

Incremental shaft encoder BDT

features

- small mounting depth
- radial and axial connector or cable connection
- servo flange

general data

voltage supply	5 VDC ±10% (05A) 10 - 30 VDC (24K) 4,5 - 30 VDC (25W)
max. supply current no load	typ. 80 mA (at 5 VDC) (05A) typ. 60 mA (at 24 VDC) (24K) typ. 180 mA (at 4,5 VDC) (25W)
max. measuring steps	40'000 steps at 10'000 ppr (05A/24K)
pulse range	see order designation
pulse tolerance	±10% (≤ 5'000 pulses) ±15% (> 5'000 pulses)
max. switching frequency	200 kHz (24K) 300 kHz (05A/25W) 750 kHz (05A > 5000 pulses)

mechanical data

max. revolutions	12'000 rpm (IP 42) 6'000 rpm (IP 65)
moment of inertia	typ. $11,8 \times 10^{-7}$ kgm ²
torque	typ. 0,23 cNm IP 42 typ. 2,6 cNm IP 65 (3'000 rpm / 20 °C)
max. shaft load	axial: 10 N radial: 20 N
product life	depending on ambient conditions (typ. 10 ⁹ rev)
max. protection class	IP 65
material	housing: steel housing: aluminum with ref. -A flange: aluminum
weight	approx. 300 g

ambient conditions

temperature range	-20...+85 °C
relative humidity	max. 95% non condensing
vibration	IEC 68 section 2-6 (≤ 100 m/s ² / 10 - 200 Hz)
shock	IEC 68 section 2-27 (≤ 500 m/s ² / 11 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3



order designation

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					connection
				4	cable 2 m axial
				5	cable 2 m radial
				A	connector radial M23
				B	connector axial M23
					shaft
				L6	shaft 6 mm IP 65
				6	shaft 6 mm IP 42
					standard pulse range
	10	100	360	1250	7200¹⁾
	20	120	400	2000	8192¹⁾
	30	200	500	2500	10000¹⁾
	50	250	1000	3600	
	60	300	1024	5000	
					other pulses on request
					voltage range, output range
	05A	5 VDC complementary			
	24K	10 - 30 VDC push-pull, short-circuit pro.			
	25W	4,5 - 30 VDC push-pull, complementary, short-circuit protection			

¹⁾ only for **05A** + **24K**

Other versions on request.

accessories

connector M23 female reference **-A** and **-B**
for complementary **05A/25W** part nr. 107687
and push-pull **24K**

cable with connector M23 female (pre-assembled)
reference **-A** and **-B**

2 m part nr. 130367

5 m part nr. 118532

clamp set part nr. 252773

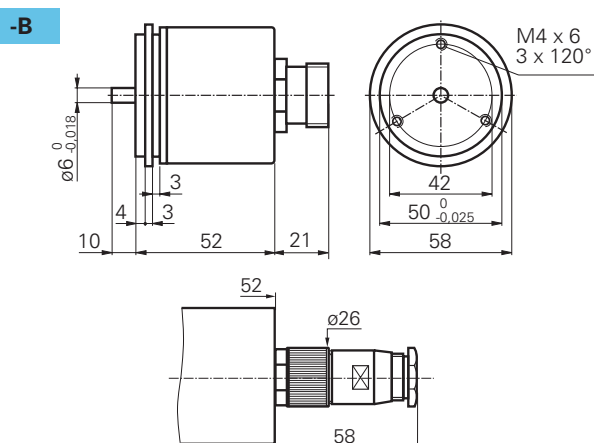
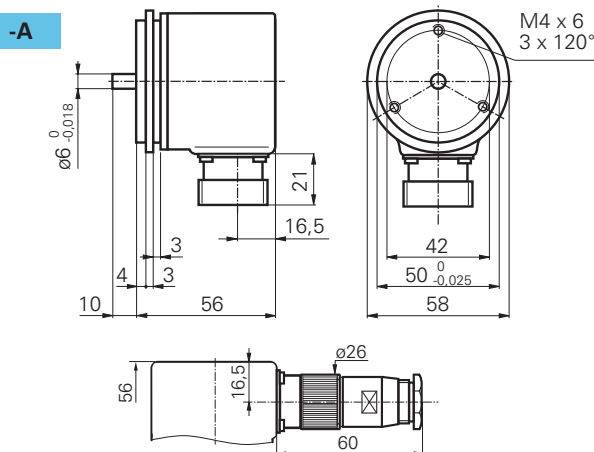
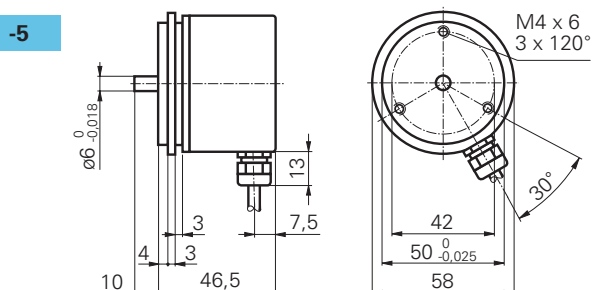
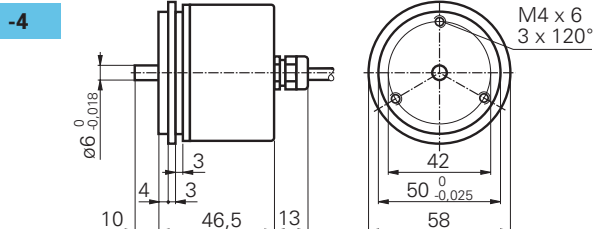
mounting adapter part nr. 125051

fixing screws and servo clamps part nr. 117668

couplings see chapter accessories



dimensions and connection dimensions



assignment cable

for connection reference **-4** and **-5**

05A (5 VDC complementary)

