

### MAIN FEATURES

Hollow shaft  $\varnothing$  48 mm encoder series recommended for motor feedback.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +24 V DC with several electrical interfaces available
- Up to 150 kHz output frequency
- Cable output, connector available on cable end
- Through hollow shaft diameter up to 8 mm
- Mounting by stator coupling



### ORDERING CODE

**EL 48C 500 S 5 L 8 X 6 PR .XXX**

**SERIES**  
incremental encoder series **EL**

**MODEL**  
blind hollow shaft **48C**  
through hollow shaft **48P**

**RESOLUTION**  
ppr from **100** to **2048**  
see table for pulses availability

**ZERO PULSE**  
without zero pulse **S**  
with zero pulse **Z**

**POWER SUPPLY**  
(with L electrical interface) 5 V DC **5**  
8 ... 24 V DC **8/24**

**ELECTRICAL INTERFACE**  
NPN open collector **C**  
push-pull **P**  
line driver **L**

**BORE DIAMETER**  
mm **6**  
mm **8**

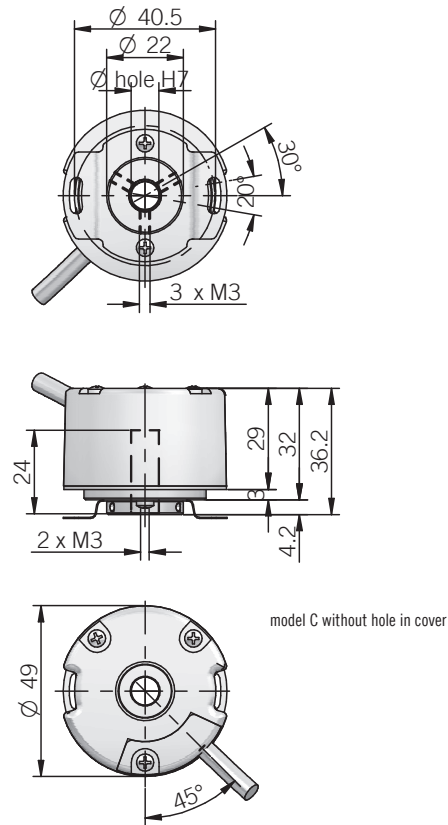
**ENCLOSURE RATING**  
IP **40 X**

**MAX ROTATION SPEED**  
6000 rpm **6**

**OUTPUT TYPE**  
radial cable (standard length 0,3 m) **PR**  
preferred cable lengths 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

**VARIANT**  
custom version **XXX**

## 48 C / P



model C without hole in cover

dimensions in mm

## ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 100 to 2048 ppr
<b>Power supply</b>	5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 25,2 V DC
<b>Current consumption without load</b>	100 mA max
<b>Max load current</b>	C / P = 30 mA / channel L = 20 mA / channel
<b>Output type*</b>	NPN open collector (pull-up max +30V DC) push-pull / line driver HTL (AELC-7272) line driver RS-422 (AELT-5000 or equivalent)
<b>Max output frequency</b>	150 kHz
<b>Counting direction</b>	A leads B clockwise (shaft view)
<b>Electromagnetic compatibility</b>	according to 2014/30/EU directive
<b>RoHS</b>	according to 2011/65/EU directive
<b>UL / CSA</b>	certificate n. E212495

\* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

## MECHANICAL SPECIFICATIONS

<b>Bore diameter</b>	ø 6 / 8 mm
<b>Enclosure rating</b>	IP 40 (IEC 60529)
<b>Max rotation speed</b>	6000 rpm
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ... 500 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	2,5 x 10 <sup>-6</sup> kgm <sup>2</sup> (59 x 10 <sup>-6</sup> lbft <sup>2</sup> )
<b>Starting torque (at +20°C / +68°F)</b>	< 0,01 Nm (1,42 Ozin)
<b>Bearing stage material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	PA 66 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)
<b>Storage temperature</b>	-25° ... +85°C (-13° ... +185°F)
<b>Weight</b>	100 g (3,53 oz)

## CONNECTIONS

Function	Cable C / P	Cable L
+V DC	red	red
0 V	black	black
Ch. A	green	green
Ch. A-	/	brown
Ch. B	yellow	yellow
Ch. B-	/	orange
Ch. Z	blue	blue
Ch. Z-	/	white
≡	shield	shield

## RESOLUTIONS

100 - 200 - 360 - 400 - 500 - 512 - 1000 - 1024 - 2000 - 2048

please directly contact our offices for other pulses, preferred resolutions in bold