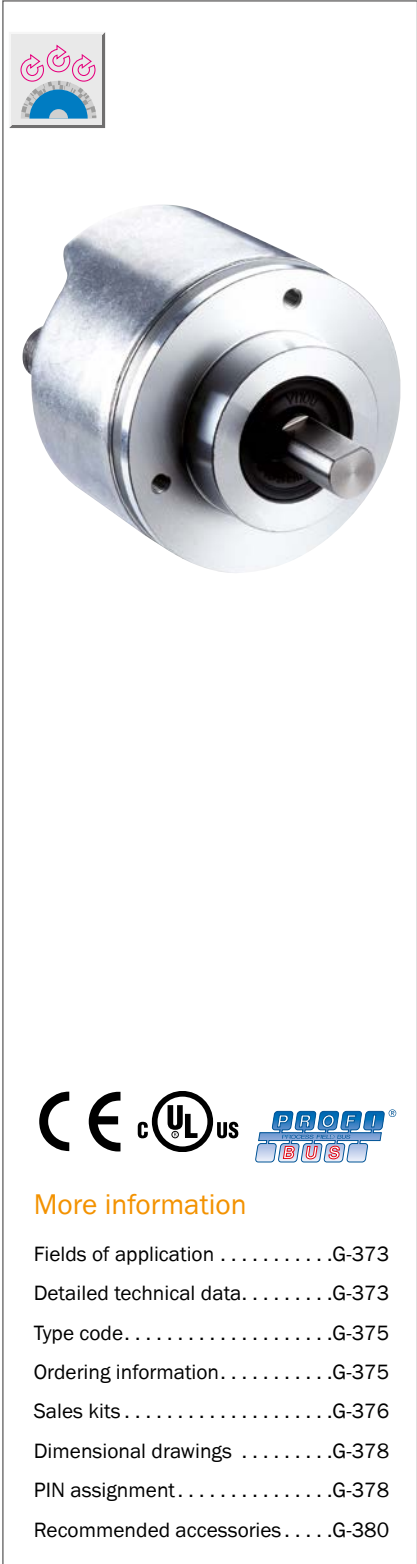


# COMPACT, RUGGED, POWERFUL



### Product description

The A3M60 PROFIBUS is an extremely rugged absolute multiturn encoder with a 60 mm housing. Maximum reliability even in the harshest of ambient conditions is attained by means of magnetic scanning, both with singleturn and multiturn detection. New singleturn technology combines the durability of a magnetic sensor with high resolutions, previously only possible with optical systems. The innovative gearless multiturn technology keeps the number of moving compo-

nents on the A3M60 to a minimum. This results in a longer service life with low maintenance costs and consequently, optimum system availability. The highly compact technology in single and multiturn detection provides the user a space-saving and cost-efficient solution. Together with the integrated PROFIBUS interface, the A3M60 is particularly suited for applications where installation space is tight

### At a glance

- Rugged absolute multiturn encoder with up to 31 bits (14-bit singleturn and 17-bit multiturn)
- Face mount flange, servo flange or blind hollow shaft
- Compact design (<70 mm)
- Integrated PROFIBUS interface with DP V0, V1, and V2 functionality (depending on type)
- Connectivity: 3 x M12 male connectors
- Protection class up to IP67
- Operating temperature: -30 to +80 °C (depending on type)

### Your benefits

- Maximum system availability, even under extreme ambient conditions
- Reduced maintenance costs due to wear-free magnetic singleturn and multiturn scanning
- Space-saving and cost-efficient design - the best solution, particularly when installation space is limited
- High productivity thanks to fast communication and position calculation
- Immune to contamination and condensation – ideal for tough ambient conditions
- High performance at a cost-efficient price



### More information

Fields of application . . . . .G-373  
 Detailed technical data . . . . .G-373  
 Type code . . . . .G-375  
 Ordering information . . . . .G-375  
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 PIN assignment . . . . .G-378  
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## Fields of application

- Measurement of absolute position in various machines and systems such as pallet handling machines, high-bay warehouses, cranes, presses, printing machines

## Detailed technical data

### Performance

	Basic	Advanced
Max. number of steps per revolution	8,192	16,384
Max. number of revolutions	8,192	131,072
Resolution	13 bit x 13 bit	14 bit x 17 bit
Error limits	± 0.5°, (at room temperature)	± 0.35°, (at room temperature)
Repeatability	± 0.25°, at room temperature	± 0.15°, at room temperature
Measuring step (360° / number of steps per revolution)	0.022°	
Initialization time	Approx. 1 s <sup>1)</sup>	

<sup>1)</sup> Corresponds to the amount of time that passes after connecting the supply voltage until the data word can be read in correctly.

