

# Fenac Inductive Contactless Encoders



## FNC ASI75 Series

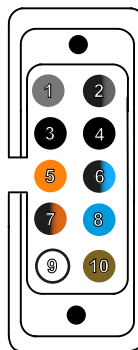
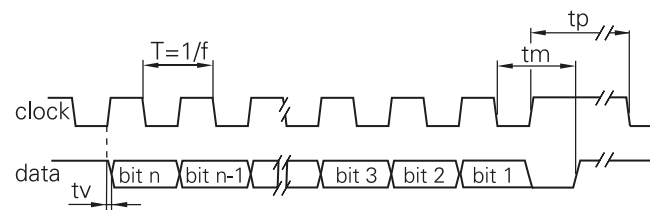
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Technical data - Electrical Ratings	
Supply Voltage	5V or 6 - 36 VDC $\pm 5\%$
Interface	SSI or BISS
Protection	Overtoltage protection Short-circuit protection
Resolution (steps/turn)	up to 21 bit
Output frequency	up to 2 MHz for SSI up to 10 MHz for BISS
Code	Gray or binary
Output circuit	SSI data linedriver RS485
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

Features	
<ul style="list-style-type: none"> <li>• Non contact inductive technology</li> <li>• High accuracy</li> <li>• For high reliability in extreme environments</li> <li>• Robust mechanical design</li> <li>• Thin design</li> </ul>	
Technical data - Mechanical Ratings	
Dimensions	Outer Diameter : 75 mm Inner Diameter : 25 mm
Mounting Type	Clamping or Screw
Mounting Gap	1,1 mm $\pm 0,1$
Materials	Anodized Aluminium
Protection DIN EN 60529	IP 67
Operating temperature	-40 ... +85°C
Weight	Rotor : 30 g Stator : 100 g

Cable Wiring		
Function	Connector	Color
+VB	pin 10	Brown
GND	pin 9	White
CLK+	pin 8	Blue
CLK-	pin 6	Blue-Black
DATA+	pin 5	Orange
DATA-	pin 7	Orange-Black
ZERO*	pin 1	Gray
FACTORY ZERO**	pin 2	Gray-Black

Clock frequency, f	50 ... 2000 kHz for SSI 50 ... 10.000 kHz for BISS
Code	Binary
Status and parity bit	On request
Monoflop time $t_m$	20 $\mu s$
Delay time $t_d$	<150 ns

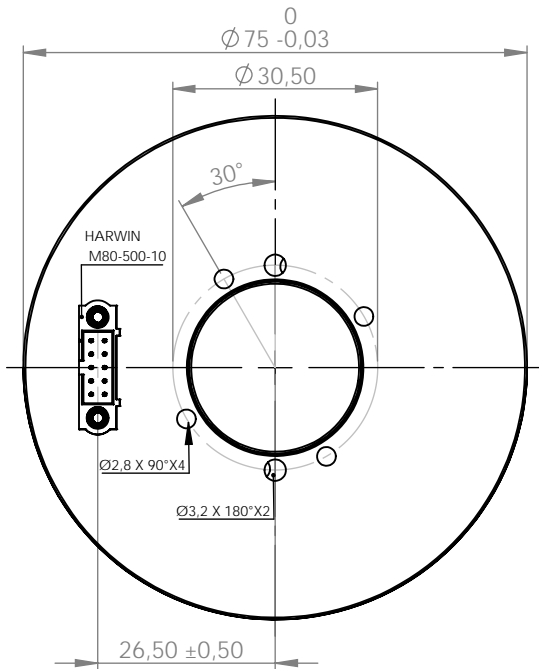
### During operation;

\* : To set the Zero position, apply GND to Zero pin for less than 1 second.

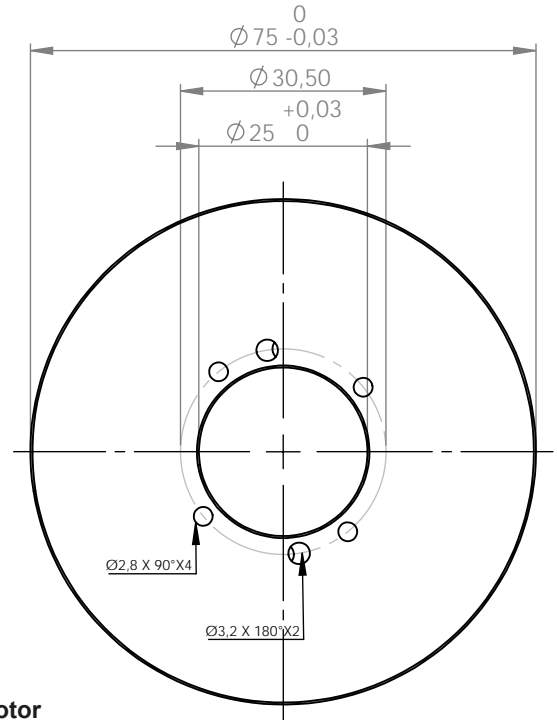
\*\* : To set the Factory Zero position to factory default, apply GND to Factory Zero pin for less than 1 second.

