

FNC 46MF Series

Hollow shaft



Conic shaft



Features

- Industry 40 mm, end or through hollow shaft
- Robust Mechanical and Electrical Construction
- Protection up to IP67
- Up to 65536 PPR max.
- 2P, 3P, 4P, 5P Pole pairs options

PPR Options :

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

Technical data - electrical ratings

Voltage supply	4.75VDC to 30VDC 4.75VDC to 5.5VDC
Protection:	Reverse polarity protection (except 5V version)
Consumption w/o load	≤60 mA (24 VDC)
Resolution (steps/turn)	1...65536
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

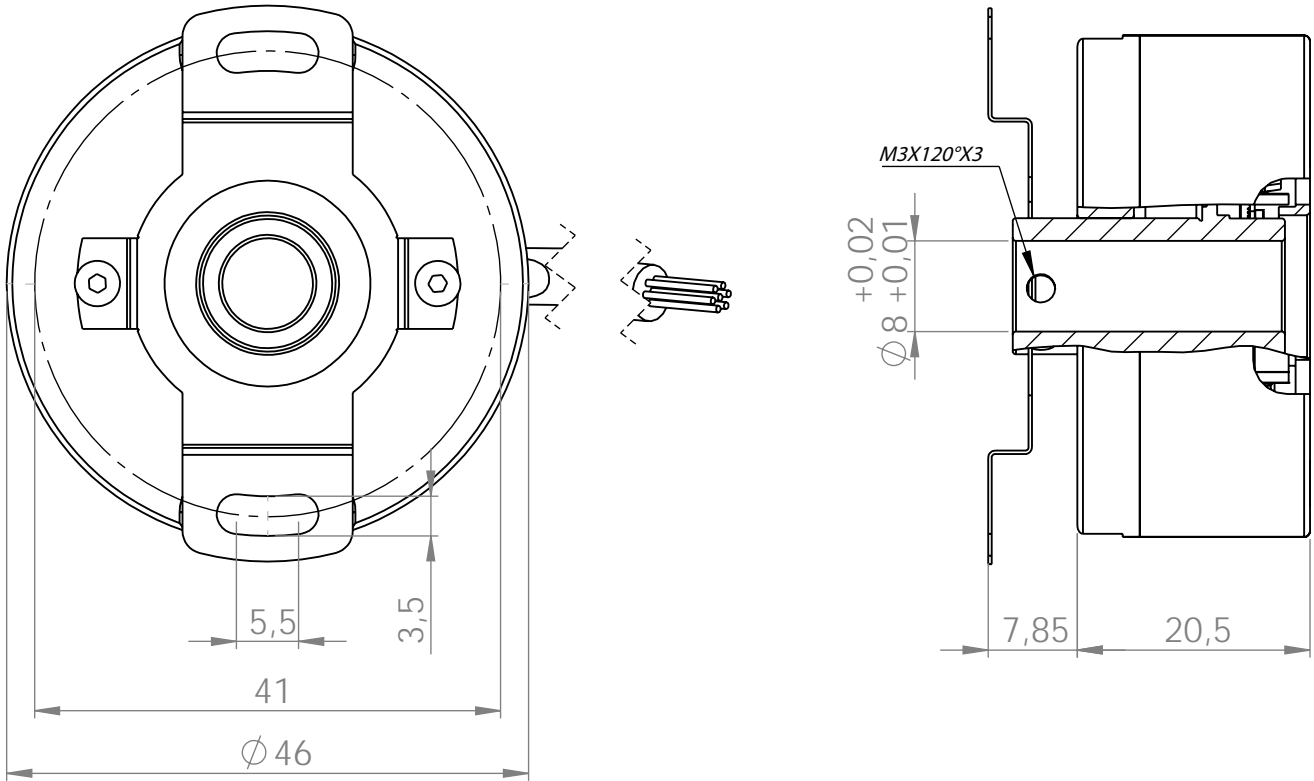
Technical data - mechanical design

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	Hollow shaft : 4, 5, 6, 7, 8 mm (other diameters on request) Conic shaft : request the technical drawing
Bearings lifetime:	2x10 ⁹ 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

