

FNC MAS30 Series, Absolute & Incremental Axial



Features

- Off - Axis absolute rotary encoder
- Robust mechanical and electrical construction
- Corrosion resistant magnetic ring
- Outer diameter 30 mm
- Inner diameter 15 mm
- Up to 19 bit for programmable absolute encoder
- Up to 65.536 ppr for programmable incremental encoder
- <300 kHz frequency
- Magnetic system

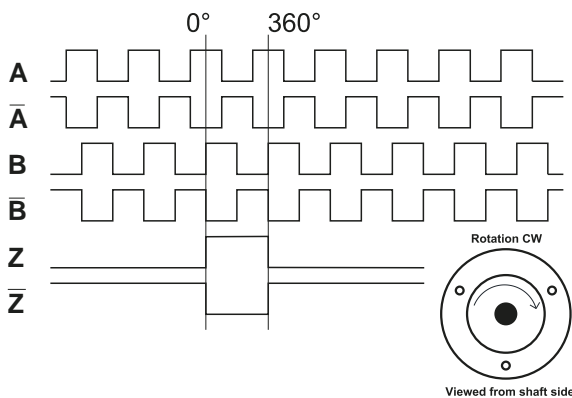
Technical data - electrical ratings

Voltage supply	4.75VDC to 5.5VDC
Protection:	Output short circuit protection. Reverse polarity protection
Consumption w/o load	≤60 mA
Output circuit	Linedriver/RS422
EMC Standars	EN 61000-6-2 / EN 61000-6-4
Approval	CE

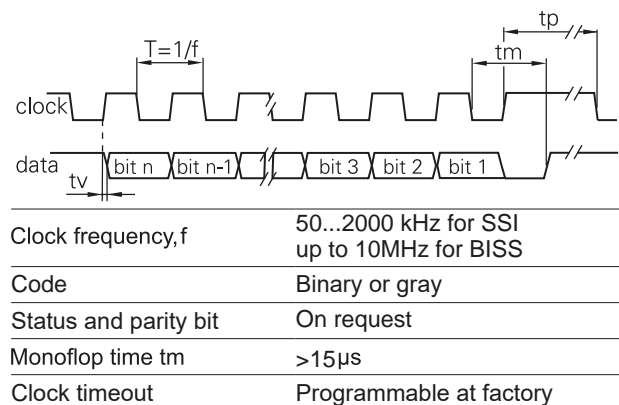
Technical data - mechanical design

Dimensions (ring)	ø30 mm
Protection DIN EN 60529	IP54, IP65
Operating speed	≤10000 rpm
Matetials	Ring: Aluminum
Operating / Storage temperature	-20...+85 °C / -30°C ...+90°C
Weight approx.	200 g

