

MAIN FEATURES

∅ 120 mm through hollow shaft encoder designed for medium / big size motors.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +24 V DC with several electrical interfaces available
- Up to 105 kHz output frequency
- Cable output, connector available on cable end
- Through hollow shaft diameter up to 60 mm
- Shaft fixing by grub screws



ORDERING CODE

EL 120P 1024 S 5/28 P 50 X 3 PR .XXX

SERIES
incremental encoder series **EL**

MODEL
through hollow shaft with spring **120P**

RESOLUTION
ppr from **400** 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**
(with L electrical interface) 8 ... 24 V DC **8/24**
5 ... 28 V DC **5/28**

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

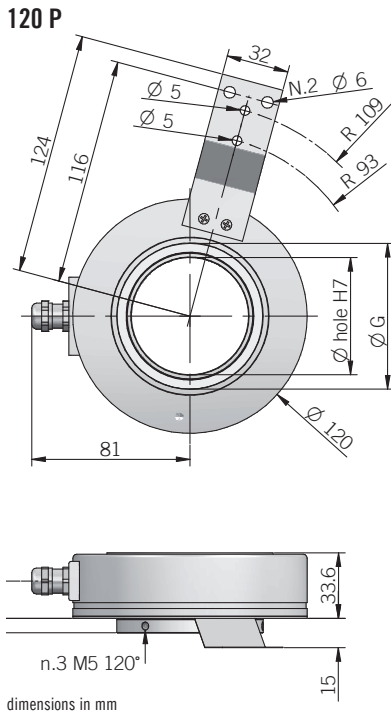
BORE DIAMETER
mm **40**
mm **50**
mm **60**

ENCLOSURE RATING
IP 54 **X**

MAX ROTATION SPEED
3000 rpm **3**

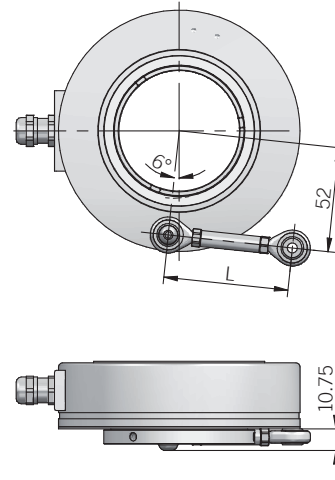
OUTPUT TYPE
radial cable (standard length 0,5 m) **PR**
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

VARIANT
custom version **XXX**



dimensions in mm

WITH TORQUE ARM



for torque arm please refer to Accessories section

ELECTRICAL SPECIFICATIONS	
Resolution	from 400 to 2048 ppr
Power supply	5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection)
Current consumption without load	100 mA max
Max load current	C / P = 50 mA / channel L = 20 mA / channel
Output type*	NPN open collector (pullup max +30V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent)
Max output frequency	105 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHs	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

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

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

SHAFT DIAMETER	G
∅ 40	∅ 65
∅ 50	∅ 65
∅ 60	∅ 75

MECHANICAL SPECIFICATIONS	
Bore diameter	∅ 40 / 50 / 60 mm
Enclosure rating	IP 54 (IEC 60529)
Max rotation speed	3000 rpm
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	approx 215 x 10 ⁻⁶ kgm ² (51 x 10 ⁻⁴ lbft ²)
Starting torque (at +20°C / +68°F)	< 0,05 Nm (7 Ozin)
Bearing stage material	EN-AW 2011 aluminum
Shaft material	EN-AW 2011 aluminum
Housing material	EN-AW 2011 aluminum
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	0° ... +60 °C (+32° ... +140°F)
Storage temperature	-25° ... +70 °C (-13° ... +158°F)
Fixing torque for grub screws	max 0,75 Nm (106 Ozin)
Weight	750 g (26,46 oz)

RESOLUTIONS
400 - 800 - 1000 - 1024 - 1440 - 1600 - 2000 - 2048

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