

EH-EF80C / P

INCREMENTAL ENCODERS

Incremental Encoders for Motors

The encoders of the "80" series are applied in retroaction systems on AC servomotors; they integrate, more than a traditional incremental encoder, the optic generation of "Hall effect phases".

The main characteristics are:

- contained dimensions
- high temperatures resistance
- wide range of resolutions available
- easy assembly

Serie EH

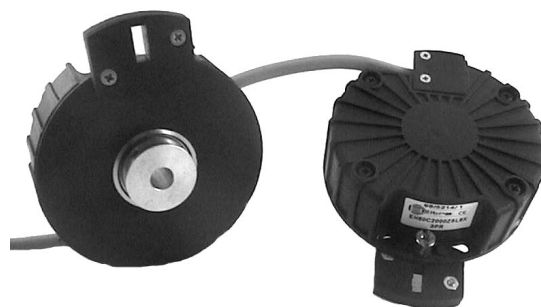
Base version with incremental encoder.

Availability of various electronic output configurations

Serie EF

Optic generation of the "Hall phases" Integrates to the base version

The transmission of signals happens in a parallel way.



General electronic characteristics

Resolutions (imp./turn)	from 200 to 2048 not electronically multiplied
Source and Sink current	15 mA per channel with Line Driver 40 mA per channel with other electronics
Max output frequency	100 KHz $F = \frac{\text{R.P.M.} \times \text{Resolutions}}{60}$

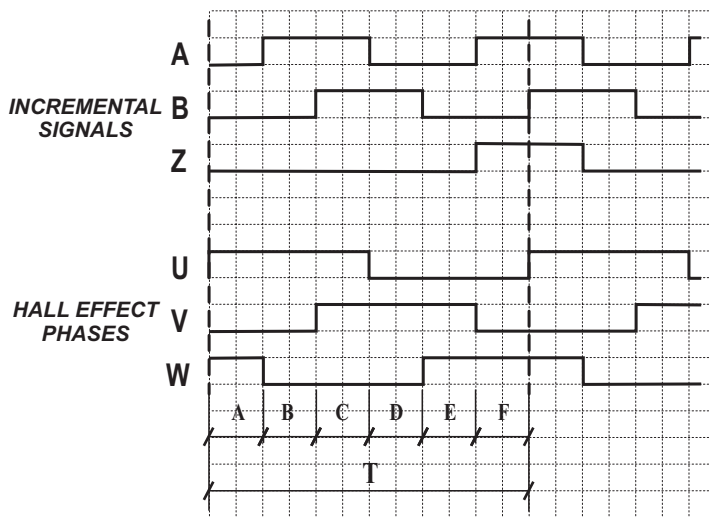
"EH" Electronic characteristics

Power supply	5 / 8 $\pm$ 24 Vdc
Available Electronics	NPN / NPN OPEN COLLECTOR / PUSH PULL / LINE DRIVER
Current consumption without load	100 mA

"EF" Electronic characteristics

Power supply	5Vdc $\pm$ 5%
Electronics for incremental phases	LINE DRIVER
Electronics for Hall effect phases	LINE DRIVER / NPN OPEN COLLECTOR
Current consumption without load	200 mA

Signal configurations

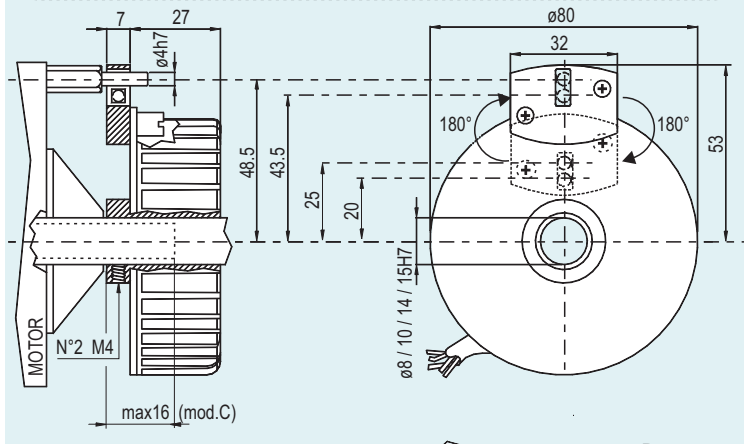


N° POLES	A / B / C / D / E / F	T
4	$30^\circ \pm 1.5^\circ$	180°
6	$20^\circ \pm 1.5^\circ$	120°
8	$15^\circ \pm 1.5^\circ$	90°

