

Fenac Inductive Contactless Encoders



FNC ASI100 Series

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Technical data - Electrical Ratings

Supply Voltage	5V or 6 - 36 VDC \pm 5%
Interface	SSI or BISS
Protection	Overvoltage 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

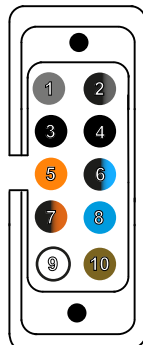
- Non contact inductive technology
- High accuracy
- For high reliability in extreme environments
- Robust mechanical design
- Thin design

Technical data - Mechanical Ratings

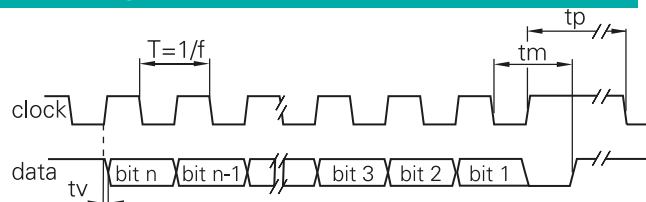
Dimensions	Outer Diameter : 100 mm Inner Diameter : 50 mm
Mounting Type	Clamping or Screw
Mounting Gap	1,1 cm \pm 0,1
Materials	Anodized Aluminium
Protection DIN EN 60529	IP 67
Operating temperature	-40 ... +85°C

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



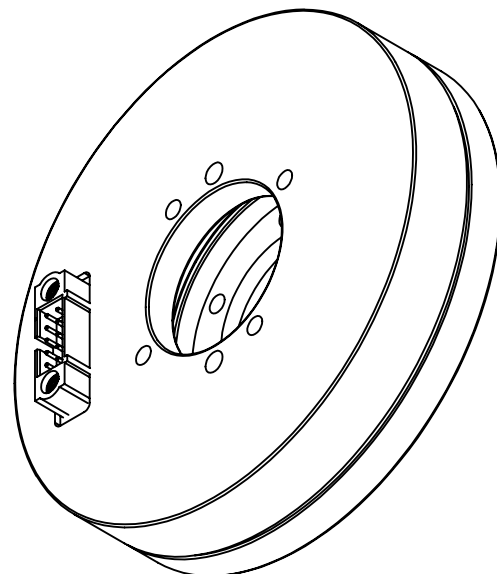
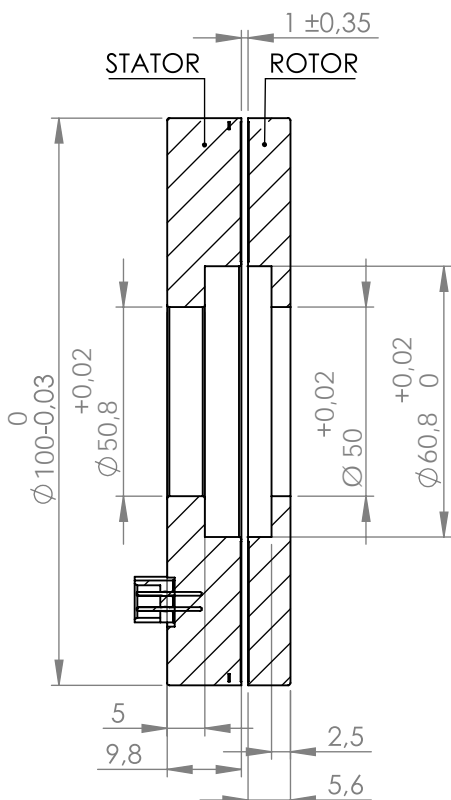
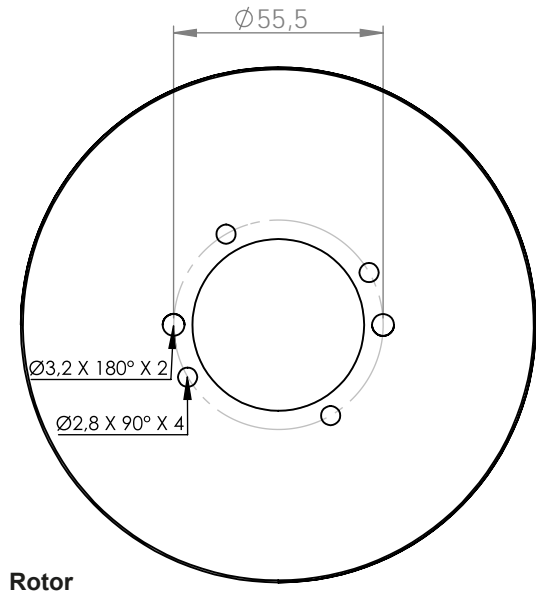
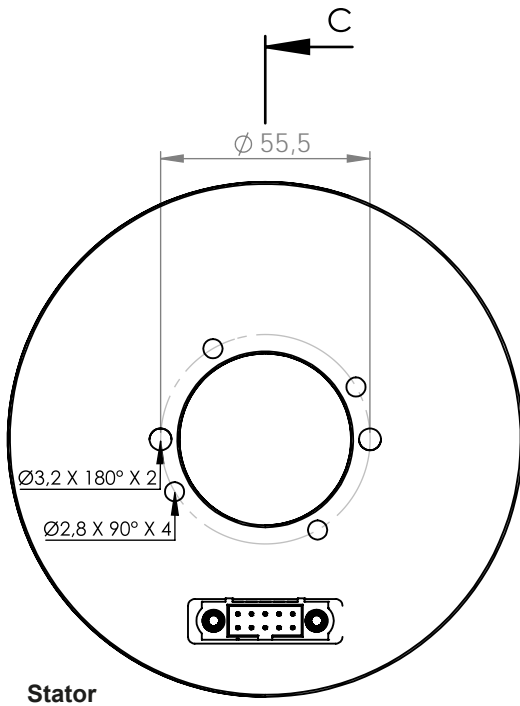
Pulse Diagram



