

### MAIN FEATURES

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

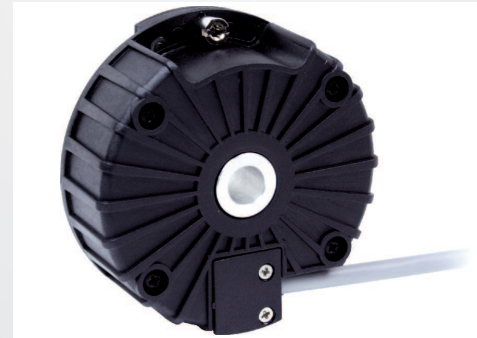
- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance

#### EL series

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

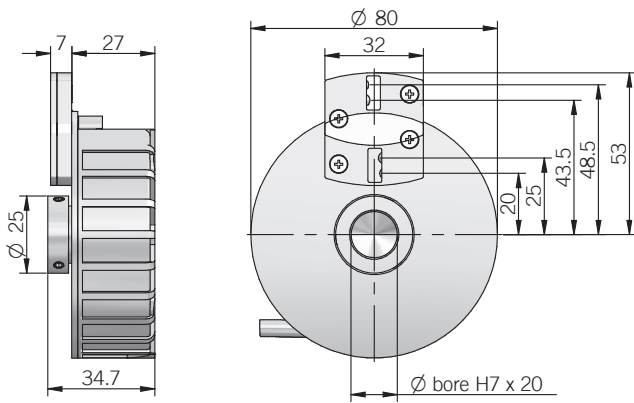
#### EF series

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

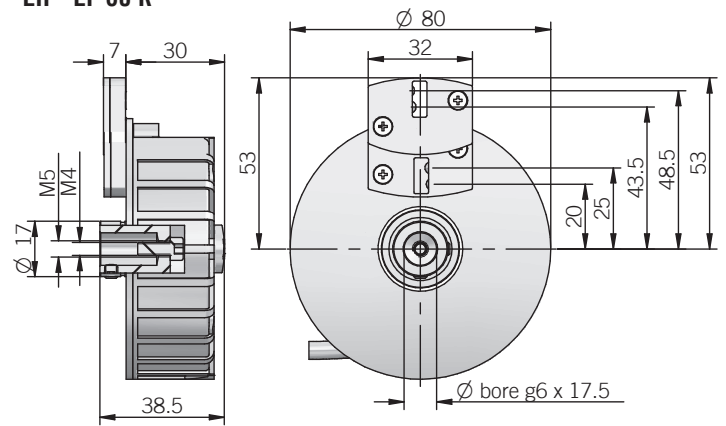


ORDERING CODE	EF	80C	6	L	500	S	5	L	8	X	3	PR	.XXX
<b>SERIES</b>													
incremental encoder													
incremental encoder with Hall phases													
<b>MODEL</b>													
blind hollow shaft													
through hollow shaft													
blind hollow shaft with rear fixing													
<b>MOD.EF - MOTOR POLES</b>													
4 poles (2 poles pair)													
6 poles (3 poles pair)													
8 poles (4 poles pair)													
<b>MOD. EF - ELECTRONIC INTERFACE FOR COMMUTATION SIGNALS</b>													
NPN open collector													
line driver RS-422													
<b>RESOLUTION</b>													
ppr from													
see table for pulses availability													
<b>ZERO PULSE</b>													
without zero pulse													
with zero pulse													
<b>POWER SUPPLY</b>													
(available with L electronic output) 5 V DC													
(mod. EH, available with L or PC electronic output) 8 ... 24 V DC													
(mod. EH) 5 ... 28 V DC													
<b>ELECTRONIC INTERFACE</b>													
(mod. EH) NPN													
(mod. EH) NPN open collector													
(mod. EH) push-pull													
line driver													
(mod. EH) power supply 5/28V - output RS-422													
<b>BORE DIAMETER</b>													
mm													
mm													
mm													
mm													
<b>ENCLOSURE RATING</b>													
IP 54													
<b>MAX ROTATION SPEED</b>													
(mod. P) 3000 rpm													
6000 rpm													
<b>OUTPUT TYPE</b>													
radial cable (standard length 0,3 m)													
<b>VARIANT</b>													
custom version													

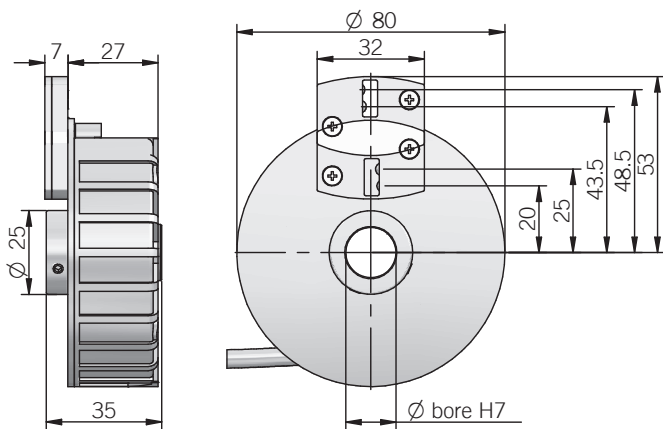
EH - EF 80 C



EH - EF 80 K



EH - EF 80 P



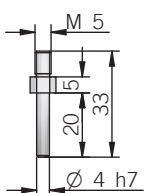
dimensions in mm

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
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

ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 200 to 2048 ppr
<b>Power supply</b>	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)
<b>Current consumption without load</b>	100 mA max (EH series) 200 mA max (EF series)
<b>Max load current</b>	20 mA / channel
<b>Output type (EH series)*</b>	NPN / NPN open collector / push-pull / line driver
<b>Output type for incremental signals (EF series)</b>	line driver RS-422
<b>Output type for Hall phases</b>	NPN open collector (pullup max +30V DC) line driver RS-422
<b>Max output frequency</b>	105 kHz
<b>Counting direction</b>	A leads B clockwise (shaft view)
<b>Electromagnetic compatibility</b>	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

<b>Bore diameter</b>	ø 8 / 10 / 14 / 15 mm
<b>Enclosure rating</b>	IP 54 (IEC 60529)
<b>Max rotation speed</b>	3000 rpm (mod.P) 6000 rpm (mod.C / K)
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	4 x 10 <sup>-6</sup> kgm <sup>2</sup>
<b>Starting torque (at +20°C / +68°F)</b>	< 0,04 Nm
<b>Body material</b>	PA66 glass fiber reinforced
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	PA66 glass fiber reinforced
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature</b>	-20° ... +85 °C (-4° ... +185°F) -20° ... +100°C (-4° ... +212°F) on demand
<b>Storage temperature</b>	-25° ... +85 °C (-13° ... +185°F)
<b>Fixing torque for grub screws</b>	max 0,75 Nm
<b>Weight</b>	250 g (8,82 oz)

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