

# Incremental encoders

## Resolution 1...65,536



### FNC 40E Series



#### Features

- Industry 40 mm size, 20mm diameter clamping flange
- Universal 40 mm encoders
- Robust Mechanical and Electrical Construction
- Protection to IP65
- Up to 4096 PPR max.
- <300 kHz frequency

#### Technical data - electrical ratings

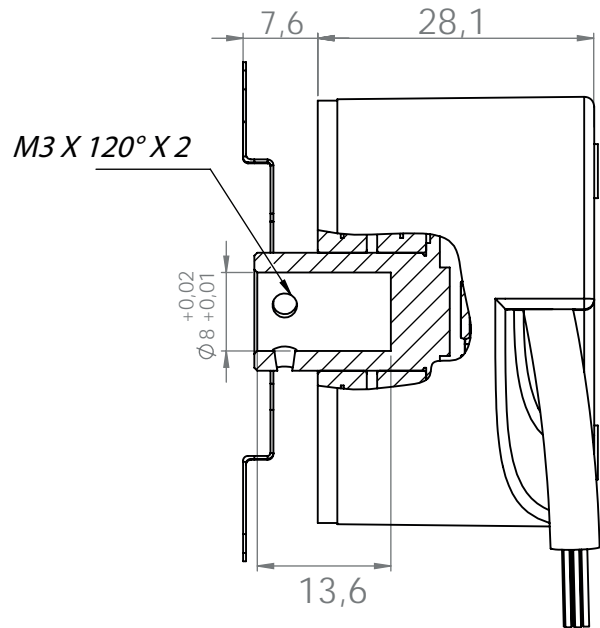
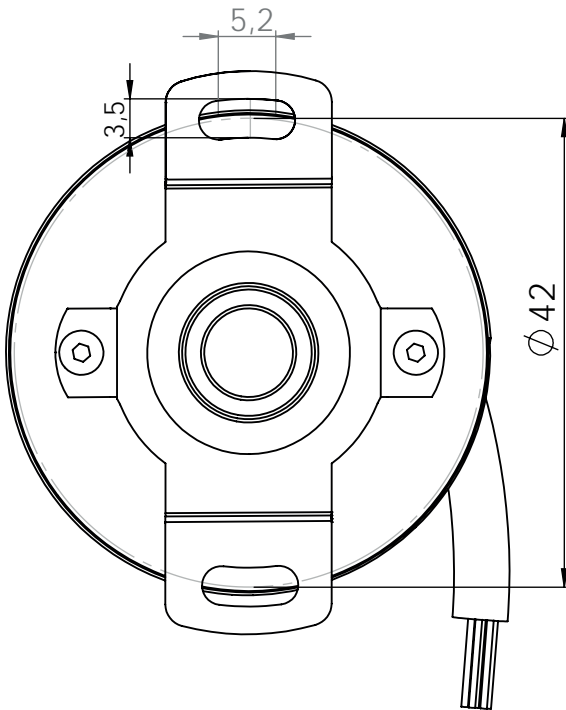
Voltage supply	4.75VDC to 30VDC HTL 4.75VDC to 5.5VDC TTL
Protection:	Output short circuit protection. Reverse polarity protection ( except 5V version )
Consumption w/o load	≤60 mA (24 VDC)
Resolution (steps/turn)	1...65,536
Reference signal	Zero pulse, width 90° 180°, 360° optional
Optoelectronic life 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 NPN Open Collector
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

