

FNC MAS115 Series, Absolute & Incremental Axial



Features

- Off - Axis absolute rotary encoder
- Robust mechanical and electrical construction
- Corrosion resistant magnetic ring
- Outer diameter 115 mm
- Inner diameter 75, 80, 85 mm
- Up to 19 bit for programmable absolute encoder
- Up to 65.536 ppr for programmable incremental encoder
- <300 kHz frequency
- Magnetic system

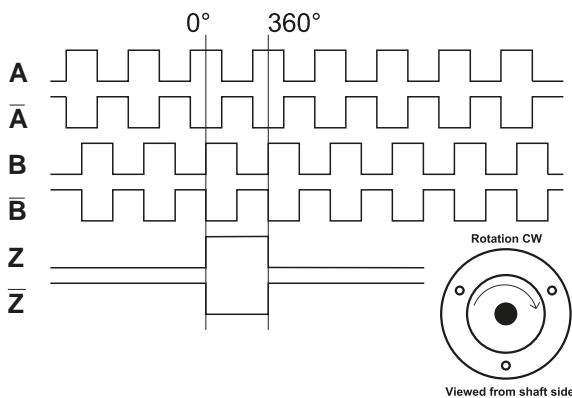
Technical data - electrical ratings

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

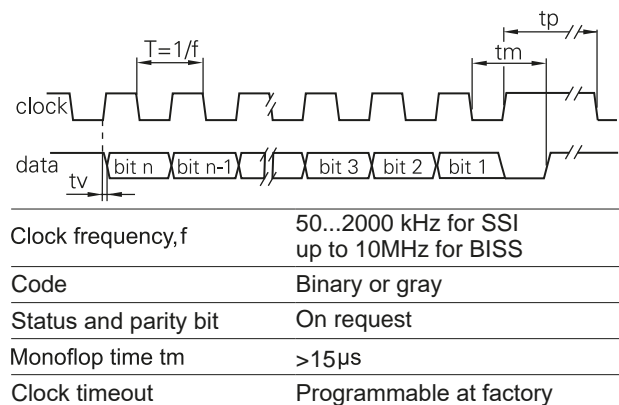
Technical data - mechanical design

Dimensions (ring)	ø115 mm
Protection DIN EN 60529	IP54, IP65
Operating speed	10000 rpm
Matetials	Ring: Aluminum
Operating temperature	-40°C...+85 °C
Storage temperature	-40°C ...+90°C

