

# Incremental encoders

## Optical and Magnetic Programming Options



Programmable Resolution 1...100.000 pulses

## FNC 58S Series Programmable



### Features

- Industry 58 mm standard size,
- Servo flange version
- Robust mechanical and electrical construction
- Protection up to IP67
- Up to 65.536 PPR max.
- 2 MHz frequency
- Programming vi FNC PT - PC Programming tool
- FNC PT - PS easy programming software

### PPR Options :

1 to 65.536 ppr for magnetic version  
1 to 100.000 ppr for optical version  
up to 2.000.000 on request

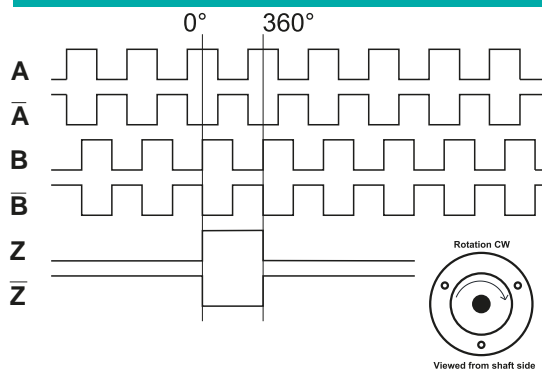
### Technical data - electrical ratings

Voltage supply	4.75VDC to 30VDC 4.75VDC to 5.5VDC
Protection	Output short circuit protection. Reverse polarity protection Over voltage protection ( except 5V version )
Consumption w/o load	60 mA (5 VDC) 35 mA (12 VDC) 26 mA (24 VDC) 27 mA (30 VDC)
Reference signal	Programmable length, 90° 180°, 270°, 360°
Output frequency	2 MHz
Output signals	90° shifted A and B, Z + all channels can be set independently 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

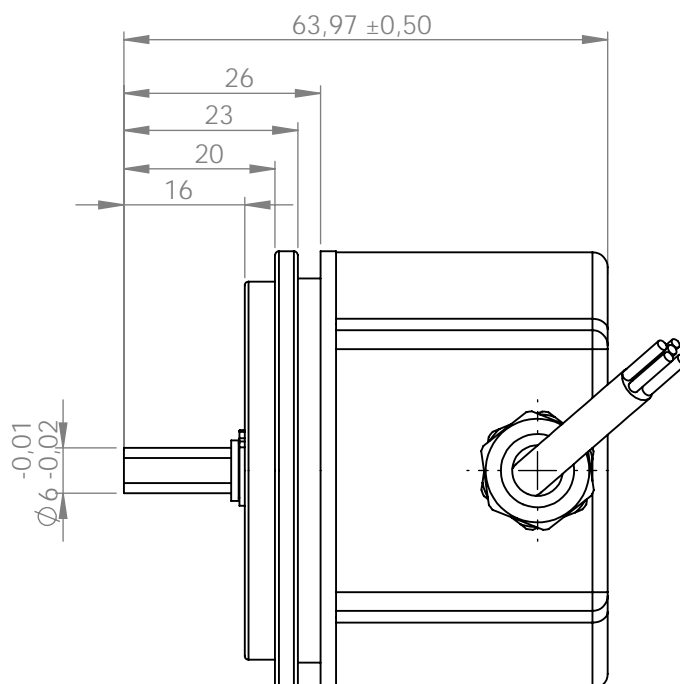
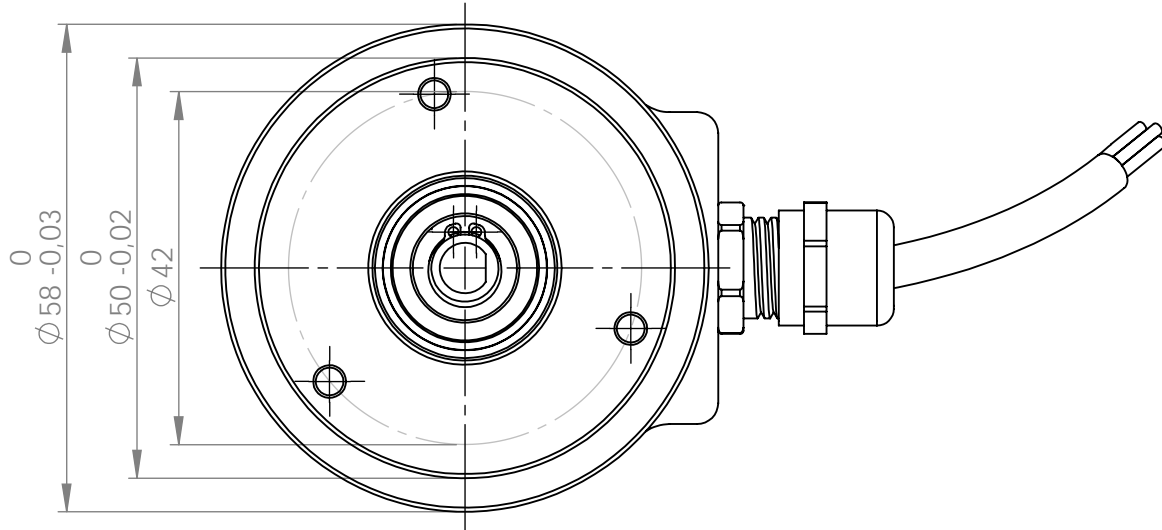
Dimensions (flange)	ø58 mm
Shaft loading	140 N axial 240 N radial
Protection DIN EN 60529	IP54, IP65
Operating speed	12000 rpm
Starting torque	0.025 Nm (IP 67)
Materials	Housing: Aluminum Flange: Aluminum Shaft : Stainless steel
Shaft diameter	6, 8, 10, 12 mm ( other diameters on request )
Bearings lifetime	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