### Interfaces

	Basic	Advanced
Electrical interface	PROFIBUS DP	
Bus interface	PROFIBUS (RS485)	
Data protocol	PROFIBUS DP V0	PROFIBUS DP V0 and DP V1 + V2
Data transmission rate (baud rate)	≤ 12 MBaud	
Bus termination	Through DIP switch or external resistor	
Status information	Through status LEDs	
SET (electronic adjustment)	Via PRESET pushbutton or protocol	
Configuration data	Number of steps per revolution, number of revolutions, PRESET, counting direction	Number of steps per revolution, number of revolutions, PRESET, counting direction, sampling rate for calculating position, unit for output of the speed value, round axis functionality
Available diagnostic data	-	Maximum speed, power-on counter, operating hours counter power-on/motion, counter of direction changes/number of movements cw/number of movements

### Electrical data

Operating voltage range	10 V ... 32 V
Power consumption max.	1.5 W
Reverse polarity protection	✓
MTTFd: mean time to dangerous failure	60 years (EN ISO 13849-1) <sup>1)</sup>

<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 devices, average ambient temperature 40 °C, frequency of use 8,760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

### Mechanical data

	Basic	Advanced
Shaft diameter		
Face mount flange	10 x 19 mm	
Servo flange	6 x 10 mm	
Blind hollow shaft	8, 10, 12, 14, 15 mm and 3/8", 1/2", 5/8"	
Shaft material	Stainless steel	

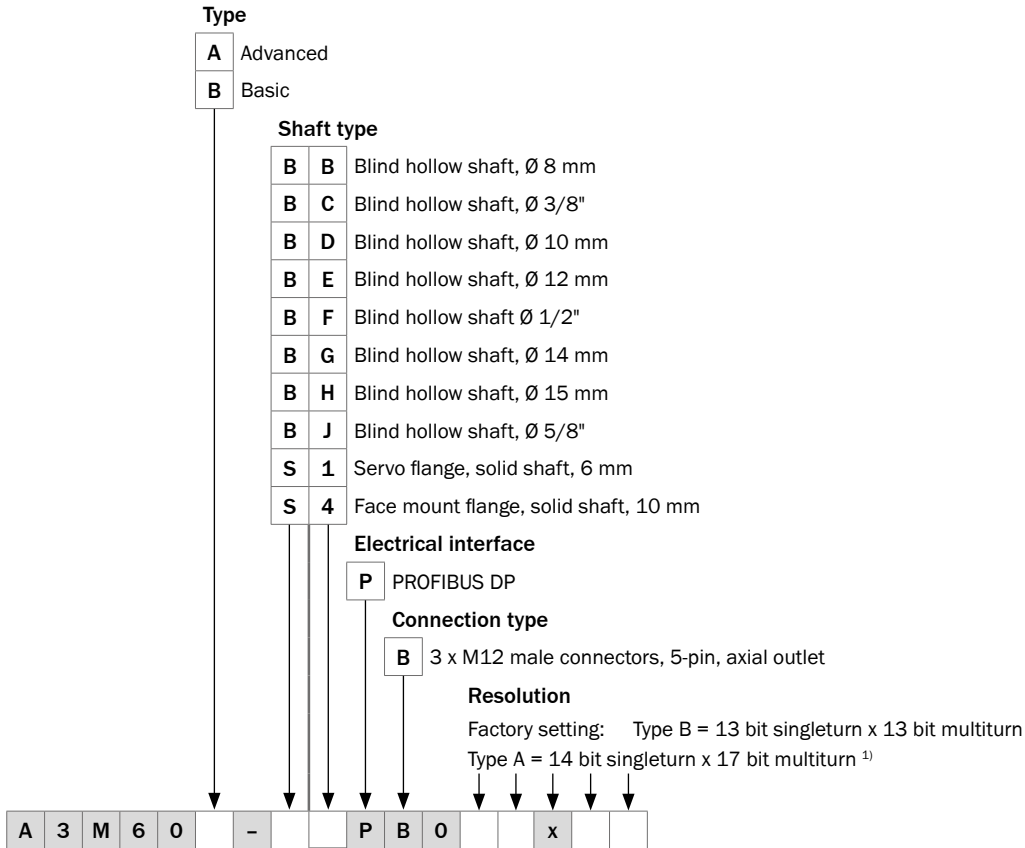
<b>Flange material</b>	Aluminum	
<b>Housing material</b>	Aluminum	
<b>Mass</b>		
Face mount flange, servo flange	0.28 kg	
Blind hollow shaft	0.28 kg	
<b>Start up torque at 20 °C</b>		
Face mount flange, servo flange	1 Ncm with shaft seal	
Blind hollow shaft	1 Ncm	2 Ncm
<b>Operating torque at 20 °C</b>		
Face mount flange, servo flange	0.8 Ncm	0.8 Ncm
Blind hollow shaft	0.8 Ncm	1.6 Ncm
<b>Permissible shaft loading</b>		
Face mount flange, servo flange	80 N radial 40 N axial	
<b>Permissible shaft movement of the drive element, static/dynamic</b>		
Blind hollow shaft	± 0.3/ ± 0.1 mm radial ± 0.5/ ± 0.2 mm axial	
<b>Max. angular acceleration</b>	≤ 500,000 rad/s <sup>2</sup>	
<b>Operating speed</b>		
Face mount flange, servo flange	6,000 rpm	9,000 rpm
Blind hollow shaft	6,000 rpm	9,000 rpm
<b>Self-warming at maximum speed</b>		
Face mount flange	30k	30k
Servo flange	15k	25k
Blind hollow shaft	45k	35k
<b>Rotor moment of inertia</b>		
Face mount flange, servo flange	11.4 gcm <sup>2</sup>	
Blind hollow shaft	20.8 gcm <sup>2</sup>	
<b>Bearing lifetime</b>	3 x 10 <sup>9</sup> revolutions	

