

# Absolute commutation encoders

Resolution 1...5000 pulses



## FNCC 40EF Series



without cover



with cover

### Features

- Industry 40 mm, end or through hollow shaft
- Robust Mechanical and Electrical Construction
- Protection up to IP67
- Up to 5000 PPR max.
- 2P, 3P, 4P, 5P Pole pairs options

### PPR Options :

1000 - 1024 - 1250 - 2000 - 2048 - 2500 - 5000

### Technical data - mechanical design

Dimensions (flange)	ø40 mm
Shaft loading	≤80 N axial ≤100 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤10000 rpm
Starting torque	≤0.025 Nm (IP 67)
Materials	Housing: Aluminium Flange: Aluminium Shaft : Stainless steel
Shaft diameter:	4, 5, 6, 7, 8 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.	250 g

### Accessories

**Connectors and cables**  
See page 160

**Mounting coupling**  
See page 158

**Mounting accessories**  
See page 156-157

### 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...5000
Reference signal	Zero pulse, width 90° 180°, 360° optional
Optoelectronic life time	100.000 (min)
Output frequency	>200 kHz
Output signals	90° shifted A and B, Z + inverted
Output circuit	Linedriver/RS422 Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

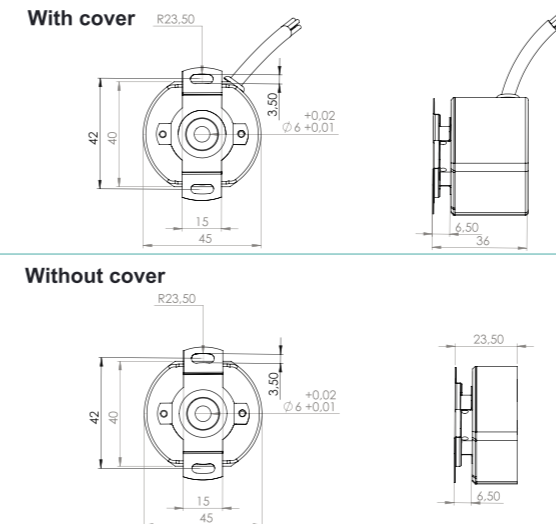
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Mechanical Dimensions

Cable/Connector Wiring, Part Number

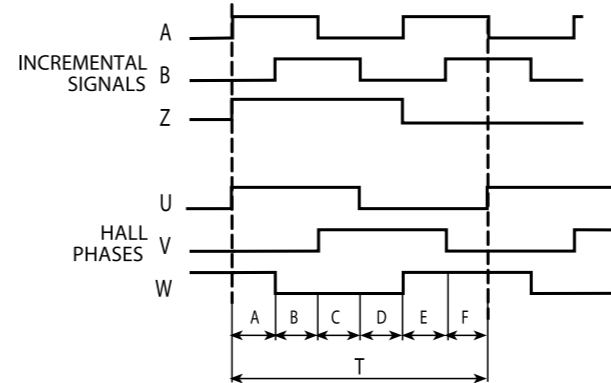
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### Mechanical Dimensions



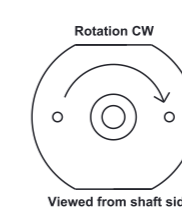
### Pulse Diagram

Clockwise rotating direction when looking at flange.



### Cable / Connector Wiring

Function	Connector	Color	Renk
+VB	pin 1	Brown	Kahve
GND	pin 2	White	Beyaz
A	pin 3	Green	Yeşil
A'	pin 4	Green-Black	Yeşil-Siyah
B	pin 5	Yellow	Sarı
B'	pin 6	Yellow-Black	Sarı-Siyah
Z	pin 7	Gray	Gri
Z'	pin 8	Gray-Black	Gri-Siyah
U	pin 9	Blue	Mavi
U'	pin 10	Blue-Black	Mavi-Siyah
V	pin 11	Orange	Turuncu
V'	pin 12	Orange-Black	Turuncu-Siyah
W	pin 13	Red	Kırmızı
W'	pin 14	Red-Black	Kırmızı-Siyah
shield	pin 15		



POLES	A / B / C / D / E / F	T
4	30° ±1,5°	180°
6	20° ±1,5°	120°
8	15° ±1,5°	90°
10	12° ±1,5°	72°

### Encoder Part Number

**FNCC 40 EF 8 6 8P 2500 30V - R2**

- Housing:** 40 : 40mm
- Flange Type:** EF: End hollow shaft optic  
HF: Through hollow shaft optic
- Shaft diameter :** 4, 5, 6, 7, 8 mm  
Other dimensions on request
- Output Channels**  
3 : ABZ  
6 : ABZ+A' B' Z'
- Cable**  
R2 : Radial 2 mm, Standard ,without cover  
R2C : Radial 2m, With cover
- Supply Voltage and output circuit :**  
5V : 5V in / out  
245V : 5-30V in 5V out  
30V : 5-30V in / out
- PPR Options :**  
1000 - 1024 - 1250 - 2000 - 2048 - 2500 - 4096 - 5000
- Pole pairs**  
4P : 4 poles, 2 pole pair  
6P : 6 poles, 3 pole pair  
8P : 8 poles, 4 pole pair  
2P : 2 poles, 1 pole pair  
10P : 10 poles, 5 pole pair  
12P : 12 poles, 6 pole pair