

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.



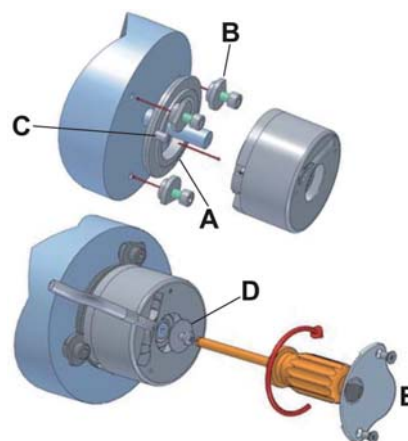
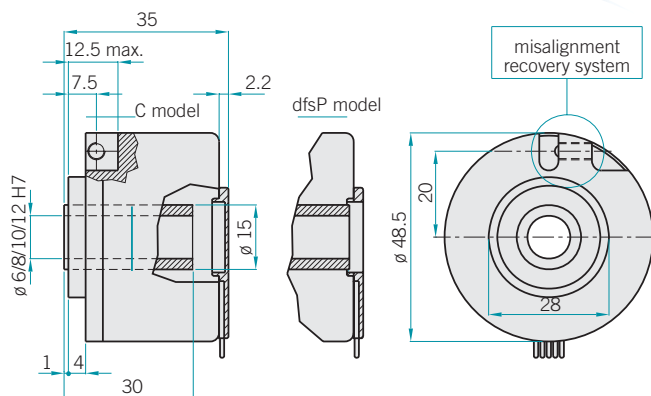
Ordering code

incremental encoder	EL	EF	size 49	Type of flange	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 5000	Zero pulse	without zero pulse S	with zero pulse Z	Power supply	5 V DC 5	(EL series) 8÷24 V DC 8/24	full stop to separate special versions	EF 49 C 6 L 2000 Z 5 L 8 X 3 MA . XXX	special version code numbered from 001 to 999	PR radial cable output (standard length 0.3 m)	MA radial cable output (standard length 0.2 m) with MA connector)	Max. rotation speed	6 6000 RPM	Enclosure rating	X IP40	Bore diameter	6 ø 6 mm	8 ø 8 mm	9 ø 9.52 mm (3/8")	10 ø 10 mm	12 ø 12 mm	12.7 ø 12.7 mm (1/2")	Output type for incremental signals	N NPN (EL series)	C NPN open collector (EL series)	P push-pull (EL series)	L line driver	please refer to page 92 for optionals about output types
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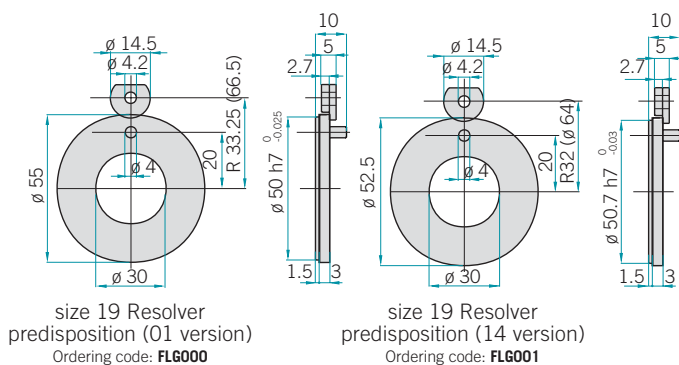
Hollow shaft incremental encoders

EL - EF 49 C / P

EL - EF 49 C / P



ACCESSORIES Flanges for fixing on motors



size 19 Resolver
predisposition (O1 version)
Ordering code: **FLG000**

size 19 Resolver
predisposition (14 version)
Ordering code: **FLG001**

HOW TO MOUNT IT

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

Electrical specifications

Resolution	from 1 to 5000 ppr
Max. load current	15 mA for channel (line driver) 30 mA for channel
Max. output frequency	150 kHz
Operating frequency	$F = \frac{\text{RPM} \cdot \text{Resolution}}{60}$

Mechanical specifications

Bore diameter	∅ 6 / 8 / 9.52 / 10 / 12 / 12.7 mm
Max. rotation speed	6000 RPM
Shock	50 G, 11 ms
Vibration	5 G, 10÷500 Hz
Bearing life	10 ⁹ revolutions
Bearings	2 ball bearings
Shaft material	stainless steel UNI X10CrNiS1809
Body material	aluminium UNI 9002/5
Housing material	steel
Enclosure rating	IP40
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 motors with size 19 Resolver predisposition (O1 and 14 versions)

Electrical specifications (EL series)

Power supply	5 V DC 8÷24 V DC
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 ±5%
Output type for incremental signals	line driver
Output type for Hall phases	line driver NPN open collector
Current consumption without load	150 mA max.