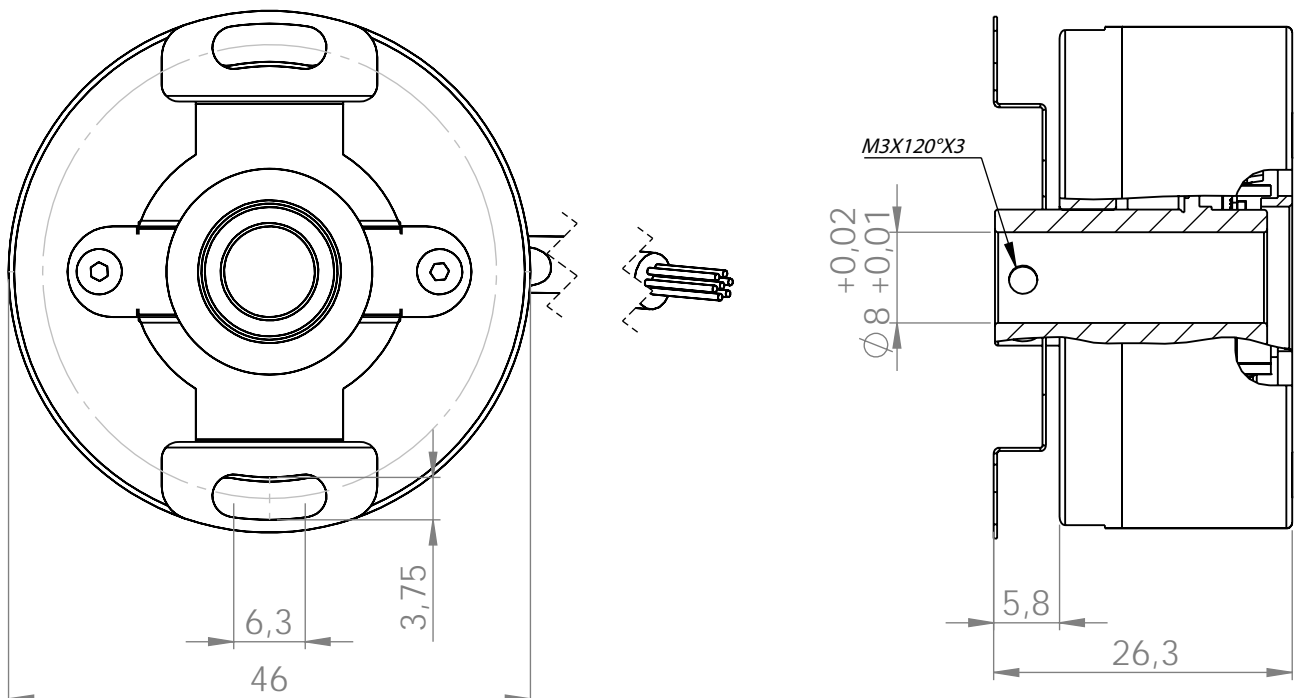
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Mechanical Dimensions