Pulse Diagram for Incremental Version



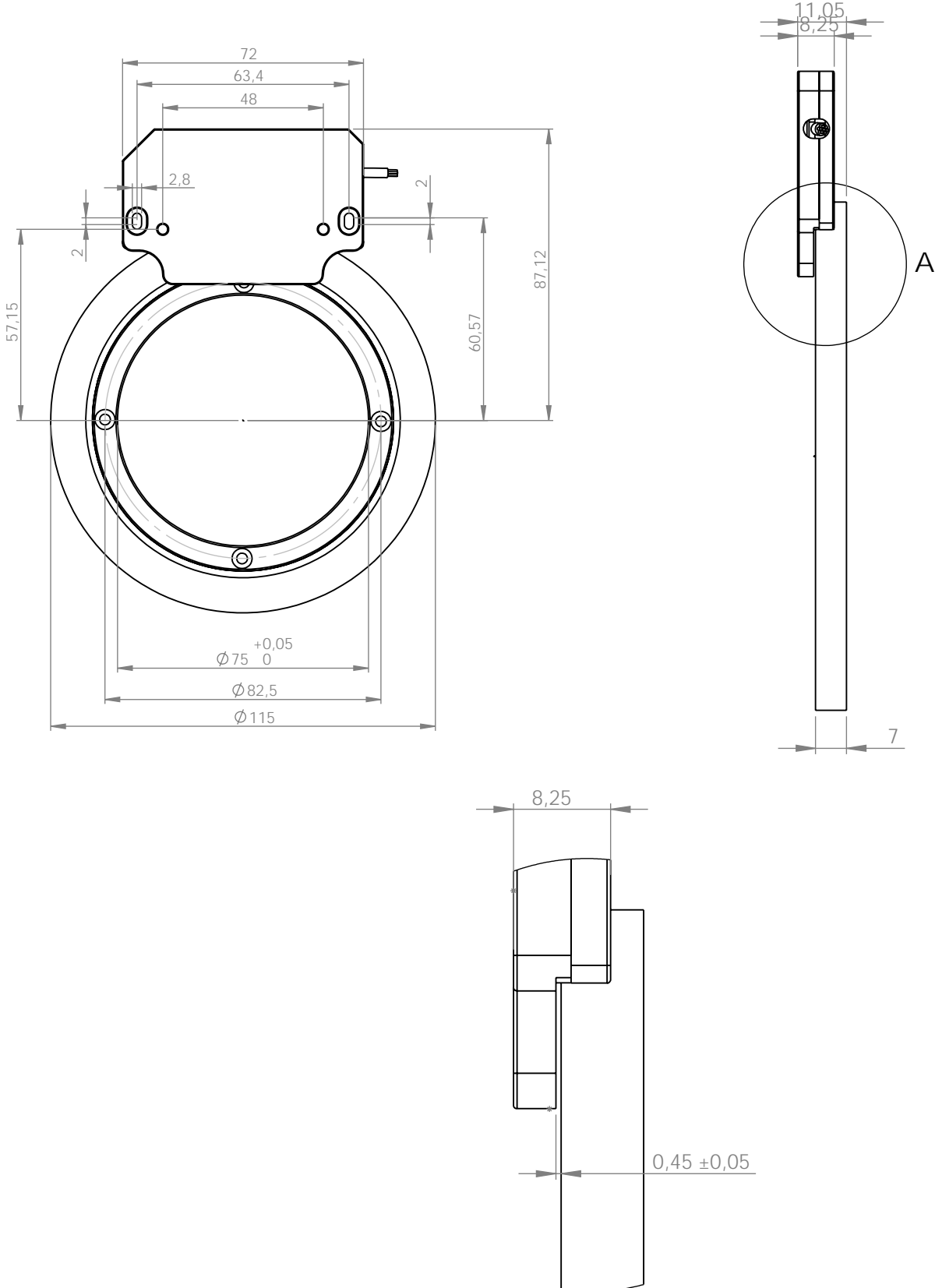
Pulse Diagram for Absolute Version



FNC MAS115 Series, Absolute & Incremental Axial

Mechanical dimension

Cover Type, Inner Diameter 75 mm, Screw Mounting