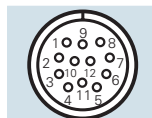
cable color	signals
brown	+Vs
green	CHA
red	CHA compl.
yellow	CHB
blue	CHB compl.
pink	CHN
grey	CHN compl.
white	0V
screen	connected to flange
cable data	8 x 0,14 mm ² , max. ext. ø 5,7 mm

24K (10 - 30 VDC push-pull, short-circuit protection)

cable color	signals
brown	+Vs
green	CHA
yellow	CHB
pink	CHN
white	0V
screen	connected to flange
cable data	5 x 0,14 mm ² , max. ext. ø 5,4 mm

assignment connector M23 male

for connection reference **-A** and **-B**



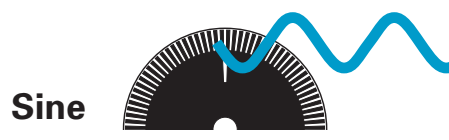
05A (5 VDC complementary)

24K (10 - 30 VDC push-pull, short-circuit protection)

25W (4,5 - 30 VDC push-pull, complementary, short-circuit protection)

pin number	signals
1	CHA compl.
2	+Vs
3	CHN
4	CHN compl.
5	CHB
6	CHB compl.
7	n.c.
8	CHA
9	housing
10	0 V
11	0 V
12	+Vs

push-pull version **24K** without CHx complementary signals

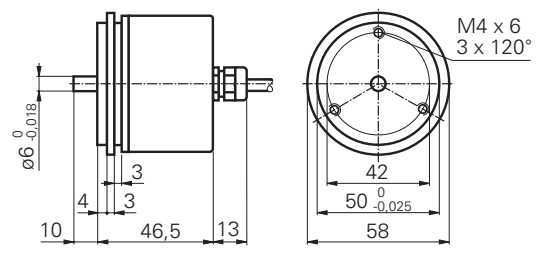


Sine

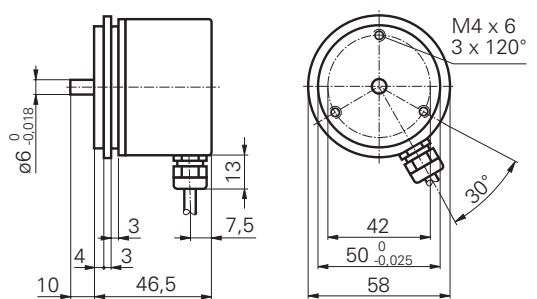
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dimensions and connection dimensions

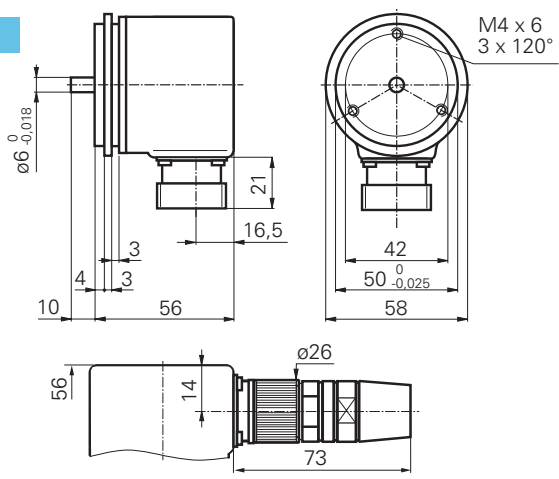
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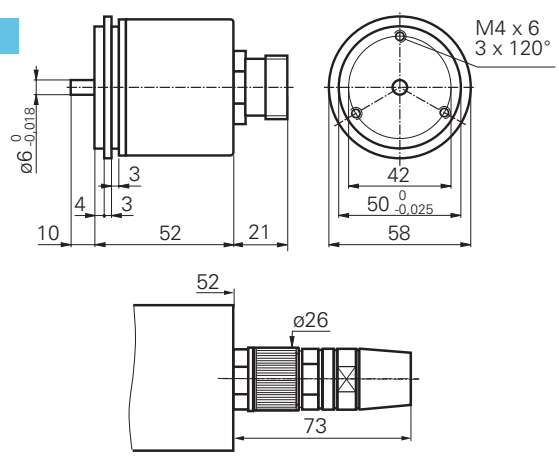
-5



-A



-B



assignment cable

for connection reference **-4** and **-5**

05S (5 VDC Sine)	
cable color	signals
brown	As+
green	As-
red	Ns+
black	Ns-
yellow	n.c.
blue	+Vs
pink	Bs-
grey	Bs+
white	0 V
screen	connected to flange
cable data	9 x 0,14 mm ² , max. ext. \varnothing 5,7 mm

assignment connector M23 male

for connection reference **-A** and **-B**



05S (5 VDC Sine)	
pin number	signals
1	Bs-
2	+Vs
3	Ns+
4	Ns-
5	As+
6	As-
7	n.c.
8	Bs+
9	n.c.
10	0 V
11	0 V
12	+Vs