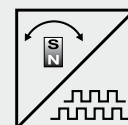




Magnetic angle encoder 0 - 360° in M12 housing

- Measurement range 0 to 360°
- Protection class IP67 / IP69K
- Incremental encoder output
- Stainless steel housing
- Non-contact with external position magnet
- Wear free



Specifications

Output	Incremental encoder outputs A, \bar{A} , B, \bar{B} , Z, \bar{Z} , RS422 or HTL compatible
Measurement range	0 ... 360°
Resolution	1 / 2 / 4 / 8 / 16 / 25 / 32 / 45 / 50 / 64 / 75 / 90 / 100 / 125 / 128 / 256 / 512 / 1024 pulses per revolution
Linearity	±1°
Rated distance sensor / magnet	Depending on the position magnet
Max. revolutions (mechanically)	30,000 r.p.m.
Protection class	IP67/IP69K (connector output with IP69K connector cable) IP67 (cable output)
Max. output frequency	200 kHz (the quadrature counter of the subsequent circuit must be able to process >200 kHz)
Material	Stainless steel
Mounting	M12 x 1
Shock	EN60068-2-27:1993, 100 g/11 ms, 100 shocks
Vibration	EN60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles

Order Code PRDS1

PRDS1 - - KHZ - -

Model name

Resolution (pulses/revolution)

1 / 2 / 4 / 8 / 16 / 25 / 32 / 45 / 50 / 64 / 75 / 90 / 100 / 125 / 128 / 256 / 512 / 1024

Max. pulse frequency (in kHz, standard 50 kHz)

50 / 200

Output (see page 47/48)

RS5V = RS422 compatible output with excitation 5 V DC

RS24V = RS422 compatible output with excitation 10 ... 36 V DC

HT24V = HTL compatible output with excitation 18 ... 36 V DC

Connection

KAB2M = Cable, standard length 2 m (not with RS5V), IP67

M12A8 = 8-pin socket M12

Order code position magnet (see accessories page 53/54)

PRMAG ...

Order code connector cable (see accessories page 90)