## Ambient data

	Basic	Advanced
<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3	
<b>Enclosure rating (as per IEC 60529) <sup>1)</sup></b>	IP 67, housing IP 65, shaft	IP 67, housing IP 67, shaft
<b>Permissible relative humidity</b>	95% (condensation not permitted)	
<b>Operating temperature range</b>	-10 °C ... +70 °C	-30 °C ... +80 °C
<b>Storage temperature range</b>	-40 °C ... +100 °C	
<b>Resistance to shocks (according to EN 60068-2-27)</b>	100 g/6 ms	
<b>Resistance to vibration (according to EN 60068-2-6)</b>	30 g/10 Hz ... 2,000 Hz	

<sup>1)</sup> When mating connector is inserted.

Type code



<sup>1)</sup> Number of steps programmable via control unit: Type A = 2 to 262144.

Ordering information

Mechanical design/shaft diameter	Resolution	Type	Part no.
Solid shaft, face mount flange, Ø 10 mm, length 19 mm	8,192 x 8,192	A3M60B-S4PB013X13	1038826
Solid shaft, servo flange, Ø 6 mm, length 10 mm	8,192 x 8,192	A3M60B-S1PB013X13	1051018
Blind hollow shaft / 8 mm	8,192 x 8,192	A3M60B-BBPB013X13	1051016
Blind hollow shaft, / 10 mm	8,192 x 8,192	A3M60B-BDPB013X13	1038824
Blind hollow shaft, / 12 mm	8,192 x 8,192	A3M60B-BEPB013X13	1038825
Blind hollow shaft / 15 mm	8,192 x 8,192	A3M60B-BHPB013X13	1051017
Blind hollow shaft / 3/8"	8,192 x 8,192	A3M60B-BCPB013X13	1053327
Blind hollow shaft / 1/2"	8,192 x 8,192	A3M60B-BFPB013X13	1053328
Blind hollow shaft / 14 mm	8,192 x 8,192	A3M60B-BGPB013X13	1051325
Blind hollow shaft / 5/8"	8,192 x 8,192	A3M60B-BJPB013X13	1053329
Solid shaft, face mount flange, Ø 10 mm, length 19 mm	16,384 x 131,072	A3M60A-S4PB014X17	1053341
Solid shaft, servo flange, Ø 6 mm, length 10 mm	16,384 x 131,072	A3M60A-S1PB014X17	1053342
Blind hollow shaft / 8 mm	16,384 x 131,072	A3M60A-BBPB014X17	1053330
Blind hollow shaft / 3/8"	16,384 x 131,072	A3M60A-BCPB014X17	1053334
Blind hollow shaft / 10 mm	16,384 x 131,072	A3M60A-BDPB014X17	1053331
Blind hollow shaft / 12 mm	16,384 x 131,072	A3M60A-BEPB014X17	1053332
Blind hollow shaft / 1/2"	16,384 x 131,072	A3M60A-BFPB014X17	1053335
Blind hollow shaft / 14 mm	16,384 x 131,072	A3M60A-BGPB014X17	1053336
Blind hollow shaft / 15 mm	16,384 x 131,072	A3M60A-BHPB014X17	1053333
Blind hollow shaft / 5/8"	16,384 x 131,072	A3M60A-BJPB014X17	1053337




## Sales kits

### Sales kit 01

#### A3M60 PROFIBUS


- + M12 female cable connector, 4-pin, angled, (DOS-1204-W, part number 6007303)
- + PROFIBUS IN: M12 female cable connector, 5-pin, angled, shielded (DOS-1205-WQ, part number 6041429)

