Industrial automation
Elincom Group
European Union: www.elinco.eu
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Eltra® sensing technology

EL - EF 49 C / P

INCREMENTAL ENCODERS
MOTOR SERIES

MAIN FEATURES

ø 49 encoder series recommended in feedback control systems on AC servomotors. They include a traditional incremental encoder and the Hall effect phases.

· Interchangeable with size 19 Resolver; it allows easy and cost effective mounting for the back of the motor
· Easy mechanical mounting
· Small dimensions
· Wide range of resolutions available
· High temperature resistance

EL series
Basic version with incremental outputs. Several output types available.

EF series
Optic generation of "Hall effect phases" integrated to the basic version. Signal transmission by parallel bus.

ORDERING CODE

EF 49 C 6 L 2000 Z 5 L 8 X 6 MA . XXX

SERIES
incremental encoder EL
incremental encoder with Hall phases EF

SIZE
mm 49

TYPE
blind hollow shaft C
through hollow shaft P

POLES OF THE MOTOR (EF SERIES)
4 poles 4
6 poles 6
8 poles 8

OUTPUT TYPE FOR HALL PHASES (EF SERIES)
NPN open collector C
line driver L

RESOLUTION
ppr from 1 to 2048
N.B.: please directly contact our offices for pulses availability

ZERO PULSE
without zero pulse S
with zero pulse Z

POWER SUPPLY
5 5 V DC
8/24 8 ... 24 V DC (EL series)

OUTPUT TYPE FOR INCREMENTAL SIGNALS
N NPN (EL series)
C NPN open collector (EL series)
P push pull (EL series)
L line driver

BORE DIAMETER
6 ø 6 mm
8 ø 8 mm
9 ø9,52 mm (3/8")
10 ø 10 mm
12 ø 12 mm
12.7 ø 12.7 mm (1/2")

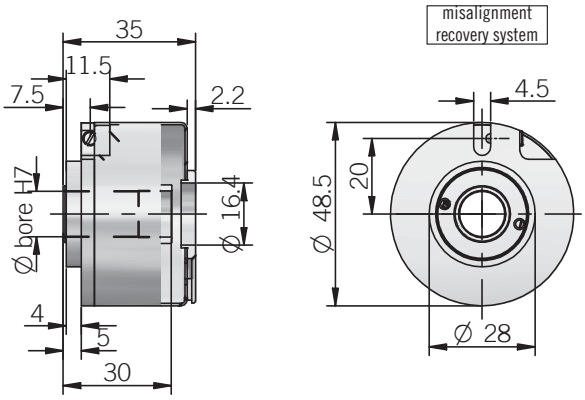
ENCLOSURE RATING
X IP 40

MAX ROTATION SPEED
6 6000 rpm

OUTPUT TYPE
PR radial cable output (standard length 0.3 m)

