

# 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**



**FNC 50HD 15430V1024-R1M23RDF/KBL50**



**FCSF M2312L 100**

### Technical data - electrical ratings

Voltage supply	4.75VDC to 30VDC 4.75VDC to 5.5VDC
Protection:	Output short circuit protection. Reverse polarity protection ( 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° 180°, 360° optional
Optoelectronic life time	100.000 (min)
Output frequency	<300 kHz
Output signals	90° shifted A and B, Z + inverted
Output circuit	Linedriver/RS422 Push-pull short-circuit proof NPN Open Collector
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

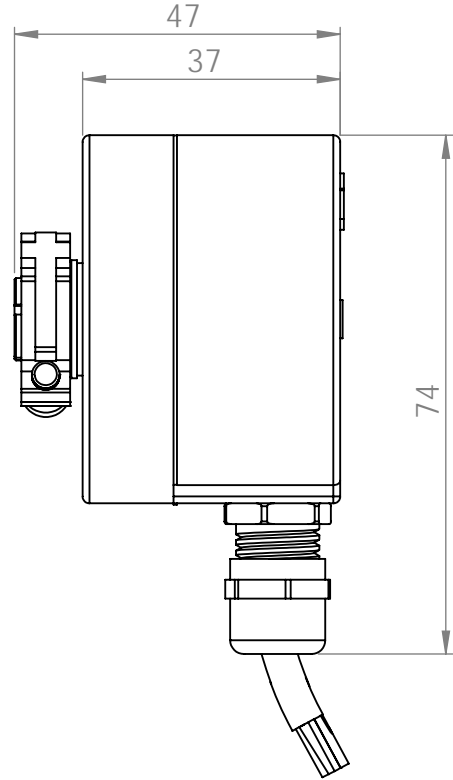
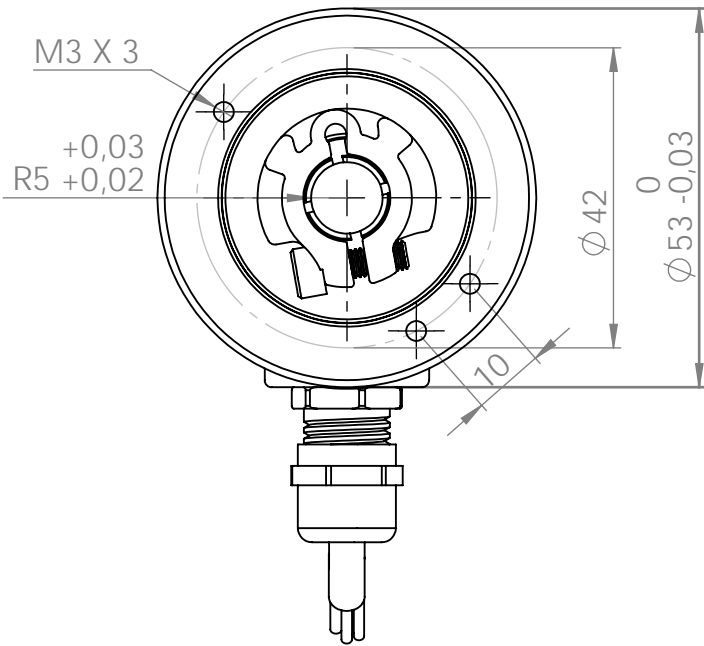
### Technical data - mechanical design

Dimensions (flange)	ø50 mm
Shaft loading	80 N axial 100 N radial
Protection DIN EN 60529	IP54, IP65
Operating speed	10000 rpm
Starting torque	0.025 Nm (IP 67)
Materials	Housing: Aluminum Flange: Aluminum Shaft : Stainless steel
Shaft diameter:	6, 8, 10, 12, 14, 15 mm ( other diameters on request )
Bearings lifetime:	2x10 <sup>9</sup> rev. at 100% of full rated shaft load (minimum)
Operating temperature	-20...+85 °C
Storage temperature	-30 °C up to +90 °C
Weight approx.	150 g

