

# Incremental encoders

Blind or through hollow shaft  $\varnothing 12$  mm  
64...2048 pulses per revolution

## BRIH, BRID - EcoMag



BRIH with blind hollow shaft

### Features

- Encoder with blind or through hollow shaft  $\varnothing 12$  mm
- Magnetic sensing
- Max. 2048 pulses per revolution
- High resistance to shock and vibrations
- Wide pulse number range
- High limit frequency

### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 10$ % 10...30 VDC
Consumption typ.	30 mA (5 VDC, w/o load) 15 mA (24 VDC, w/o load)
Pulses per revolution	64...2048
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)	$\varnothing 58$ mm
Protection DIN EN 60529	IP 42, IP 65
Operating speed	$\leq 12000$ rpm (IP 42) $\leq 6000$ rpm (IP 65)
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-20...+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, 5-pin Connector M12, 8-pin Connector M23, 12-pin Cable 2 m
Weight approx.	150 g

### BRIH

Shaft type	$\varnothing 12$ mm (blind hollow shaft)
Operating torque typ.	0.009 Nm (IP 42) 0.037 Nm (IP 65)

### BRID

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

# Incremental encoders

## Blind or through hollow shaft $\varnothing 12$ mm

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#### Part number

##### Blind hollow shaft

BRIH 58S16

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

Blind hollow shaft  
 B2  $\varnothing 12$  mm, IP 42, with clamping ring  
 P2  $\varnothing 12$  mm, IP 65, with clamping ring

Pulse number - see table

Voltage supply / signals

05A 5 VDC / antivalent (TTL compatible)  
 24K 10...30 VDC / push-pull short-circuit proof

##### Through hollow shaft

BRID 58S16

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

Through hollow shaft  
 B2  $\varnothing 12$  mm, IP 42, with clamping ring  
 P2  $\varnothing 12$  mm, IP 65, with clamping ring

Pulse number - see table

Voltage supply / signals

05A 5 VDC / antivalent (TTL compatible)  
 24K 10...30 VDC / push-pull short-circuit proof

#### Pulse number

64	512	1024	2000
360	1000	1800	2048

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 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, without cable
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, without cable
10153968	Female connector M12, 5-pin, straight, without cable
11046264	Female connector M12, 5-pin, straight, 2 m cable
11046266	Female connector M12, 5-pin, straight, 5 m cable

##### Mounting accessories

10154742	Set of spring washers BRIH, BRID
10107540	Torque pin
10109520	Torque spring

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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 <sup>2</sup>	5 x 0.14 mm <sup>2</sup>	
Screen:	connected to housing		

##### Connector M23, 12-pin

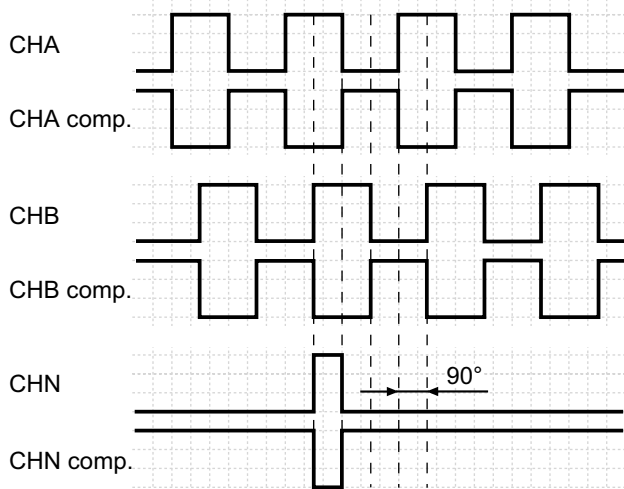
for connection reference -A

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 - 12	n.c.

#### Output signals

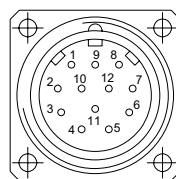
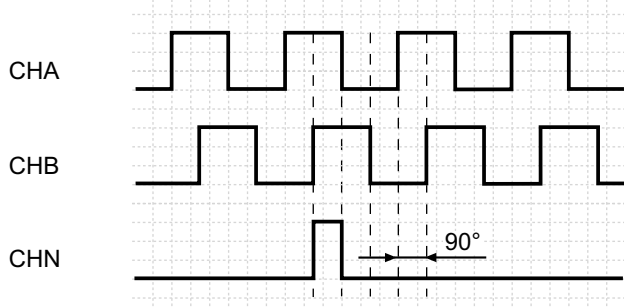
Counter clockwise rotating direction when looking at the flange.

##### 05A



Counter clockwise rotating direction when looking at the flange.

