

Incremental encoders

Resolution 1...65.536 pulses



IRAT 50B

14



Features

- Industry 50 mm Standard Size, Clamping Flange
- Robust Mechanical and Electrical Construction
- Protection up to IP67
- Up to 65.536 PPR max.
- <300 kHz frequency
- Optical and magnetic sensing

PPR Options :

1 to 1024 - 25 - 50 - 100 - 200 - 250 - 300 - 360 - 400 - 500 - 512 - 600 - 720 - 800 - 900 - 1000 - 1024 - 1250 - 1440 - 2000 - 2048 - 2500 - 3000 - 3600 - 4000 - 5000 - 8192 - 10.000, up to 65.536 available

Technical data - electrical ratings

| | |
|--------------------------|--|
| Voltage supply | 4.75VDC to 30VDC 4.75VDC to 5.5VDC |
| Protection: | Output short circuit protection. Reverse polarity protection (except 5V version) |
| Consumption w/o load | ≤60 mA (24 VDC) |
| Resolution (steps/turn) | 1...65.536 |
| Reference signal | Zero pulse, width 90° 180°, 360° optional |
| Optoelectronic life time | 100.000 (min) |
| Output frequency | >200 kHz |
| Output signals | 90° shifted A and B, Z + inverted |
| Output circuit | Linedriver/RS422 Push-pull short-circuit proof NPN Open Collector |
| Interference immunity | DIN EN 61000-6-2 |
| Emitted interference | DIN EN 61000-6-4 |
| Approval | CE |

Technical data - mechanical design

| | |
|-------------------------|--|
| Dimensions (flange) | ø50 mm |
| Shaft loading | ≤60 N axial ≤80 N radial |
| Protection DIN EN 60529 | IP54, IP65 |
| Operating speed | ≤10000 rpm |
| Starting torque | ≤0.025 Nm (IP 67) |
| Materials | Housing: Aluminium Flange: Aluminium Shaft : Stainless steel |
| Shaft diameter: | 6, 8, 10 mm (other diameters on request) |
| Bearings lifetime: | 2x10 ⁹ rev. at 100% of full rated shaft load (minimum) |
| Operating temperature | -20...+85 °C |
| Storage temperature | -30 °C up to +90 °C |
| Weight approx. | 150 g |

Accessories

Connectors and cables

CRM1208 M12 8 poles female connector or see page 206

Mounting coupling

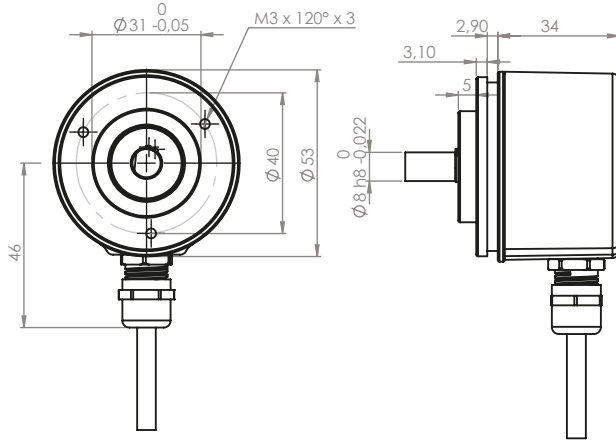
MK250808 plastic or see page 204

Mounting accessories

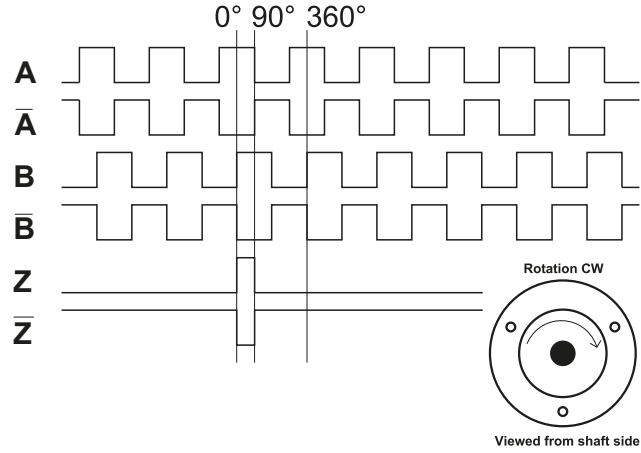
SF50 B square flange or see page 202-203

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Mechanical Dimensions



Pulse Diagram



Connector Wiring

| Connector Type | +Vcc | GND | A | A' | B | B' | Z | Z' | Shield |
|----------------|-------------------|-------|---|----|---|----|---|----|--------|
| CRM1204 | 1 | 2 | 3 | | 4 | | | | o.r. |
| CRM1205 | 1 | 2 | 3 | | 4 | | 5 | | o.r. |
| CRM1208 | 1 | 2 | 3 | 6 | 4 | 7 | 5 | 8 | o.r. |
| CRM1212 | 1 | 2 | 3 | 6 | 4 | 7 | 5 | 8 | o.r. |
| CRM1607 | 1 | 2 | 3 | | 4 | | 5 | | o.r. |
| CRM1614 | Customer Specific | | | | | | | | o.r. |
| CRM2312R | 2-12 | 10-11 | 5 | 6 | 8 | 1 | 3 | 4 | o.r. |
| CRM2312L | 2-12 | 10-11 | 5 | 6 | 8 | 1 | 3 | 4 | o.r. |

For further information please see page 206

Cable Wiring

| Function | Color | Renk | Explanation |
|----------|-------|-------|----------------|
| +VB | Brown | Kahve | Supply Voltage |
| GND | Blue | Mavi | Ground |
| A | Black | Siyah | A Channel |
| B | White | Beyaz | B Channel |
| Shield | F.G. | | |

Encoder Part Number

