

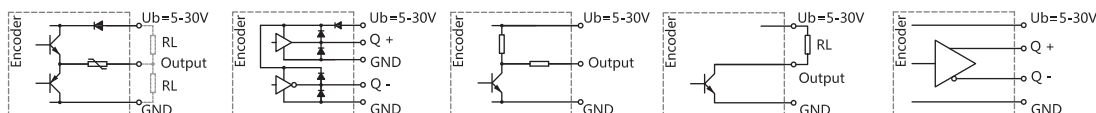


|                    |                        |
|--------------------|------------------------|
| ESG38B Series      |                        |
| Sensing method     | Optical                |
| Housing size       | Φ38mm                  |
| Blind hollow shaft | Φ5、Φ6、Φ8mm             |
| Max. resolution    | 2500PPR                |
| Supply voltage     | 5VDC, 5-30VDC, 9-26VDC |
| Protection         | IP54                   |

## Mechanical characteristics

|                         |  |
|-------------------------|--|
| Shaft diameter          | Φ5、Φ6、Φ8mm   |
| Protection              | IP54   |
| Speed                   | max. 6000 min <sup>-1</sup>  |
| Shaft loading           | max. 25N Axial ;max. 50N Radial  |
| Shock resistance        | 50g, 6ms   |
| Vibration resistance    | 10g, 10...2000HZ   |
| Bearing life            | 10 <sup>9</sup> turns  |
| Rotor moment of inertia | Approx. 1.8×10 <sup>-6</sup> kgm <sup>2</sup>                                    |
| Starting torque         | <0.005Nm   |
| Materials               | Copper<br>Flange : Aluminum alloy<br>Housing : Tensile iron shell +Black painted |
| Working temperature     | -20~+70 C  |
| Storage temperature     | -30~+85 C  |
| Weight                  | ≈120g  |

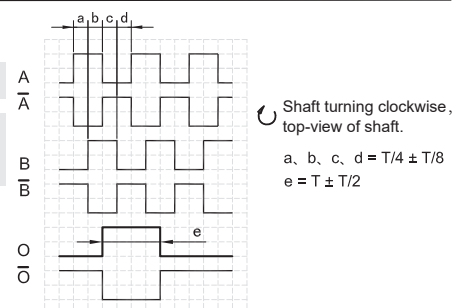
## Electrical characteristics



| Output circuit              | Push-Pull     | Push-PullDifferential | Voltage       | Open Collector | RS422 (TTL Compatible) |
|-----------------------------|---------------|-----------------------|---------------|----------------|------------------------|
| Pulse rate                  | max. 2500 P/R | max. 2500 P/R         | max. 2500 P/R | max. 2500 P/R  | max. 2500 P/R          |
| Supply voltage              | 5-30V         | 5-30V                 | 5-30V         | 5-30V          | 5-30V                  |
| Power consumption(no load)  | max. 125 mA   | max. 125 mA           | max. 125mA    | max. 80 mA     | max. 80 mA             |
| Permissible load/channel    | max. ±80 mA   | max. ±80 mA           | /             | max. -50 mA    | max. ±50 mA            |
| Pulse frequency             | max. 300KHz   | max. 300KHz           | max. 300KHz   | max. 300KHz    | max. 300KHz            |
| Signal level high           | min. Ub-2.5V  | min. Ub-2.5V          | min. Ub-2.5V  | /              | min. 2.5V              |
| Signal level low            | max. 0.8V     | max. 0.8V             | max. 0.4V     | /              | max. 0.4V              |
| Rise time Tr                | max. 1μs      | max. 1μs              | max. 2μs      | /              | max. 1μs               |
| Fall time Tf                | max. 1μs      | max. 1μs              | max. 2μs      | /              | max. 1μs               |
| Short circuit proof outputs | yes           | yes                   | yes           | yes            | yes                    |

## Terminal assignment

|              |  |    |     |    |           |    |           |    |           |         |
|--------------|--|----|-----|----|-----------|----|-----------|----|-----------|---------|
| Signal       |  | OV | +Ub | A  | $\bar{A}$ | B  | $\bar{B}$ | O  | $\bar{O}$ | $\perp$ |
| Cable Colour |  | WH | BN  | GN | PK        | YE | BU        | GY | RD        | Shield  |



Note: Positional relationship of O channel and A&amp;B channels is not specified.

## Ordering information

|       |    |   |   |   |      |   |      |   |   |   |      |
|-------|----|---|---|---|------|---|------|---|---|---|------|
| ESG38 | XX | B | 8 | E | 1024 | F | 5-30 | R | 2 | / | XXXX |
|       | ①  | ② | ③ | ④ | ⑤    | ⑥ | ⑦    | ⑧ | ⑨ |   | ⑩    |

|                     |                                      |   |  |  |  |
|---------------------|--------------------------------------|---|--|--|--|
| ①Extended No.<br>XX | ②Shaft type<br>B: Blind hollow shaft | ③Shaft diameter<br>5: 5mm<br>6: 6mm<br>8: 8mm | ④Channels<br>B: A B<br><b>C: A B O</b><br>D: A $\bar{A}$ B $\bar{B}$<br><b>E: A <math>\bar{A}</math> B <math>\bar{B}</math> O <math>\bar{O}</math></b><br>F: A B $\bar{O}$ | ⑤Pulse rate<br>50,100,200,<br>256,360,500,<br>512,600,720,<br>1000,1024,<br>2000,2048,2500 | ⑥Output circuit<br><b>F: Push-Pull</b><br><b>A: Push-Pull Differential</b><br><b>C: Open Collector</b><br>E: Voltage<br><b>L: RS422 (TTL Compatible)</b> |
|---------------------|--------------------------------------|---|--|--|--|

|  |  |   |                       |
|--|--|---|-----------------------|
| ⑦Supply voltage<br>5: 5VDC<br>5-30: 5...30VDC<br>9-26: 9...26VDC | ⑧Exit position<br><b>R: Radial</b><br>C: Axial | ⑨Connection type<br>Figure: Cable length(m) | ⑩Special code<br>XXXX |
|--|--|---|-----------------------|