Clock frequency, f	50 ... 2000 kHz for SSI 50 ... 10.000 kHz for BISS
Code	Binary
Status and parity bit	On request
Monoflop time tm	20 μ s
Delay time td	<150 ns

Mechanical Dimensions

Screw Mounting Stator - Screw Mounting Rotor Version

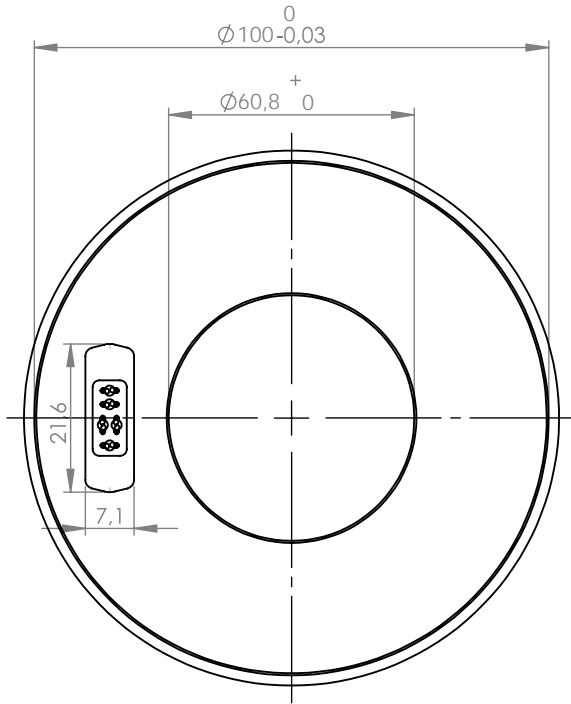


FNC ASI100 Series

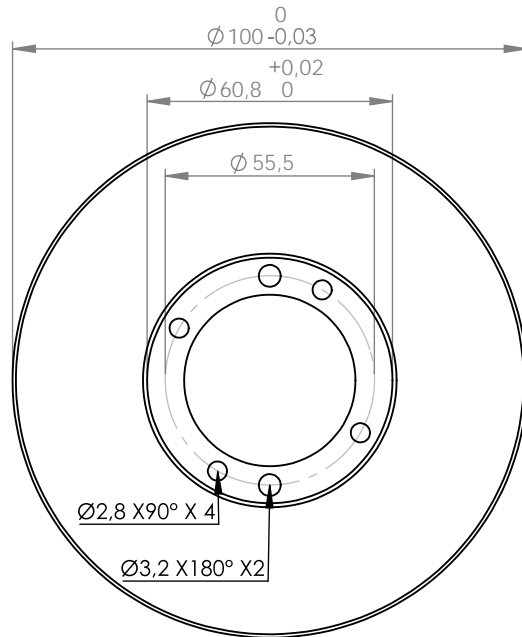
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Mechanical Dimensions

