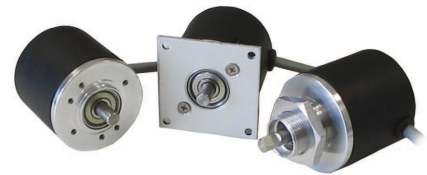


MAIN FEATURES

Miniaturized \varnothing 42 mm encoder series for general factory automation applications.

- 3 channel encoder (A / B / Z) up to 14400 ppr
- Power supply up to +28 V DC with several electrical interfaces available
- Up to 500 kHz output frequency
- Cable output, connector available on cable end
- Solid shaft diameter up to 8 mm
- Mounting by clamping, threaded or synchronous flange



ORDERING CODE

ER 40A 100 S 5/28 P 6 X 6 P R .XXX

SERIES
 incremental encoder series EL
 incremental encoder series ER

MODEL
 clamping flange \varnothing 20 mm 40A
 square flange \square 36,5 mm 40B
 clamping flange \varnothing 17,46 mm 40C
 M18 threaded flange 40H
 M20 threaded flange 40I
 synchronous flange \varnothing 21 mm 40N
 synchronous flange \varnothing 30 mm 40X

RESOLUTION
 (mod. A / B) ppr from 1 to 14400
 (mod. C / H / I / N / X) ppr from 1 to 2500
 see table for pulses availability

ZERO PULSE
 without zero pulse S
 with zero pulse Z

POWER SUPPLY
 (with L electrical interface) 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
 (mod. C) mm 4
 (mod. A / B / C / H / I / N) mm 6
 (mod. X) mm 8

ENCLOSURE RATING
 IP 54 X
 (mod. A / B) IP 66 S

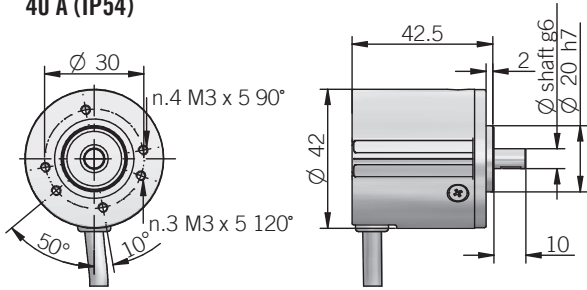
MAX ROTATION SPEED
 (IP 66) 3000 rpm 3
 (IP 54) 6000 rpm 6

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

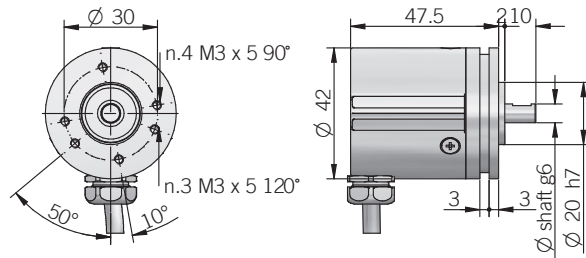
DIRECTION TYPE
 (mod. A / B / C / H / I / N) axial A
 radial R

VARIANT
 custom version XXX

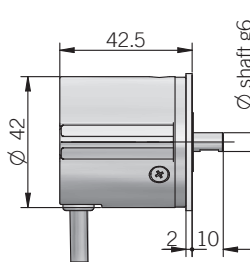
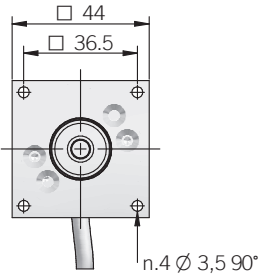
40 A (IP54)



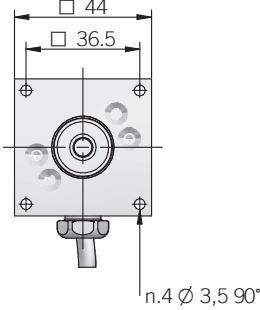
40 A (IP 66)



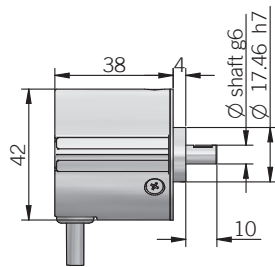
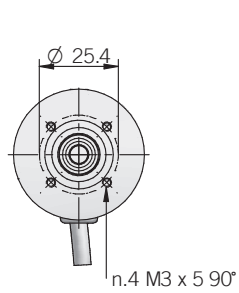
40 B (IP54)



