

Incremental encoders

End or hollow shaft $\varnothing 12$ mm

Resolution 64...2048 pulses

BRIH, BRID - *EcoMag*



BRIH with end shaft

Technical data - electrical ratings

Voltage supply	5 VDC ± 10 % 10...30 VDC
Consumption w/o load (typ.)	30 mA (5 VDC) 15 mA (24 VDC)
Resolution (steps/turn)	64...2048
Reference signal	Zero pulse, width 90°
Sensing method	Magnetic
Output frequency	≤ 320 kHz
Output signals	A 90° B, N + inverted
Output circuit	Antivalent Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL approval / E217823

Features

- Encoder with end or hollow shaft $\varnothing 12$ mm
- Magnetic sensing
- Resolution max. 2048 ppr
- High resistance to shock and vibrations
- Wide pulse number range
- High limit frequency

Technical data - mechanical design

Housing	$\varnothing 58$ mm
Protection DIN EN 60529	IP 42, IP 65
Operating speed	≤ 12000 rpm IP 42 ≤ 6000 rpm IP 65
Materials	Housing: aluminium Flange: aluminium
Operating temperature	$-20 \dots +85$ °C
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 500 g, 6 ms
Connection	Connector M12 Connector M23, 12-pin Cable 2 m
Weight approx.	150 g

BRIH

Shaft	$\varnothing 12$ mm end shaft
Operating torque typ.	0.009 Nm IP 42 0.037 Nm IP 65

BRID

Shaft	$\varnothing 12$ mm hollow shaft
Operating torque typ.	0.0175 Nm IP 42 0.047 Nm IP 65

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Part number

End shaft

BRIH 58S16

Connection
5 Cable 2 m, radial
N Connector M12, radial
A Connector M23, radial

Shaft
B2 End shaft ø12 mm, IP 42,
with clamping ring
P2 End shaft ø12 mm, IP 65,
with clamping ring

See part number (pulses)

Voltage supply / signals

05A 5 VDC / antivalent (TTL compatible)

24K 10...30 VDC / push-pull short circuit-proof

Hollow shaft

BRID 58S16

Connection
5 Cable 2 m, radial
N Connector M12, radial
A Connector M23, radial

Shaft
B2 Hollow shaft ø12 mm, IP 42,
with clamping ring
P2 Hollow shaft ø12 mm, IP 65,
with clamping ring

See part number (pulses)

Voltage supply / signals

05A 5 VDC / antivalent (TTL compatible)

24K 10...30 VDC / push-pull short circuit-proof

Part number (pulses)

64	512	1024	2000
360	1000	1800	2048

Other pulse numbers upon 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 24K Push-pull short-circuit protection

Output level High >+Vs - 3,7 V (I = -30 mA)

Output level Low <2,5 V (I = 30 mA)

Load High <30 mA

Load Low <30 mA

Accessories

Connectors and cables

10107687	Female connector M23, 12-pin, straight
10130367	Female connector M23, 12-pin, straight, 2 m cable
10118532	Female connector M23, 12-pin, straight, 5 m cable
10146775	Female connector M12, 8-pin, straight
10127844	Female connector M12, 8-pin, straight, shielded, 2 m
10129332	Female connector M12, 8-pin, straight, shielded, 5 m cable
10153968	Female connector M12, CAN, 5-pin, straight
10144720	Female connector M12, CAN, 5-pin, straight, shielded, 2 m
10137485	Female connector M12, CAN, 5-pin, straight, shielded, 5 m

Mounting accessories

10154742	Set of spring coupling BRIH, BRID
10107540	Torque pin
10109520	Torque spring washer

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Terminal assignment

Cable

for connection reference -5

05A		24K	
Core colour	Signals	Core colour	Signals
brown	+Vs	brown	+Vs
green	CHA	green	CHA
red	CHA comp.	–	–
yellow	CHB	yellow	CHB
blue	CHB comp.	–	–
pink	CHN	pink	CHN
grey	CHN comp.	–	–
white	0 V	white	0 V
Cable data	8 x 0.14 mm ²	5 x 0.14 mm ²	
Screen	connected to housing		

Connector M23 male

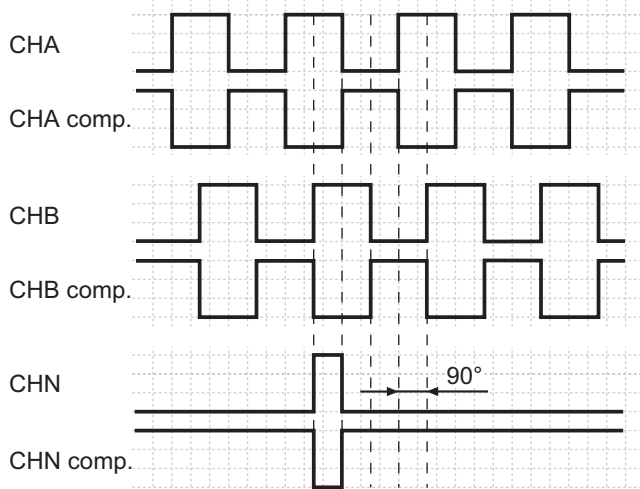
for connection reference -A

05A, 24K	
Connector	Signals
Pin 1	CHA comp.
Pin 2	+Vs
Pin 3	CHN
Pin 4	CHN comp.
Pin 5	CHB
Pin 6	CHB comp.
Pin 7	n.c.
Pin 8	CHA
Pin 9	Housing
Pin 10	0 V
Pin 11	n.c.
Pin 12	n.c.