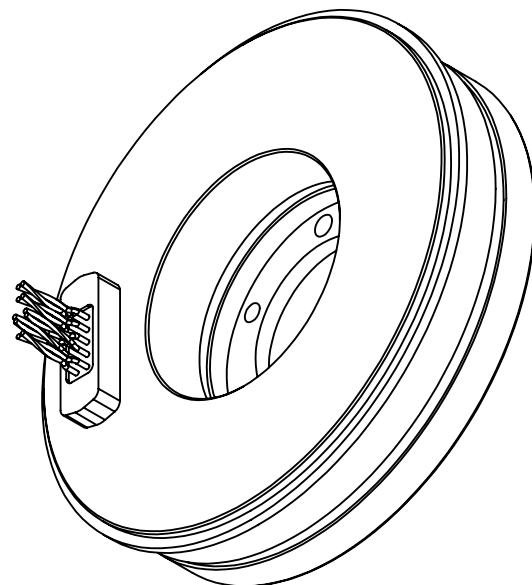
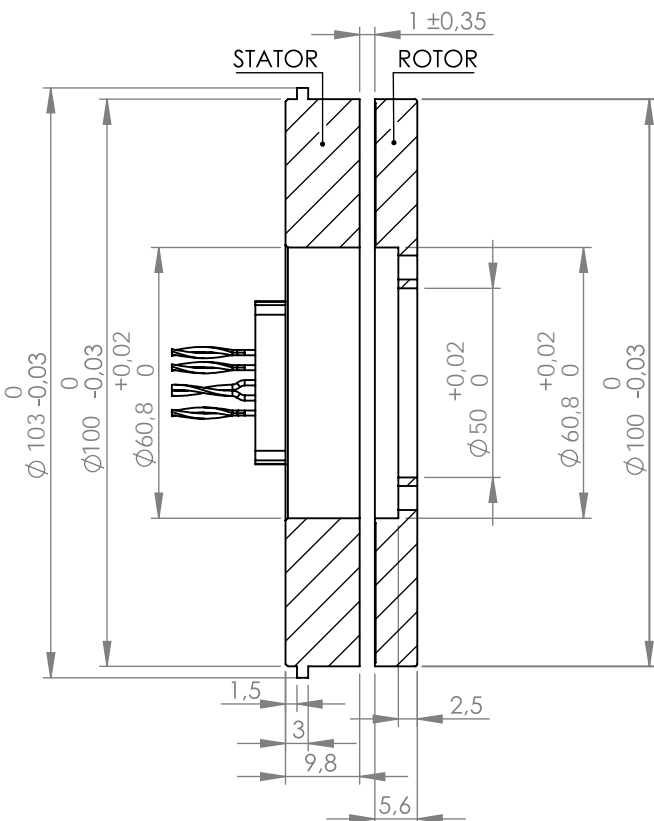
Servo Clamp Mounting Stator - Screw Mounting Rotor Version



