

Incremental encoders

Mini series - blind hollow shaft max. \varnothing 12 mm

2...1024 pulses per revolution

BRIH 40 - EcoMag



BRIH 40 with blind hollow shaft

Features

- Mini encoder with blind hollow shaft max. \varnothing 12 mm
- Magnetic sensing method
- Max. 1024 pulses per revolution
- Housing \varnothing 40 mm
- High resistance to shock and vibrations
- Wide pulse number range

Technical data - electrical ratings

Voltage supply	5 VDC \pm 10 % 20...28 VDC
Consumption typ.	25 mA (5 VDC, w/o load) 30 mA (24 VDC, w/o load)
Pulses per revolution	2...1024
Reference signal	Zero pulse, width 90°
Sensing method	Magnetic
Output frequency	\leq 320 kHz
Output signals	A 90° B, N + inverted
Output stages	Antivalent Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL approval / E217823

Technical data - mechanical design

Size (flange)	\varnothing 40 mm
Shaft type	\varnothing 6 mm (blind hollow shaft) \varnothing 12 mm (blind hollow shaft)
Protection DIN EN 60529	IP 64
Operating speed	\leq 6000 rpm
Operating torque typ.	0.0075 Nm
Materials	Housing: polyamide black Flange: aluminium
Operating temperature	-20...+85 °C (only 5 VDC) -20...+65 °C
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 100 g, 6 ms
Connection	Connector M9, 5-pin Connector M9, 8-pin Cable 1 m
Weight approx.	120 g

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Part number

BRIH 40D 6

Connection

- 5 Cable 1 m, radial
- 9 Connector radial

Blind hollow shaft

- E6 $\varnothing 6$ mm, IP 64, with adjusting ring
- E2 $\varnothing 12$ mm, IP 64, with adjusting ring

Pulse number - see table

Voltage supply / signals

- 05A 5 VDC / antivalent (TTL compatible)
- 17K 20...28 VDC / push-pull short-circuit proof

Operating temperature

- 1 -20...+85 °C / only 5 VDC (05A)
- 3 -20...+65 °C

Accessories

Connectors and cables

10132983	Female connector M9, 8-pin, straight
11094664	Female connector M9, 8-pin, straight, 2 m cable
11094665	Female connector M9, 8-pin, straight, 5 m cable
11094660	Female connector M9, 5-pin, straight, 2 m cable
11094662	Female connector M9, 5-pin, straight, 5 m cable

Mounting accessories

10158423	Set of spring plate (round) for hollow shaft encoder ($< \varnothing 8$ mm)
10158424	Set of spring plate (square) for hollow shaft encoder ($\geq \varnothing 8$ mm)

Pulse number

2	32	100	256	1000
4	40	128	400	1024
8	50	160	500	
16	64	200	512	
20	80	250	800	

Other pulse numbers on request.

Trigger level

Outputs 05A	Complementary Linedriver RS422
Output level High	$> 2,4$ V (I = -20 mA)
Output level Low	$< 0,4$ V (I = 20 mA)
Load High	< 20 mA
Load Low	< 20 mA
Outputs 17K	Push-pull short-circuit protection
Output level High	$> +V_s - 3,7$ V (I = -30 mA)
Output level Low	$< 2,5$ V (I = 30 mA)
Load High	< 30 mA
Load Low	< 30 mA

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Terminal assignment

Cable

for connection reference -5

05A

Core colour	Signals	Core colour	Signals
brown	+Vs	brown	+Vs
green	CHA	green	CHA
red	CHA compl.	–	–
yellow	CHB	yellow	CHB
blue	CHB compl.	–	–
pink	CHN	pink	CHN
grey	CHN compl.	–	–
white	0 V	white	0 V
Cable data	8 x 0.14 mm ²	5 x 0.14 mm ²	
Screen	connected to flange		

Connector M9 male

for connection reference -9

05A

Connector	Core colour*	Signals
Pin 1	white	0 V
Pin 2	brown	+Vs
Pin 3	green	CHA
Pin 4	yellow	CHB
Pin 5	grey	CHN compl.
Pin 6	pink	CHN
Pin 7	blue	CHB compl.
Pin 8	red	CHA compl.

