Incremental encoders

Resolution 1...2048 pulses

FNC 40V Series

Features

- **Industry 40 mm size, screw flange**
- **Universal 40 mm encoders**
- **Robust Mechanical and Electrical Construction**
- **Protection up to IP67**
- **Up to 2048 PPR max.**
- **<300 kHz frequency**

PPR Options :

1 to 128 - 25 - 50 - 100 - 200 - 360 - 500 - 512 - 1000 - 1024 - 2000 - 2048

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...2048
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:	$2x10^9$ rev. at 100% of full rated shaft load (minimum)
Operating temperature	-20...+85 °C
Storage temperature	-30 °C up to +90 °C
Weight approx.	150 g

Accessories

Connectors and cables
CRM1204 M12 4 poles female connector or see page 160

Mounting coupling
SK240606 plastic or see page 158

Mounting accessories
YY RST Spring or see page 156-157

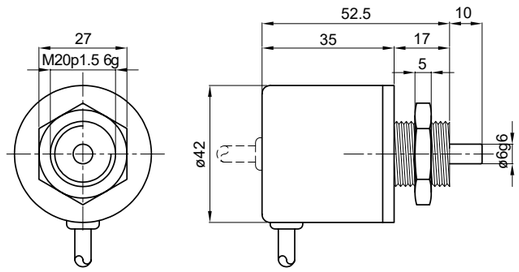
Incremental encoders

Mechanical Dimensions

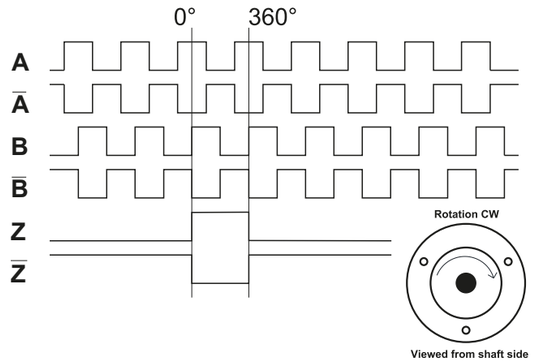
Cable/Connector Wiring, Part Number

FNC 40V Series

Mechanical Dimensions



Pulse Diagram



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.

For further information please see page 112

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

Encoder Part Number

FNC 40 V 6 6 30V 1024 – R2

Housing:
40 : 40mm

Flange Type:
V1 : M20 Screw flange
V2 : M24 Screw flange

Shaft diameter : 4, 5, 6, 8
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)
A2 : axial 2m, shield not connected (standart)

Connector:
CRM1204 CRM1212
CRM1205 CRM1607
CRM1208 CRM1614

PPR Options :
1 to 128 - 25 - 50 - 100 - 200 - 360 - 500 - 512 - 1000 - 1024 - 2000 - 2048

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