

# EH-EL40A / B / C / E INCREMENTAL ENCODERS

## Incremental encoders

- Series of miniaturized encoders ø42 for general applications.
- Resolutions up to 2000 imp/turn with zero for EL series and up to 400 imp/turn for the EH series.
  - Different electronic configurations available with power supply up to 28 Vdc for the EL series and up to 24 Vdc for the EH series
  - Max output frequency up to 100 KHz for the EL series and up to 40KHz for the EH series
  - Output cable, eventual connector applied to the end of the cable
  - Different flanges available
  - Speed rotation up to 6000 rpm
  - Protection IP65



## Ordering codes

**EL 40 A 500 Z 5/28 N 6 X 6 P R . XXX**

In case of particular Customer variant separate with a full stop

**EL** = incremental encoder EL series  
**EH** = incremental encoder EH series

**40** = body dimension

**A** = mod.EH-EL40A  
**B** = mod.EH-EL40B  
**C** = mod.EH-EL40C  
**E** = mod.EH-EL40E

**Type of flanges**

from **1** to **2000** imp./turn EL series  
 from **50** to **400** imp./turn EH series

**Resolutions**

N.B.: For impulse availability contact directly our offices

**S** = without zero impulse  
**Z** = with zero impulse (only EL series)

**Zero Impulse**

**5 ÷ 28** = power supply for the EL series  
**5 / 8 ÷ 24** = power supply for the EH series

**Encoder power supply (Vdc)**

N.B.: LINE DRIVER available only with 5 Vdc or 8 ÷ 24 Vdc power supply

**XXX** = Particular Customer variants indicated by a progressive number from 001 to 999

**R** = radial  
**A** = axial

**P** = standard output cable 0.5 m

**3** = 3000 R.P.M. EH-EL40C / E  
**6** = 6000 R.P.M. EL40A / B

**X** = standard IP54  
**S** = optional IP65

**Protection**

**4** = ø 4 mm EH-EL40E  
**6** = ø 6 mm EH-EL40A / B / C

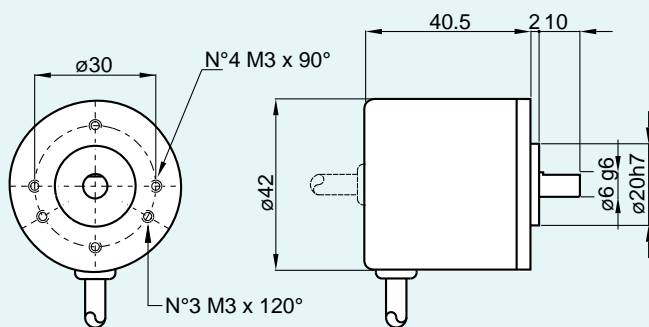
**Shaft diameter**

**N** = NPN  
**C** = NPN OPEN COLLECTOR  
**P** = PUSH PULL  
**L** = LINE DRIVER (only the EL series)

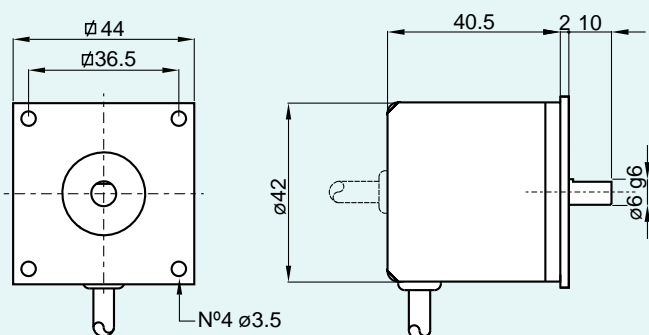
**Electronic output configuration**

N.B.: For the optionals on the output configurations see the output incremental connections card

