

# Incremental encoders

Resolution 1...2.000.000 pulses



## FNC 50HD Series

### ORDER PART NUMBER



FNC 50HD 15430V1024-R7



FNC 50HD 15430V1024-R2312



FNC 50HD 15430V1024-R1M231R



FCSF M2312L 100

### Technical data - electrical ratings

|                          |  |
|--------------------------|--|
| Voltage supply           | 4.75VDC to 30VDC<br>4.75VDC to 5.5VDC  |
| Protection:              | Output short circuit protection.<br>Reverse polarity protection<br>( except 5V version ) |
| Consumption w/o load     | 60 mA (24 VDC)   |
| Resolution (steps/turn)  | 1 to 2.000.000 ppr   |
| Reference signal         | Zero pulse, width 90°<br>180°, 360° optional   |
| Optoelectronic life time | 100.000 (min)  |
| Output frequency         | <300 kHz   |
| Output signals           | 90° shifted A and B,<br>Z + inverted   |
| Output circuit           | Linedriver/RS422<br>Push-pull short-circuit proof<br>NPN Open Collector                  |
| Interference immunity    | DIN EN 61000-6-2   |
| Emitted interference     | DIN EN 61000-6-4   |
| Approval                 | CE   |

### Technical data - mechanical design

|                         |                            |
|-------------------------|----------------------------|
| Dimensions (flange)     | ø50 mm                     |
| Shaft loading           | 80 N axial<br>100 N radial |
| Protection DIN EN 60529 | IP54, IP65                 |
| Operating speed         | 10000 rpm                  |
| Starting torque         | 0.025 Nm (IP 67)           |

|           |  |
|-----------|--|
| Materials | Housing: Aluminum<br>Flange: Aluminum<br>Shaft : Stainless steel |
|-----------|--|

|                 |   |
|-----------------|---|
| Shaft diameter: | 6, 8, 10, 12, 14, 15 mm<br>( other diameters on request ) |
|-----------------|---|

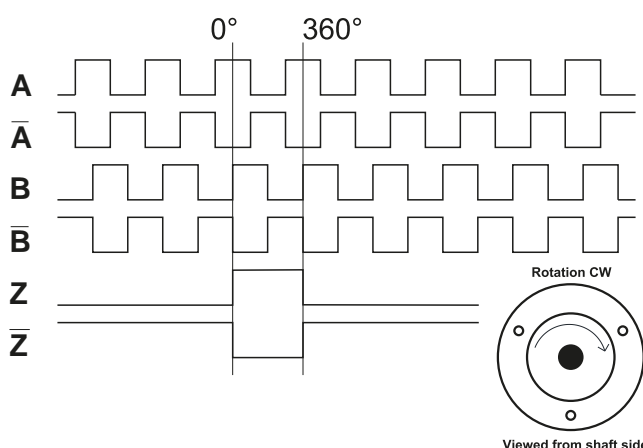
|                    |  |
|--------------------|--|
| Bearings lifetime: | 2x10 <sup>9</sup> rev. at 100% of full rated<br>shaft load (minimum) |
|--------------------|--|

|                       |              |
|-----------------------|--------------|
| Operating temperature | -20...+85 °C |
|-----------------------|--------------|

|                     |                     |
|---------------------|---------------------|
| Storage temperature | -30 °C up to +90 °C |
|---------------------|---------------------|

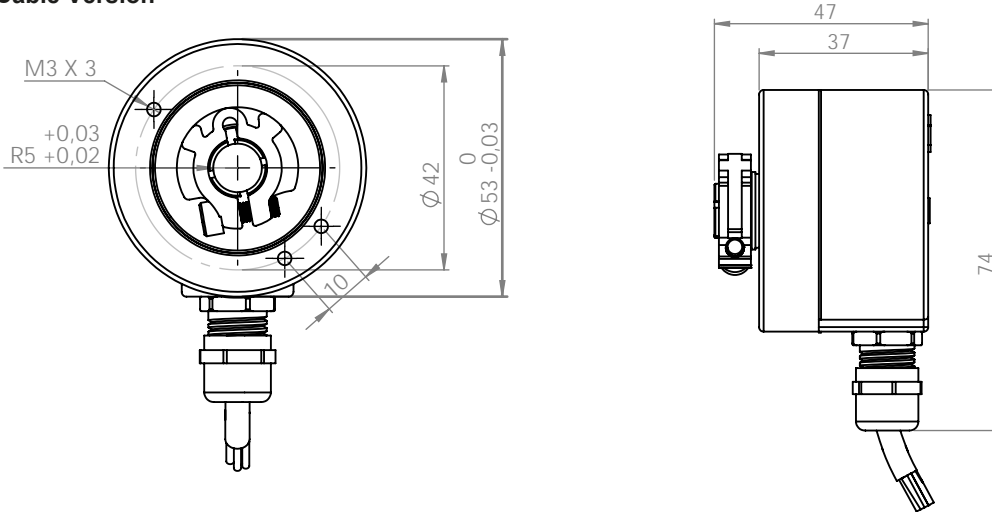
|                |       |
|----------------|-------|
| Weight approx. | 150 g |
|----------------|-------|

