

Fenac Inductive Contactless Encoders



FNC ASI 200 Series



Technical data - Electrical Ratings

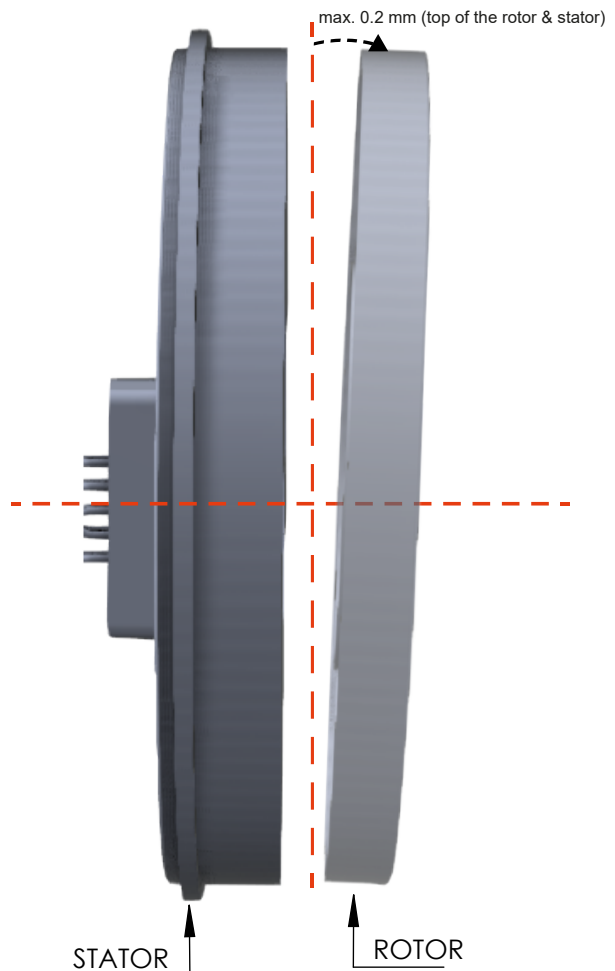
Supply Voltage	5V or 6 - 36 VDC $\pm$ 5%
Interface	SSI or BISS
Protection	Overvoltage protection Short-circuit protection
Resolution (steps/turn)	up to 21 bit
Output frequency	up to 2 MHz for SSI up to 10 MHz for BISS
Code	Binary
Output circuit	SSI data linedriver RS485
Interference immunity	DIN EN 61000-6-2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

Technical data - Mechanical Ratings

Dimensions	Outer Diameter : 200 mm Inner Diameter : 150 mm
Mounting Type	Clamping or Screw
Mounting Gap	1 mm $\pm$ 0,35
Materials	Anodized Aluminium
Protection DIN EN 60529	IP 67
Operating temperature	-40 ... +85°C
Weight	Rotor : 30 g Stator : 100 g

Features

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

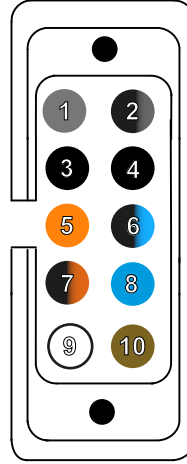


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Cable Wiring

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



During operation;

* : To set the Zero position, apply GND to Zero pin for more than 100msec.

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

*** : If these pins are not used, please connect to 5V with a pull-up resistor.



10 Pin Male connector on the encoder

Matching Connector Without Cable



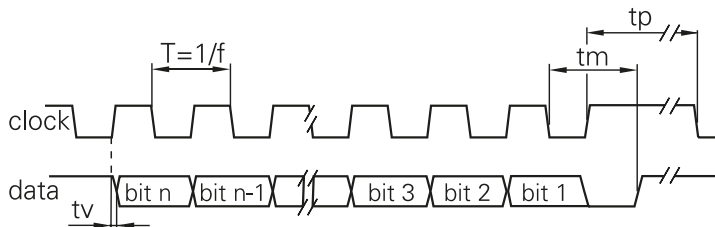
FCSF C10: 10 Pin Female connector (crimps not inserted to housing)