#### Technical data - mechanical design

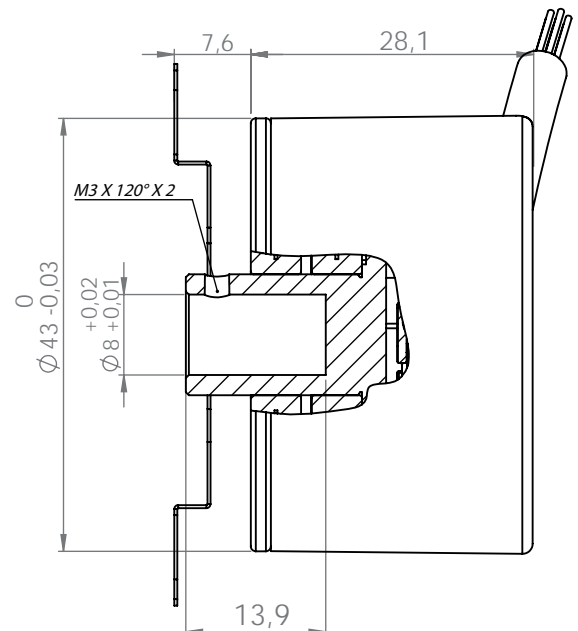
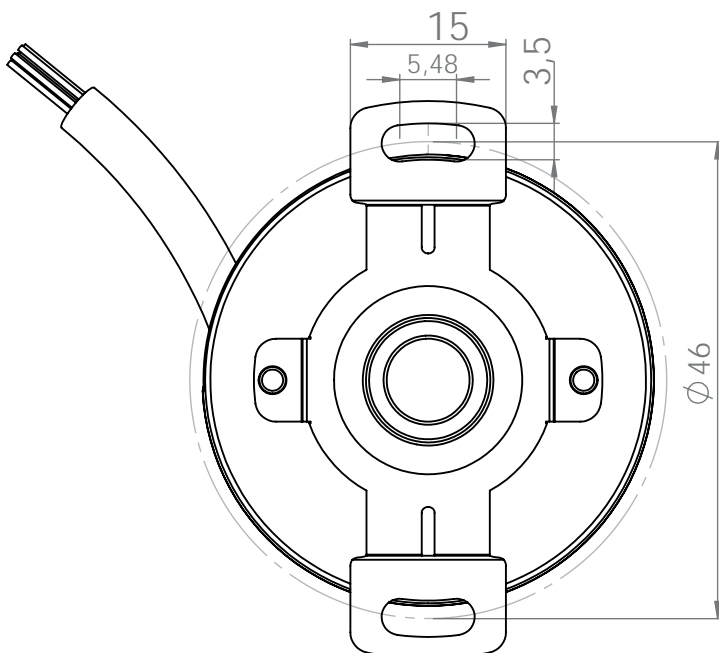
Dimensions (flange)	ø40 mm
Shaft loading	≤60 N axial ≤80 N radial
Protection DIN EN 60529	IP54, IP65
Operating speed	≤10000 rpm
Starting torque	≤0.020 Nm (IP 67)
Materials	Housing: Aluminium Flange: Aluminium Shaft : Stainless steel
Shaft diameter:	4, 5, 6, 8 mm ( other diameters on request )
Bearings 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.	150 g

Mechanical Dimensions

### Y2 Spring



### Y6 Spring

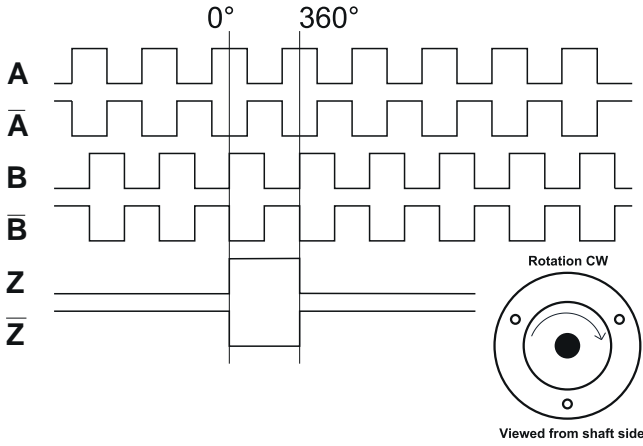


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## FNC 40E Series

### Pulse Diagram



### Cable Wiring

Function	Color	Renk	Explanation
+VB	Brown	Kahve	Supply Voltage
GND	White	Beyaz	Ground
A	Green	Yeşil	A Channel
A'	Red	Kırmızı	A Inverted Channel
B	Yellow	Sarı	B Channel
B'	Pink	Pembe	B Inverted Channel
Z	Gray	Gri	Z Channel
Z'	Blue	Mavi	Z Inverted Channel
Shield	Black	Siyah	Shield

### Connector Wiring

Connector Type	+Vcc	GND	A	A'	B	B'	Z	Z'	Shield
CRM1204	1	2	3		4				o.r.
CRM1205	1	2	3		4		5		o.r.
CRM1208	1	2	3	6	4	7	5	8	o.r.
CRM1212	1	2	3	6	4	7	5	8	o.r.
CRM1607	1	2	3		4		5		o.r.
CRM1614	Customer Specific								o.r.

### Encoder Part Number

FNC 40 E 6 6 30V 1024 - R2 / Y2

Housing:  
40 : 40mm

Flange Type:  
E : End shaft

Shaft diameter : 4, 5, 6, 8 mm  
Other dimensions on request

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

#### Spring Option

Y2 : 42 mm mounting hole distance  
Y6 : 46 mm mounting hole distance

#### Electrical Connections:

##### Cable

R2 : radial 2m, shield not connected (standard)  
A2 : axial 2m, shield not connected (standard)  
T2 : tangential 2m, shield not connected (standard)

##### Connector:

R1204 R1208 R1607  
R1205 R1212 R1614

#### PPR Options :

1 to 65,536 ppr

#### Supply Voltage and output circuit :

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