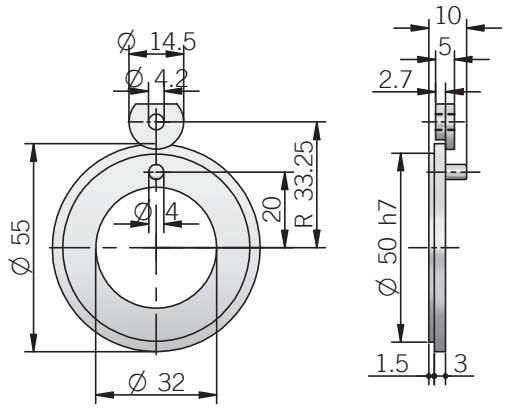
VARIANT
XXX custom version

EL - EF 49 C / P

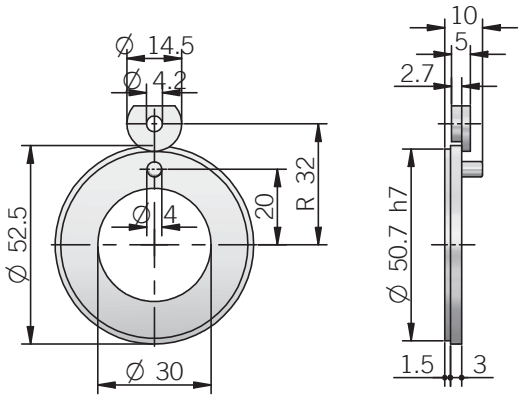


ACCESSORIES

Flanges for motor fixing



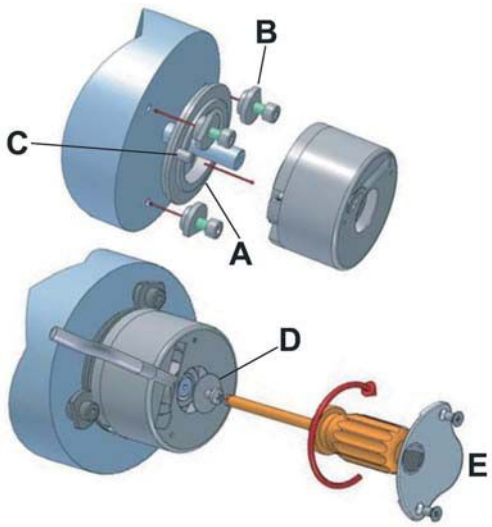
Size 19 resolver predisposition (01 version)
ordering code: **FLG000**



Size 19 resolver predisposition (14 version)
ordering code: **FLG001**

HOW TO MOUNT IT

- Insert the flange (A) on the motor.
- Tighten the proper servo-fasteners (B), without blocking them.
- Insert the encoder on the motor shaft with the misalignment recovery system just next to the peg (C).
- Place the washer on the back of the encoder and block it on the motor axle using the screw.
- Turn for phasing.
- Fix the servo-fasteners (B).
- Verify the right working of the misalignment recovery system.
- Check the connector is fully plugged in.
- Place the plastic lid (E); then screw.



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Electrical specifications

Resolution	from 1 to 2048 ppr
Max load current	15 mA for channel (line driver) 30 mA for channel
Max output frequency	150 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	IEC 61000-6-1 IEC 61000-6-3

Electrical specifications (EL series)

Power supply	5 V DC ± 10% 8 ... 24 V DC ± 5%
Output type	NPN / NPN open collector / push pull / line driver
Current consumption without load	100 mA max

Electrical specifications (EF series)

Power supply	5 V DC ± 10%
Output type for incremental signals	line driver
Output type for Hall phases	NPN open collector / line driver
Current consumption without load	150 mA max

Mechanical specifications

Bore diameter	ø 6 / 8 / 9,52 / 10 / 12 / 12,7 mm
Enclosure rating	IP 40
Max rotation speed	6000 rpm
Shock	50 G, 11 ms
Vibration	5 G, 10 ... 500 Hz
Shaft material	1.4305 / AISI 303 stainless steel
Body material	EN-AW 2011 aluminum
Housing material	nickel plated brass
Bearings	n° 2 ball bearings
Bearings life	10^9 revolutions
Operating temperature	-10° ... +85°C -10° ... +100°C on demand
Storage temperature	-25° ... +85°C
Weight	100 g
Accessories	1) 3 servo-fasteners (ordering code: 94080001) 2) flanges for fixing on size 19 Resolver predisposition (01 and 14 versions)

Connections

Function	EL Push pull / Npn / Npn open collector	EL Line driver	EF
+V DC	red	red	red
0 V	black	black	black
Ch. A	green	green	green
Ch. B	yellow	yellow	yellow
Ch. Z	blue	blue	blue
Ch. A-	/	brown	brown
Ch. B-	/	orange	orange
Ch. Z-	/	white	white
Ch. U	/	/	gray
Ch. V	/	/	violet
Ch. W	/	/	gray-pink
Ch. U-	/	/	red-blue
Ch. V-	/	/	white-green
Ch. W-	/	/	brown-green
⏚	shield	shield	shield