Note: Printed in bold=standard items

Notes: 1, Pulse rates available at a short notice (50,100,200,256,360,500,512,600,720,1000,1024, 2000,2048,2500) , other pulse rates on request.  
 2, Please chose the ordering information: Extended No. 、 Shaft type、 Shaft diameter 、 Channels 、 Pulse rate 、 Output circuit 、 Supply voltage、 Exit position、 Cable length and Special code.

Ordering example: ESG38B8E1024A5-30R2, Special requirements please indicate to the back.

Explanation: ESG38B Series , Shaft diameter 8mm, Output channels A  $\bar{A}$  B  $\bar{B}$  O  $\bar{O}$  , 1024PPR, Push-Pull Differential, 5-30VDC, Radial Output 2m.

## Accessories(sold separately) Note: Further stator coupling can be found in the accessories selection table.

Stator coupling, double-winged  
 Model (common) : 8121

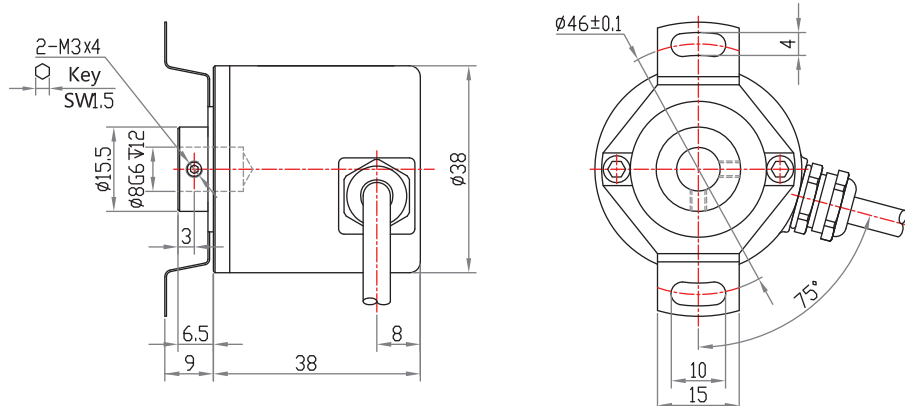


Stator coupling, double-winged  
 Model (common) : 8122



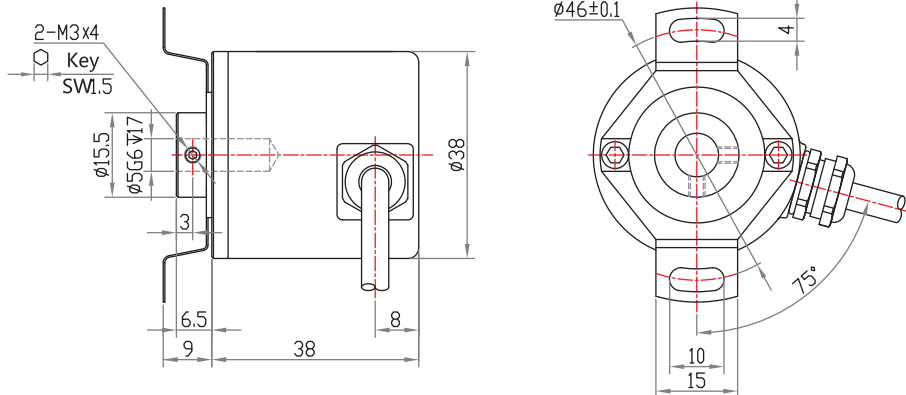
## Dimensions

ESG38B

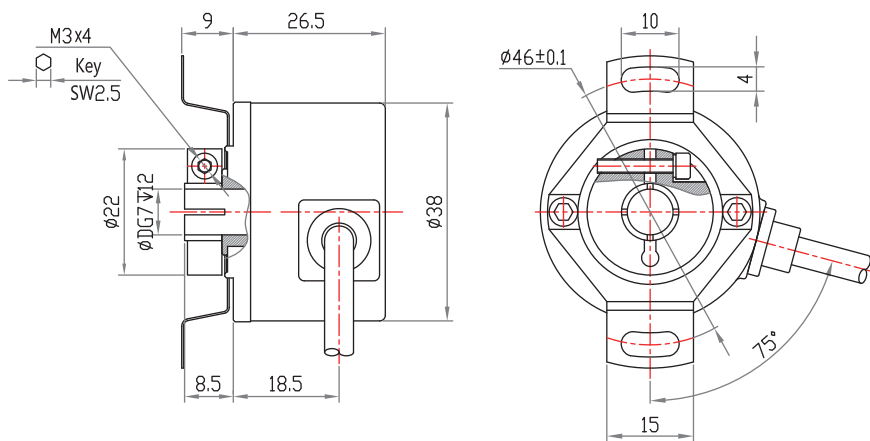


## Dimensions

ESG3801B



ESG3802B



ESG3803B