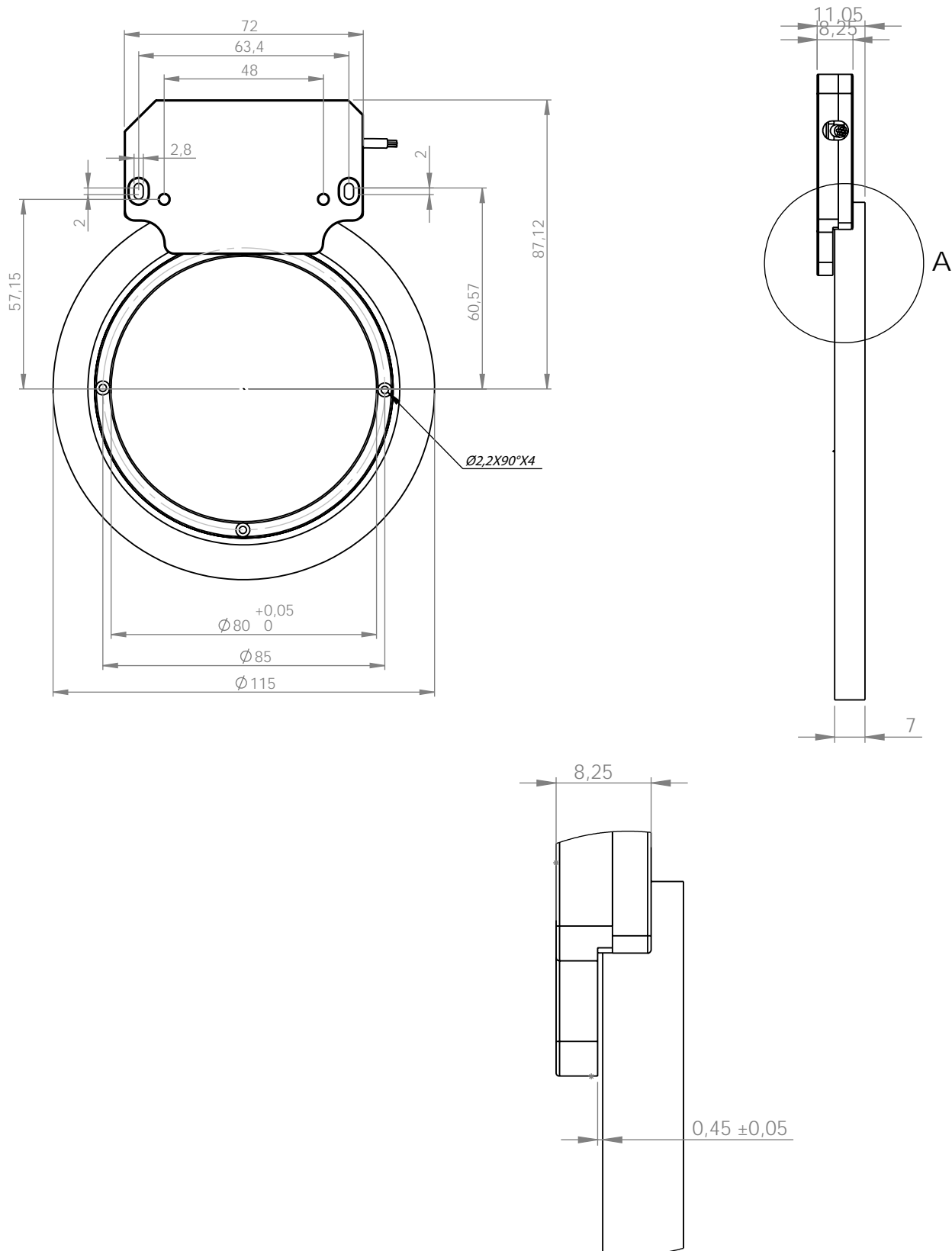
Bearingless encoders

Mechanical Dimensions

FNC MAS115 Series, Absolute & Incremental Axial

Mechanical dimension

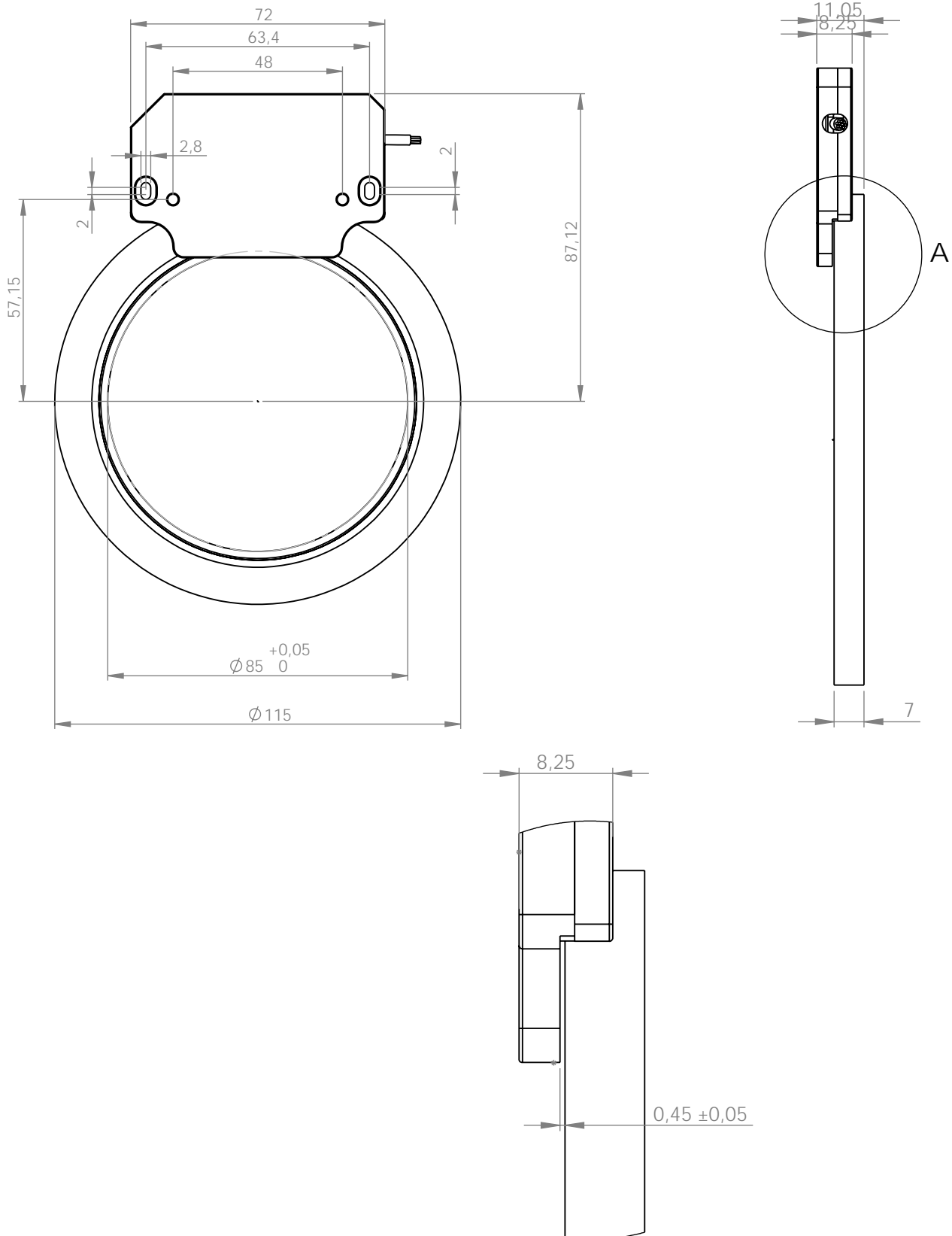
Cover Type, Inner Diameter 80 mm, Screw Mounting