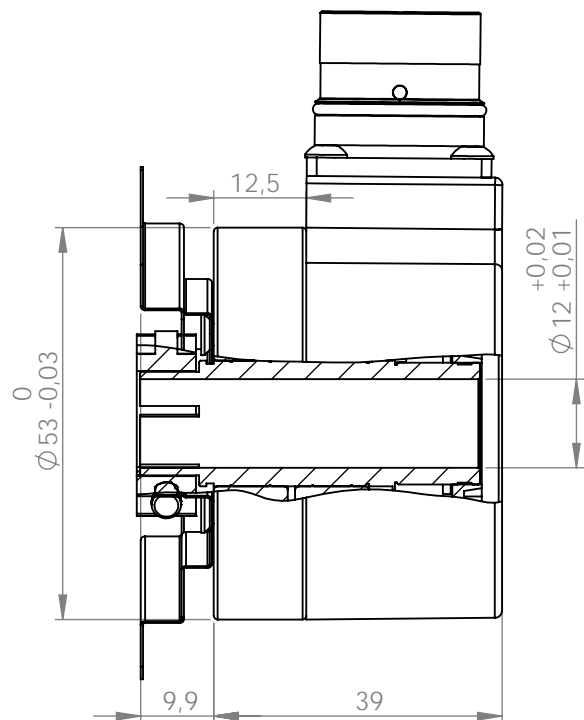
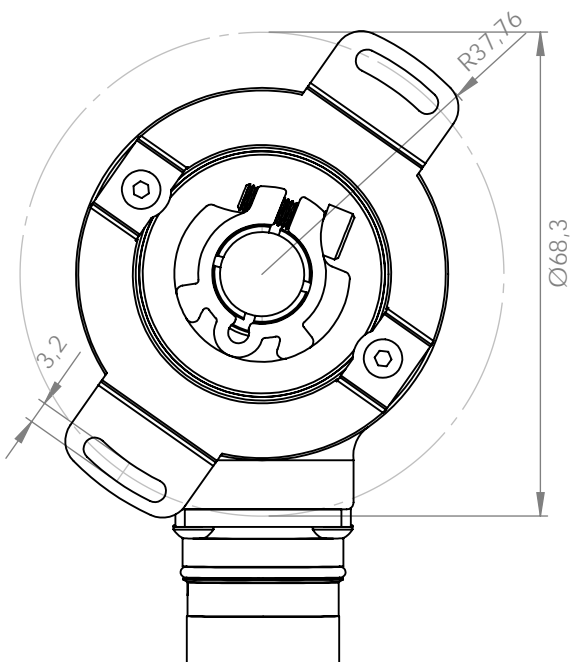
### FNC 50HD Series