	Encoder type (singleturn)	Description	Type	Part no.
	A3M60B-S4PB013x13	Solid shaft, face mount flange, 10 x 19 mm	A3M60B-S4P sales kit 01	1052488
	A3M60B-S1PB013x13	Solid shaft, servo flange, 6 x 10 mm	A3M60B-S1P sales kit 01	1052489
	A3M60B-BBPB013x13	Blind hollow shaft, Ø 8 mm	A3M60B-BBP sales kit 01	1052477
	A3M60B-BDPB013x13	Blind hollow shaft, Ø 10 mm	A3M60B-BDP sales kit 01	1052478
	A3M60B-BEPB013x13	Blind hollow shaft, Ø 12 mm	A3M60B-BEP sales kit 01	1052479
	A3M60B-BHPB013x13	Blind hollow shaft, Ø 15 mm	A3M60B-BHP sales kit 01	1052486
	A3M60B-BGPB013x13	Blind hollow shaft, Ø 14 mm	A3M60B-BGP sales kit 01	1053975

### Sales kit 02

#### A3M60 PROFIBUS

- + M12 female cable connector, 5-pin, angled, (DOL-1202-W05MC, part number 6042067)
- + PROFIBUS IN: M12 female cable connector, 5-pin, angled (DOL-1205-W05MQ, part number 6041423)


	Encoder type (singleturn)	Description	Type	Part no.
	A3M60B-S4PB013x13	Solid shaft, face mount flange, 10 x 19 mm	A3M60B-S4P sales kit 02	1052492
	A3M60B-S1PB013x13	Solid shaft, servo flange, 6 x 10 mm	A3M60B-S1P sales kit 02	1052506
	A3M60B-BBPB013x13	Blind hollow shaft, Ø 8 mm	A3M60B-BBP sales kit 02	1052490
	A3M60B-BDPB013x13	Blind hollow shaft, Ø 10 mm	A3M60B-BDP sales kit 02	1052491
	A3M60B-BEPB013x13	Blind hollow shaft, Ø 12 mm	A3M60B-BEP sales kit 02	1052493
	A3M60B-BHPB013x13	Blind hollow shaft, Ø 15 mm	A3M60B-BHP sales kit 02	1052494
	A3M60B-BGPB013x13	Blind hollow shaft, Ø 14 mm	A3M60B-BGP sales kit 02	1053976

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## Sales kit 03

## A3M60 PROFIBUS

- + M12 female cable connector, 4-pin, angled, (DOS-1204-W, part number 6007303)
- + PROFIBUS IN: M12 female cable connector, 5-pin, angled, shielded, B-coded (DOS-1205-WQ, part number 6041429)
- + PROFIBUS OUT: M12 male cable connector, 5-pin, angled (STE-1205-WQ, part number 6041428)

	Encoder type (singleturn)	Description	Type	Part no.
	A3M60B-S4PB013x13	Solid shaft, face mount flange, 10 x 19 mm	A3M60B-S4P sales kit 03	1052513
	A3M60B-S1PB013x13	Solid shaft, servo flange, 6 x 10 mm	A3M60B-S1P sales kit 03	1052514
	A3M60B-BBPB013x13	Blind hollow shaft, Ø 8 mm	A3M60B-BBP sales kit 03	1052507
	A3M60B-BDPB013x13	Blind hollow shaft, Ø 10 mm	A3M60B-BDP sales kit 03	1052508
	A3M60B-BEPB013x13	Blind hollow shaft, Ø 12 mm	A3M60B-BEP sales kit 03	1052509
	A3M60B-BHPB013x13	Blind hollow shaft, Ø 15 mm	A3M60B-BHP sales kit 03	1052510
	A3M60B-BGPB013x13	Blind hollow shaft, Ø 14 mm	A3M60B-BGP sales kit 03	1053977

## Sales kit 04

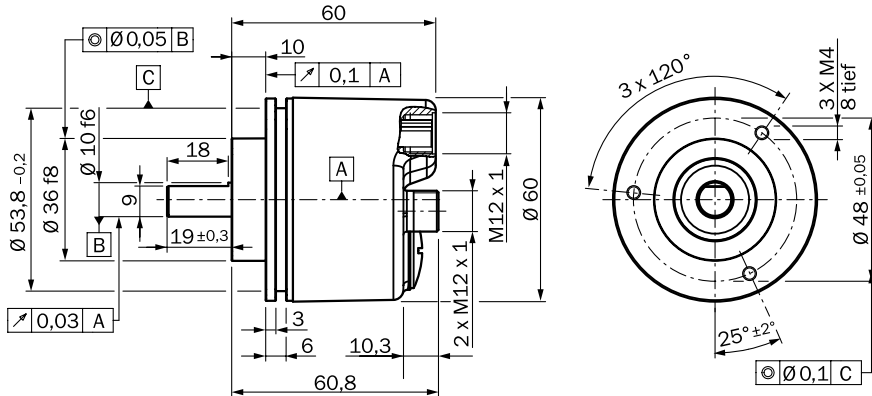
## A3M60 PROFIBUS

- + M12 female cable connector, 5-pin, angled, (DOL-1202-W05MC, part number 6042067)
- + PROFIBUS IN: M12 female cable connector, 5-pin, angled (DOL-1205-W05MQ, part number 6041423)
- + PROFIBUS OUT: M12 male cable connector, 5-pin, angled (STL-1205-W05MQ, part number 6041426)