Pulse Diagram for Incremental Version



Pulse Diagram for Absolute Version



Bearingless encoders

Mechanical Dimensions

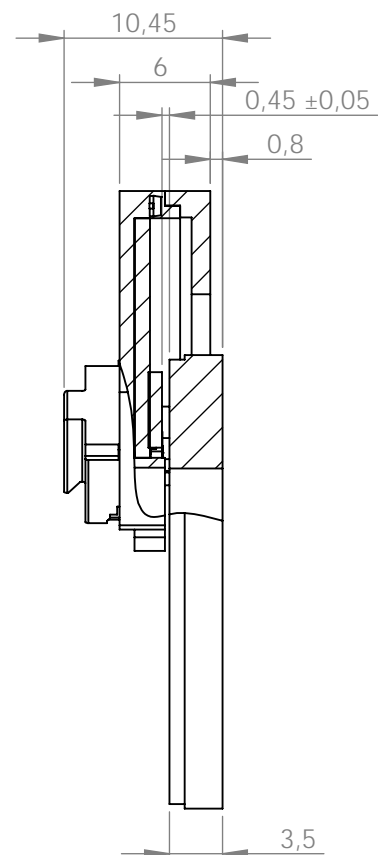
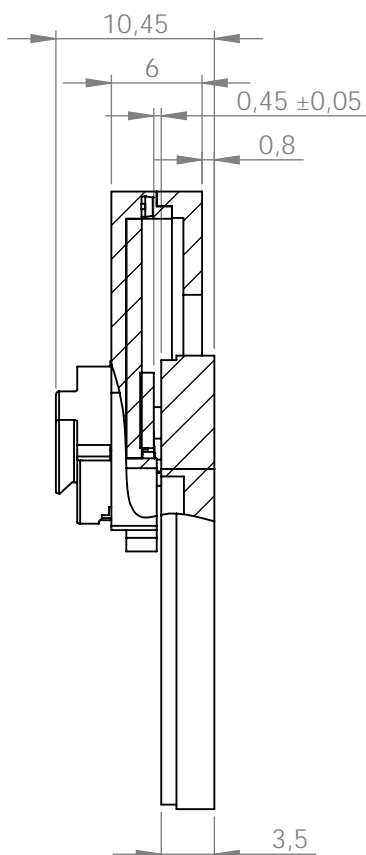
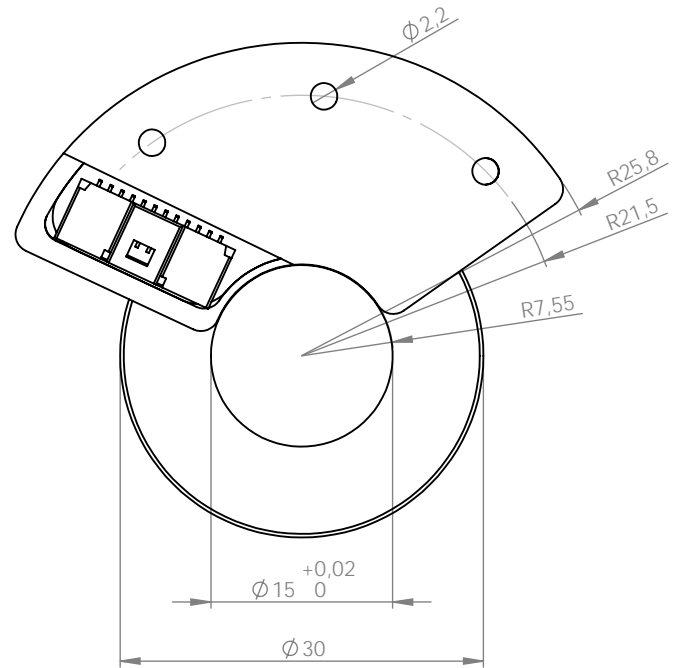
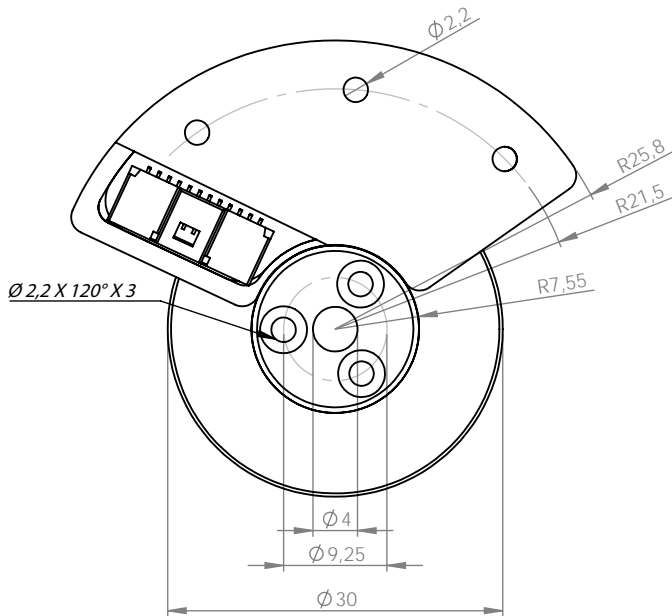


FNC MAS30 Series, Absolute & Incremental Axial

Mechanical dimension

Cover Type, Inner Diameter 4 mm, Screw Mounting

Cover Type, Inner Diameter 15 mm



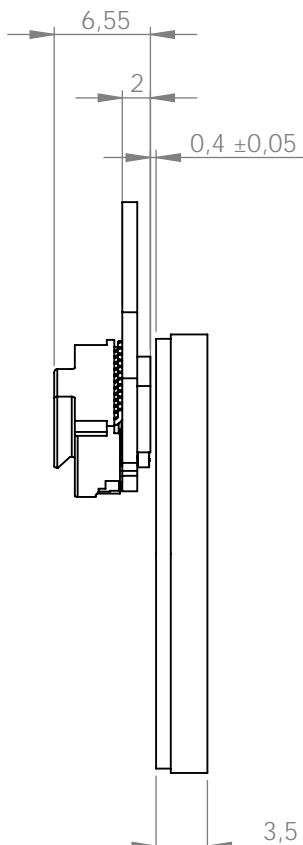
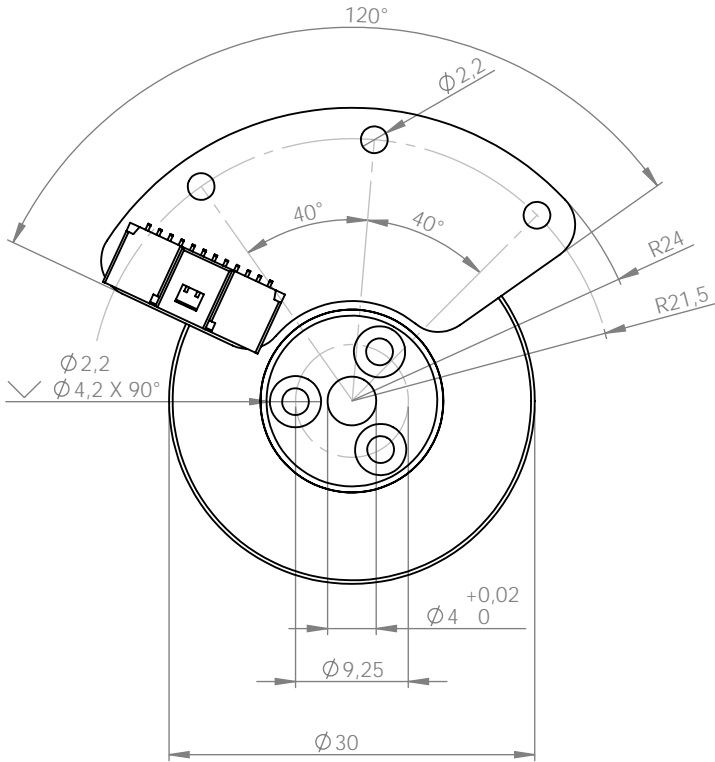
Bearingless encoders