FNC MAS115 Series, Absolute & Incremental Axial

Mechanical dimension

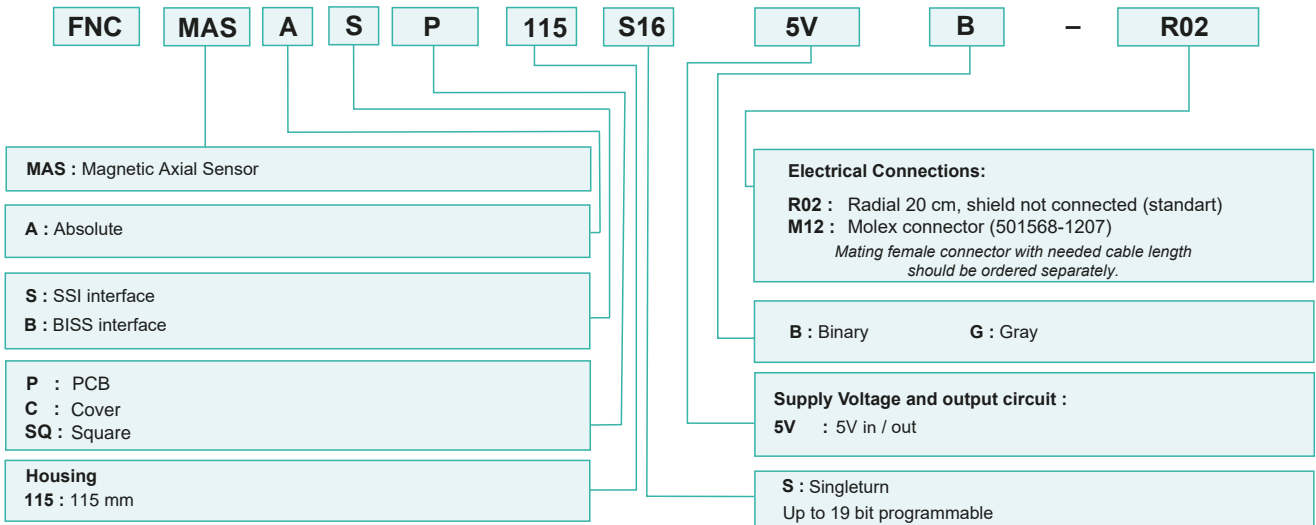
Cover Type, Inner Diameter 85 mm



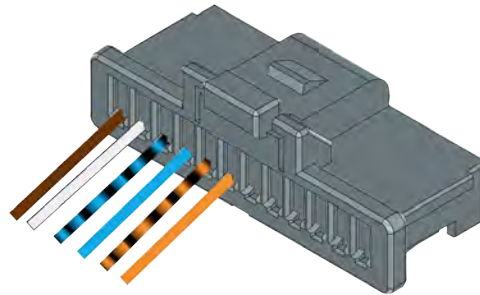
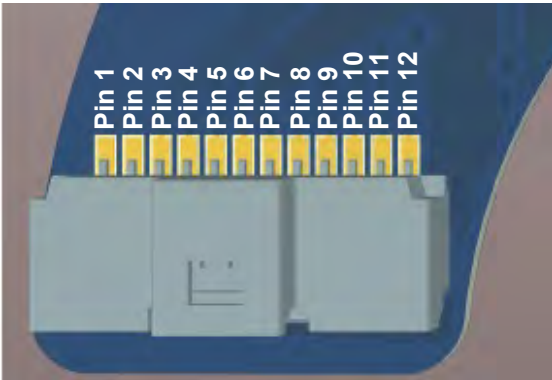
Part Number