### Pulse Diagram

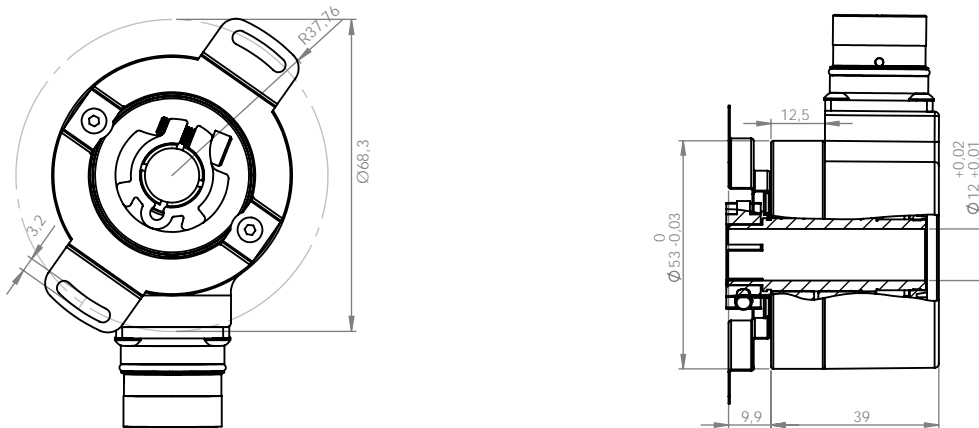


### Mechanical Dimensions

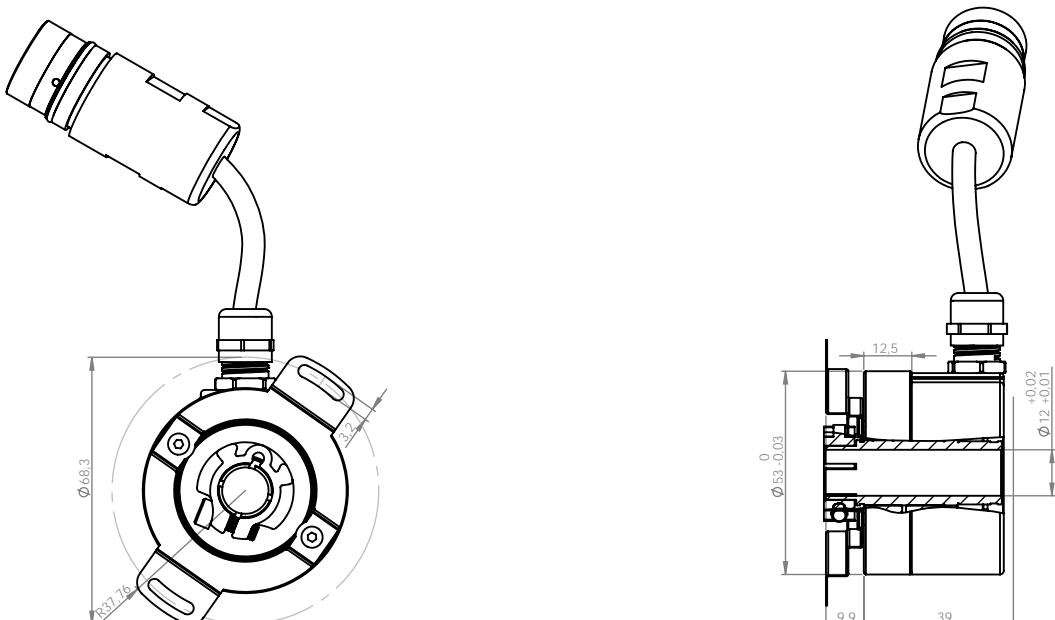
#### Cable Version



#### M2312 Connector Version



#### R1M2312 version


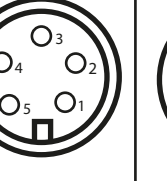
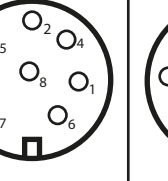


# Incremental encoders

## Cable/Connector Wiring

### FNC 50HD Series

#### Cable / Connector Wiring

| Function   | R2312R  | R1205   | R1208   | R1505  | R1508   | R1608   |
|------------|---|---|---|--|---|---|
| +VB        | pin 2-12  | pin 1   | pin 1   | pin 1  | pin 1   | pin 1   |
| GND        | pin 10-11   | pin 2   | pin 2   | pin 2  | pin 2   | pin 2   |
| A          | pin 5   | pin 3   | pin 3   | pin 3  | pin 3   | pin 3   |
| A'         | pin 6   |   | pin 4   |  | pin 4   | pin 4   |
| B          | pin 8   | pin 4   | pin 5   | pin 4  | pin 5   | pin 5   |
| B'         | pin 1   |   | pin 6   |  | pin 6   | pin 6   |
| Z          | pin 3   | pin 5   | pin 7   | pin 5  | pin 7   | pin 7   |
| Z'         | pin 4   |   | pin 8   |  | pin 8   | pin 8   |
| Connector  |   |   |   |   |   |   |
| Pin Design |  |  |  |  |  |  |

\*\* for other connector options visit [www.fenac.com.tr](http://www.fenac.com.tr)

#### Cable Wiring

| Function | Color  | Renk    | Farbe   | Цвет       | 颜色  |
|----------|--|---------|---------|------------|-----|
| +VB      |  Brown  | Kahve   | Braun   | Коричневый | 棕色的 |
| GND      |  White  | Beyaz   | Wei    | Белый      | 白色的 |
| A        |  Green  | Yeil   | Grn    | Зеленый    | 绿   |
| A'       |  Red    | Kirmızı | Rot     | Красный    | 红色的 |
| B        |  Yellow | Sarı    | Gelb    | Желтый     | 黄色的 |
| B'       |  Pink   | Pembe   | Rosa    | Розовый    | 粉色的 |
| Z        |  Gray   | Gri     | Grau    | Серый      | 灰色的 |
| Z'       |  Blue   | Mavi    | Blau    | Синий      | 蓝色的 |
| Shield   | Black  | Siyah   | Schwarz | Чернить    | 黑色的 |

## FNC 50HD Series

### Encoder Part Number

**FNC 50 HD 15 4 30V 1024 - R2**