Hollow shaft with AK841 spring



Hollow shaft with LF640 spring



Incremental commutation encoders

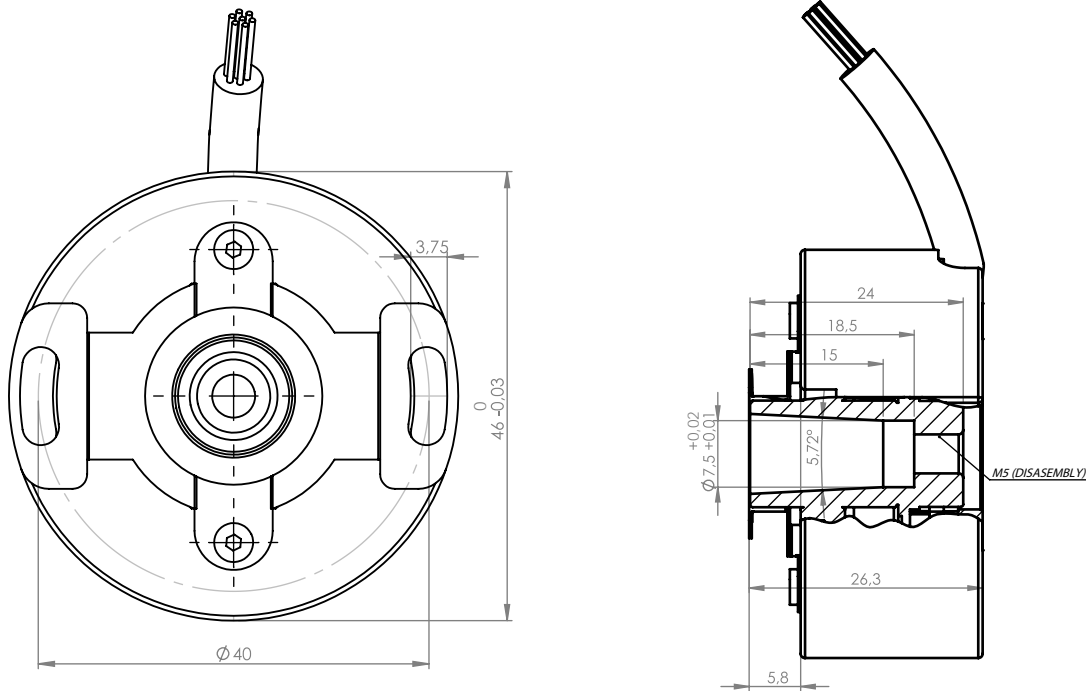
Cable/Connector Wiring, Part Number



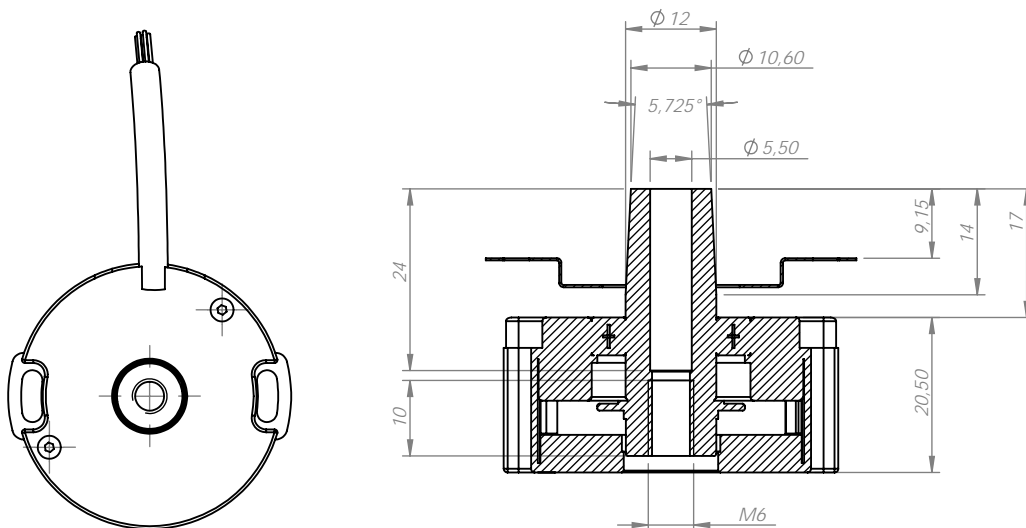
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Mechanical Dimensions

Conic shaft with AK841 spring

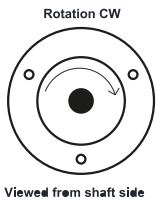
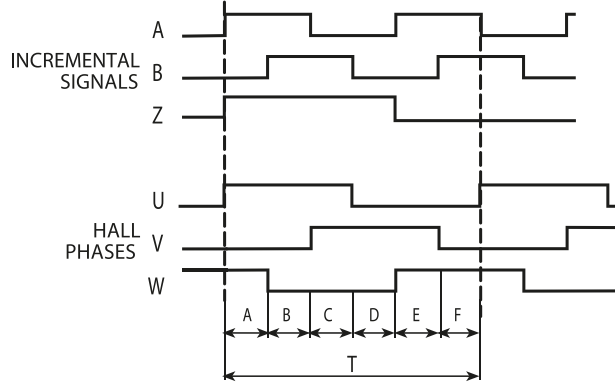


External conic shaft



Pulse Diagram

Clockwise rotating direction when looking at flange.