Mechanical Dimensions

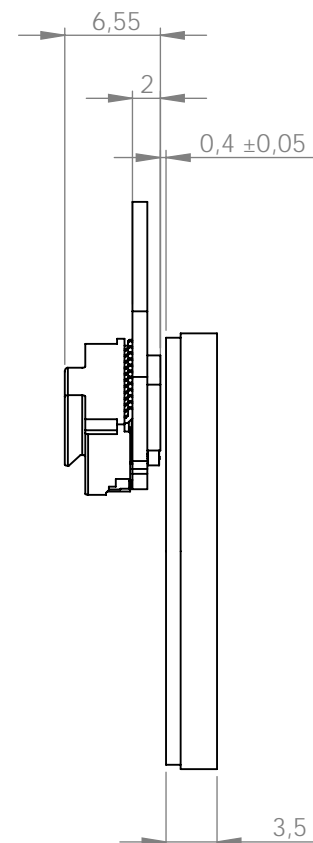
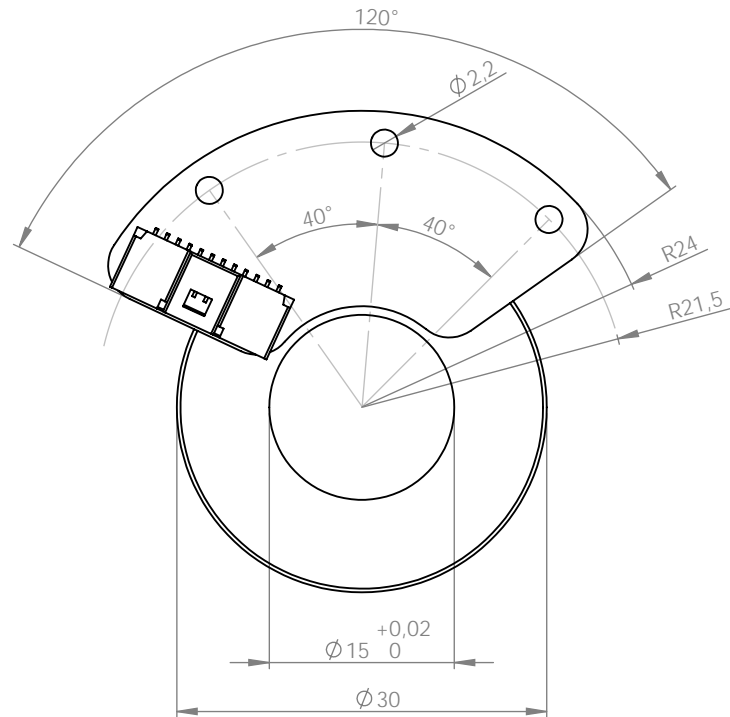
FNC MAS30 Series, Absolute & Incremental Axial

