

MAIN FEATURES

Miniaturized encoder series for general factory automation applications, small AC motors and gearmotors.

- 3 channel encoder (A / B / Z) up to 14400 ppr
- Power supply up to +28 VDC with several electronic interfaces available
- Up to 220 kHz output frequency
- Cable output, connectors available on cable end
- Metal cover for high IP enclosure rating
- Blind hollow shaft diameter up to 10 mm
- Mounting by stator coupling or anti-rotation pin

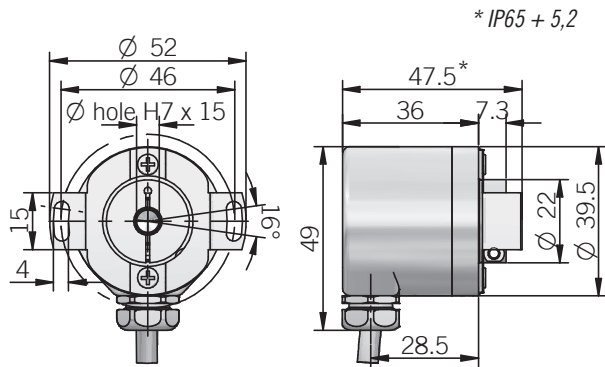


ORDERING CODE

ER 38F 500 S 5/28 P 6 X 3 PR .XXX

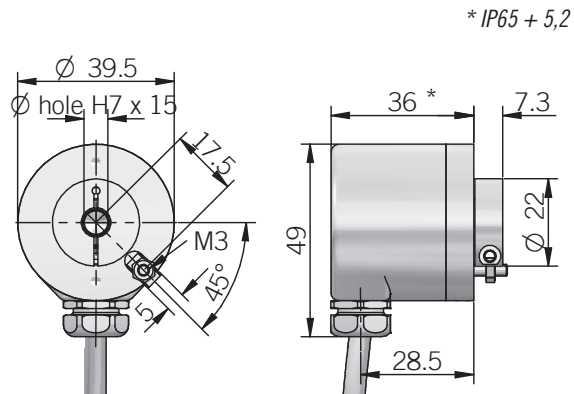
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|---|--|--|--|--|--|--|--|--|--|--|--|--|
| SERIES incremental encoder series EL incremental encoder series ER | | | | | | | | | | | | |
| MODEL blind hollow shaft with stator coupling 38F blind hollow shaft with anti-rotation pin 38G | | | | | | | | | | | | |
| RESOLUTION ppr from 1 to 14400 <i>see table for pulses availability</i> | | | | | | | | | | | | |
| ZERO PULSE without zero pulse S with zero pulse Z | | | | | | | | | | | | |
| POWER SUPPLY (with L electronic interface) 5 V DC 5 (with L or PC electronic interface) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28 | | | | | | | | | | | | |
| ELECTRONIC INTERFACE (max 2500 ppr) NPN N (max 2500 ppr) NPN open collector C push-pull P push-pull protected (AEIC-7272) PC line driver L power supply 5/30V - output RS-422 RS | | | | | | | | | | | | |
| BORE DIAMETER mm 6 mm 8 9,52 (3/8") mm 9 mm 10 | | | | | | | | | | | | |
| ENCLOSURE RATING IP 64 X IP 65 S | | | | | | | | | | | | |
| MAX ROTATION SPEED 3000 rpm 3 | | | | | | | | | | | | |
| OUTPUT TYPE radial cable (standard length 0,5 m) PR | | | | | | | | | | | | |
| VARIANT custom version XXX | | | | | | | | | | | | |

EL - ER 38 F



dimensions in mm

EL - ER 38 G



anti-rotation pin is included in model G, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Resolution | from 1 to 14400 ppr |
| Power supply | 5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection) |
| Current consumption without load | 100 mA max |
| Max load current | N / C / P / PC = 50 mA / channel L / RS = 20 mA / channel |
| 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 |

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

MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Bore diameter | ø 6* / 8* / 9,52 (3/8") / 10 mm |
| Enclosure rating | IP 64 (IEC 60529) IP 65 (IEC 60529) |
| Max rotation speed | 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 | 0,8 x 10 ⁻⁶ kgm ² |
| Starting torque (at +20°C / +68°F) | < 0,01 Nm (IP 64) < 0,06 Nm (IP 65) |
| Fixing torque for collar clamping | 0,6 Nm recommended |
| Body material | EN-AW 2011 aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | painted aluminum |
| Bearings | 2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature | -10° ... +60°C (+14° ... +140°F) EL series -20° ... +85°C (-4° ... +185°F) ER series |
| Storage temperature | -25° ... +70°C (-13° ... +158°F) |
| Weight | 150 g (5,29 oz) |

* with supplied adapter shaft

EL SERIES RESOLUTIONS

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 70 - 80 - 90 - 250 - 300 - 600 - 2880 - 3000 - 3600 - 4000 - 4096 - 5000 - 6000 - 7200 - 8000 - 8192 - 10000 - 12000 - 14400

ER SERIES RESOLUTIONS

100 - 120 - 128 - 200 - 240 - 256 - **360** - 400 - 480 - **500** - **512** - 625 - 720 - 750 - 900 - **1000** - **1024** - 1250 - 1440 - 1500 - 1800 - **2000** - **2048** - **2500**

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

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 |