### Pulse Diagram



## FNC 58S Series Programmable

### Mechanical Dimensions



### FNC 58S Series Programmable

#### Cable Wiring

Function	Color	Renk	Farbe	Цвет	颜色	M2312 Connector
+VB	Brown	Kahve	Braun	Коричневый	棕色的	pin 2
GND	White	Beyaz	Weiß	Белый	白色的	pin 10
A	Green	Yeşil	Grün	Зеленый	绿	pin 5
A'	Green-Black	Yeşil-Siyah	Grün-Schwarz	Зелено-черный	绿-蓝色的	pin 6
B	Yellow	Sarı	Gelb	Желтый	黄色的	pin 8
B'	Yellow-Black	Sarı-Siyah	Gelb-Schwarz	Желто-черный	黄色的-蓝色的	pin 1
Z	Gray	Gri	Grau	Серый	灰色的	pin 3
Z'	Gray-Black	Gri-Siyah	Grau-Schwarz	Серо-черный	灰色的-蓝色的	pin 4
NSS	Blue-Black	Mavi-Siyah	Blau-Schwarz	Сине-черный	蓝色的-蓝色的	pin 7
SCK	Blue	Mavi	Blau	Синий	蓝色的	pin 9
MISO	Orange	Turuncu	Orange	Оранжевый	橙	pin 11
MOSI	Orange-Black	Turuncu-Siyah	Orange	Оранжево-черный	橙-蓝色的	pin 12
CLK	Blue	Mavi	Blau	Синий	蓝色的	pin 7
DAT	Orange	Turuncu	Orange	Оранжевый	橙	pin 9



Optical



Magnetic



FNC PT-PC Programming Device

FNCP 58SO 10630VX-R2

Programming Device - PC Cable

#### Encoder Part Number

**FNCP 58 S O 10 6 30V X - R2**

**Housing:**  
58 : 58mm

**Flange Type**  
S : Servo flange

O : Optical programmable      M : Magnetic programmable

**Shaft diameter : 4, 6, 8, 10, 12**  
Other dimensions on request

**Output Channels**  
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)

**PPR Options :**

1 to 65.536 ppr for magnetic version  
1 to 100.000 ppr for optical version  
up to 2.000.000 on request

**Supply Voltage and output circuit :**

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

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### FNC PT-PC Programming Device

#### Magnetic Programming PC view

#### Optical Programming PC view