	Encoder type (singleturn)	Description	Type	Part no.
	A3M60B-S4PB013x13	Solid shaft, face mount flange, 10 x 19 mm	A3M60B-S4P sales kit 04	1052519
	A3M60B-S1PB013x13	Solid shaft, servo flange, 6 x 10 mm	A3M60B-S1P sales kit 04	1052520
	A3M60B-BBPB013x13	Blind hollow shaft, Ø 8 mm	A3M60B-BBP sales kit 04	1052515
	A3M60B-BDPB013x13	Blind hollow shaft, Ø 10 mm	A3M60B-BDP sales kit 04	1052516
	A3M60B-BEPB013x13	Blind hollow shaft, Ø 12 mm	A3M60B-BEP sales kit 04	1052517
	A3M60B-BHPB013x13	Blind hollow shaft, Ø 15 mm	A3M60B-BHP sales kit 04	1052518
	A3M60B-BGPB013x13	Blind hollow shaft, Ø 14 mm	A3M60B-BGP sales kit 04	1053978

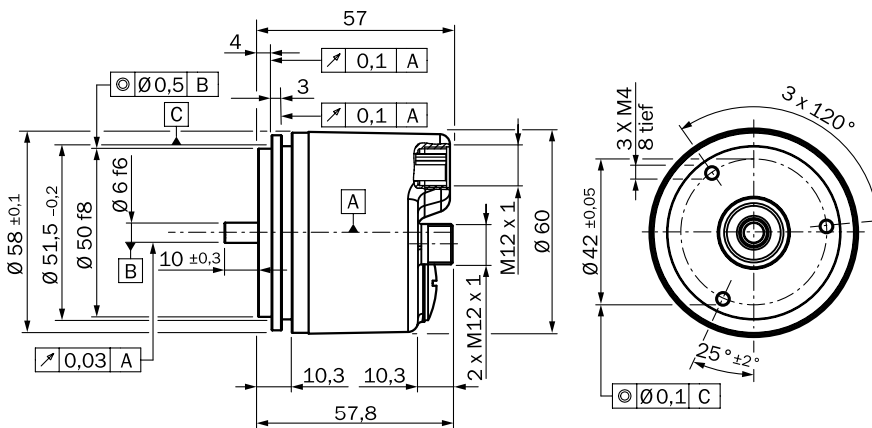
## Dimensional drawings (dimensions in mm)

### Face mount flange



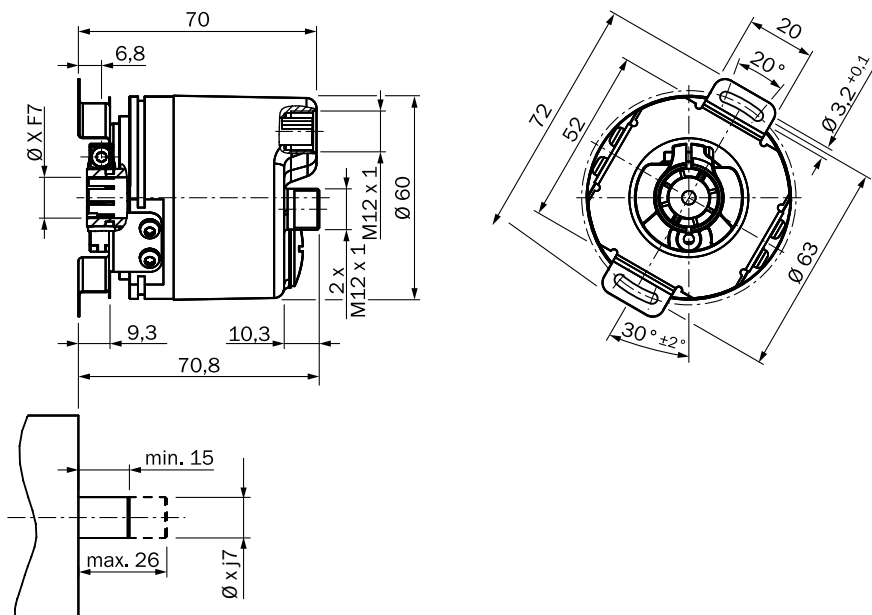
General tolerances according to DIN ISO 2768-mk

