

Rotary Position Technology

Incremental Encoders

Magnetic Ring Assembly Type RMK-5



High rotational
speed



High IP



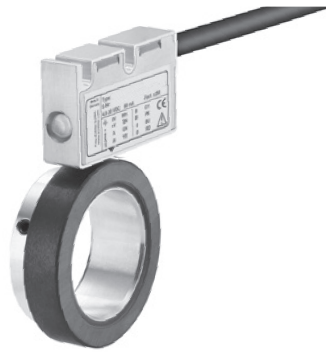
Shock/vibration
resistant



Reverse polarity
protection

Robust

- High shock and vibration resistance.
- Sturdy housing with IP67 protection. Option: special housing for maximum resistance against condensation (IP68 / IP69K, resistance to cyclic humidity acc. to EN 60068-3-38 as well as damp heat acc. to EN 60068-3-78).
- Non-contact measuring system, free from wear, ensures a long service life.



Compact

- Requires very little installation space
Bore sizes available up to 30 mm.

Simple Installation

- Large mounting tolerance between magnetic band and sensor head.
- Slotted hole mounting ensures simple alignment.
- Function display via LED.

Mechanical characteristics:

Max speed:	12000 rpm
Protection:	Q10 IP67 acc. to EN 60529 P10 IP68 / IP69K acc. to EN 60529, DIN 40050-9 and humidity tested acc. to EN 60068-3-38, EN 60068-3-78
Working temperature:	-4 to +176 °F [-20 to +80 °C]
Shock resistance:	500g (5000 m/s ²), 1ms
Vibration resistance:	30g (300 m/s ²), 10-2000 Hz
Pole gap:	5 mm from pole to pole
Housing (sensor head):	aluminum
Cable:	2 m [6.56'] long, PUR 8 x 0.14 mm ² [AWG 26], shielded, may be used in flexing cable installations
Status LED:	green pulse index red error; speed too high or magnetic fields too weak

RoHS compliant acc. to guideline EU 2011/65/EU

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Electrical characteristics:

Output circuit [Key Code]:	Push-Pull [2R]	RS422 [4K]
Power supply:	4.8-30 VDC	4.8 - 26 VDC
Power consumption (no load):	typ. 25 mA max. 60 mA	typ. 25 mA max. 60 mA
Permissible load/channel:	±20 mA	120 ohm
Min. pulse edge interval:	1 µs	1 µs
Signal level:	High Low	min. +V - 2.0 V max. 0.5 V min. 2.5 V max. 0.5 V
Reference signal:	1 x per revolution	
System accuracy:	typ. 0.3 ° with shaft tolerance g6	
Pulse rate [ppr] ¹⁾ :	1000	1024
max speed rpm w/o using zero pulse	9000	9000
Pulse rate [ppr] ¹⁾ :	2000	2048
max speed rpm using zero pulse	4000	4000
	3600	2500
	3000	2000
	3000	2000
	1700	

¹⁾ With an input frequency of the evaluation unit of 250kHz.

Standard Wiring:

Connection Type:	Common (0V)	+V	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\frac{\pm}{\pm}$
Cable:	WH	BN	GN	YE	GY	PK	BU	RD	shield ³⁾

³⁾ Shield is attached to sensor housing.

Part Number Key: RMK-5

A		B		C		D	E		F
RMK-5	-	P10	-	6	-	2R	1000	-	C

A	Type
RMK-5	Rotary Magnetic, 5 mm Pole Gap

B	Housing
P10	10 mm, IP68/IP69K
Q10	10 mm, IP67

C	Bore
6	6 mm
8	8 mm
10	10 mm
12	12 mm
15	15 mm
20	20 mm
25	25 mm ¹⁾
30	30 mm ¹⁾
35	35 mm ²⁾
A4	5/8"
A6	1" ¹⁾

¹⁾ Only available with Pulse Rate '1024', '2048' and '3600'

²⁾ Only available with Pulse Rate '3600'

D	Voltage Supply and Output Type
2R	4.8-30 VDC, Push-Pull
4K	4.8-26 VDC, RS422

E	Pulse Rate
	1000, 1024, 2000, 2048, 3600

F	Type of Connection
C	Cable (2 m PUR)

Accessories:

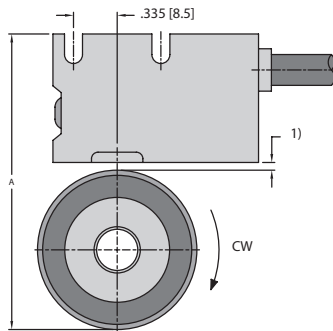
- See page H1, Connectivity, for cables and connectors
- See page G1, Accessories, for mounting attachments and couplings

Magnetic Ring Assembly Type RMK-5

Mounting orientation and permissible mounting tolerances

Dimensions: RMK-5

Distances

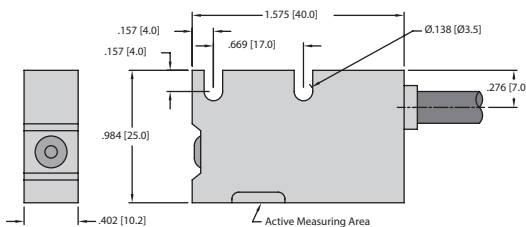


1) Distance sensor head / magnetic ring:
0.004 - 0.06 [0.1 - 1.5] (0.04 [1] recommended)

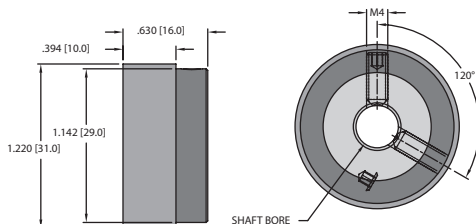
Pulse rate	A for distance sensor head / magnetic ring = 0.04 [1]
1000, 2000	2.24 [57.0]
1024, 2048	2.93 [74.3]
3600	3.18 [80.7]

Dimensions: RMK-5

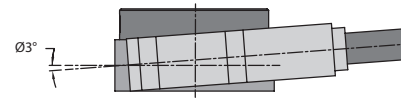
Sensor head



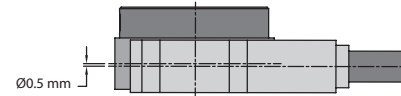
Magnetic ring for pulse rate: 1000 or 2000



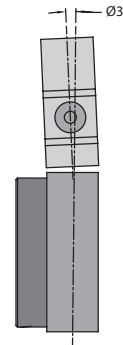
Torsion



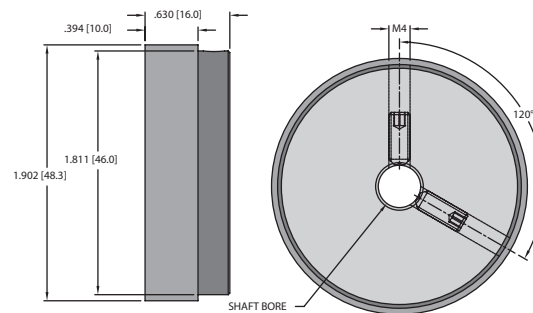
Offset



Tilting



Magnetic ring for pulse rate: 1024 or 2048



Magnetic ring for pulse rate: 3600