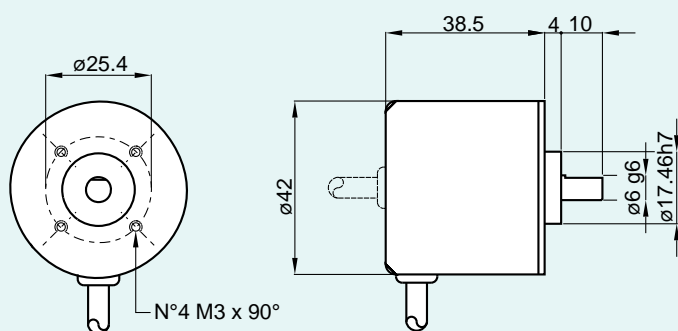
### EH-EL40A



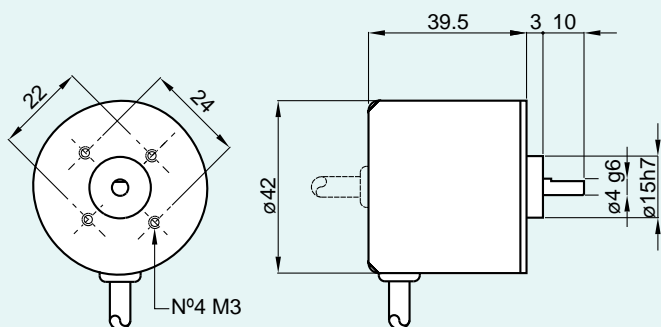
### EH-EL40B



### EH-EL40C



### EH-EL40E



### Electronic Characteristics EL Series

<b>Resolutions</b>	From 1 to 2000 impulses / turn
<b>Power supply</b>	5 ÷ 28 Vdc N.B.: LINE DRIVER only with 5 / 8÷24 Vdc power supply
<b>Current consumption without load</b>	80 mA
<b>Max commutable current</b>	50 mA per channel 20 mA per channel with LINE DRIVER
<b>Electronic output configuration</b>	NPN / NPN OPEN COLLECTOR / PUSH PULL / LINE DRIVER
<b>Max output frequency</b>	Max 100 KHz $F = \frac{\text{RPM} \times \text{Resolutions}}{60}$

### Electronic Characteristics EH Series

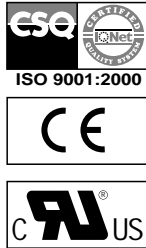
<b>Resolutions</b>	From 50 to 400 impulses / turn
<b>Power supply</b>	5 Vdc / 8 ÷ 24 Vdc N.B.: LINE DRIVER only with 5 / 8÷24 Vdc power supply
<b>Current consumption without load</b>	50 mA bidirectional
<b>Max commutable current</b>	50 mA per channel 20 mA per channel with LINE DRIVER
<b>Electronic output configuration</b>	NPN / NPN OPEN COLLECTOR / PUSH PULL / LINE DRIVER
<b>Max output frequency</b>	Max 40 KHz $F = \frac{\text{RPM} \times \text{Resolution}}{60}$

### Mechanical Characteristics

<b>Shaft diameter (mm)</b>	ø4 g6 EH-EL40E ø6 g6 EH-EL40A / B / C
<b>Protection</b>	IP54 - Standard EH-EL40C / E IP65 - Optional EH-EL40A / B
<b>R.P.M. Max</b>	3000 continuous EH-EL40C / E 6000 continuous EL40A / B
<b>Max shaft load</b>	5N (0.5 Kp) axial 5N (0.5 Kp) radial
<b>Shock</b>	50 G for 11 msec
<b>Vibrations</b>	10G 10 ÷ 2000 Hz
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Bearings</b>	n°2 ball bearings
<b>Shaft material</b>	Stainless steel AISI303
<b>Body material</b>	Aluminium D11S - UNI 9002/5
<b>Cover material</b>	Special plastic reinforced with glass fibre
<b>Operating Temperature</b>	0° ÷ +60°C
<b>Storage Temperature</b>	-25° ÷ +70°C
<b>Weight</b>	100 g

IN002GB0803A





# EH-EL40G / H / I INCREMENTAL ENCODERS

## Incremental encoders

- Series of miniaturized encoders  $\varnothing 42$  for generic applications.
- Resolutions up to 2000 imp/turn with zero for the EL series and up to 400 imp/turn for the EH series .
  - Different electronic configurations available with power supply up to 28 Vdc for the EL series and up to 24 Vdc for the EH series
  - Max output frequency up to 100 KHz for the EL series and up to 40KHz for the EH series
  - Output cable, eventual connector applied to the end of the cable
  - Different flanges available
  - Speed rotation up to 3000 rpm
  - Protection up to IP54



## Ordering Codes

**EL 40 G 500 Z 5/28 N 6 X 3 P R . XXX**

In case of particular Customer variant separate with a full stop

**EL** = incremental encoder EL series  
**EH** = incremental encoder EH series

**40** = body dimension

**G** = mod.EH-EL40G  
**H** = mod.EH-EL40H  
**I** = mod.EH-EL40I  
**Type of flanges**

from **1** to **2000** imp./turn EL series  
from **50** to **400** imp./turn EH series  
**Resolutions**  
N.B.: For impulse availability contact directly our offices

**S** = without zero impulse  
**Z** = with zero impulse (only EL series)  
**Zero impulse**

**5 ÷ 28** = power supply EL series  
**5 / 8 ÷ 24** = power supply EH series  
**Encoder power supply (Vdc)**  
N.B.: LINE DRIVER available only with 5 Vdc or 8 ÷ 24 Vdc power supply