### Mechanical Dimensions

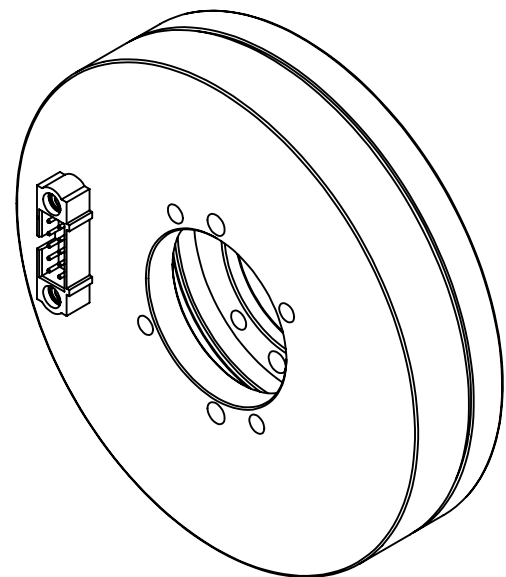
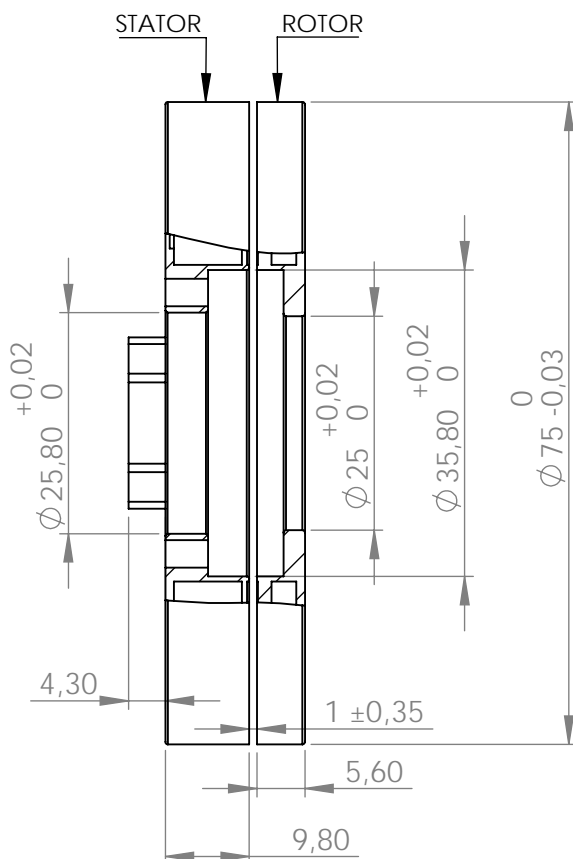
#### Screw Mounting Stator - Screw Mounting Rotor Version