Mechanical dimension

PCB Type, Inner Diameter 4 mm, Screw Mounting



PCB Type, Inner Diameter 15 mm



Bearingless encoders

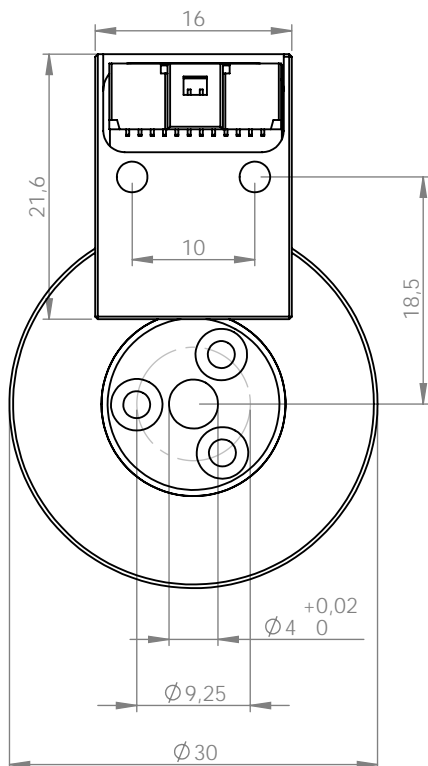
Mechanical Dimensions



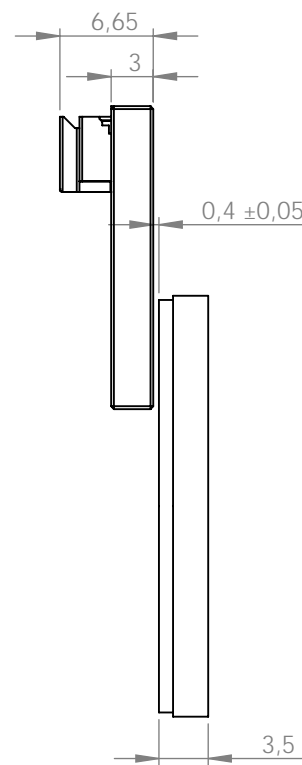
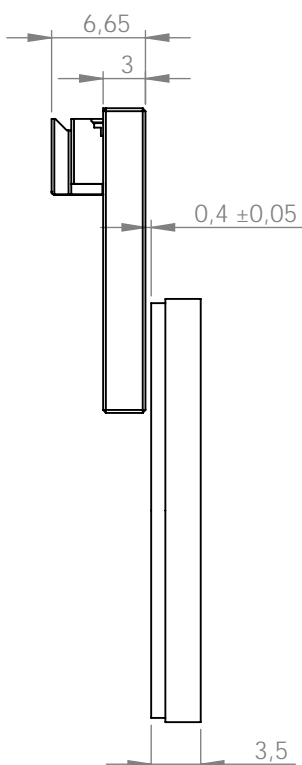
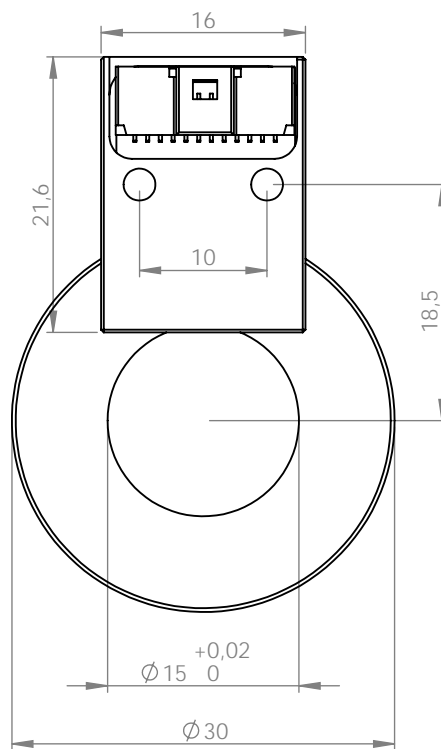
FNC MAS30 Series, Absolute & Incremental Axial

Mechanical dimension

Square Type, Inner Diameter 4 mm, Screw Mounting



Square Type, Inner Diameter 15 mm



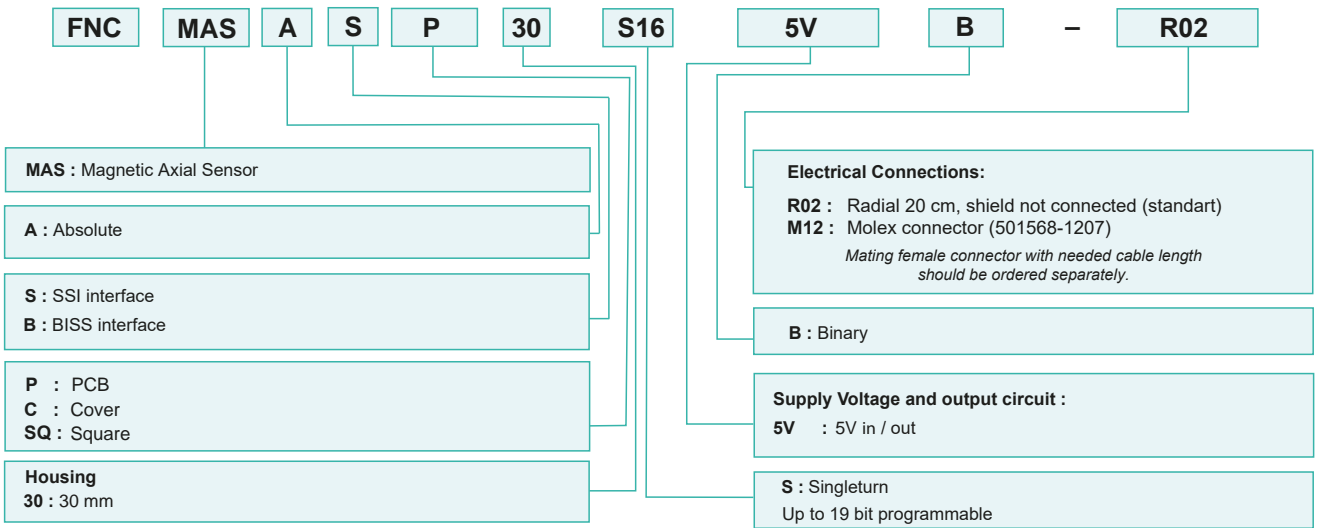
P.S. When the magnet and pcb are positioned correctly, the green led lights up constantly. The red led indicates errors received (distance, wrong positioned magnet etc.)

