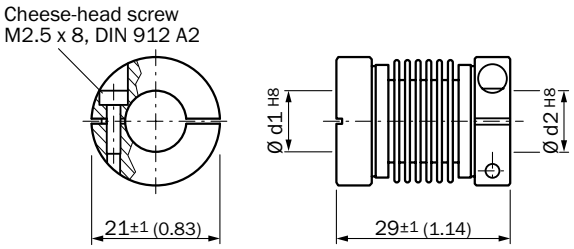


BEF-WK-RESOL

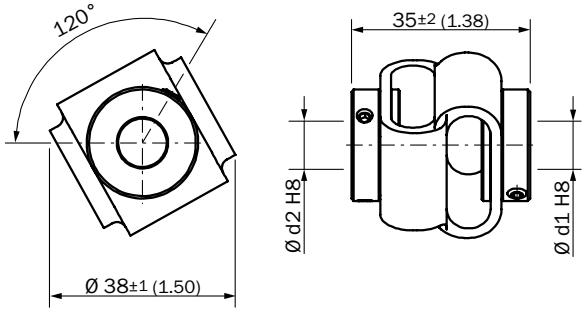


Shaft adaptation

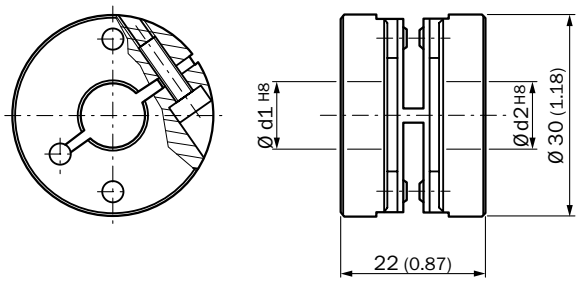
KUP-xxxx-B



KUP-xxxx-D



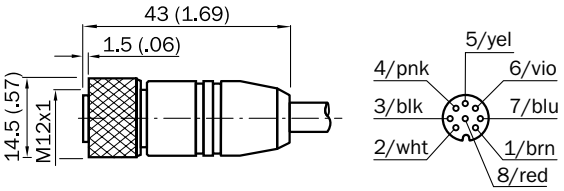
KUP-xx10-F



8024135/2019-08-02

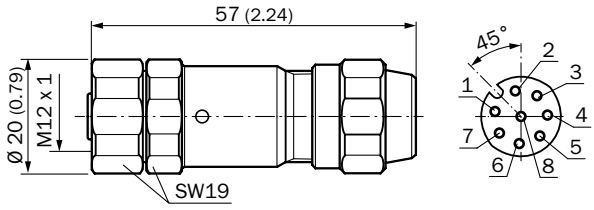
Plug connectors and cables

DOL-1208-GxxMAC1

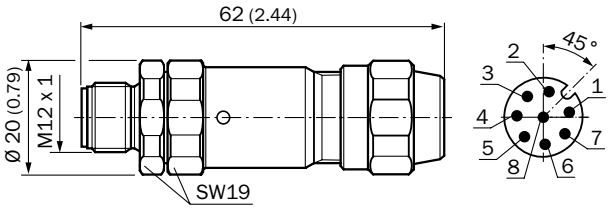


All dimensions in mm (inch)

YF12ES8-0050S5586A



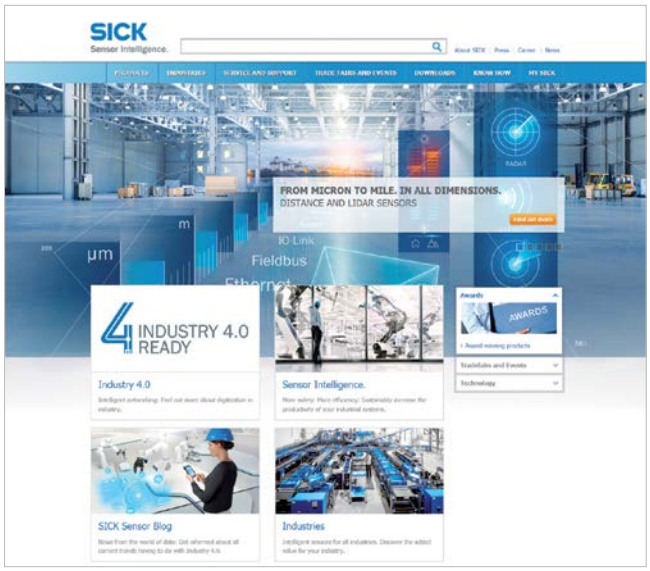
YM12ES8-0050S5586A



8024135/2019-08-02

REGISTER AT WWW.SICK.COM TO TAKE ADVANTAGE OF OUR FOLLOWING SERVICES FOR YOU

- ☑ Access information on net prices and individual discounts.
- ☑ Easily order online and track your delivery.
- ☑ Check your history of all your orders and quotes.
- ☑ Create, save, and share as many wish lists as you want.
- ☑ Use the direct order to quickly order a big amount of products.
- ☑ Check the status of your orders and quotes and get information on status changes by e-mail.
- ☑ Save time by using past orders.
- ☑ Easily export orders and quotes, suited to your systems.



SERVICES FOR MACHINES AND PLANTS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.

Consulting and design
Safe and professional

Product and system support
Reliable, fast, and on-site

Verification and optimization
Safe and regularly inspected

Upgrade and retrofits
Easy, safe, and economical

Training and education
Practical, focused, and professional

8024135/2019-08-02 · LF_07 · Pre USmod en48

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is "Sensor Intelligence."

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com

SICK
Sensor Intelligence.