

MAIN FEATURES

Series of encoders for direct mounting on motors; integrated elastic coupling allows radial and axial shaft play.

- 3 channel encoder (A / B / Z) up to 1024 ppr
- Power supply up to +24 V DC with various electrical interfaces available
- Output frequency up to 150 kHz
- Cable output, connectors available on cable end
- Up to 10 mm bore diameter
- Integrated elastic coupling



ORDERING CODE

EH 53A 500 S 8/24 P 8 X 6 PR.N .XXX

SERIES
incremental encoder series **EH**

MODEL
adjustable flange model **53A**
adjustable flange model **53B**

RESOLUTION
ppr from **50** to **1024**
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**
8 ... 24 V DC **8/24**

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

BORE DIAMETER
mm **6**
mm **8**
mm **10**

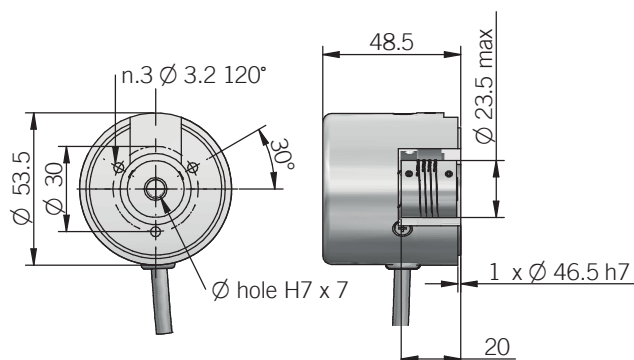
ENCLOSURE RATING
IP 54 **X**

MAX ROTATION SPEED
6000 rpm **6**

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

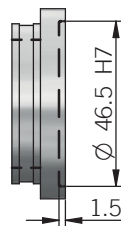
VARIANT
custom version **XXX**

53A



recommended mating shaft tolerance g6
dimensions in mm

53B INTERFACE



ELECTRICAL SPECIFICATIONS

Resolution	from 100 to 1024 ppr
Power supply¹	5 = 4,5 ... 5,5 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	NPN open collector (pull-up max +30V DC) push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar)
Max output frequency	150 kHz
Counting direction	A leads B clockwise (shaft view)
Index signal	180°e (gated A)
Mean time to dangerous failure (MTTF)_d³ according to EN ISO 13849-1	208 years
Mission time (Tm)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

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

MECHANICAL SPECIFICATIONS

Bore diameter	ø 6 / 8 / 10 mm
Enclosure rating	IP 54 (IEC 60529)
Max rotation speed	6000 rpm
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	1 x 10 ⁻⁶ kgm ² (24 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	PA66 glass fiber reinforced
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	-10° ... +60°C (+14° ... +140°F)
Storage temperature⁵	-25° ... +70°C (-13° ... +158°F)
Weight	150 g (5,29 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

RESOLUTIONS

50 - 100 - 120 - 125 - 128 - 150 - 180 - 200 - 250 - 256 - 300 - 360 - 400 - 500 - 512 - 600 - 720 - 1000 - 1024

please directly contact our offices for other pulses