### Servo flange



General tolerances according to DIN ISO 2768-mk

### Blind hollow shaft

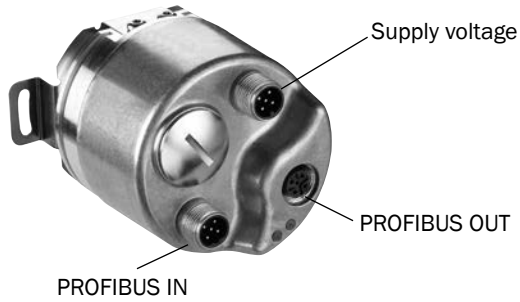
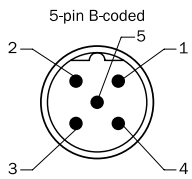


General tolerances according to DIN ISO 2768-mk

XF7 = Encoder shaft diameter, see type code

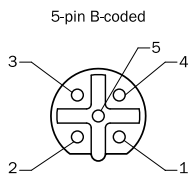
xj7 = Shaft diameter, on the customer side



**PIN assignment****PROFIBUS IN**

PIN	Explanation
1	Not assigned
2	PROFIBUS Data A
3	Not assigned
4	PROFIBUS Data B
5	Screen

**WARNING: Connect screen to housing.**

**PROFIBUS OUT**

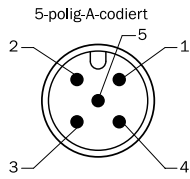
PIN	Explanation
1	+5 V (2P5) <sup>1)</sup>
2	PROFIBUS Data A
3	0 V (2M) <sup>1)</sup>
4	PROFIBUS Data B
5	Screen

<sup>1)</sup> For external bus termination.

**WARNING: Connect screen to housing.**

**G**

## Supply voltage



PIN	Explanation
1	Operating voltage
2	Do not connect
3	Ground (0 V)
4	Do not connect
5	Not assigned

## Recommended accessories

### Mounting systems

#### Mounting brackets and plates

#### Mounting bracket

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

Dimensional drawings → [page K-725](#)

### Flanges





#### Flange plate

Figure	Brief description	Type	Part no.
	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	BEF-FA-036-050	2029160
	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 10	BEF-FA-036-060REC	2029162
	Flange adapter, adaptation of face mount flange with 36 mm centering hub to 58 mm square mounting plate with shock absorbers, aluminum	BEF-FA-036-060RSA	2029163
	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 10	BEF-FA-036-063REC	2034225
	Flange adapter, adaptation of face mount flange with 36 mm centering hub to 100 mm servo flange with 60 mm centering hub, aluminum	BEF-FA-036-100	2029161

Dimensional drawings → [page K-725](#)


## Other mounting accessories

## Measuring wheels and measuring wheel systems

Figure	Brief description	Type	Part no.
	Measuring wheel with smooth plastic surface (Hytrel) for 10 mm solid shaft, circumference 200 mm	BEF-MR-010020	5312988
	Measuring wheel with ridged plastic surface (Hytrel) for 10 mm solid shaft, circumference 200 mm	BEF-MR-010020G	5318678
	Measuring wheel with smooth plastic surface (Hytrel) for 10 mm solid shaft, circumference 500 mm	BEF-MR-010050	5312989
	Measuring wheel with O-ring (NBR70) for 6 mm solid shaft, circumference 300 mm	BEF-MR006030R	2055634
	Measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 300 mm	BEF-MR010030R	2049278



Dimensional drawings → [page K-725](#)

## Mounting bell

Figure	Brief description	Type	Part no.
	Mounting bell for encoders with a servo flange, centering hub 50 mm, including mounting kit	BEF-MG-50	5312987



Dimensional drawings → [page K-725](#)

## Servo clamps

Figure	Brief description	Type	Part no.
	Half-shell servo clamps (2 pcs.) for servo flanges with a 50 mm centering hub	BEF-WG-SF050	2029165
	Servo clamps, large, for servo flanges (clamps, eccentric fastener), 3 pcs., without mounting material	BEF-WK-SF	2029166

Dimensional drawings → [page K-725](#)





## Miscellaneous

Figure	Brief description	Type	Part no.
	Mounting kit for servo flange encoder on the bearing block, 1 bar coupling SKPS 1520 06/06 1 hexagon socket wrench SW1.5 DIN 911, 3 mounting eccentric BEMN 1242 49 3 screws M4 x 10 DIN 912, 1 hexagon socket wrench SW3 DIN 911	BEF-MK-LB	5320872
	Bearing block for hollow shaft encoder, including fixing screws	BEF-FA-B12-010	2042728
	Bearing block for servo and face mount flange encoder	BEF-FA-LB1210	2044591

Dimensional drawings → [page K-725](#)