Stator



Rotor

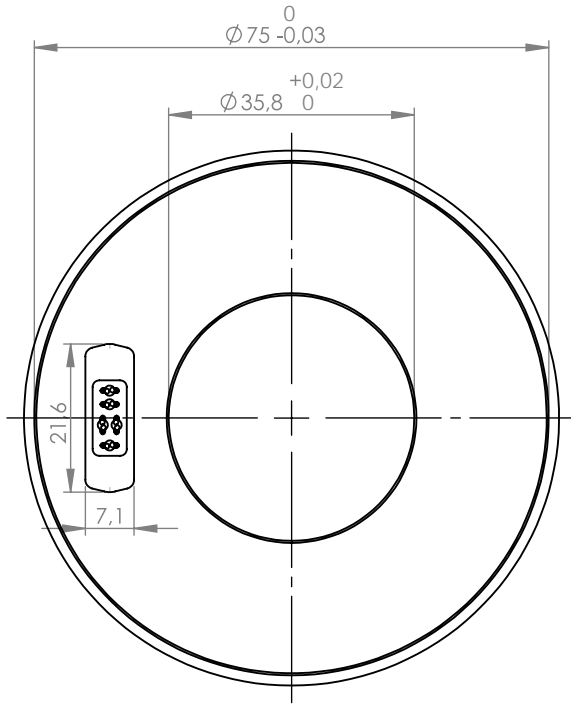


## FNC ASI75 Series

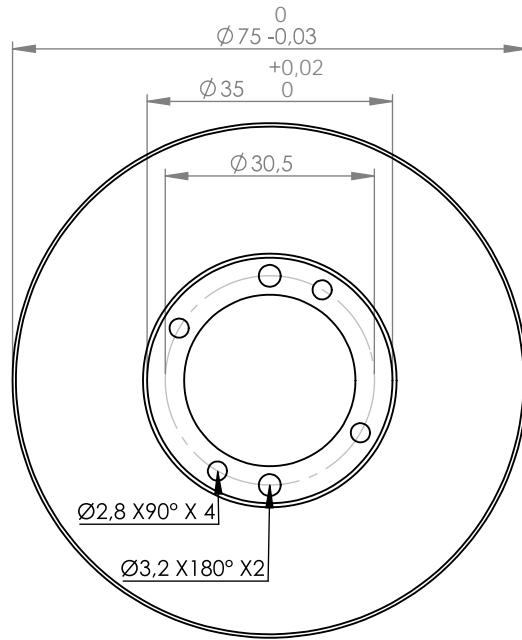
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### Mechanical Dimensions

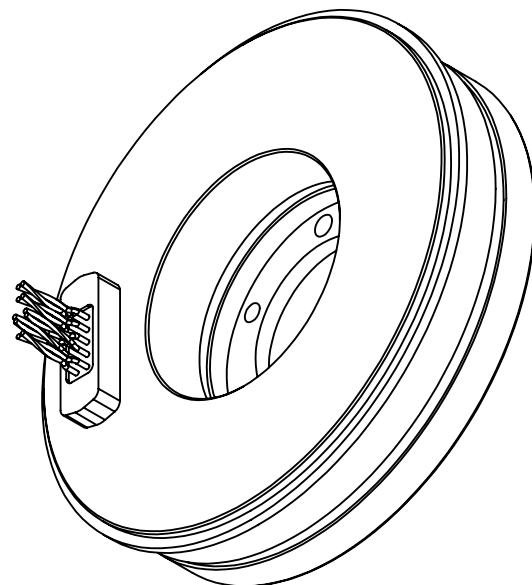
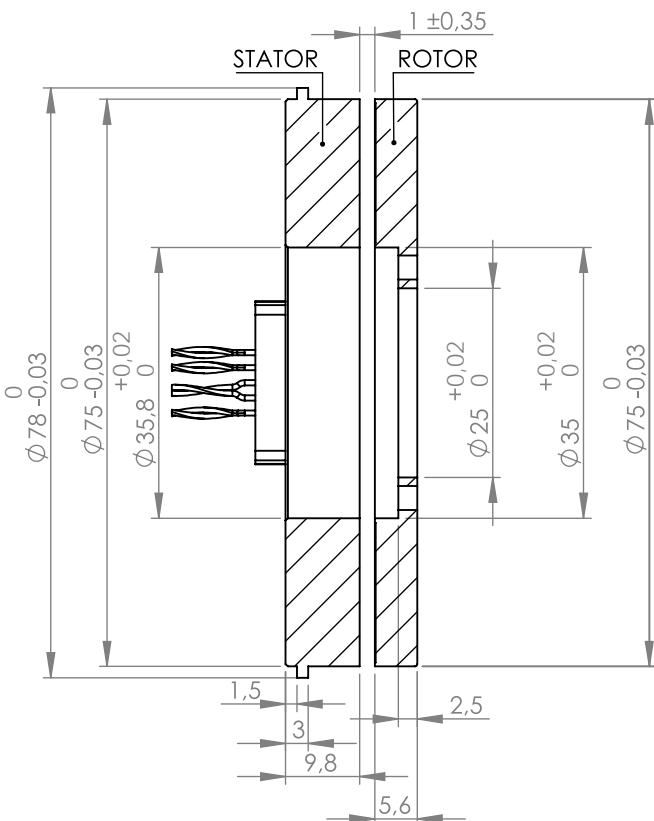
#### Servo Clamp Mounting Stator - Screw Mounting Rotor Version