Output signals

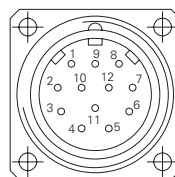
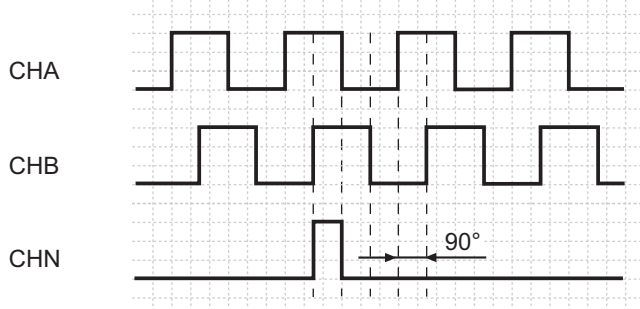
Counter clockwise rotating direction when looking at the flange.

05A



Counter clockwise rotating direction when looking at the flange.

24K



Connector M12 male

for connection reference -N

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 comp.
Pin 6	pink	CHN
Pin 7	blue	CHB comp.
Pin 8	red	CHA comp.

24K

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

*valid for the assembled mating connectors (see access.)



Incremental encoders

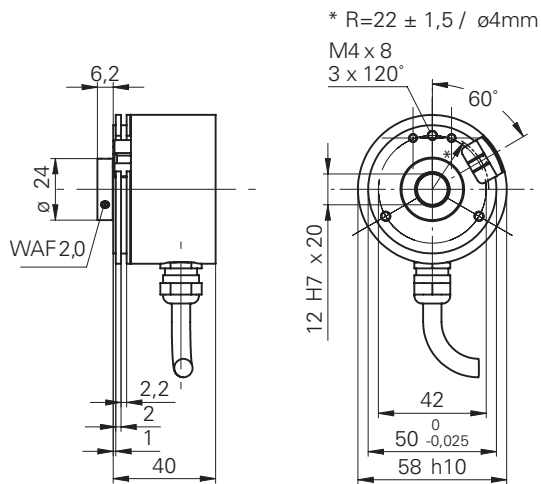
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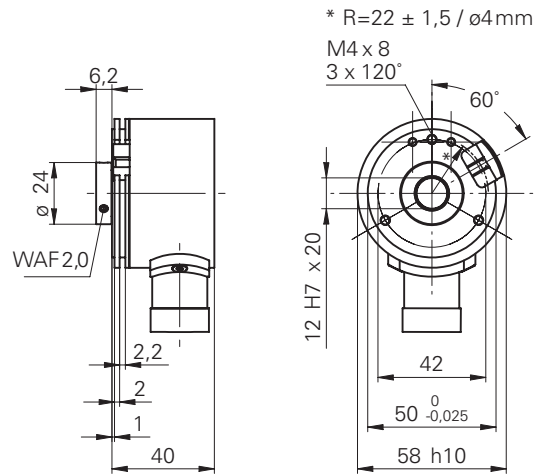
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Dimensions

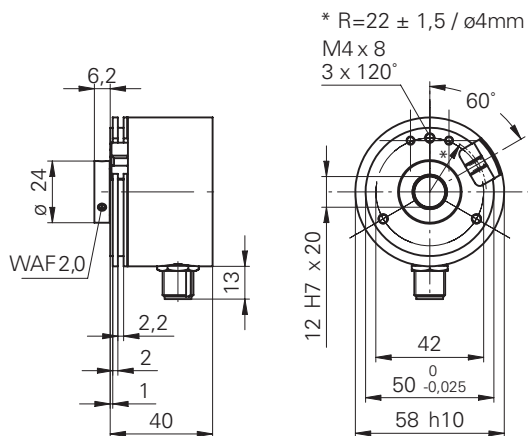
BRIH cable radial



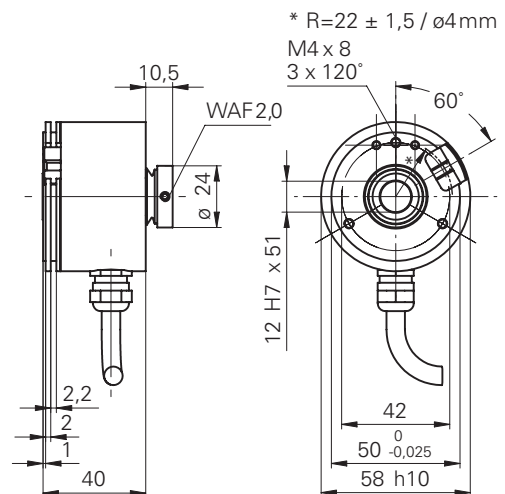
BRIH connector output M23 radial



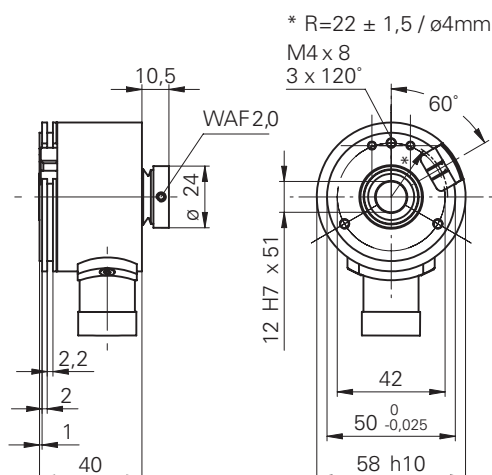
BRIH connector output M12 radial



BRID cable radial



BRID connector output M23 radial



BRID connector output M12 radial