Bearingless encoders

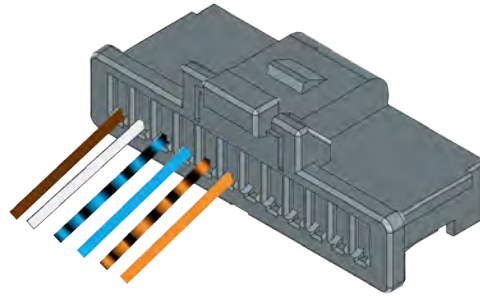
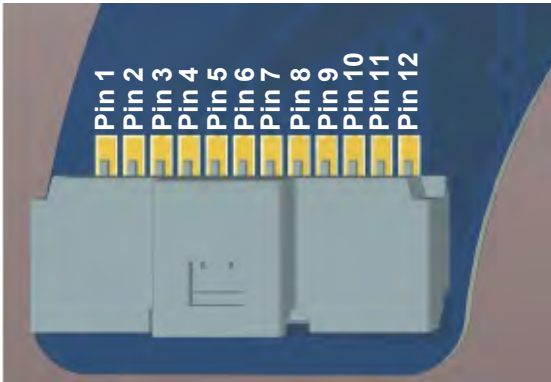
Part Number

FNC MAS30 Series, Absolute & Incremental Axial

Encoder Part Number for Absolute Version



Female Cable Part Number for Absolute Version



P.N. FCSF MLX1206-100: User cable for Absolute MAS Sensor
(should be bought separately for programming)

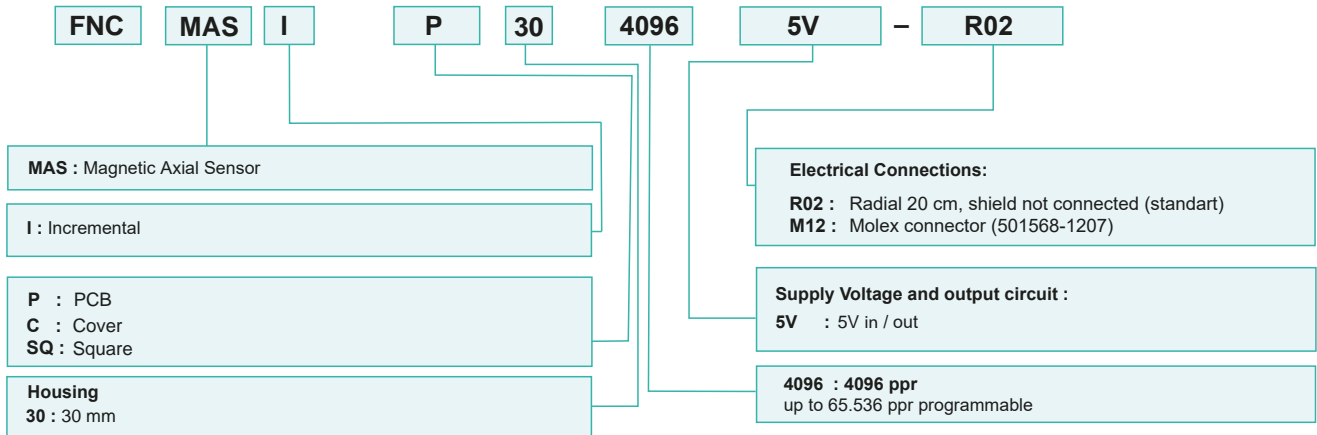
Female Connector Molex Part No : 501330-1200

Female Connector Molex Crimp Part No : 501334-0000

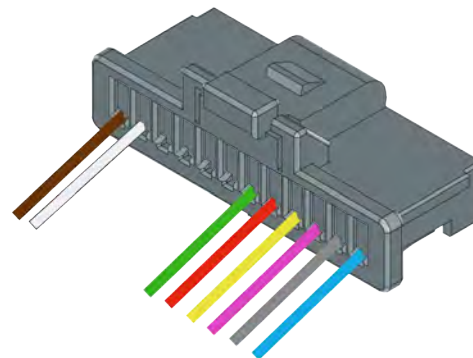
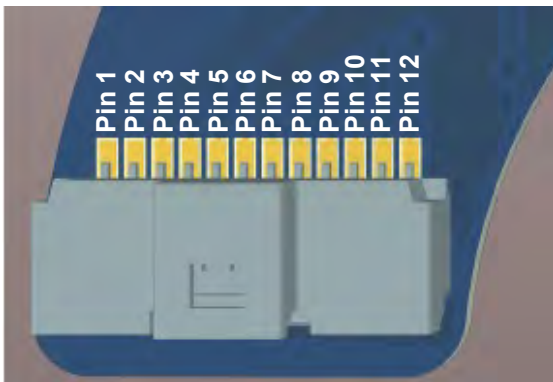
Function	Pin	Color
+VB	Pin 1	Brown
GND	Pin 2	White
CLC-	Pin 3	Blue-Black
CLK+	Pin 4	Blue
DATA-	Pin 5	Orange-Black
DATA+	Pin 6	Orange

