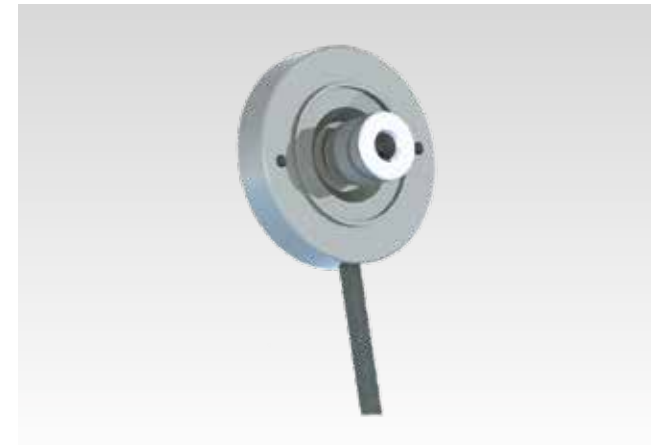


## FNC MBI50 Incremental & MBA50 Absolute Series



### Features

- Off - Axis Absolute rotary encoder
- Robust mechanical and electrical construction
- Corrosion resistant magnetic ring
- Outer diameter 55 mm
- Inner diameter 35 mm
- Up to 16 bit
- <300 kHz frequency
- Magnetic system

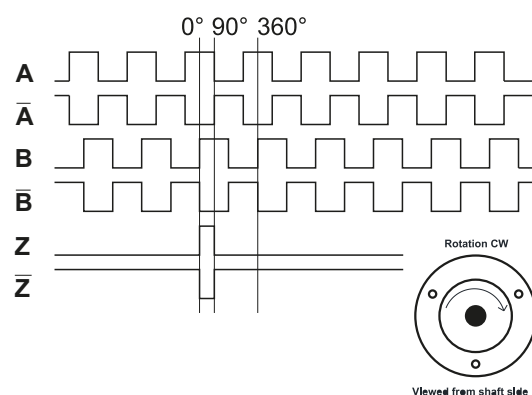
### Technical data - electrical ratings

|                         |   |
|-------------------------|---|
| Voltage supply          | 4.75VDC to 30VDC<br>4.75VDC to 5.5VDC   |
| Protection:             | Output short circuit protection.<br>Reverse polarity protection<br>( except 5V version )        |
| Consumption w/o load    | ≤60 mA (24 VDC)   |
| Resolution (steps/turn) | up to 16 bit  |
| Reference signal        | Zero pulse, width 90°<br>180°, 360° optional  |
| Output frequency        | >200 kHz  |
| Output signals          | 90° shifted A and B,<br>Z + inverted  |
| Interference            | SSI or BISS   |
| Output circuit          | Linedriver/RS422<br>SSI Linedriver/RS485<br>Push-pull short-circuit proof<br>NPN Open Collector |
| Interference immunity   | DIN EN 61000-6-2  |
| Emitted interference    | DIN EN 61000-6-4  |

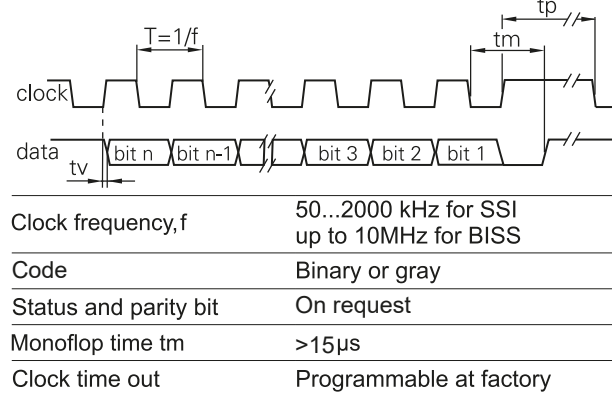
### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Dimensions (ring)       | ø50 mm  |
| Protection DIN EN 60529 | IP54, IP65  |
| Operating speed         | ≤120 rpm  |
| Materials               | Ring: Aluminium                                       |
| Shaft diameter:         | 6, 8, 10, M6, M7 mm<br>( other diameters on request ) |
| Operating temperature   | -40...+85 °C  |
| Storage temperature     | -30 °C up to +90 °C                                   |
| Service life            | No limitation   |
| Weight approx.          | 53 g  |