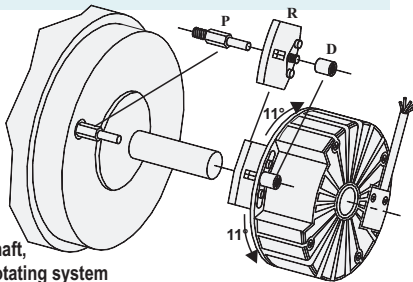
Cable colour

COLOUR	FUNCTION	EL	EF
RED	+Vdc	●	●
BLACK	0 Volt	●	●
GREEN	A	●	●
YELLOW	B	●	●
BLUE	Z	●	●
BROWN	$\overline{A}$	●	●
ORANGE	$\overline{B}$	●	●
WHITE	$\overline{Z}$	●	●
GREY	U		●
VIOLET	V		●
GREY/PINK	W		●
RED/BLUE	$\overline{U}$		●
WHITE/GREEN	$\overline{V}$		●
BROWN/GREEN	$\overline{W}$		●

EH-EF80C-P



- 1- Fix the antirotational pin.
- 2- Insert the Antirotating System for slack recuperation R in the relative encoder slot
- 3- Screw nut D
(In the case of zero timing, don't fix it)
- 4- Couple the encoder shaft with the motor shaft, ensuring that pin P is inserted in the Antirotating system
- 5- Fix the encoder shaft with the 2 M4 dowels
- 6- To time the zero position rotate the encoder (max 22°) then fix nut D.



Mechanical Characteristics

Through hole diameter EH/EF80P (mm)	ø8 / ø10 / ø14 / 15H7
Blind hole diameter EH / EF80C (mm)	ø8 FG6 / ø10 G6 N.B.: In the case of 80Cmod max insertion motor shaft 16 mm
Protection	IP54 - Standard
R.P.M.	3000
Vibrations	10G 10 + 2000 Hz
Bearings life	10 ⁸ revolutions
Bearings	n°2 ball bearings
Shaft Material	Aluminium
Cover Material	Special plastic reinforced with fibre glass
Operating Temperature	-10° + +85°C
Storage Temperature	-25° + +85°C
Weight	250 g

Ordering Codes

EF 80 P 6 L 2000 Z 5 L 8 X 3 P R . XXX

EH = incremental encoder EH series
EF = incremental encoder EF series
+ HALL effect phases

80 = Body dimension

C = with blind hole
P = with through hole

N.B.: TO BE INDICATED ONLY FOR EF / EW MODELS

4 = n° 4 poles

6 = n° 6 poles

8 = n° 8 poles

N° poles of the motor

C = NPN OPEN COLLECTOR

L = LINE DRIVER

Electronic for Hall effect
phases

from 200 to 2048 imp./turn

Resolutions
incremental encoder

S = Without zero impulse

Z = With zero impulse

Zero impulse

5 = 5Vdc

Power supply of EF model

5 / 8 ÷ 24 = 5Vdc / da 8 a 24Vdc

Encoder power supply

N.B.: LINE DRIVER available only with 5 Vdc or 8 ÷ 24 Vdc power supply.

In case of particular Customer
variant separate by a full stop

XXX =

Special Customer variants
indicated by a
number from 001 to 999

R = radial

P = output cable
standard length 0.3 m

3 = 3000

R.P.M.

X = standard IP54

Protection

8 = ø 8 mm for EH/EF80C

10 = ø 10 mm for EH/EF80C-EH/EF80P

14 = ø 14 mm for EH/EF80P

15 = ø 15 mm for EH/EF80P

Shaft hole diameter

L = LINE DRIVER

Electronics for EF mod

N = NPN

C = NPN OPEN COLLECTOR

P = PUSH PULL

L = LINE DRIVER

Electronics output
configurationN.B.: For the optionals on the output configurations see the incremental
output connections card