FNC MAS30 Series, Absolute & Incremental Axial

Encoder Part Number for Incremental Version



Female Cable Part Number for Incremental Version



P.N. FCSF MLX1208-100: User cable for Incremental MAS Sensor

* P.N. FCSF MLX1206-100 should be bought separately for programming

Female Connector Molex Part No : 501330-1200

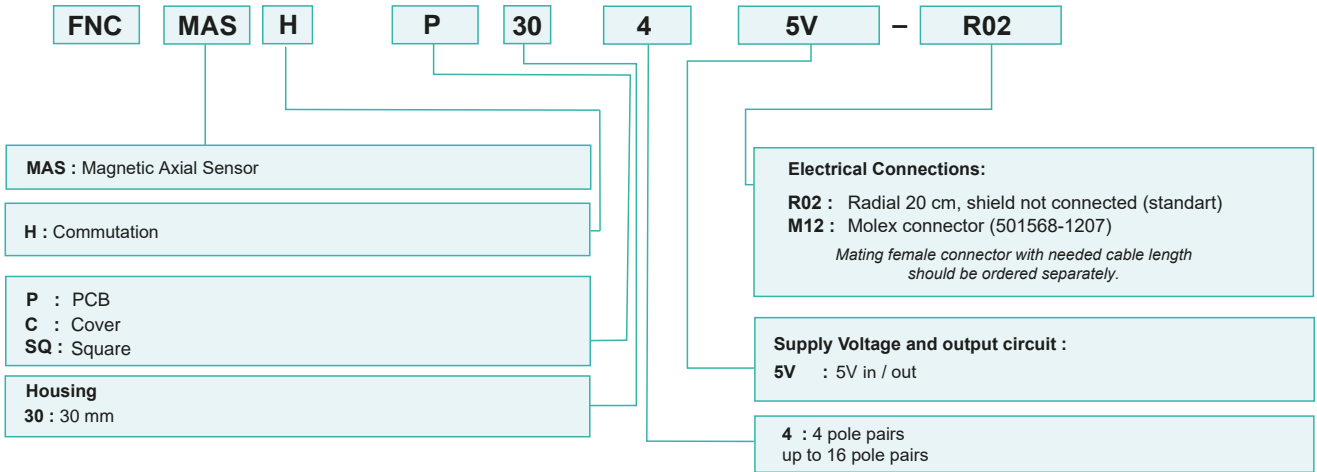
Female Connector Molex Crimp Part No : 501334-0000

Function	Pin	Color
+VB	Pin 1	Brown
GND	Pin 2	White
A	Pin 7	Green
A'	Pin 8	Red
B	Pin 9	Yellow
B'	Pin 10	Pink
Z	Pin 11	Gray
Z'	Pin 12	Blue

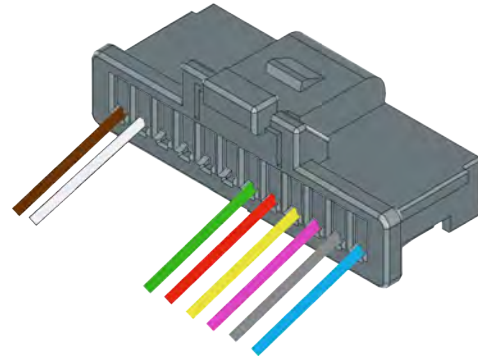
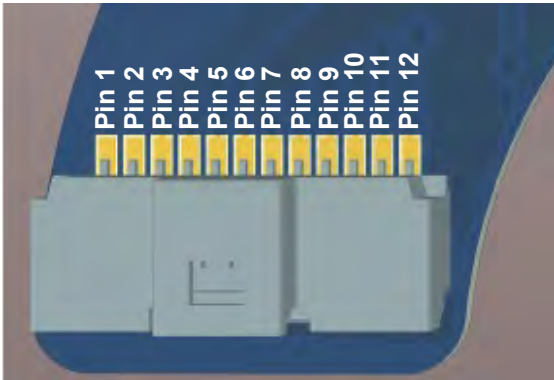
Part Number

