

MAIN FEATURES

Miniaturized \varnothing 42 encoder series for general applications.

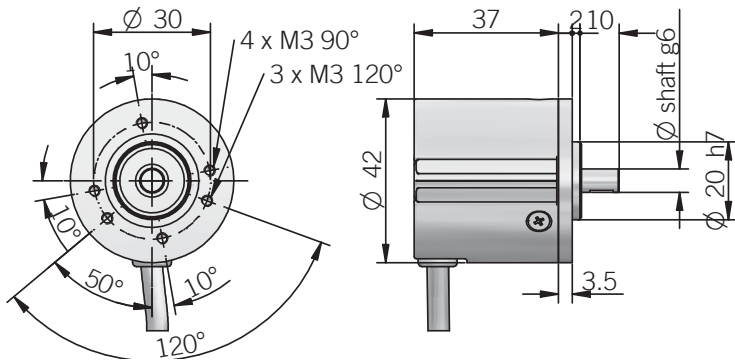
- Up to 25000 ppr with zero signal
- Several output types available
- Up to 28 V DC power supply
- Up to 220 kHz output frequency
- Cable output
- Up to 6000 RPM rotation speed
- Up to IP 66 sealing



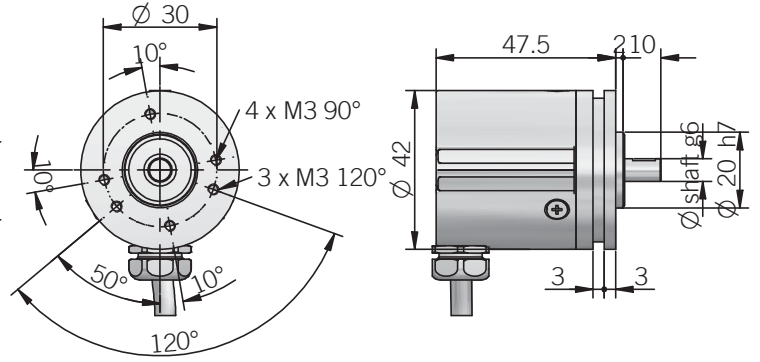
ORDERING CODE

| EL | 40 | A | 500 | Z | 5/28 | N | 6 | X | 3 | P | R | . | XXX | |
|---|-----------------------------|--|-----|---|------|---|---|---|---|---|---|---|--|--|
| SERIES incremental encoder series EL incremental encoder series ER | | | | | | | | | | | | | VARIANT XXX custom version | |
| | | | | | | | | | | | | | DIRECTION TYPE A axial (excluded EL - ER 40 X) R radial | |
| | SIZE mm 40 | | | | | | | | | | | | OUTPUT TYPE P cable output (standard length 0.5 m) | |
| | | TYPE fixing flange \varnothing 20 mm A square flange \square 36,5 mm B fixing flange \varnothing 17,46 mm C fixing flange \varnothing 15 mm E threaded flange M18 H threaded flange M21 I synchronous flange \varnothing 21 mm N synchronous flange \varnothing 30 mm X | | | | | | | | | | | | MAX ROTATION SPEED 3 3000 rpm 6 6000 rpm <i>N.B.: 3000 RPM max with S enclosure rating</i> |
| | | | | | | | | | | | | | ENCLOSURE RATING X IP 54 S IP 66 (available for EL - ER 40 A / B) | |
| | | | | | | | | | | | | | SHAFT DIAMETER 4 mm (EL - ER 40 A / B / C / E) 6 mm (EL - ER 40 A / B / C / H / I / N) 8 mm (EL - ER 40 X) | |
| | | | | | | | | | | | | | ELECTRONIC INTERFACE N NPN C NPN open collector P push-pull PC protected push-pull (AEIC-7272) L line driver <i>N.B.: with N / C interface max 2500 ppr</i> | |
| | | | | | | | | | | | | | RESOLUTION (EL - ER 40 A / B) max ppr 25000 (EL - ER 40 C / E / H / I / N / X) max ppr 2500 <i>N.B.: please see resolution table or directly contact our offices for pulses availability</i> | |
| | | | | | | | | | | | | | ZERO PULSE without zero pulse S with zero pulse Z | |
| | | | | | | | | | | | | | POWER SUPPLY (available only with L electronic output) 5 V DC 5 (available only with L or PC electronic output) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28 | |