Stator

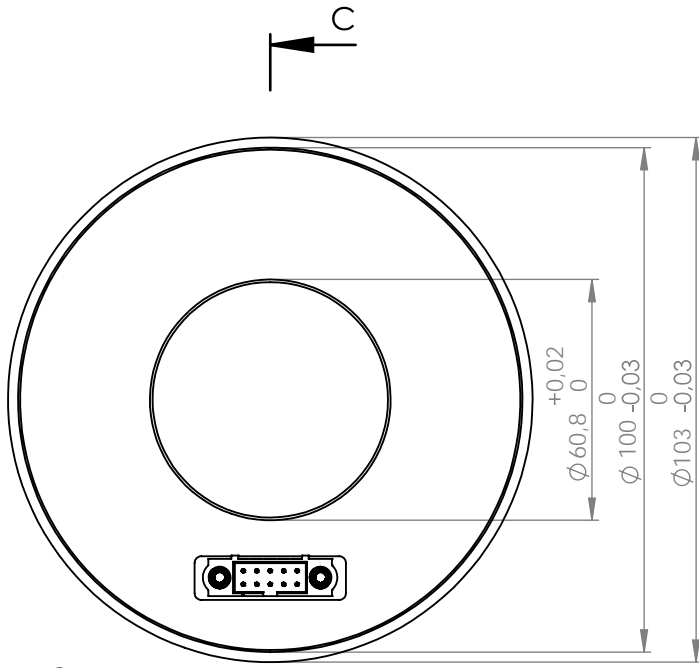


Rotor

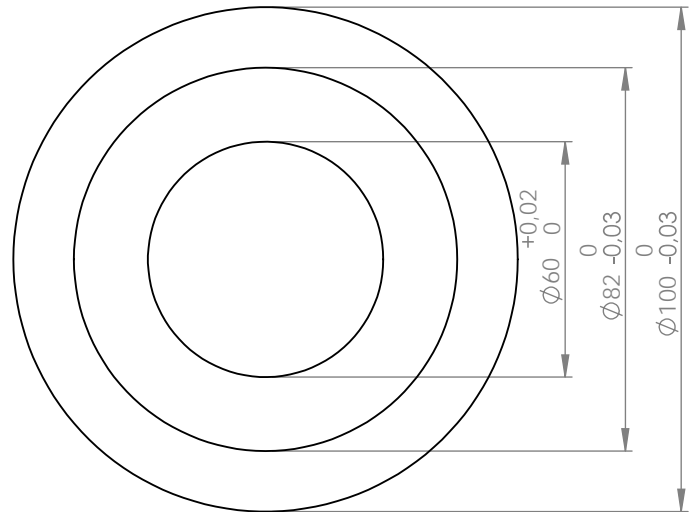


Mechanical Dimensions

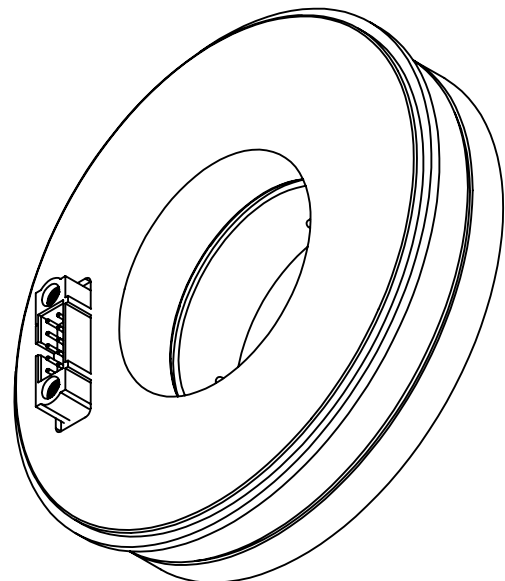
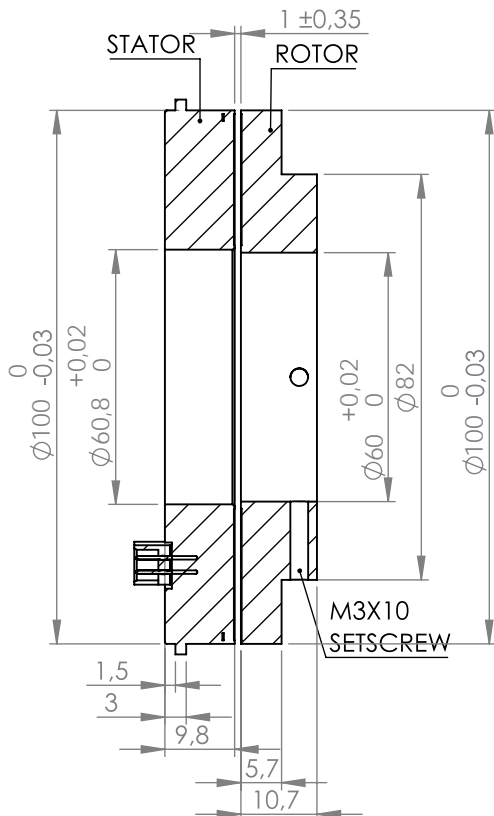
Servo Clamp Mounting Stator - Set-Screw Mounting Rotor Version



Stator



Rotor



FNC ASI125 Series

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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 ASI125 Series

Encoder Part Number

FNC AS I 100 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