

MAIN FEATURES

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

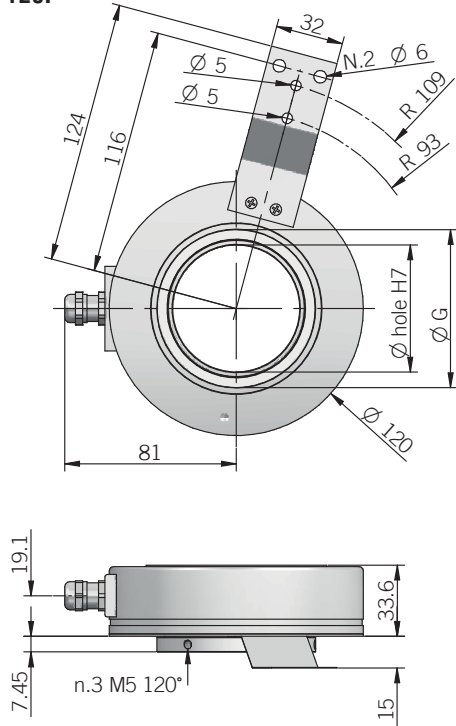
- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +24 V DC with several electrical interfaces available
- Up to 105 kHz output frequency
- Cable output, connectors available on cable end
- Through hollow shaft diameter up to 60 mm
- Shaft fixing by grub screws



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

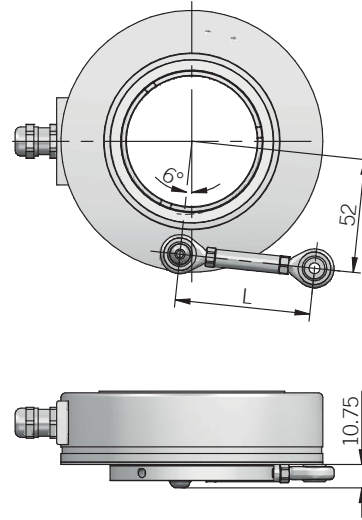
SERIES incremental encoder series EL	MODEL through hollow shaft with spring 120P	RESOLUTION ppr from 400 to 2048 refer to the available pulses list	ZERO PULSE without zero pulse S with zero pulse Z	POWER SUPPLY (with L electrical interface) 5 V DC 5 (with L electrical interface) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28	ELECTRICAL INTERFACE 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
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120P



recommended mating shaft tolerance g6
dimensions in mm

INSTALLATION WITH TORQUE ARM



for torque arm please refer to Accessories

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

ELECTRICAL SPECIFICATIONS

Resolution	from 400 to 2048 ppr
Power supply¹	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
Electrical interface²	push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar)
Max output frequency	105 kHz
Counting direction	A leads B clockwise (shaft view)
Index signal	90°e (gated A&B)
Mean time to dangerous failure (MTTF)_d³ according to EN ISO 13849-1	429 years
Mission time (T_m)³	20 years
Diagnostic coverage (DC)³	0%
Cable type	shielded - fixed installation conductors section 0,22 mm ² / AWG 24 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

RESOLUTIONS

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

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

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	aluminum
Shaft material	aluminum
Housing material	aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	0° ... +60 °C (+32° ... +140°F)
Storage temperature⁵	-25° ... +70 °C (-13° ... +158°F)
Weight	750 g (26,46 oz)

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ this product is not a safety component, for further details refer to TECHNICAL BASICS section

⁴ measured on the transducer flange

⁵ condensation not allowed

CONNECTIONS

Function	Cable C / P	Cable L
+V DC	red	red
0 V	black	black
A+	green	green
A-	/	brown or grey
B+	yellow	yellow
B-	/	orange
Z+	blue	blue
Z-	/	white
⊖	shield	shield