##### 24K



##### Connector M12, 8-pin / 5-pin

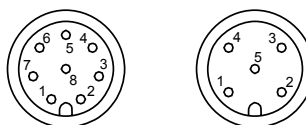
for connection reference -N

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.)



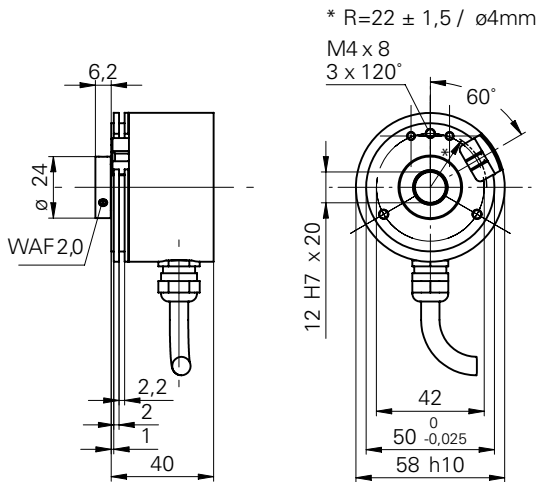
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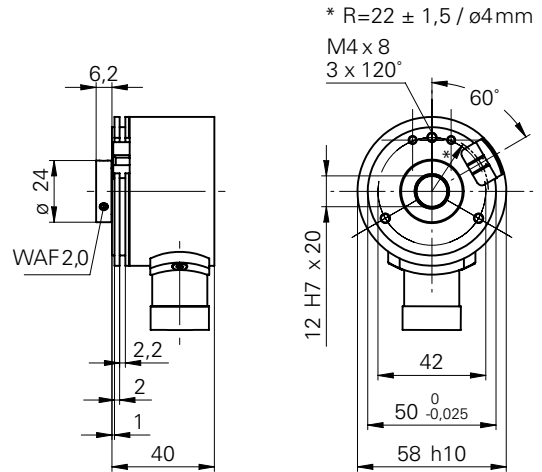
**BRIH, BRID - EcoMag**

## Dimensions

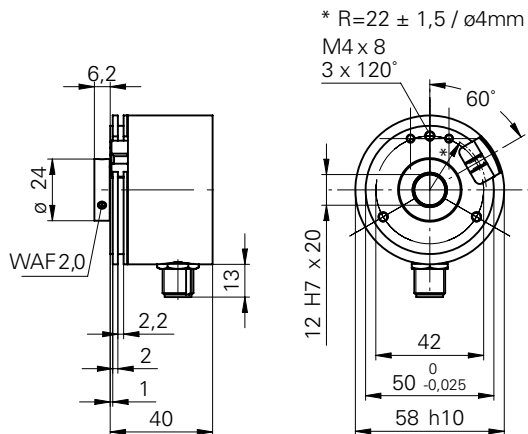
### BRIH cable radial



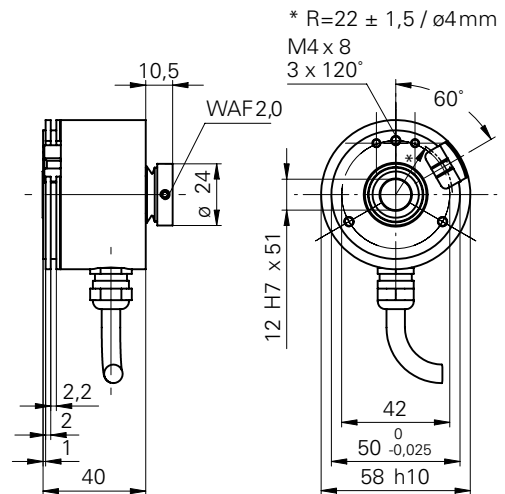
### BRIH connector output M23 radial



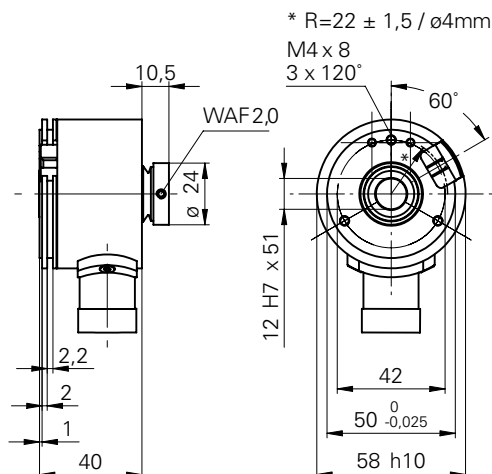
### BRIH connector output M12 radial



### BRID cable radial



### BRID connector output M23 radial



### BRID connector output M12 radial

