

Incremental hollow shaft encoder BHK

features

- miniaturized hollow shaft encoder with extended pulse range
- radial cable connection or connector
- through shaft mounting \varnothing 6 mm or end shaft mounting \varnothing 12 mm



general data

voltage supply	5 VDC \pm 10% (05A) 10 - 30 VDC (24K)
max. supply current no load	typ. 60 mA (at 5 VDC) typ. 30 mA (at 24 VDC)
max. measuring steps	8'192 steps
pulse range	see order designation
pulse tolerance	\pm 15%
max. switching frequency	50 kHz (\leq 500 ppr) 100 kHz ($>$ 500 ppr)

mechanical data

max. revolutions	12'000 rpm
moment of inertia	typ. $3,0 \times 10^{-7}$ kgm ²
torque	typ. 0,21 cNm IP 42 typ. 0,75 cNm IP 64 (3'000 rpm / 20 °C)
product life	depending on ambient conditions (typ. 10 ⁹ revolutions)
max. protection class	hollow shaft: max. IP 64 housing: IP 42 to max. IP 65 with end cap
material	housing: polyamid flange: aluminum
weight	approx. 100 g

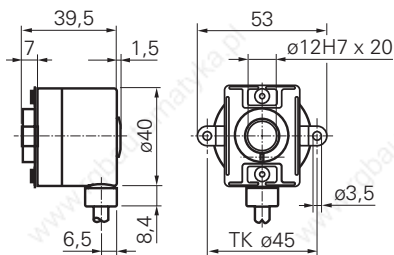
ambient conditions

temperature range	-20...+85 °C
relative humidity	max. 95% non condensing
vibration	IEC 60068-2-6 (\leq 100 m/s ² / 10 - 200 Hz)
shock	IEC 60068-2-6 (\leq 500 m/s ² / 11 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3

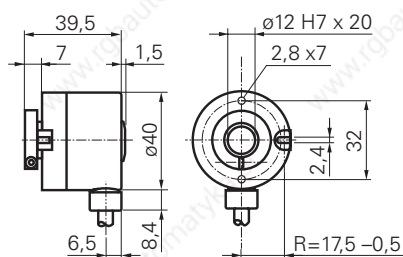


dimensions and connection dimensions

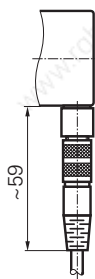
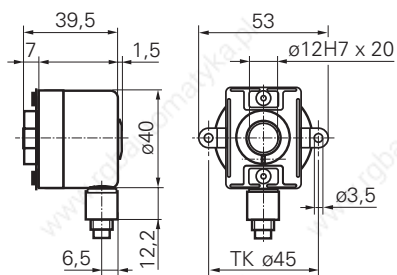
-5 with shaft reference **-I2**



-5 with shaft reference **-B2**

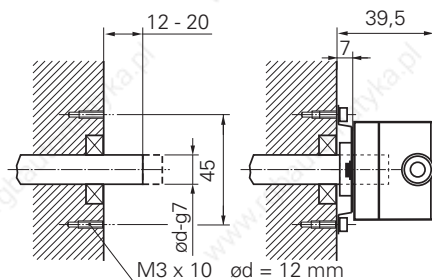


-9

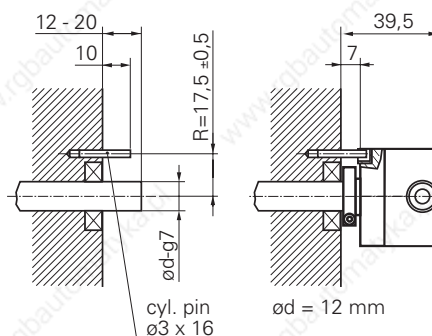


mounting

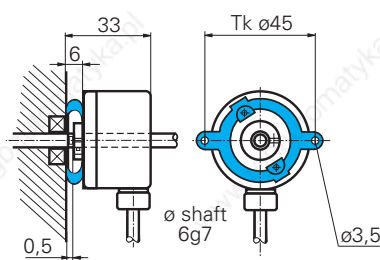
-I2 end shaft 12 mm with clamping ring and spring plate



-B2 end shaft 12 mm with clamping ring no spring plate

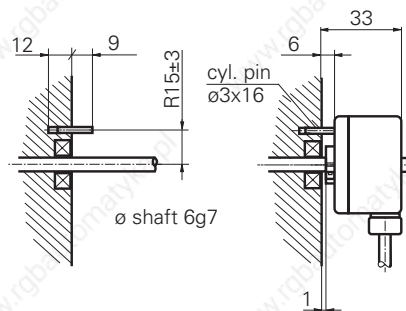


-M6 through shaft 6 mm with clamping ring and spring plate



-B6 through shaft 6 mm with clamping ring no spring plate

-E6 through shaft 6 mm with clamping ring



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assignment cable

for connection reference **-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	8x0,14 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	GND
screen	connected to flange
cable data	5x0,14 mm ² , max. ext. ø 5,4 mm

assignment connector M9 male

for connection reference **-9**



05A (5 VDC complementary)

pin number	cable color*	signals
1	white	0V
2	brown	+Vs
3	green	CHA
4	yellow	CHB
5	grey	CHN compl.
6	pink	CHN
7	blue	CHB compl.
8	red	CHA compl.

for connection reference **-9**



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

pin number	cable color*	signals
1	white	0V
2	brown	+Vs
3	black	CHA
4	blue	CHB
5	grey	CHN

*Note

These cable colors are valid for the pre-assembled cable socket (see accessories).



order designation

BHK 16.

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connection

5 cable 2 m radial**9** connector radial M9

shaft

B6 through shaft 6 mm
IP 42 with clamping ring**E6** through shaft 6 mm
IP 64 with clamping ring**M6** through shaft 6 mm
IP 64 with clamping ring
and spring plate**B2** end shaft 12 mm IP 42
with clamping ring**I2** end shaft 12 mm IP 42
with clamping ring
and spring plate

standard pulse range

10	100	500
20	120	1000
30	200	1024
50	250	2000
60	360	2048

other pulses on request

voltage range, output signals

05A 5 VDC complementary**24K** 10 - 30 VDC push-pull, short-circuit protection

Other versions on request.

accessories

cable with connector M9 female (pre-assembled) ref. -9		
for complementary 05A	2 m	part nr. 123168 (ES62FB2)
	5 m	part nr. 123169 (ES62FB5)
for push-pull 24K	2 m	part nr. 123166 (ES62CB2)
	5 m	part nr. 123167 (ES62CB5)

connector M9 female reference -9	
for complementary 05A	part nr. 132983
for push-pull 24K	part nr. 123144
spring plate set (round)	part nr. 158423
spring plate set (square)	part nr. 158424
clamping ring set 12 mm hollow shaft	part nr. 142556
clamping ring set 6 mm hollow shaft	part nr. 142561