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

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		

Encoder Part Number

FNC 46 MF 8 12 8P 2500 30V - R2 / AK8

Housing:
46 : 46 mm

Flange Type:
MF : Through hollow shaft optic

Shaft diameter : 4, 5, 6, 7, 8 mm
Other dimensions on request
C : Conic shaft 8 to 10 mm
EC : External conic shaft 12 mm

Output Channels

Spring options
AK8 : AK841 spring
LF6 : LF640 spring

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

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 - 65536

Pole pairs
0P : No poles, 0 pole pair
4P : 4 poles, 2 pole pair
8P : 8 poles, 4 pole pair
12P : 12 poles, 6 pole pair
16P : 16 poles, 8 pole pair
2P : 2 poles, 1 pole pair
6P : 6 poles, 3 pole pair
10P : 10 poles, 5 pole pair
14P : 14 poles, 7 pole pair
32P : 32 poles, 16 pole pair

Incremental commutation encoders

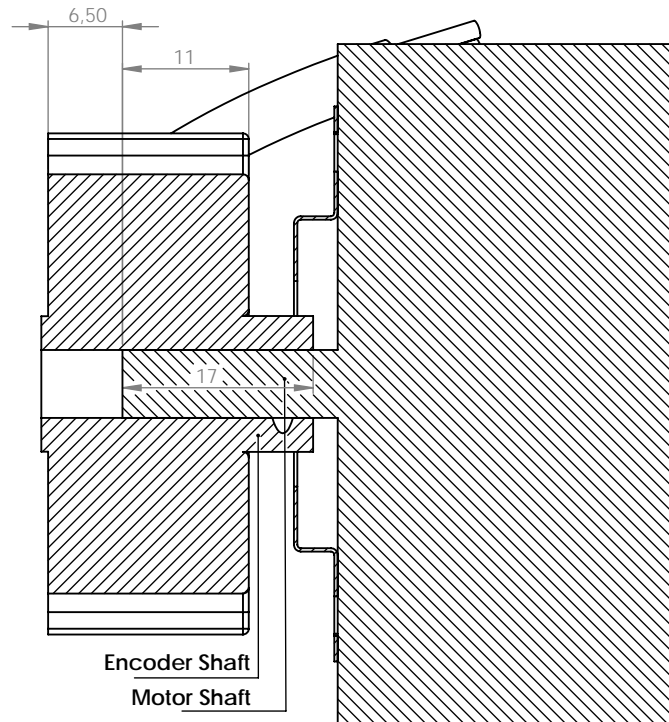
Cable/Connector Wiring, Part Number



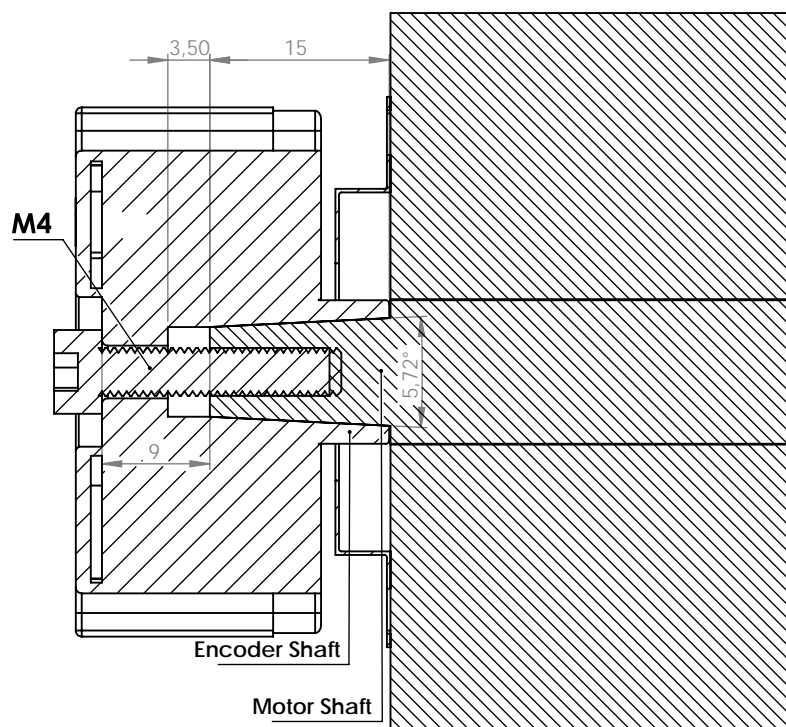
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User Mounting Instruction

Hollow shaft



Conic shaft



Note : The length of the shaft coming from the motor and entering into the encoder hole should pass at least the center of the encoder. Ideal size is as in the figure.