## Shaft adaptation

### Shaft couplings





Figure	Brief description	Type	Part no.
	Bellows coupling, shaft diameter 6 mm / 6 mm, maximum shaft offset: radial $\pm 0.25$ mm, axial $\pm 0.4$ mm, angular $\pm 4^\circ$ ; max. speed 10,000 rpm, $-30^\circ\text{C} \dots +120^\circ\text{C}$ , max. torque 80 Ncm; material: stainless steel bellows, aluminum hub	KUP-0606-B	5312981
	Bellows coupling, shaft diameter 6 mm / 10 mm, maximum shaft offset: radial $\pm 0.25$ mm, axial $\pm 0.4$ mm, angular $\pm 4^\circ$ ; max. speed 10,000 rpm, $-30^\circ\text{C} \dots +120^\circ\text{C}$ , max. torque 80 Ncm; material: stainless steel bellows, aluminum hub	KUP-0610-B	5312982
	Bellows coupling, shaft diameter 10 mm/10 mm; maximum shaft offset: radial $\pm 0.25$ mm, axial $\pm 0.4$ mm, angular $\pm 4^\circ$ ; max. revolutions 10,000 rpm, $-30^\circ\text{C} \dots +120^\circ\text{C}$ , max. torque 80 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1010-B	5312983
	Bellows coupling, shaft diameter 10 mm/12 mm; maximum shaft offset: radial $\pm 0.25$ mm, axial $\pm 0.4$ mm, angular $\pm 4^\circ$ ; max. revolutions 10,000 rpm, $-30^\circ\text{C} \dots +120^\circ\text{C}$ , max. torque 80 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1012-B	5312984
	Bar coupling, shaft diameter 6 mm / 6 mm, maximum shaft offset: radial $\pm 0.3$ mm, axial $\pm 0.2$ mm, angle $\pm 3^\circ$ ; max. speed 10,000 rpm, $-10^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 80 Ncm; material: fiber-glass reinforced polyamide, aluminum hub	KUP-0606-S	2056406
	Bar coupling, shaft diameter 6 mm / 8 mm, maximum shaft offset radial $\pm 0.3$ mm, axial $\pm 0.2$ mm, angle $\pm 3^\circ$ ; max. speed 10,000 rpm, torsion spring rigidity 38 Nm/wheel; material: fiber-glass reinforced polyamide, aluminum hub	KUP-0608-S	5314179
	Bar coupling, shaft diameter 6 mm/10 mm, maximum shaft offset: radial $\pm 0.3$ mm, axial $\pm 0.2$ mm, angular $\pm 3^\circ$ ; max. speed 10,000 rpm, $-10^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 80 Ncm; material: fiber-glass reinforced polyamide, aluminum hub	KUP-0610-S	2056407
	Bar coupling, shaft diameter 8 mm / 10 mm, maximum shaft offset: radial $\pm 0.3$ mm, axial $\pm 0.2$ mm, angular $\pm 3^\circ$ ; torsion spring rigidity 38 Nm/wheel; material: fiber-glass reinforced polyamide, aluminum hub	KUP-0810-S	5314178
	Bar coupling, shaft diameter 10 mm / 10 mm, maximum shaft offset radial $\pm 0.3$ mm, axial $\pm 0.2$ mm, angle $\pm 3^\circ$ ; max. speed 10,000 rpm, torsion spring rigidity 38 Nm/wheel; material: fiber-glass reinforced polyamide, aluminum hub	KUP-1010-S	2056408
	Double-loop coupling, shaft diameter 6 mm/10 mm, maximum shaft offset: radial $\pm 2.5$ mm, axial $\pm 3$ mm, angular $\pm 10^\circ$ ; max. speed 3,000 rpm, $-30^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-0610-D	5326697
	Double-loop coupling, shaft diameter 8 mm/10 mm, maximum shaft offset: radial $\pm 2.5$ mm, axial $\pm 3$ mm, angular $\pm 10^\circ$ ; max. speed 3,000 rpm, $-30^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-0810-D	5326704
	Double-loop coupling, shaft diameter 10 mm/10 mm, maximum shaft offset: radial $\pm 2.5$ mm, axial $\pm 3$ mm, angular $\pm 10^\circ$ ; max. speed 3,000 rpm, $-30^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-1010-D	5326703
	Double-loop coupling, shaft diameter 10 mm/12 mm, maximum shaft offset: radial $\pm 2.5$ mm, axial $\pm 3$ mm, angular $\pm 10^\circ$ ; max. speed 3,000 rpm, $-30^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-1012-D	5326702
	Spring washer coupling, shaft diameter 6 mm/10 mm, maximum shaft offset: radial $\pm 0.3$ mm, axial $\pm 0.4$ mm, angular $\pm 2.5^\circ$ ; max. speed 12,000 rpm, $-10^\circ\text{C} \dots +80^\circ\text{C}$ , max. torque 60 Ncm; material: aluminum flange, fiber-glass reinforced polyamide membrane and tempered steel coupling pin	KUP-0610-F	5312985
	Spring washer coupling, shaft diameter 10 mm / 10 mm, maximum shaft offset: radial $\pm 0.3$ mm, axial $\pm 0.4$ mm, angular $\pm 2.5^\circ$ ; max. speed 12,000 rpm, $-10^\circ \dots +80^\circ\text{C}$ , max. torque 60 Ncm; material: aluminum flange, glass fiber-reinforced polyamide membrane and hardened steel coupling pin	KUP-1010-F	5312986