FNC MAS115 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

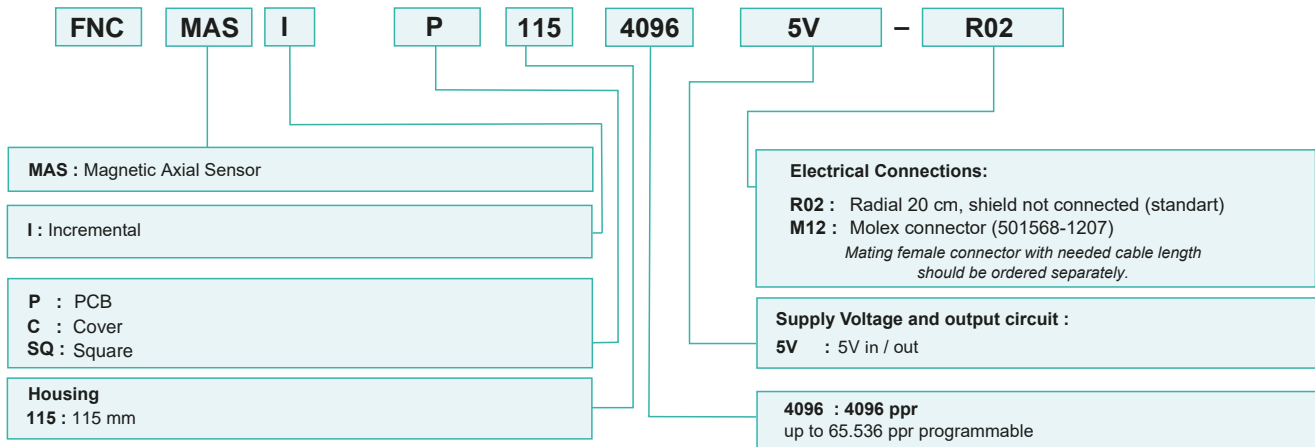
Female Connector Molex Crimp Part No : 501334-0000

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

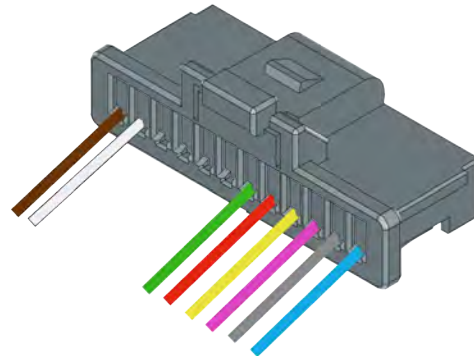
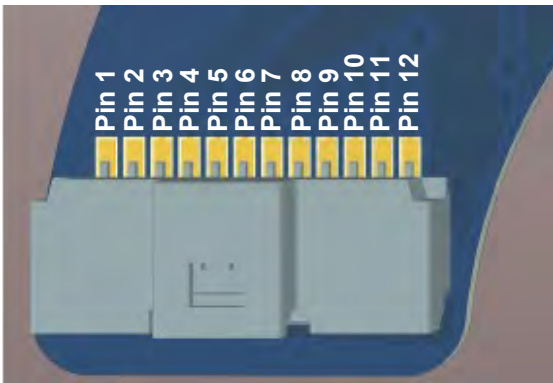
P.S. When the magnet and pcb are positioned correctly, the green led lights up constantly. The red led indicates errors received (distance, wrong positioned magnet etc.)

FNC MAS115 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

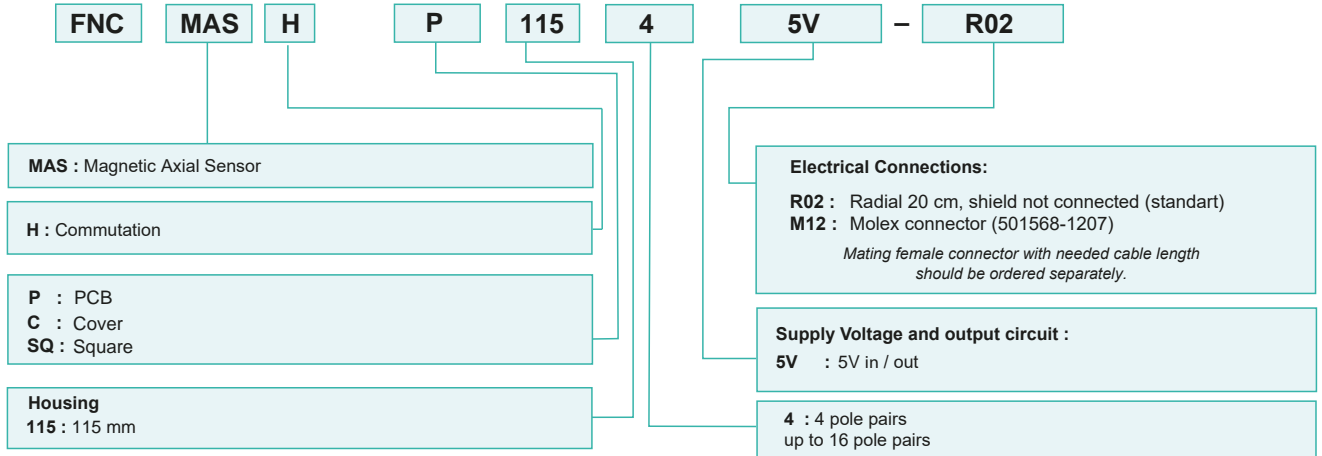
Function	Pin	Color
+VB	Pin 1	Brown
GND	Pin 2	White
A	Pin 7	Green
A'	Pin 8	Red
B	Pin 9	Yellow
B'	Pin 10	Pink
Z	Pin 11	Gray
Z'	Pin 12	Blue