Matching Connector With Cable

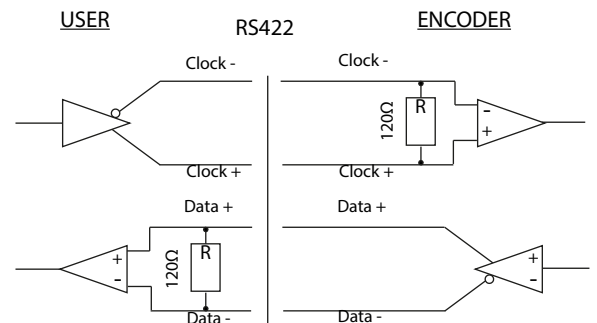


FCSF C10R50: 10pin Female Connector 50 cm cable
FCSF C10R200: 10pin Female Connector 2 meter cable
FCSF C10RXXX: For different cable lenght, write in cm

Communication Interface - Communication Hardware



Clock frequency, f	100 ... 2000 kHz for SSI 100 ... 10.000 kHz for BISS
Code	Binary
Status and parity bit	On request
Monoflop time tm	20 µs
Delay time tv	<150 ns



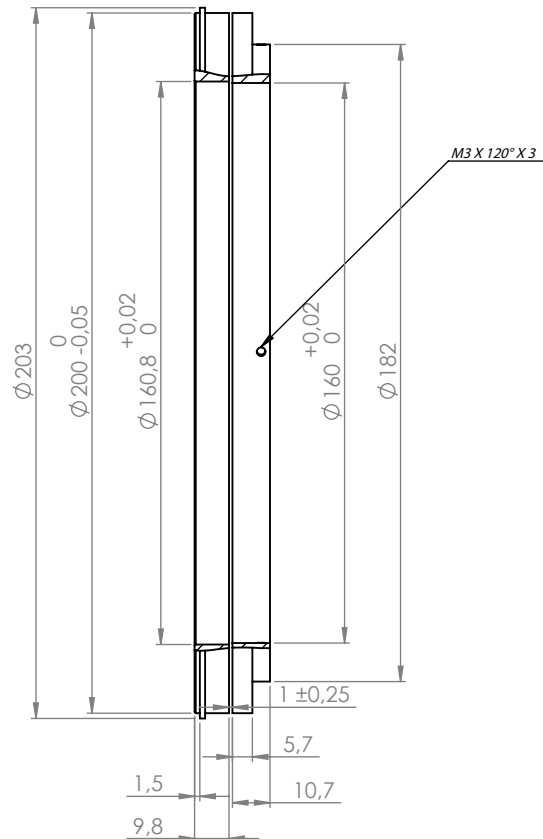
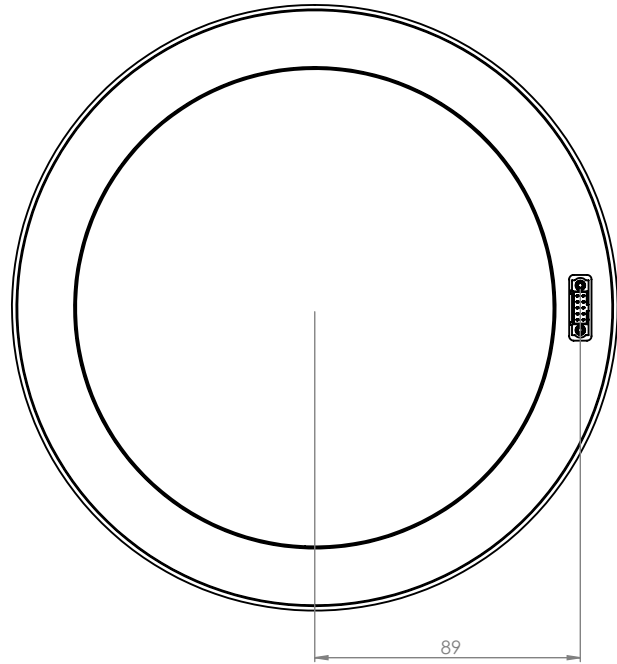
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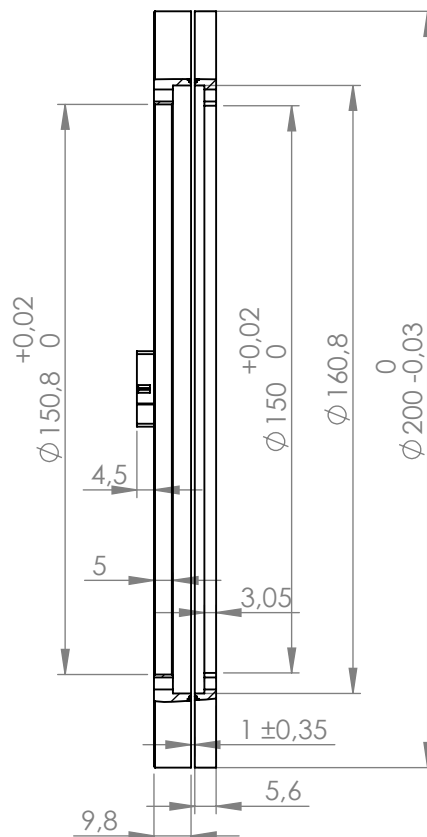
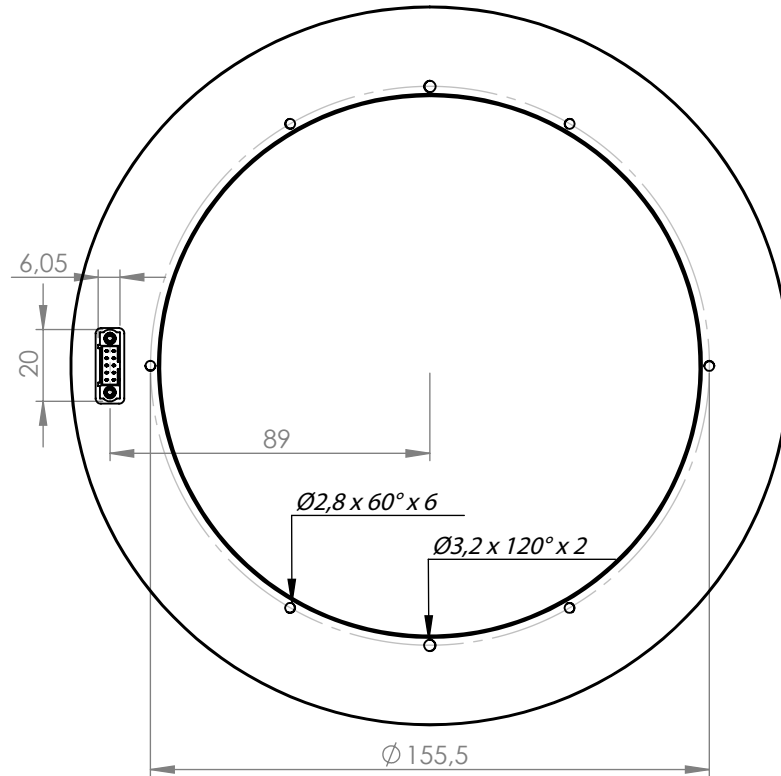
Mechanical Dimensions

Servo Clamp Stator - Set Screw Mounting Rotor Version



Mechanical Dimensions

Screw Mounting Stator - Screw Mounting Rotor Version



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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.

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BISS (Bidirectional Synchronized Serial Interface) Product Options

BISS-C (N =30)

D29...D8	D7	D6	D5...D0
PD	nE	nW	CRC

PD : Binary position data.

nE : Error Flag. Low active.

nW : Warning Flag. Low active.

CRC : Cyclic Redundancy Check, 0x43 polynomial

Example for 20 bit resolution:

MSB							LSB		
D29	D28	D27	...	D10	0	0	nE	nW	CRC

**Since our total data size is 22 bits and our PD is 20 bits, the last 2 bits are 0.

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Encoder Part Number