#### Mechanical Dimensions

#### Cable Version



#### M2312 Connector Version



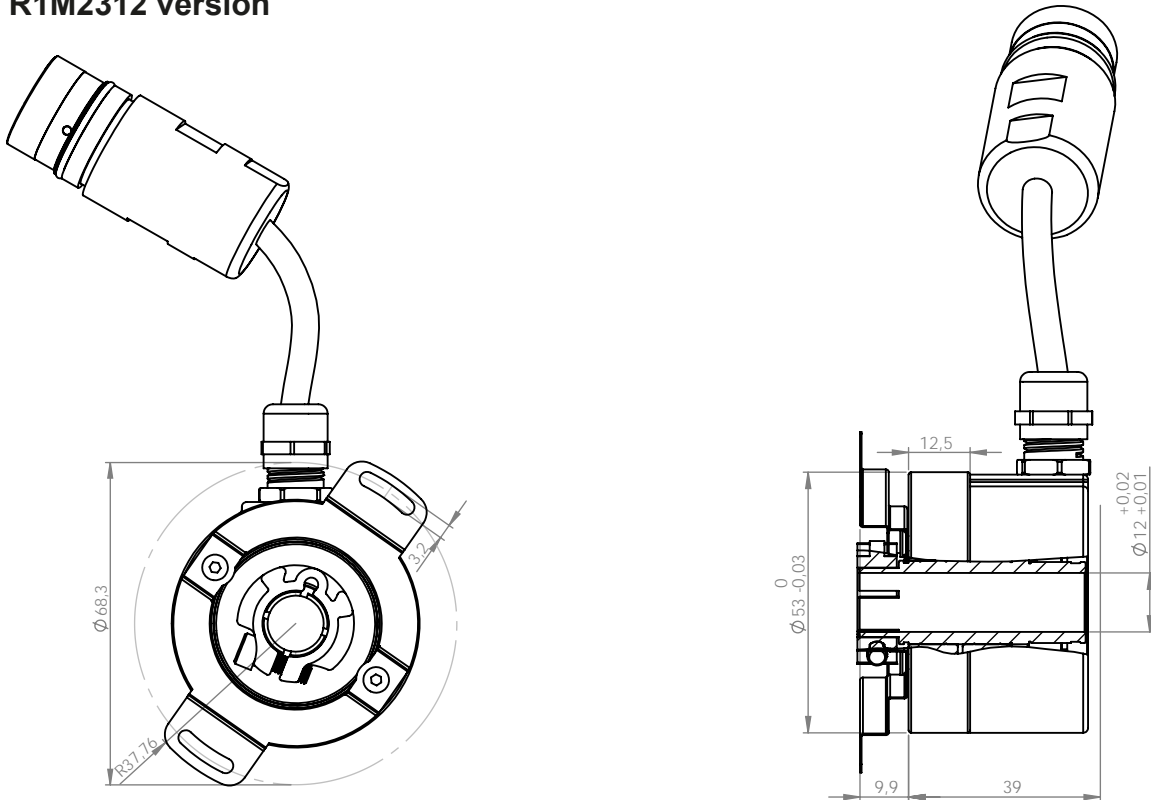
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## Mechanical Dimensions

