

### 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 +24 VDC with several electronic interfaces available
- Up to 100 kHz output frequency
- Cable output, connectors available on cable end
- Solid shaft diameter up to 6 mm
- Mounting by clamping or centering square flange

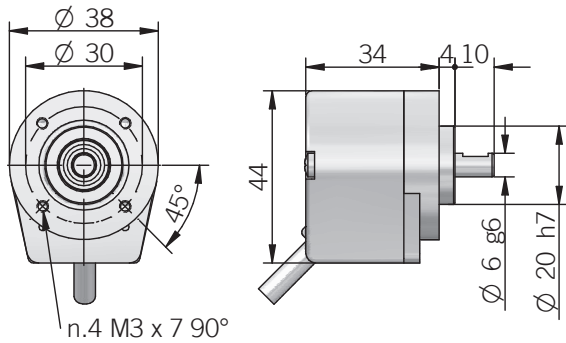


### ORDERING CODE

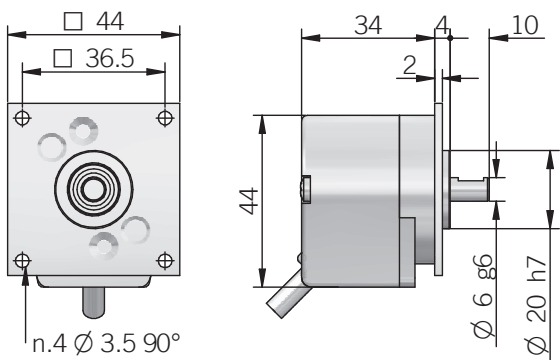
**EH 38A 500 S 8/24 P 6 X 3 PR .XXX**

<b>SERIES</b> incremental encoder series <b>EH</b>	<b>MODEL</b> clamping flange $\varnothing$ 20 mm <b>38A</b> centering square flange $\varnothing$ 20 mm <b>38B</b> centering square flange $\varnothing$ 17,46 mm <b>38D</b>	<b>RESOLUTION</b> ppr from <b>50</b> to <b>1024</b> <i>see table for pulses availability</i>	<b>ZERO PULSE</b> without zero pulse <b>S</b> with zero pulse <b>Z</b>
	<b>POWER SUPPLY</b> 5 V DC <b>5</b> 8 ... 24 V DC <b>8/24</b>		
	<b>ELECTRONIC INTERFACE</b> NPN <b>N</b> NPN open collector <b>C</b> push-pull <b>P</b> push-pull protected (AEIC-7272) <b>PC</b> line driver <b>L</b>		
	<b>SHAFT DIAMETER</b> mm <b>6</b>		
	<b>ENCLOSURE RATING</b> IP 54 <b>X</b>		
	<b>MAX ROTATION SPEED</b> 3000 rpm <b>3</b>		
	<b>OUTPUT TYPE</b> radial cable (standard length 0,5 m) <b>PR</b>		
	<b>VARIANT</b> custom version <b>XXX</b>		

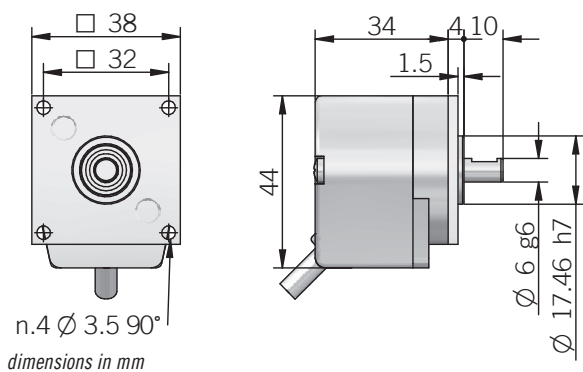
**EH 38 A**



**EH 38 B**



**EH 38 D**



n.4 Ø 3.5 90°  
dimensions in mm

**ELECTRICAL SPECIFICATIONS**

<b>Resolution</b>	from 50 to 1024 ppr
<b>Power supply</b>	5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection only with PC electronic)
<b>Current consumption without load</b>	100 mA max
<b>Max load current</b>	N / C / P / PC = 50 mA / channel L = 20 mA / channel
<b>Output type*</b>	NPN / NPN open collector / push-pull / line driver
<b>Max output frequency</b>	100 kHz
<b>Counting direction</b>	A leads B clockwise (shaft view)
<b>Electromagnetic compatibility</b>	IEC 61000-6-1 IEC 61000-6-4

\*output levels according to power supply, for further details please see under Technical basics section

**MECHANICAL SPECIFICATIONS**

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

**CONNECTIONS**

Function	Cable output N / C / P / PC	Cable output Line driver
+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**

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