FNC MAS30 Series, Absolute & Incremental Axial

Encoder Part Number for Commutation Version



Female Cable Part Number for Commutation Version



P.N. FCSF MLX1208-100: User cable for Commutation MAS Sensor

* P.N. FCSF MLX1206-100 should be bought separately for programming

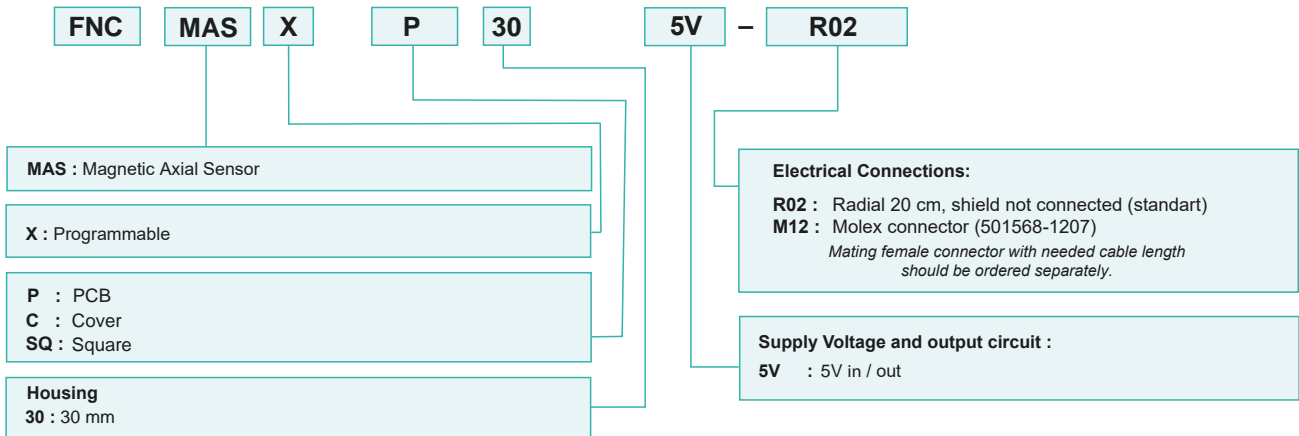
Female Connector Molex Part No : 501330-1200

Female Connector Molex Crimp Part No : 501334-0000

Function	Pin	Color
+VB	Pin 1	Brown
GND	Pin 2	White
U	Pin 7	Green
U'	Pin 8	Red
V	Pin 9	Yellow
V'	Pin 10	Pink
W	Pin 11	Gray
W'	Pin 12	Blue

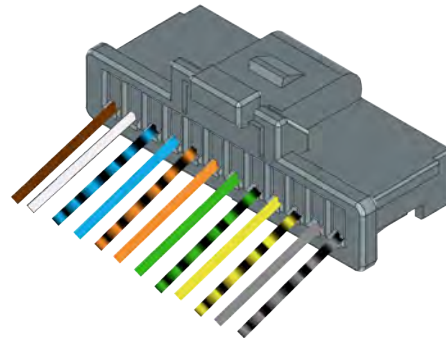
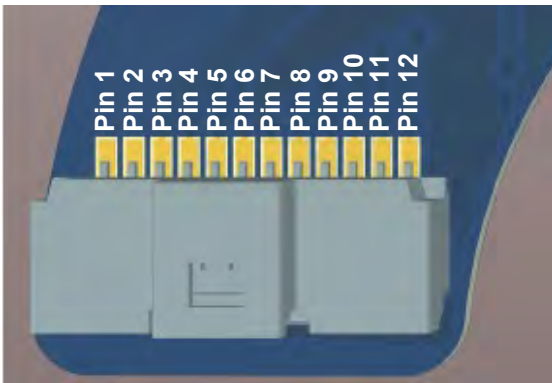
FNC MAS30 Series, Absolute & Incremental Axial

Encoder Part Number for Programmable Version



- * Programmable absolute resolution up to 19 bit
- * Programmable incremental resolution up to 65536 ppr
- * Programmable UVW pole numbers

Female Cable Part Number for Programmable Version



P.N. FCSF MLX1212-100: User cable for Programmable MAS Sensor (should be bought separately for programming)

Function	Pin	Color
+VB	Pin 1	Brown
GND	Pin 2	White
CLC-	Pin 3	Blue-Black
CLK+	Pin 4	Blue
DATA-	Pin 5	Orange-Black
DATA+	Pin 6	Orange
A	Pin 7	Green
A'	Pin 8	Green-Black
B	Pin 9	Yellow
B'	Pin 10	Yellow-Black
Z	Pin 11	Gray
Z'	Pin 12	Gray-Black

Female Connector Molex Part No : 501330-1200

Female Connector Molex Crimp Part No : 501334-0000

Bearingless encoders

Part Number



FNC MAS30 Series, Absolute & Incremental Axial

Magnetic Ring Part Number, Inner Diameter 15 mm

FNC MAR 30 15 035

Outer Diameter

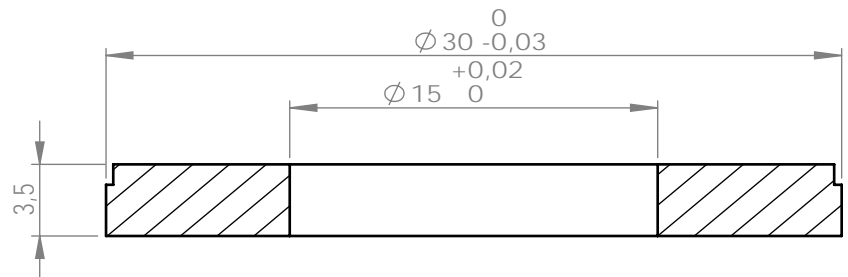
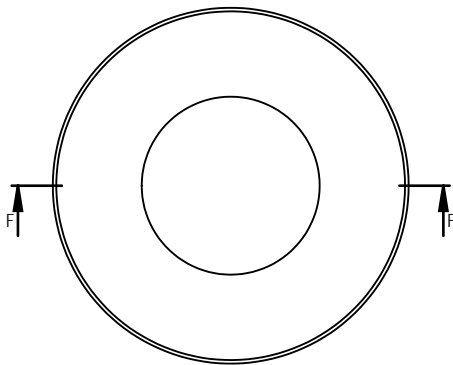
30 : 30 mm