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.)

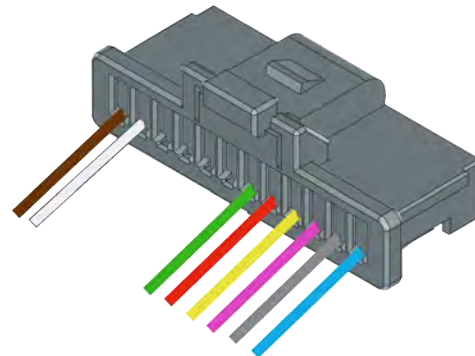
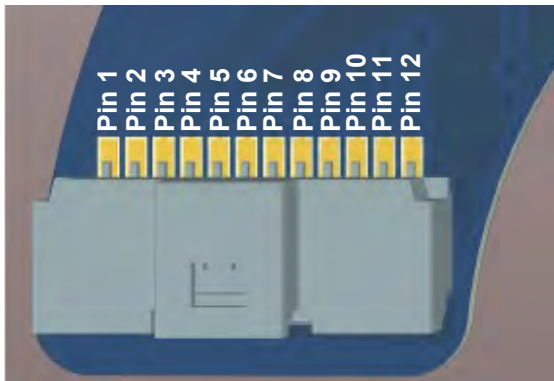
Part Number

FNC MAS115 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

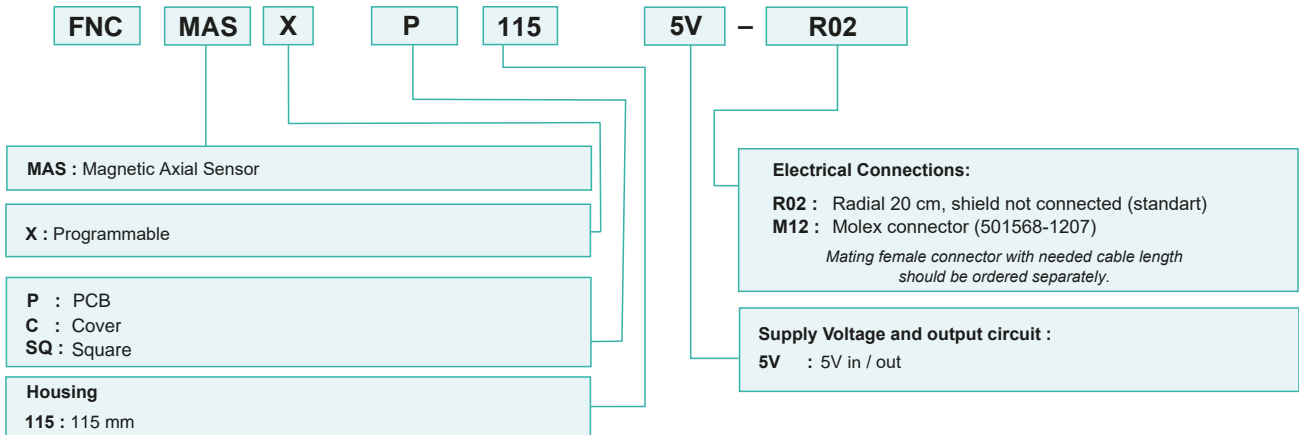
Female Connector Molex Crimp Part No : 501334-0000

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

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.)