17K

Connector	Core colour*	Signals
Pin 1	white	0 V
Pin 2	brown	+Vs
Pin 3	black	CHA
Pin 4	blue	CHB
Pin 5	grey	CHN

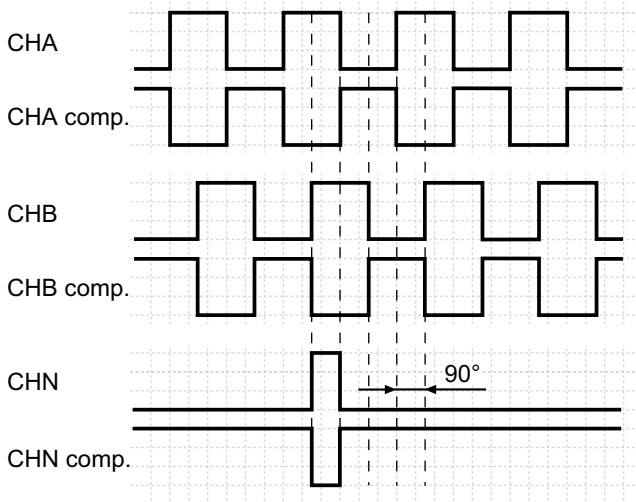
*these core colours are valid for the assembled mating connectors (see accessories)



Output signals

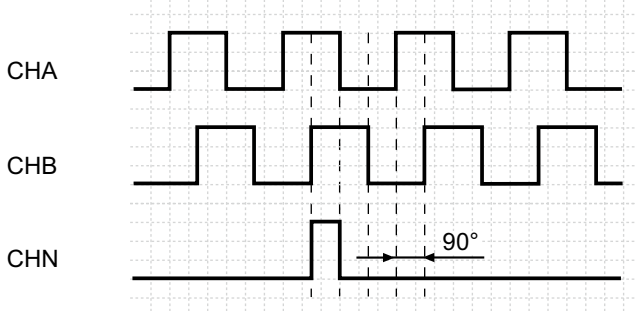
Counter clockwise rotating direction when looking at the flange.

05A



Counter clockwise rotating direction when looking at the flange.

17K



Incremental encoders

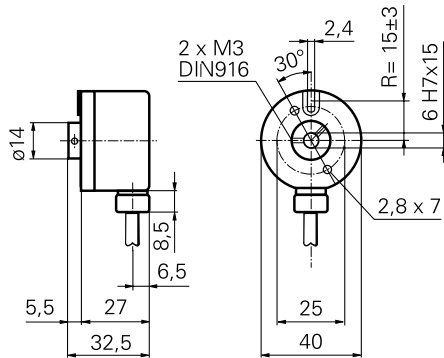
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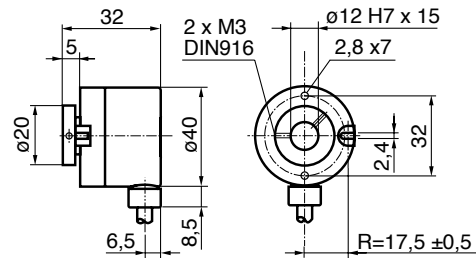
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Dimensions

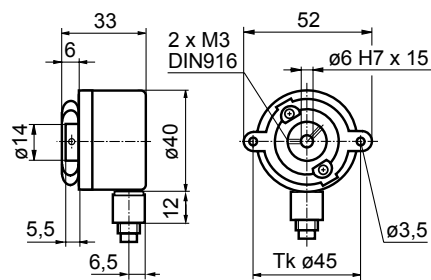
BRIH 40 blind hollow shaft $\varnothing 6$ mm, cable radial



BRIH 40 blind hollow shaft $\varnothing 12$ mm, cable radial



BRIH 40 blind hollow shaft $\varnothing 6$ mm, connector



BRIH 40 blind hollow shaft $\varnothing 12$ mm, connector