Stator

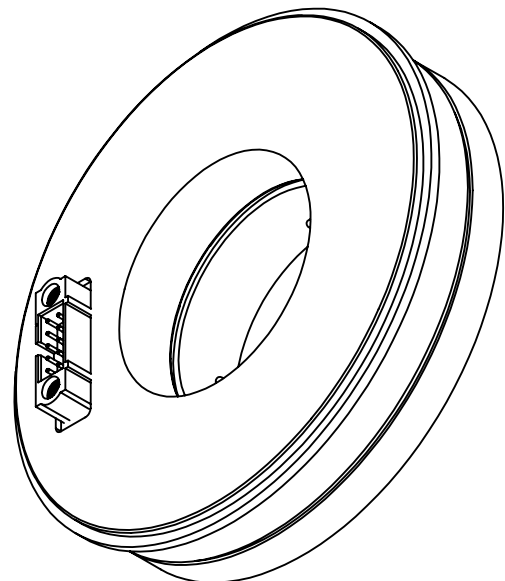
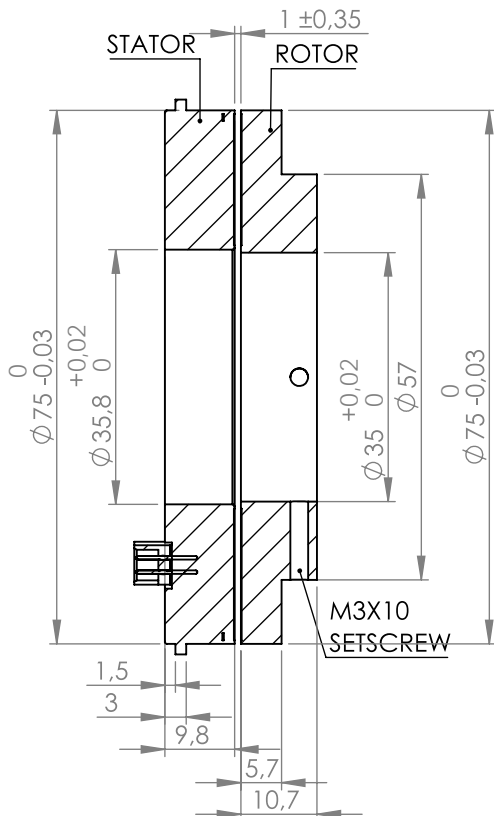
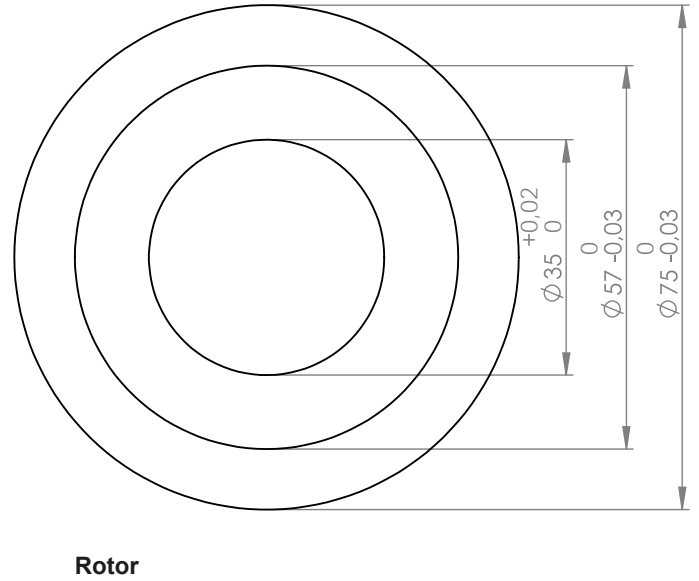
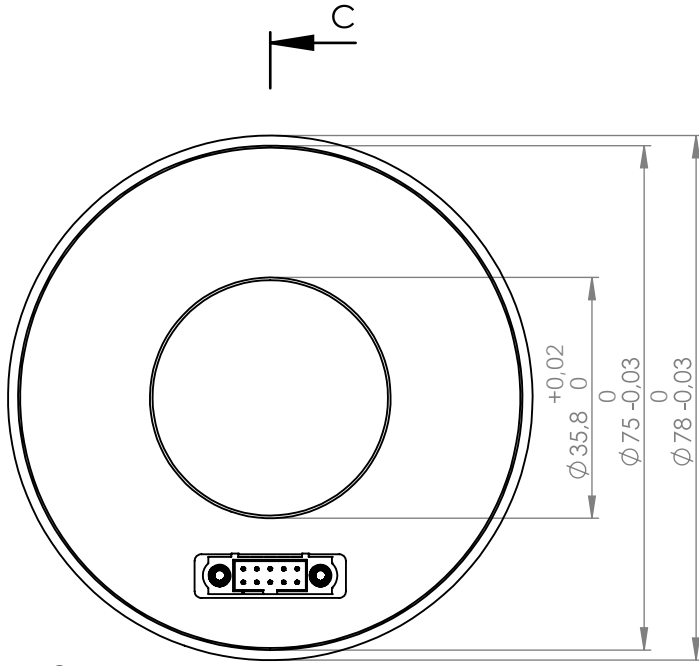