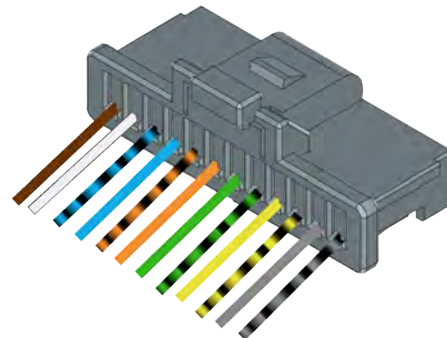
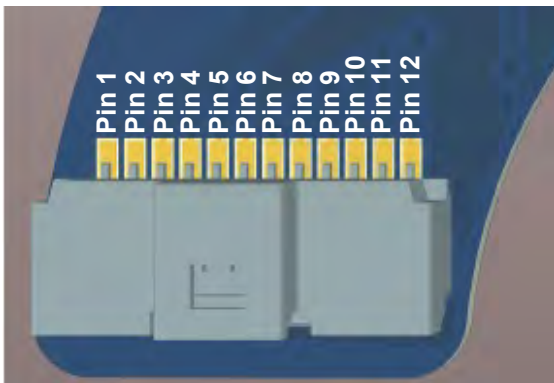
FNC MAS115 Series, Absolute & Incremental Axial

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

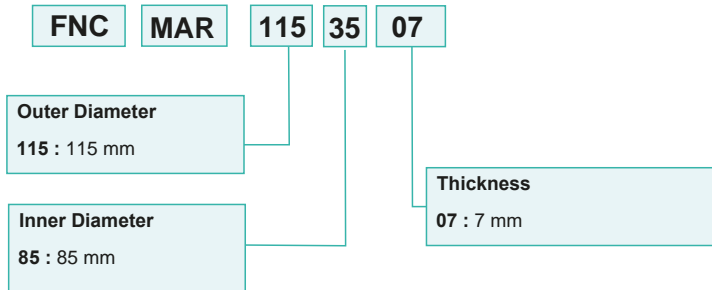
Female Connector Molex Crimp Part No : 501334-0000

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.)

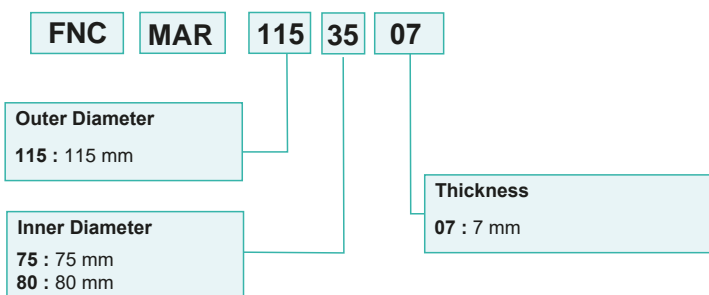
Part Number

FNC MAS115 Series, Absolute & Incremental Axial

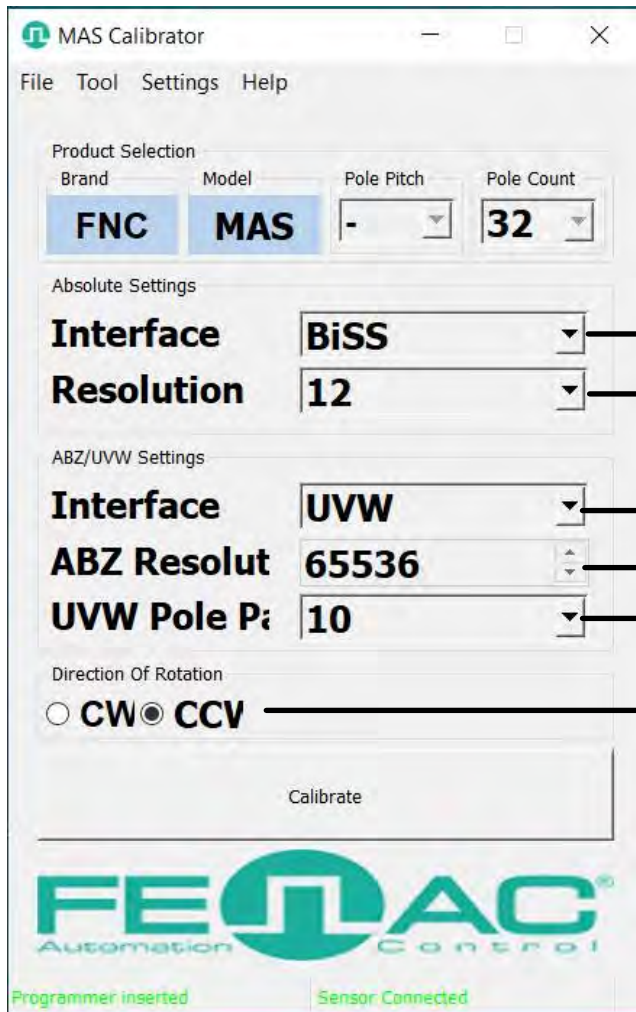
Magnetic Ring Part Number, Inner Diameter 85 mm