**XXX** = Special Customer variants indicated by a progressive number from 001 to 999

**R** = radial  
**A** = axial

**P** = standard output cable 0.5 m

**3** = 3000

**R.P.M.**

**X** = standard IP54

**Protection**

**6** =  $\varnothing$  6 mm EH-EL40G

**Hole diameter**

**6** =  $\varnothing$  6 mm EH-EL40H / I

**Shaft diameter**

**N** = NPN

**C** = NPN OPEN COLLECTOR

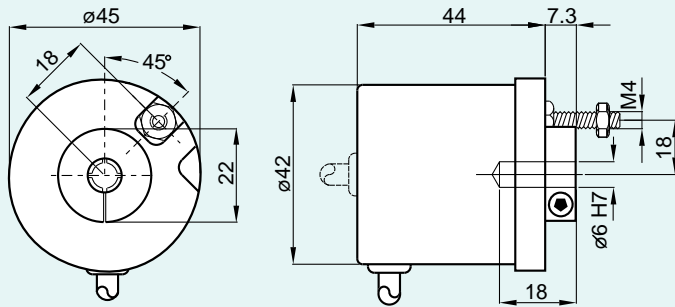
**P** = PUSH PULL

**L** = LINE DRIVER (only the EL series)

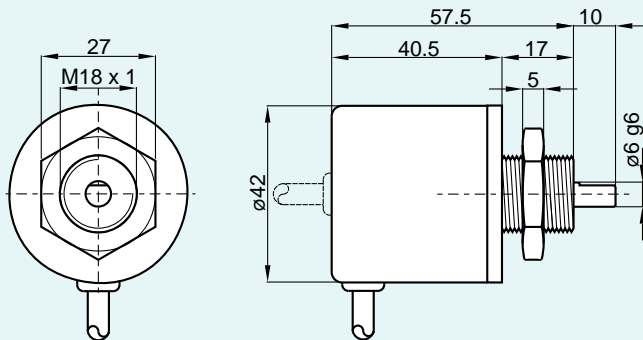
**Electronic output configuration**

N.B.: For the optionals on the output configurations see the output incremental connections card

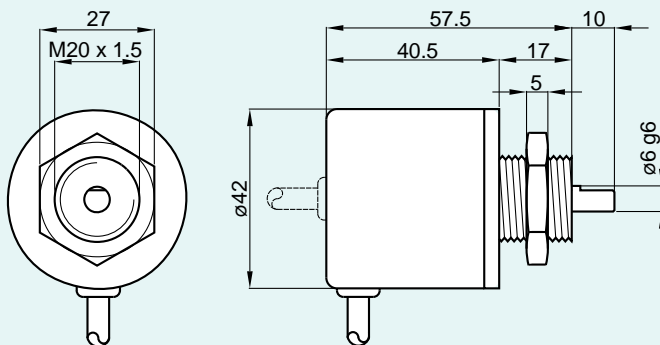
### EH-EL40G



### EH-EL40H



### EH-EL40I



### Electronic Characteristics EL series

<b>Resolutions</b>	from 1 to 2000 impulses / turn
<b>Power Supply</b>	5 ÷ 28 Vdc N.B.: LINE DRIVER only 5 / 8-24 Vdc configuration
<b>Current consumption without load</b>	80 mA
<b>Max output current</b>	50 mA per channel 20 mA per channel with LINE DRIVER
<b>Electronic output configuration</b>	NPN / NPN OPEN COLLECTOR / PUSH PULL / LINE DRIVER
<b>Max output frequency</b>	Max 100 KHz $F = \frac{\text{RPM} \times \text{Resolution}}{60}$

### Electronic Characteristics EH series

<b>Resolutions</b>	from 50 to 400 impulses / turn
<b>Power Supply</b>	5 Vdc / 8 ÷ 24 Vdc N.B.: LINE DRIVER only with supply of 5 / 8-24 Vdc
<b>Current consumption without load</b>	50 mA bidirectional 100 mA bidirectional with zero
<b>Max commutable current</b>	50 mA per channel 20 mA per channel with LINE DRIVER
<b>Electronic output configuration</b>	NPN / NPN OPEN COLLECTOR / PUSH PULL / LINE DRIVER
<b>Max output frequency</b>	Max 40 KHz $F = \frac{\text{RPM} \times \text{Resolution}}{60}$

### Mechanical Characteristics

<b>Shaft Diameter (mm)</b>	ø6 g6	EH-EL40H / I
<b>Hole diameter(mm)</b>	ø6 h7	EH-EL40G
<b>Protection</b>	IP54 - Standard	
<b>R.P.M. Max</b>	3000 continuous	
<b>Max shaft load</b>	5N (0.5 Kp) axial 5N (0.5 Kp) radial	
<b>Shock</b>	50 G for 11 msec	
<b>Vibrations</b>	10G 10 ÷ 2000 Hz	
<b>Bearings life</b>	10 <sup>9</sup> revolutions	
<b>Bearings</b>	n°2 ball bearings	
<b>Shaft material</b>	Stainless steel AISI303	
<b>Body Material</b>	Aluminium D11S - UNI 9002/5	
<b>Cover material</b>	Special plastic reinforced with glass fibre	
<b>Operating Temperature</b>	0° ÷ +60°C	
<b>Storage Temperature</b>	-25° ÷ +70°C	
<b>Weight</b>	150 g	

