

# Absolute encoders - SSI / BiSS + SinCos

Integral bearing for integration in motors



## FNC ASS 58 Series



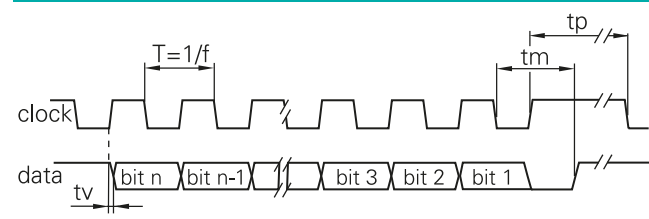
### Features

- Encoder singleturn, SSI / BiSS + SinCos
- Optical sensing
- Resolution: 13 bit standard, programmable
- 2048 SinCos signal
- Clamping flange or synchro flange
- Permanent check of code continuity
- Extreme resistance to shock and vibration
- Encoder with electronic reset

### Technical data - mechanical design

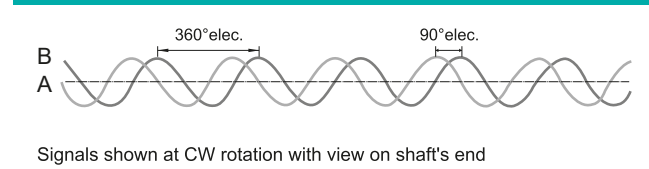
Dimensions (flange)	ø58 mm
Shaft loading	≤140 N axial ≤240 N radial
Protection DIN EN 60529	IP54, IP65
Operating speed	≤10000 rpm
Starting torque	≤0.025 Nm (IP 67)
Materials	Housing, Flange : Aluminium Shaft : Stainless steel
Shaft diameter:	6, 8, 10, 12 mm, standart 1:10 taper shaft, optional
Bearings lifetime:	2x10 <sup>9</sup> rev. at 100% of full rated shaft load (minimum)
Operating temperature	-40...+110 °C -40 °C up to +120 °C (Storage)
Weight approx.	250 g

### SSI Pulse Diagram



Clock frequency, f	50...2000 kHz for SSI up to 10MHz for BiSS
Code	Binary or gray
Status and parity bit	On request
Monoflop time tm	>15µs
Clock time out	Programmable at factory

### 2048 SinCos pulse diagram



### Technical data - electrical ratings

Voltage supply	5.5VDC to 30VDC 4.75VDC to 5.5VDC
Protection:	Output short circuit protection. Reverse polarity protection ( except 5V version )
Consumption w/o load	≤50 mA (24 VDC)
Interface	SSI or BiSS
Resolution (steps/turn)	up to 19 bit
Absolute accuracy	±0.025°
Optoelectronic life time	100.000 (min)
Code	Gray or binary
Inputs	SSI differential clock Direction Electronic zero setting Chip select (Optional)
Output frequency	up to 2MHz (SSI) up to 10MHz (BiSS)
Output circuit	SSI data linedriver RS485 2048 Sin/Cos signals
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

### Accessories

**Connectors and cables**  
CRM2312R M23 12 poles female connector or see page 206

**Mounting coupling**  
PF481010 metal coupling or see page 204

**Mounting accessories**  
YY TEO spring or see page 202-203

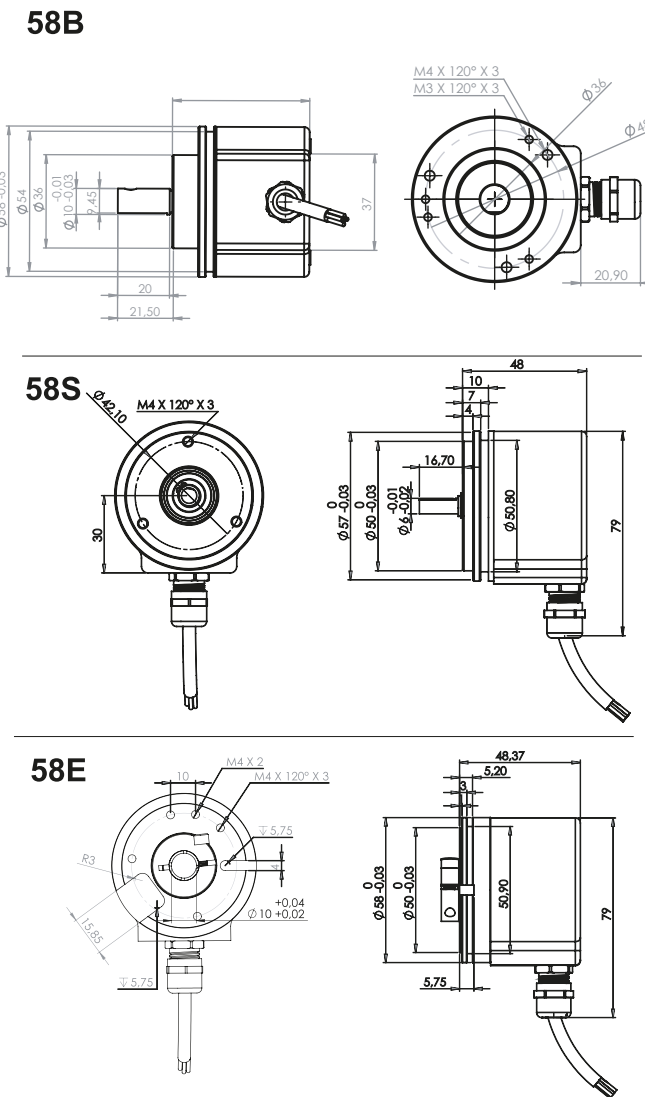
# Absolute encoders - SSI / BiSS + SinCos

Mechanical Dimensions  
Cable/Connector Wiring, Part Number



## FNC ASS 58 Series

### Mechanical Dimensions



### 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
Clock	pin 7	Blue	Mavi
Clock-	pin 8	Blue-Black	Mavi-Siyah
Data	pin 9	Orange	Turuncu
Data-	pin 10	Orange-Black	Turuncu-Siyah
Preset	pin 11	Gray	Gri
Direction	pin 12	Gray-Black	Gri-Siyah
Shield	Connected to housing		

### Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
Zero	Input for setting a zero point anywhere within the encoder resolution. The zero setting operation is triggered by a Low impulse. Connect to +Vs after setting operation for maximum interference immunity. Impulse duration >2 ms.
Note	Include termination resistor R=120 Ohm between Data+ and Data- on control side.
Direction	UP/DOWN counting direction input. This input is standart on High. UP/DOWN means ascending output data with clockwise shaft rotation when looking at flange.

### Encoder Part Number

FNC **A** **S** **S** **58** **S** **10** **S12** **SC2** **30V** **B** - **R4**

- Absolute**
- S**: SSI **B**: BiSS
- S**: 2048 1, Vpp
- Housing 58**: 58mm
- Flange Type**:  
**S** : Servo flange **B** : Clamping flange
- Shaft diameter** : 6, 8, 10, 12  
Other dimensions on request
- S** : Single Turn  
12...19 bit options

**Electrical Connections:**  
**Cable**  
**R4** : radial 4m **R1C4** : connector after 1m Cable  
**Connector:**  
 R1212 R2312L R2312R

**B**: Binary **G**: Gray

**Supply Voltage:**  
**5V** : 5V in / out **30V** : 5-30V in / out

**SC1**: 1024 SinCos  
**SC2**: 2048 SinCos  
**SC4**: 4096 SinCos