Magnetic Ring Part Number, Inner Diameter 75 & 80 mm with Screw Mounting



FNC MAS115 Series Programming Interface



→ Absolute interface can be selected as SSI or BiSS

→ Resolution can be selected up to 19 bit for absolute version

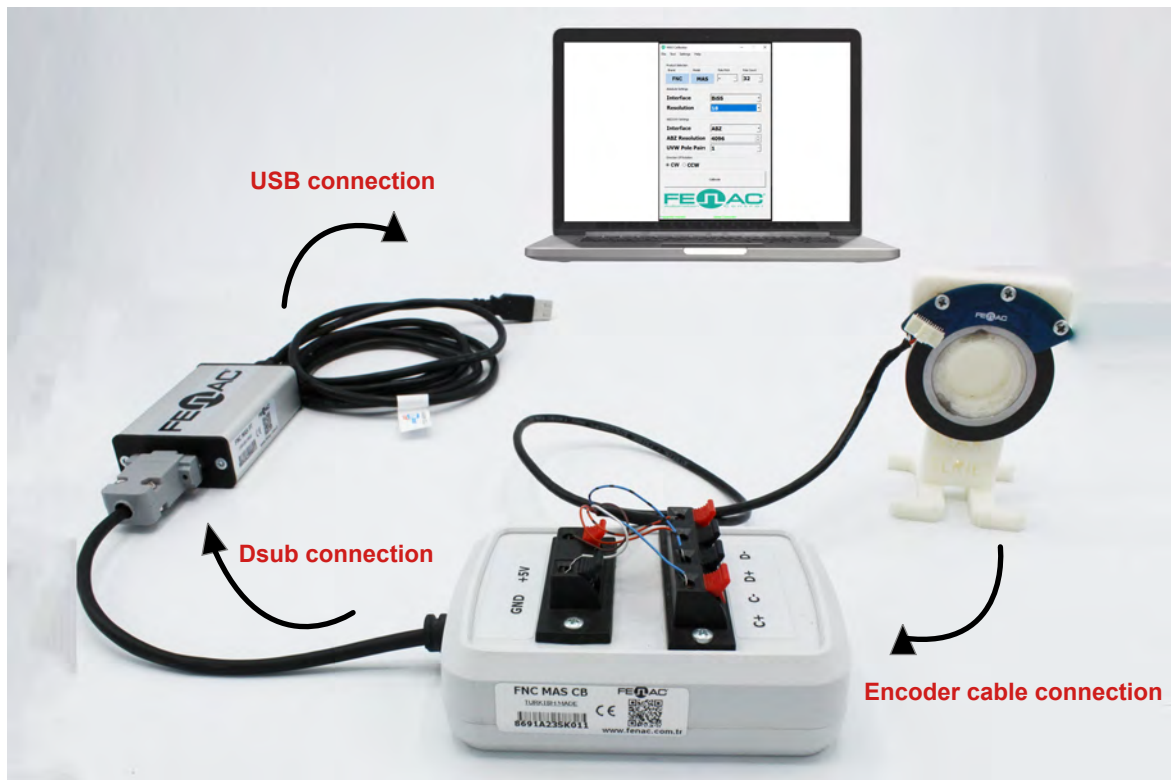
→ Incremental interface can be selected as ABZ or UVW

→ 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)

FNC MAS115 Series Set



Part No: FNC MAS CB
(Connection Box)

FNC MAS CB

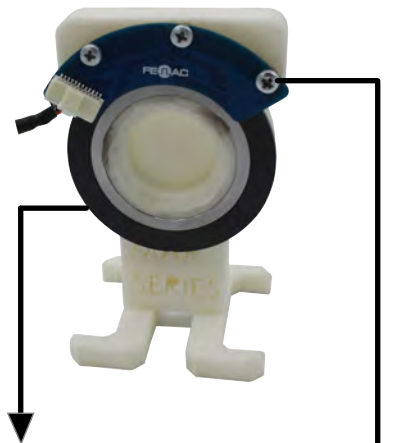
- DSUB connector mates with MAS PT
- Encoder connection pins for calibration



Part No: FNC MAS PT
(Programming Device)

FNC MAS PT

- SSI / BiSS to USB converter
- 5V supply
- Can supply max. 200 mA current



Magnetic Ring Options

- FNC MAR 1158507
- FNC MAR 1158007
- FNC MAR 1157007

Encoder Options

- Incremental Version** : FNC MAS IP 11540965V-M12
- Absolute Version** : FNC MAS AP 115S165VB-M12
- Commutation Version** : FNC MAS HP 11545V-M12
- Programmable Version** : FNC MAS XP 115X5V-M12