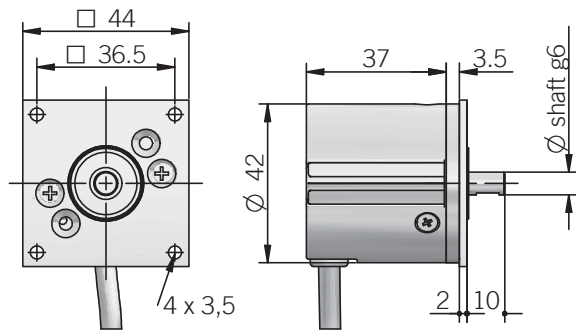
EL - ER 40 A



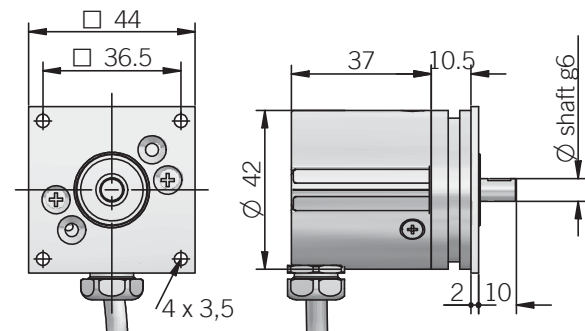
**EL - ER 40 A
IP 66 version**



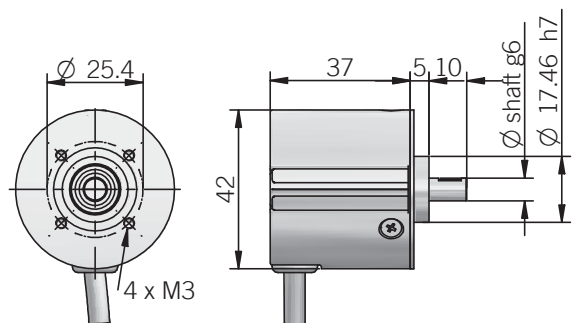
EL - ER 40 B



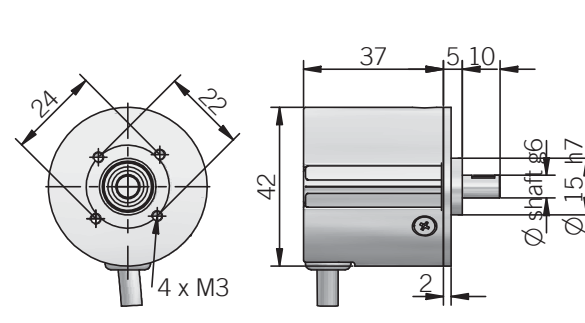
**EL - ER 40 B
IP 66 version**



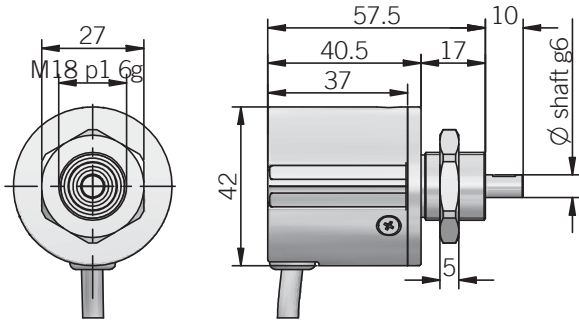
EL - ER 40 C



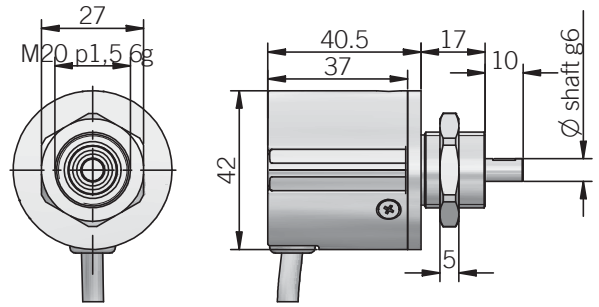
EL - ER 40 E



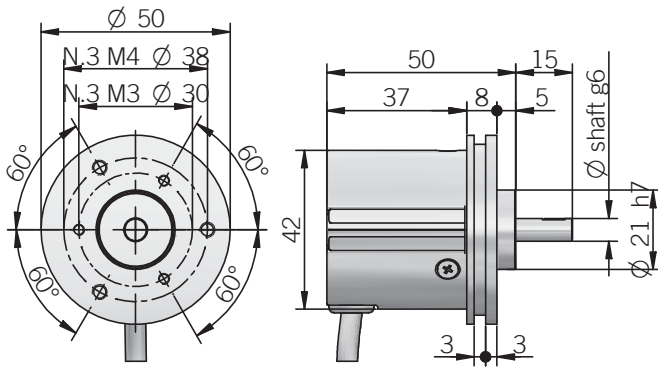
EL - ER 40 H



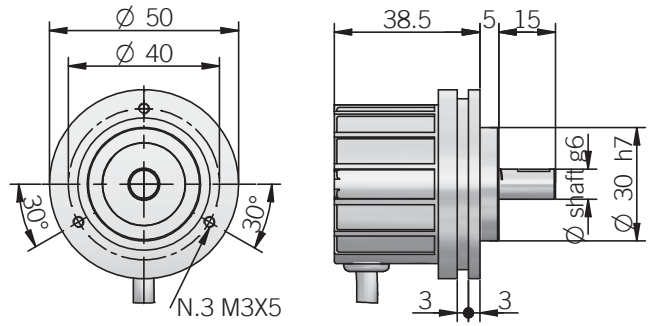
EL - ER 40 I



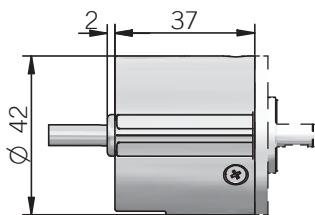
EL - ER 40 N



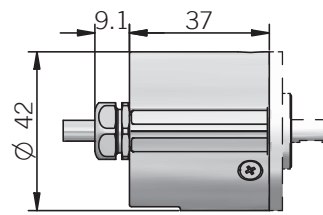
EL - ER 40 X



EL - ER 40
dimension with axial output



EL - ER 40
dimension with IP 66 axial output



Electrical specifications

| | |
|---|--|
| Resolution | from 1 to 25000 ppr (EL - ER 40 A/B) from 1 to 2500 ppr (EL - ER 40 C/E/H/I/N/X) |
| Power supply | 5 V DC \pm 10% 5 ... 28 V DC \pm 5% 8 ... 24 V DC \pm 5% (reverse polarity protection) |
| Current consumption without load | 100 mA max |
| Max load current | 50 mA for channel 20 mA for channel (line driver) |
| Output type | NPN NPN open collector push-pull line driver |
| Max output frequency | 150 kHz EL series 220 kHz ER series |
| Counting direction | A leads B clockwise (shaft view) |
| Electromagnetic compatibility | IEC 61000-6-2 IEC 61000-6-4 |

Mechanical specifications

| | |
|------------------------------|---|