Dimensional drawings → [page K-725](#)

## Connectivity

### Plug connectors and cables

#### Connecting cables with female connector

Figure	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, angled Head B: cable Cable: for power supply, PUR, halogen-free, shielded, 3 x 0.34 mm <sup>2</sup> , Ø 4.2 mm	5 m	DOL-1202-W05MC	6042067
		10 m	DOL-1202-W10MC	6042068
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: for power supply, suitable for drag chain, PUR, halogen-free, shielded, 5 x 0.34 mm <sup>2</sup> , Ø 5.9 mm	5 m	DOL-1205-G05MAC	6036384
		10 m	DOL-1205-G10MAC	6036385
		20 m	DOL-1205-G20MAC	6036386
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: suitable for drag chain, PUR, halogen-free, shielded, 2 x 0.34 mm <sup>2</sup> , Ø 8.0 mm	5 m	DOL-1205-G05MQ	6026006
		10 m	DOL-1205-G10MQ	6026008
		12 m	DOL-1205-G12MQ	6032636
		15 m	DOL-1205-G15MQ	6032637
		20 m	DOL-1205-G20MQ	6032638
		30 m	DOL-1205-G30MQ	6032639
		50 m	DOL-1205-G50MQ	6032861
	Head A: female connector, M12, 5-pin, angled, B-coded Head B: cable Cable: suitable for drag chain, PUR, shielded, 2 x 0.64 mm <sup>2</sup> , Ø 7.8 mm	5 m	DOL-1205-W05MQ	6041423
		10 m	DOL-1205-W10MQ	6041425





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#### Connecting cables with male connector

Figure	Brief description	Length of cable	Type	Part no.
	Head A: male connector, M12, 5-pin, straight, B-coded Head B: cable Cable: suitable for drag chain, PUR, halogen-free, shielded, 2 x 0.34 mm <sup>2</sup> , Ø 8.0 mm Wire shielding: AL-PT foil, total shield, tin-plated C shield	5 m	STL-1205-G05MQ	6026005
		10 m	STL-1205-G10MQ	6026007
		12 m	STL-1205-G12MQ	6032635
	Head A: male connector, M12, 5-pin, angled, B-coded Head B: cable Cable: suitable for drag chain, PUR, shielded, 2 x 0.64 mm <sup>2</sup> , Ø 7.8 mm	5 m	STL-1205-W05MQ	6041426
		10 m	STL-1205-W10MQ	6041427

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## Female connectors (ready to assemble)


Figure	Brief description	Type	Part no.
	Head A: female connector, M12, 4-pin, straight, unshielded, for power supply, for cable diameter 4 mm ... 6 mm Head B: -	DOS-1204-G	6007302
	Head A: female connector, M12, 4-pin, angled, unshielded, for power supply, for cable diameter 3 mm ... 6.5 mm Head B: -	DOS-1204-W	6007303
	Head A: female connector, M12, 5-pin, straight, B-coded, shielded, for cable diameter 4 mm ... 9 mm Head B: -	DOS-1205-GQ	6021353
	Head A: female connector, M12, 5-pin, angled, B-coded, shielded, for cable diameter 4 mm ... 8 mm Head B: -	DOS-1205-WQ	6041429

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## Cables (ready to assemble)



Figure	Brief description	Length of cable	Type	Part no.
	Head A: cable Head B: cable Cable: suitable for drag chain, PUR, shielded, 2 x 0.25 mm <sup>2</sup> , Ø 8.0 mm	By the meter	LTG-2102-MW	6021355

## Other plug connectors and cables

Figure	Brief description	Type	Part no.
	A3M60 accessories sales set comprising: Female cable connector supply voltage M12 angled (6007303) Female cable connector M12 angled (6041429) Male cable connector M12 angled (6041428)	DOS-3XM12-W	2058177
	Head A: male connector, M12, 4-pin, straight, B-coded Cable: terminator	STE-END-Q	6021156

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## Male connectors (ready to assemble)

Figure	Brief description	Type	Part no.
	Head A: male connector, M12, 5-pin, straight, B-coded, shielded, for cable diameter 4 mm ... 9 mm Head B: -	STE-1205-GQ	6021354
	Head A: male connector, M12, 5-pin, angled, B-coded, shielded, for cable diameter 4 mm ... 8 mm Head B: -	STE-1205-WQ	6041428

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→ For additional accessories, please see [page K-668 onwards](#)

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