### Pulse Diagram - Incremental

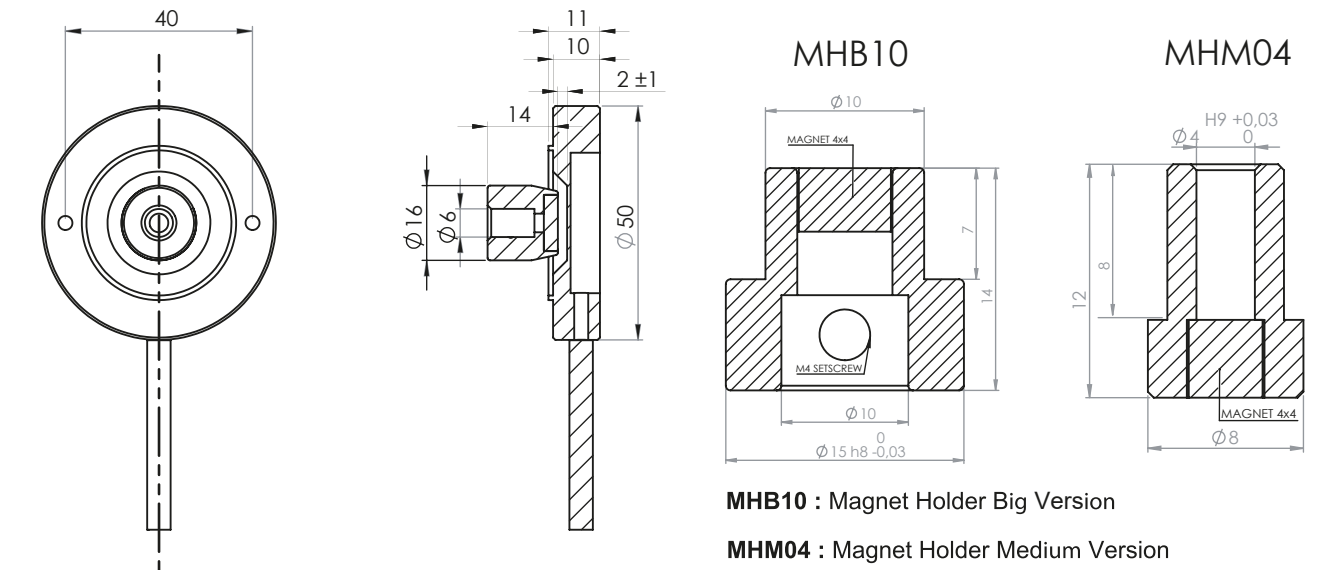


### Pulse Diagram - Absolute



## FNC MBI50 Incremental & MBA50 Absolute Series

### Mechanical Dimensions



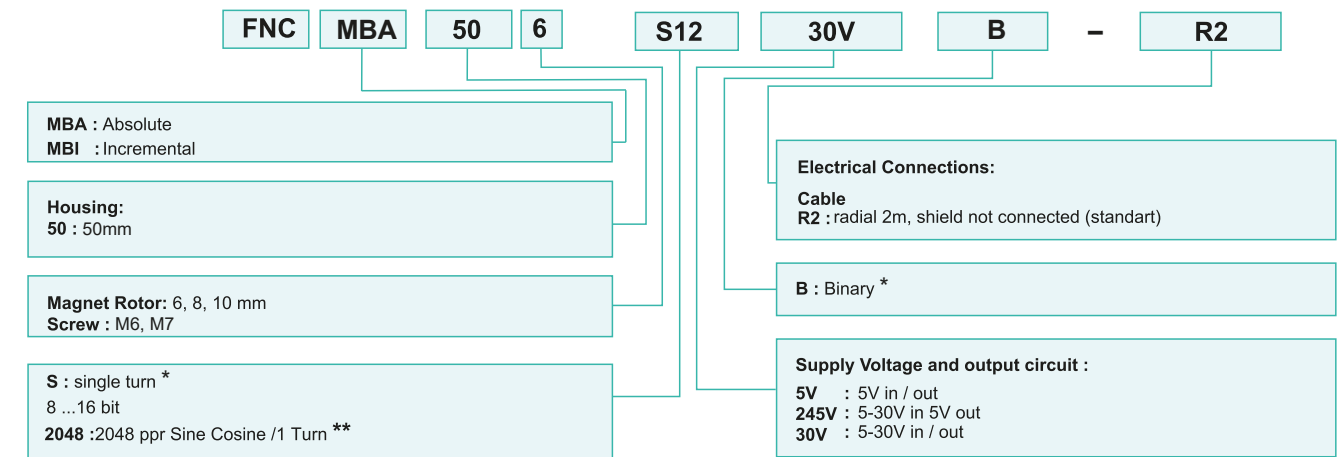
### Cable / Connector Wiring - Absolute

| Connector                                | Core colour  | Signals | Description        |
|--|--------------|---------|--------------------|
| Pin 1                                    | blue         | Clock+  | Clock signal       |
| Pin 2                                    | blue-black   | Clock-  | Clock signal       |
| Pin 3                                    | orange       | Data+   | Data signal        |
| Pin 4                                    | orange-black | Data-   | Data signal        |
| Pin 5                                    | gray         | Zero    | Zero setting input |
| Pin 6,7,8,9                              | -            | n.c.    | -                  |
| Pin 10                                   | gray-black   | up/down | direction input    |
| Pin 11                                   | white        | 0 V     | GND                |
| Pin 12                                   | brown        | +Vs     | Supply voltage     |
| Screen: not connected to housing         |              |         |                    |
| Cable data: 4 x 2 x 0.14 mm <sup>2</sup> |              |         |                    |

### Cable Wiring - Incremental

| Function | Color        | Renk          | Explanation        |
|----------|--------------|---------------|--------------------|
| +VB      | Red          | Kırmızı       | Supply Voltage     |
| GND      | Black        | Siyah         | Ground             |
| A        | Yellow       | Sarı          | A Channel          |
| A'       | Yellow-White | Sarı-Beyaz    | A Inverted Channel |
| B        | Blue         | Mavi          | B Channel          |
| B'       | Blue-White   | Mavi-Beyaz    | B Inverted Channel |
| Z        | Orange       | Turuncu       | Z Channel          |
| Z'       | Orange-White | Turuncu-Beyaz | Z Inverted Channel |
| Shield   |              |               | Shield             |

### Encoder Part Number



\* : FNC MBA 50 Series  
\*\* : FNC MBI 50 Series