| Shaft diameter | \varnothing 4 mm (EL - ER 40 A/B/C/E) \varnothing 6 mm (EL - ER 40 A/B/C/H/I/N) \varnothing 8 mm (EL - ER 40 X) |
| Enclosure rating | IP 54 (IEC 60529) IP 66 (available for EL - ER 40 A / B) (IEC 60529) |
| Max rotation speed | 3000 rpm 6000 rpm (only IP 54) |
| Max shaft load | 5 N (0.5 kgf) axial 5 N (0.5 kgf) radial |
| Shock | 50 G, 11 ms (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Body material | EN-AW 2011 aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | PA 66 glass fiber reinforced |
| Bearings | 2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature | -10° ... +60°C EL series -20° ... +70°C ER series |
| Storage temperature | -25° ... +70°C |
| Weight | 100 g |

Connections and standard colours

| Function | Push pull / Npn / Npn open collector | 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 |
| \equiv | shield | shield |

Resolutions ER series

100 - 120 - 128 - 150 - 200 - 240 - 250 - 256 - 300 - 360 - 400 - 480 - 500 - 512 - 600 - 625 - 720 - 750 - 800 - 900 - 1000 - 1024 - 1200 - 1250 - 1440 - 1500 - 1600 - 1800 - 2000 - 2048 - 2500

Resolutions EL series

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 70 - 80 - 90 - 160 - 180 - 350 - 450 - 660 - 700 - 2880 - 3000 - 3600 - 4000 - 4096 - 5000 - 6000 - 7200 - 7500 - 8000 - 8192 - 10000 - 10240 - 12000 - 15000 - 16000 - 16384 - 20000 - 20480 - 25000

