

### MAIN FEATURES

Miniaturized  $\varnothing$  38 mm encoder series for application in small devices.  
Recommended when a minimal size is required even providing excellent performances.

- 3 channel encoder (A / B / Z) up to 1024 ppr
- Power supply up to +30 V DC with several electrical interfaces available
- Up to 105 kHz output frequency
- Cable output, connectors available on cable end
- Solid shaft diameter up to 6 mm
- Mounting by clamping or centering square flange



### ORDERING CODE

EH 38A 500 S 5/28 P 6 X 3 PR .XXX

**SERIES**  
incremental encoder series **EH**

**MODEL**  
clamping flange  $\varnothing$  20 mm **38A**  
square flange  $\square$  36,5 mm **38B**  
square flange  $\square$  32 mm **38D**

**RESOLUTION**  
ppr from **50** to **1024**  
refer to the available pulses list

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

**POWER SUPPLY**  
5 V DC **5**  
5 ... 28 V DC **5/28**

**ELECTRICAL INTERFACE**  
NPN open collector **C**  
push-pull **P**  
line driver **L**  
power supply 5/28V - output RS-422 **RS**

**SHAFT DIAMETER**  
mm **6**

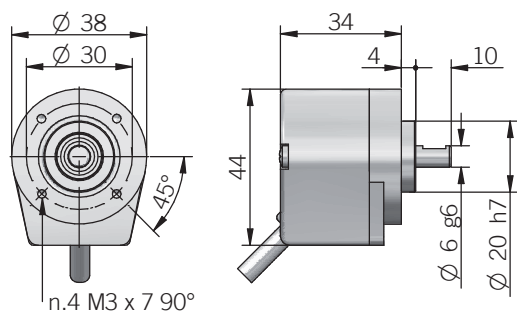
**ENCLOSURE RATING**  
IP 54 **X**

**MAX ROTATION SPEED**  
3000 rpm **3**

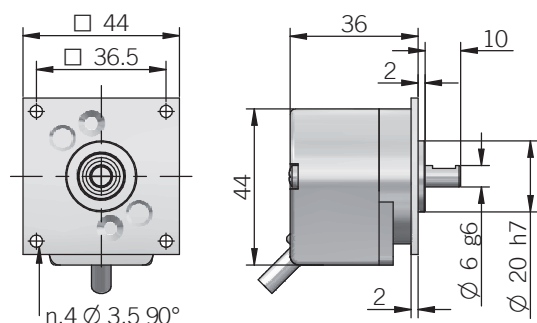
**OUTPUT TYPE**  
radial cable (standard length 0,5 m) **PR**  
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

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

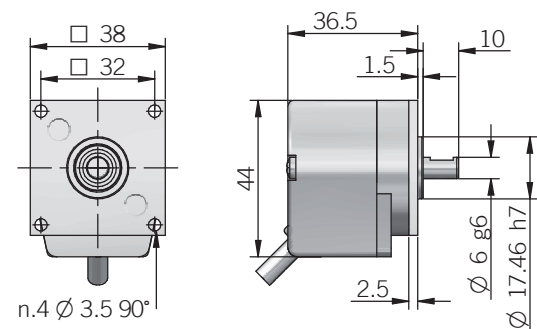
## 38 A



## 38 B



## 38 D



recommended mating shaft tolerance H7  
dimensions in mm

## RESOLUTIONS

50\* - 100 - 200 - 250 - 256 - 360 - 400 - 500 - 512 - 1000 - 1024

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

\*available only without zero pulse

## ELECTRICAL SPECIFICATIONS

Resolution	from 50 to 1024 ppr
Power supply <sup>1</sup>	5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 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 interface <sup>2</sup>	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or similar)
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

## MECHANICAL SPECIFICATIONS

Shaft diameter	$\varnothing 6$ mm
Enclosure rating	IP 54 (IEC 60529)
Max rotation speed	3000 rpm
Max shaft load <sup>3</sup>	5 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	$0,05 \times 10^{-6} \text{ kgm}^2$ ( $1,2 \times 10^{-6} \text{ lbft}^2$ )
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum UNI 5076
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	PA66 glass fiber reinforced
Bearings	n.2 ball bearings
Bearings life	$10^9$ revolutions
Operating temperature <sup>4,5</sup>	-20° ... +70°C (-4° ... +158°F)
Storage temperature <sup>5</sup>	-20° ... +70°C (-4° ... +158°F)
Weight	150 g (5,29 oz)

<sup>1</sup> as measured at the transducer without cable influences

<sup>2</sup> for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

<sup>3</sup> maximum load for static usage

<sup>4</sup> measured on the transducer flange

<sup>5</sup> 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
$\frac{\square}{\square}$	shield	shield