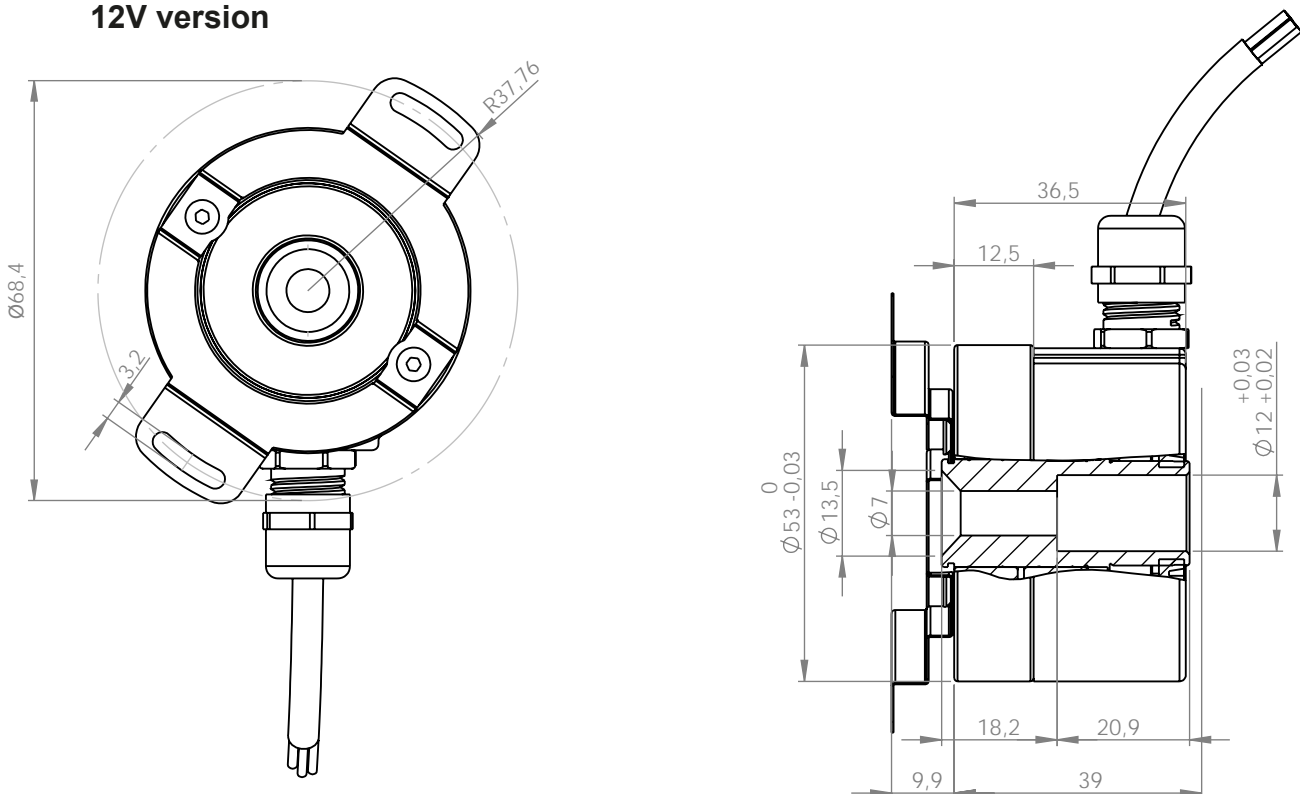
## FNC 50HD Series

### Mechanical Dimensions

#### R1M2312 version



#### 12V version



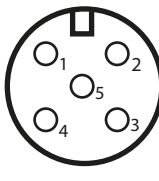


# Incremental encoders

## 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						

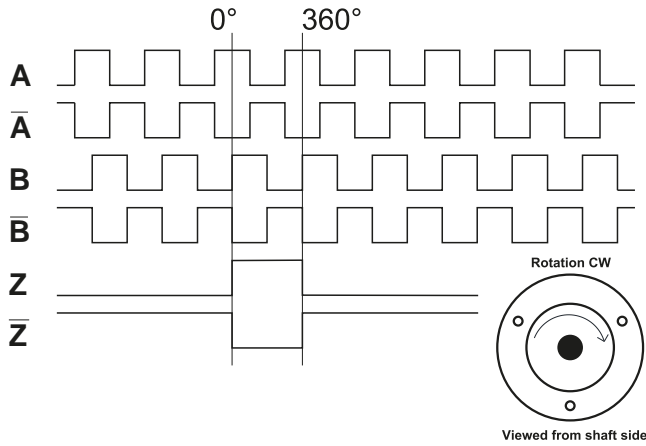
\*\* for other connector options visit [www.fenac.com.tr](http://www.fenac.com.tr)

#### 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

### Pulse Diagram



### Encoder Part Number

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

**Housing:**  
50 : 50mm

**Flange Type:**  
HD : Thicker version of 50H

**Shaft diameter : 6, 8, 10, 12, 14, 15 mm**  
12V : 12 mm shaft, screw mounting  
Other dimensions on request

**Output Channels**  
1 : A  
2 : AB  
3 : ABZ  
4 : AB+A' B'  
6 : ABZ+A' B' Z'

**Electrical Connections:**

**Cable**  
R2 : radial 2m, shield not connected (standart)

**Connector:**

R1205 R1607  
R1208 R2312  
R1605

**PPR Options :**

1 to 2.000.000 PPR All pulses

**Supply Voltage and output circuit :**

5V : 5V in / out  
245V : 5-30V in 5V out  
30V : 5-30V in / out