



EH - EF 80 C / P / K
BLIND / THROUGH HOLLOW SHAFT
INCREMENTAL ENCODER



SPECIFICATIONS

∅ 80 mm encoder series recommended in feedback control systems on AC servomotors. They include a traditional incremental encoder and commutation signals (Hall effect phases).

- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance

EL series

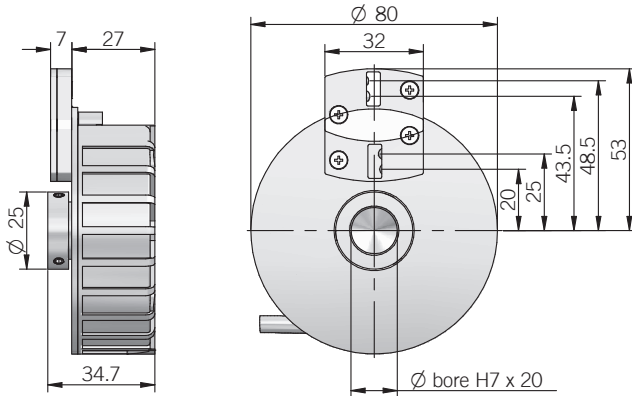
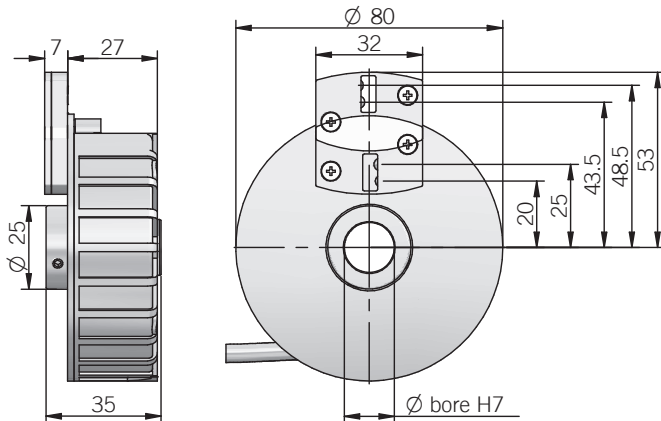
Basic version with 3 channels incremental outputs. Several output types available

EF series

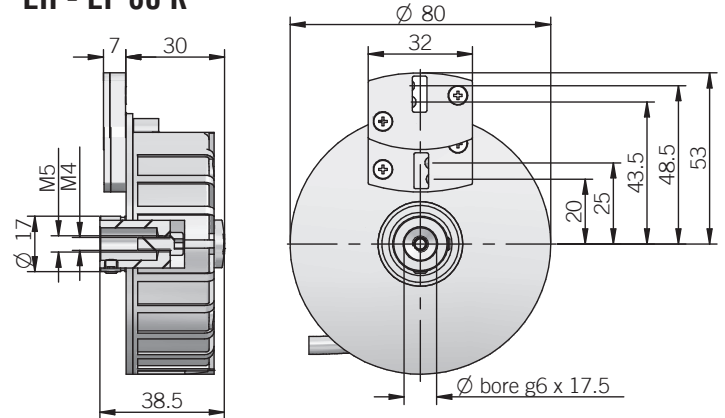
6 channels encoder with optical generation of "Hall effect phases" (commutation signals)
 Signal transmission by bit parallel bus

ORDERING CODE **EF 80C 6 L 500 S 5 L 8 X 3 PR .XXX**

SERIES incremental encoder EH incremental encoder with Hall phases EF												
MODEL blind hollow shaft 80C through hollow shaft 80P blind hollow shaft with rear fixing 80K												
MOD.EF - MOTOR POLES 4 poles (2 poles pair) 4 6 poles (3 poles pair) 6 8 poles (4 poles pair) 8												
MOD. EF - ELECTRONIC INTERFACE FOR COMMUTATION SIGNALS NPN open collector C line driver RS-422 L												
RESOLUTION ppr from 200 to 2048 <i>see table for pulses availability</i>												
ZERO PULSE without zero pulse S with zero pulse Z												
POWER SUPPLY (with L electronic interface) 5 V DC 5 (mod. EH, with L or PC electronic interface) 8 ... 24 V DC 8/24 (mod. EH) 5 ... 28 V DC 5/28												
ELECTRONIC INTERFACE (mod. EH) NPN N (mod. EH) NPN open collector C (mod. EH) push-pull P line driver L (mod. EH) power supply 5/28V - output RS-422 RS												
BORE DIAMETER mm 8 mm 10 mm 14 mm 15												
ENCLOSURE RATING IP 54 X												
MAX ROTATION SPEED (mod. P) 3000 rpm 3 6000 rpm 6												
OUTPUT TYPE radial cable (standard length 0,3 m) PR												
VARIANT custom version XXX												

EH - EF 80 C

EH - EF 80 P


dimensions in mm

EH - EF 80 K

ELECTRICAL SPECIFICATIONS

Resolution	from 200 to 2048 ppr
Power supply	5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC (EH series) 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection EH series)
Current consumption without load	100 mA max (EH series) 200 mA max (EF series)
Max load current	20 mA / channel
Output type (EH series)*	NPN / NPN open collector / push-pull / line driver
Output type for incremental signals (EF series)	line driver RS-422
Output type for Hall phases	NPN open collector (pullup max +30V DC) line driver RS-422
Max output frequency	105 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

*output levels according to power supply, for further details please see under Technical basics section

MECHANICAL SPECIFICATIONS

Bore diameter	ø 8 / 10 / 14 / 15 mm
Enclosure rating	IP 54 (IEC 60529)
Max rotation speed	3000 rpm (mod.P) 6000 rpm (mod.C / K)
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	4 x 10 ⁻⁶ kgm ²
Starting torque (at +20°C / +68°F)	< 0,04 Nm
Body material	PA66 glass fiber reinforced Shaft material
material	1.4305 / AISI 303 stainless steel
Housing material	PA66 glass fiber reinforced
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-20° ... +85 °C (-4° ... +185°F) -20° ... +100°C (-4° ... +212°F) on demand
Storage temperature	-25° ... +85 °C (-13° ... +185°F)
Fixing torque for grub screws	max 0,75 Nm

RESOLUTIONS

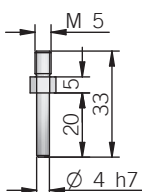
200 6 poles	1000 4 / 6 poles
250 6 poles	1024 4 / 6 / 8 poles
500 4 / 6 / 8 poles	2000 6 poles
512 6 poles	2048 6 poles

CONNECTIONS

Function	EH cable output N / C / P	EH cable output Line driver	EF cable output
+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 or pink
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

ACCESSORIES

Antirotation pin



Description	P/N	Thread	HEX
Antirotation pin	23240008	M5	7

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