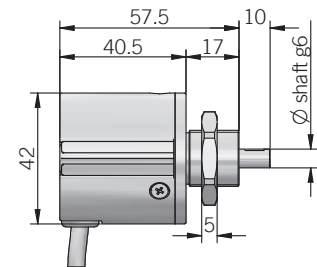
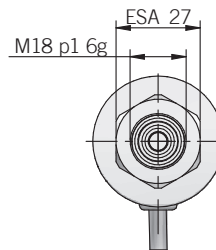
40 B (IP 66)



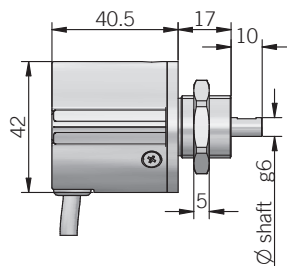
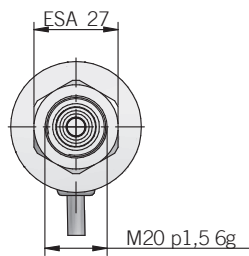
40 C



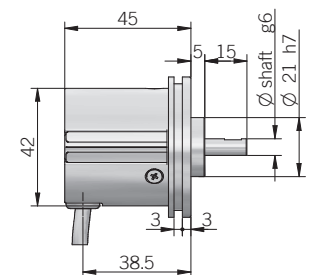
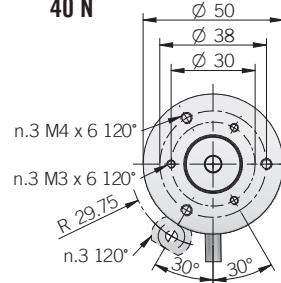
40 H



40 I

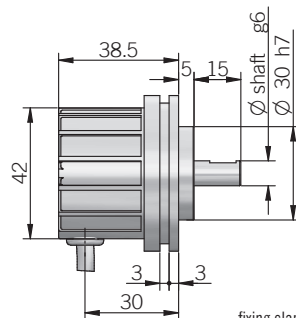
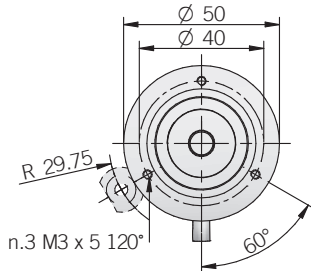


40 N



fixing clamps not included, please refer to Accessories section

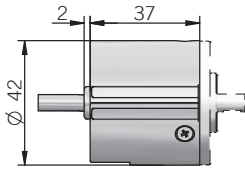
40 X



fixing clamps not included, please refer to Accessories section

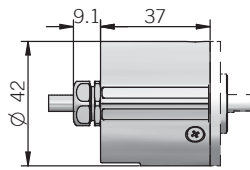
dimensions in mm

40 (axial output)



dimensions in mm

40 (IP 66 axial output)



ELECTRICAL SPECIFICATIONS	
Resolution	from 1 to 14400 ppr (mod. A / B) from 1 to 2500 ppr (mod. C / H / I / N / X)
Power supply	5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection)
Power draw without load	800 mW max
Max load current	C / P = 50 mA / channel L / RS = 20 mA / channel
Output type*	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 equivalent)
Max output frequency	EL series 150 kHz EL series ER series 250 kHz up to 3600 ppr 500 kHz from 4000 ppr
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

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

EL SERIES RESOLUTIONS
1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 70 - 80 - 90 - 750 - 1500

ER SERIES RESOLUTIONS
100 - 120 - 128 - 150 - 200 - 240 - 250 - 256 - 300 - 360 - 400 - 480 - 500 - 512 - 600 - 625 - 720 - 800 - 900 - 1000 - 1024 - 1200 - 1250 - 1440 - 1600 - 1800 - 2000 - 2048 - 2500 - 3000 - 3600 - 4000 - 4096 - 5000 - 6000 - 7200 - 8000 - 8192 - 10000 - 12000 - 14400

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

MECHANICAL SPECIFICATIONS	
Shaft diameter	ø 4 / 6 / 8 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	IP 54 - 6000 rpm IP 66 - 3000 rpm
Max shaft load	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	0,1 x 10 ⁻⁶ kgm ² (2,4 x 10 ⁻⁶ lbft ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin) IP 54 < 0,05 Nm (7,10 Ozin) IP 66
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	PA66 glass fiber reinforced
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-10° ... +60°C (+14° ... +140°F) EL series -25° ... +85°C (-13° ... +185°F) ER series
Storage temperature	-25° ... +70°C (-13° ... +158°F)
Weight	100 g (3,52 oz)

CONNECTIONS		
Function	Cable C / P	Cable L / RS
+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