

### MAIN FEATURES

Miniaturized  $\varnothing$  38 encoder series for general applications.

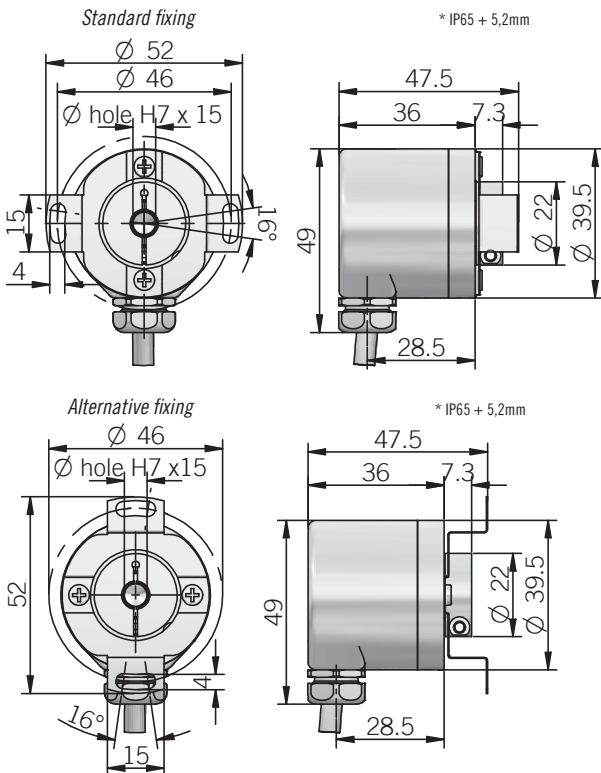
- Up to 25000 ppr with zero signal
- Several output types available
- Up to 28 V DC power supply
- Up to 220 kHz output frequency
- Cable output
- Up to 3000 RPM rotation speed
- Up to IP 65 sealing



### ORDERING CODE

<b>ER</b>	<b>38</b>	<b>F</b>	<b>1024</b>	<b>Z</b>	<b>5/28</b>	<b>P</b>	<b>6</b>	<b>X</b>	<b>3</b>	<b>PR</b>	<b>. XXX</b>
<b>SERIES</b> incremental encoder series <b>EL</b> incremental encoder series <b>ER</b>											<b>VARIANT</b> <b>XXX</b> custom version
	<b>SIZE</b> mm <b>38</b>									<b>OUTPUT TYPE</b> <b>PR</b> radial cable output with cable gland (standard length 0.5 m)	
	<b>FIXING TYPE</b> blind hollow shaft with spring <b>F</b> blind hollow shaft with anti-rotation pin <b>G</b>									<b>MAX ROTATION SPEED</b> <b>3</b> 3000 rpm	
	<b>RESOLUTION</b> (see table) ppr up to <b>25000</b> <i>N.B.: please see resolution table or directly contact our offices for pulses availability</i>									<b>ENCLOSURE RATING</b> <b>X</b> IP 64 <b>S</b> IP 65	
	<b>ZERO PULSE</b> without zero pulse <b>S</b> with zero pulse <b>Z</b>									<b>SHAFT DIAMETER</b> <b>6</b> mm <b>8</b> mm <b>9</b> mm $\varnothing$ 9,52 (3/8") <b>10</b> mm	
	<b>POWER SUPPLY</b> (available only with L electronic output) 5 V DC <b>5</b> (available only with L or PC electronic output) 8 ... 24 V DC <b>8/24</b> 5 ... 28 V DC <b>5/28</b>									<b>ELECTRONIC INTERFACE</b> <b>N</b> NPN <b>C</b> NPN open collector <b>P</b> push-pull <b>PC</b> protected push-pull (AEIC-7272) <b>L</b> line driver <i>N.B.: with N / C interface max 2500 ppr</i>	

## EL - ER 38 F



### EL-ER 38 F mounting instructions

1. Couple encoder shaft with motor shaft
2. Fix spring to motor flange without tightening it
3. Fix encoder shaft on motor shaft
4. Turn encoder for electrical adjustment (phasing)
5. Fix spring

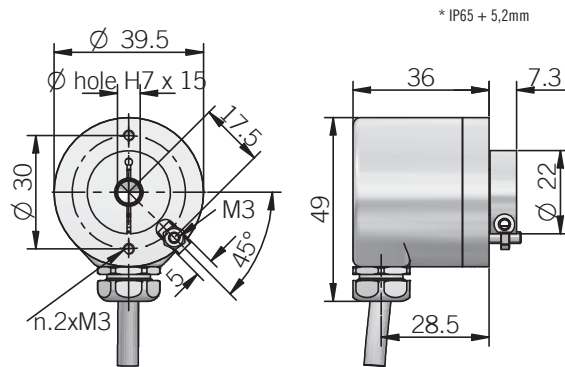
### Mechanical specifications

Shaft diameter	$\varnothing 6 / 8 / 9,52 (3/8") / 10$ mm
Enclosure rating	IP 64 (IEC 60529) IP 65 (IEC 60529)
Max rotation speed	3000 rpm
Max shaft load	5 N (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	painted aluminum
Bearings	2 ball bearings
Bearings life	$10^9$ revolutions
Operating temperature	$-10^\circ \dots +60^\circ\text{C}$ series EL $-20^\circ \dots +70^\circ\text{C}$ series ER
Storage temperature	$-25^\circ \dots +70^\circ\text{C}$
Weight	150 g

### EL series resolutions

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 70 - 80 - 90 - 150 - 160 - 180 - 250 - 350 - 300 - 450 - 600 - 660 - 700 - 2880 - 3000 - 3600 - 4000 - 4096 - 5000 - 6000 - 7200 - 7500 - 8000 - 8192 - 10000 - 10240 - 12000 - 14400 - 15000 - 16000 - 16384 - 20000 - 20480 - 25000

## EL - ER 38 G



Anti-rotation pin is included

### EL-ER 38 G mounting instructions

1. Fix anti-rotation pin on motor flange
2. Couple encoder shaft with motor shaft, making sure pin is inserted in the hole on the front part of the encoder (maintaining a minimum distance of 0.5 mm).
3. Fix encoder shaft on motor shaft

### Electrical specifications

Resolution	from 1 to 25000 ppr
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

### 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

### 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