Rotor



### Mechanical Dimensions

#### Servo Clamp Mounting Stator - Set-Screw Mounting Rotor Version



# Fenac Inductive Contactless Encoders



## FNC ASI75 Series

### SSI (Synchronized Serial Interface) Product Options

#### SSI1 (n = 24)

D23	D22	D21	D20	...	D1	D0
E	ZPD	PD				

**E** : Error Flag. Set to 1 when data is valid, otherwise 0

**ZPD** : Zero Point Default. Set to 1 when the Zero Point is at Factory Default, otherwise 0

**PD** : Binary position data. If resolution of device is less than 22 bits, then the MSBs of this field are set to 0. The LSB of this field is in D0. When PV is 0, PD[21:0] value is not defined.

#### SSI2 (n = 24)

D23...D2	D1	D0
PD[21:0]	P	A

**PD** : Binary position data. If resolution of device is less than 22 bits, then the MSBs of this field are set to 0. The LSB of this field is in D2. When Alarm bit is 1, PD[21:0] value is not defined.

**P** : Parity Bit 0 indicates an even number of 1's in data (D23-D2), 1 indicates an odd number of 1's in data.

**A** : Alarm Bit - 0 indicates normal operation, 1 indicates error condition.

#### SSI3 (n = 16)

D15	D14	D13	D12	...	D1	D0
PD [15:0]						

**PD** : Binary position data. When ERROR FLAG is 1, PD[15:0] value is not defined.

#### SSI7 (n = 30)

D29...D24	D23...D2	D1	D0
Z	PD[21:0]	P	A

**Z** : Data always 0.

**PD** : Binary position data. If resolution of device is less than 22 bits, then the MSBs of this field are set to 0. The LSB of this field is in D2. When Alarm bit is 1, PD[21:0] value is not defined.

**P** : Parity Bit 0 indicates an even number of 1's in data (D23-D2), 1 indicates an odd number of 1's in data.

**A** : Alarm Bit - 0 indicates normal operation, 1 indicates error condition.

### BISS (Bidirectional Synchronized Serial Interface) Product Options

#### BISS (n = 26)

D25...D8	D7	D6	D5...D0
PD[17:0]	nE	nW	CRC

**PD** : Binary position data.

**nE** : Error Flag. Low active.

**nW** : Warning Flag. Low active.

**CRC** : Cyclic Redundancy Check, 0x43 polynomial

# Fenac Inductive Contactless Encoders



## FNC ASI75 Series

### Encoder Part Number

**FNC AS I 75 SM SM 1 18 5V G - A6 A**

#### Interface

**AS** : Absolute SSI  
**AB** : Absolute BISS

#### Sensing Technology

**I** : Inductive

#### Outer Diameter

**37** : 37 mm      **135** : 135 mm  
**58** : 58 mm      **150** : 150 mm  
**75** : 75 mm      **200** : 200 mm  
**90** : 90 mm      **225** : 225 mm  
**100** : 100 mm    **250** : 250 mm  
**125** : 125 mm

#### Stator Mounting

**SM** : Screw Mounting Stator  
**SC** : Servo Clamp Stator  
**DS** : Duplex Stator  
**EM** : External Mount Stator

#### Rotor Mounting

**SM** : Screw Mounting Rotor  
**SS** : Setscrew Mounting Rotor  
**PR** : Plain Rotor  
**DR** : Duplex Rotor

#### Surface finish

**A** : Anodized  
**S** : Standard  
**N** : Nickel coated

#### Electrical Connections

**A6** : 0.6 meter cable  
**C10** : 10 Pin Connector (Consult the factory)

**G** : Gray

#### Supply Voltage

**5V** : 5 VDC  
**3V** : 6 - 36 VDC

#### Resolution

up to 21 bit

#### SSI Interface Type

**1** : SSI1  
**2** : SSI2  
**3** : SSI3  
**7** : SSI7  
 (other options on request)

#### BiSS Interface Type

**1** : BiSS-C