Inner Diameter

15 : 15 mm

Thickness

035 : 3,5 mm



Magnetic Ring Part Number, Inner Diameter 4 mm with Screw Mounting

FNC MAR 30 4 035

Outer Diameter

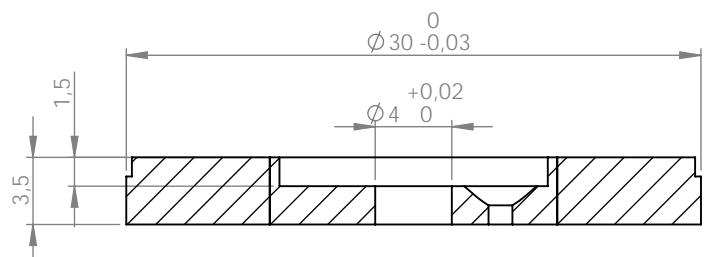
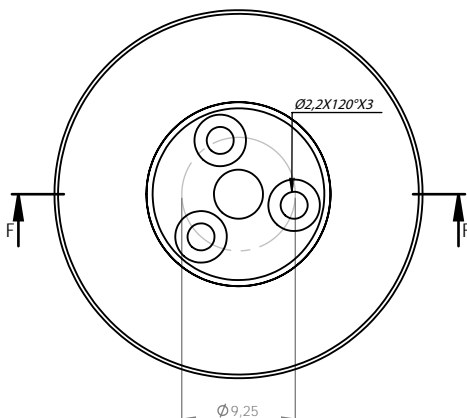
30 : 30 mm

Inner Diameter

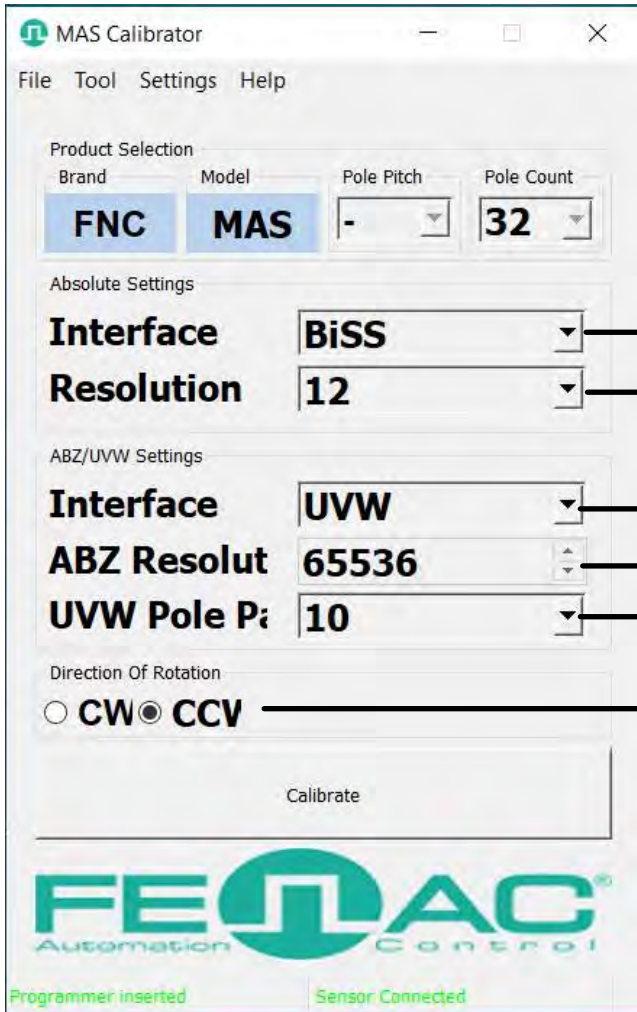
4 : 4 mm

Thickness

035 : 3,5 mm



FNC MAS30 Series Programming Interface



- Absolute interface can be selected as SSI or BiSS
- Resolution can be selected up to 19 bit for absolute version
- Incremental interface can be selected as ABZ or UVW
- Resolution can be selected up to 65,536 ppr for ABZ interface
- Pole pairs can be selected up to 16 ppr for UVW interface
- Direction of rotatiton can be selected as CW (clockwise) or CCW (counter clockwise)

Encoder Options

- Incremental Version** : FNC MAS IP 3040965V-M12
- Absolute Version** : FNC MAS AP 30S165VB-M12
- Commutation Version** : FNC MAS HP 3045V-M12
- Programmable Version** : FNC MAS XP 30X5V-M12



Part No: FNC MAS PT
(Programming Device)

Part No: FNC MAS CB
(Connection Box)



Magnetic Ring Options
FNC MAR 3015035
FNC MAR 3004035