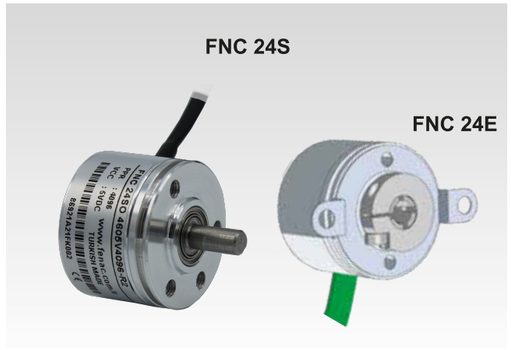
FNC 24S / 24E Series, 24 mm Housing, Micro Encoders



Features

- **Industry 24 mm special size, servo flange and clamp flange**
- **Robust mechanical and electrical construction**
- **Protection up to IP67**
- **Up up to 4096 PPR max.**
- **<300 kHz frequency**

PPR Options :

1 to 1024 All PPR- 2048 - 4096

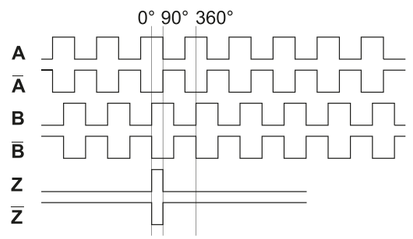
Technical data - electrical ratings

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	≤30 mA (24 VDC)
Resolution (steps/turn)	1...4096
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)	ø24 mm
Shaft loading	≤20 N axial ≤30 N radial
Protection DIN EN 60529	IP54, IP65
Operating speed	≤10000 rpm
Starting torque	≤0.01 Nm (IP 67)
Materials	Housing: Aluminium Flange: Aluminium Shaft : Stainless steel
Shaft Diameter:	24E shaft up to 5 mm 24S 4, 5 & 6 mm
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.	130 g

Pulse Diagram



Accessories

Connectors and cables
CRM1204 M12 4 poles female connector or see page 206

Mounting coupling
SK240606 plastic or see page 204

Mounting accessories
YY RST Spring or see page 202-203

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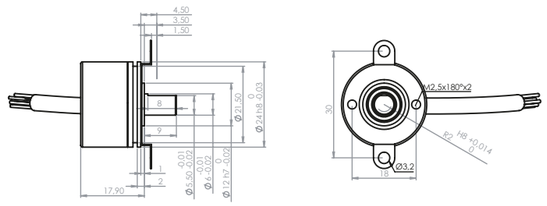
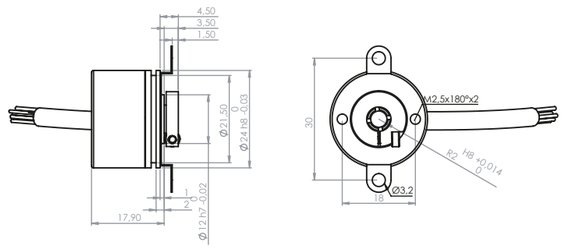
Mechanical Dimensions

FNC 24S



FNC 24E



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
FCSF M1204	1	2	3		4				o.r.
FCSF M1205	1	2	3		4		5		o.r.
FCSF M1208	1	2	3	6	4	7	5	8	o.r.
FCSF M1212	1	2	3	6	4	7	5	8	o.r.
FCSF M1607	1	2	3		4		5		o.r.
FCSF M1614	Customer Specific								o.r.

Encoder Part Number

FNC	24	S	M		6	6	30V	1024	–	R2

Housing:
24 : 24mm

Flange Type:
S : Clamping Flange
E : End shaft

O : Optical
M : Magnetic

Shaft diameter :
24E : 5 mm
24S : 4, 5 & 6 mm

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)
A2 : axial 2m, shield not connected (standart)

Connector:

R1204	R1212
R1205	R1607
R1208	R1614

PPR Options :
1 to 256 - 512 - 1024 - 2048 - 4096 ppr

Supply Voltage and output circuit :
5V : 5V in / out
245V : 5-30V in 5V out
30V : 5-30V in / out