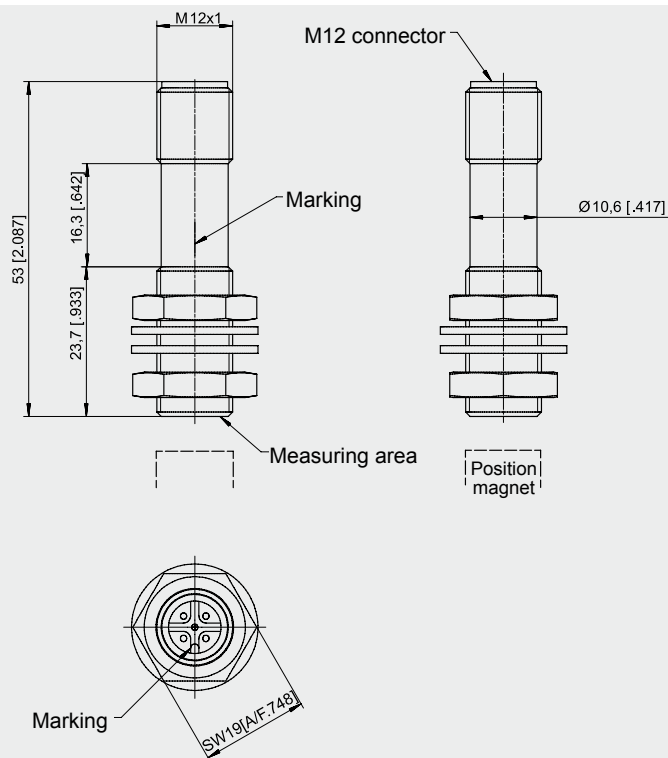
KAB-2M-M12/8F/G-LITZE

Order example: PRDS1 - 1024 - 50KHZ - RS5V - M12A8

POSIROT® PRAS1/PRDS1 Dimensions

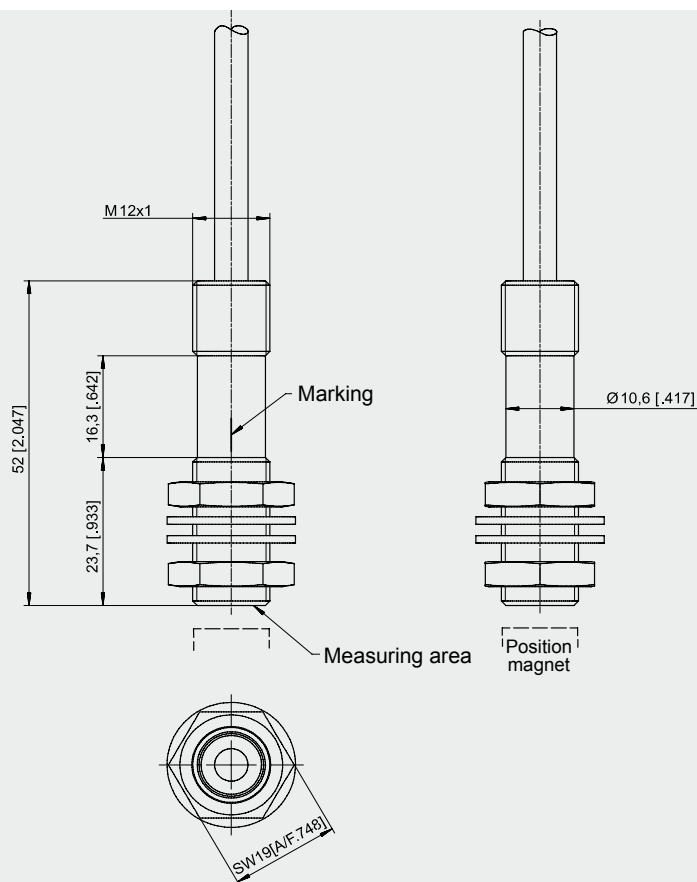


Outline drawing
sensor with
connector output



Dimensions in mm [inch]

Outline drawing
sensor with
cable output



Dimensions in mm [inch]

Weight without cable 35 g approx.
Dimensions informative only.
For guaranteed dimensions please consult factory.

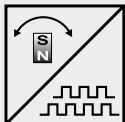
POSIROT®

PRDS

Output RS5V(F) / RS24V(F)

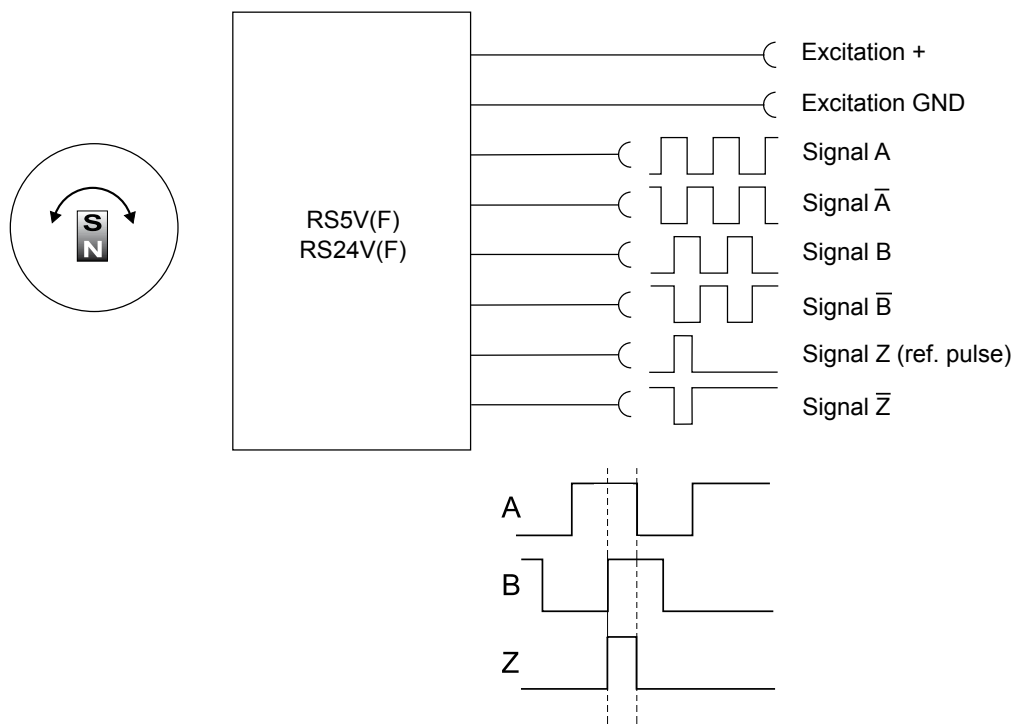


RS5V(F)/RS24V(F) Incremental



Interface	EIA RS-422
Excitation voltage	RS5V(F): 5 V DC $\pm 10\%$; RS24V(F): 10 ... 36 V DC
Excitation current	100 mA max., depending on the load
Pulse frequency	<500 kHz
Output signals	A, \bar{A} , B, \bar{B} , Z, \bar{Z} Push-Pull
Output current	10 mA max.
Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s. (typ.)
Operating temperature	-40 ... +85 °C
Protection	Short circuit
EMC	EN61326-1:2006

Output signals



Unfiltered output RS5V / RS24V

A preferred maximum pulse frequency has to be defined within the product code. This will take account for limited bandwidth of downstream counter.

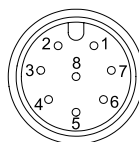
Filtered output RS5VF / RS24VF

Option for filtered jitterfree position value. The filter does not introduce velocity or acceleration error.

Signal wiring	Output signals	Connector pin	Wire color
	Excitation +	1	White
	GND	2	Brown
	A	4	Yellow
	\bar{A}	6	Pink
	B	3	Green
	\bar{B}	5	Grey
	Z	7	Blue
	\bar{Z}	8	Red

Connection

View to sensor
connector



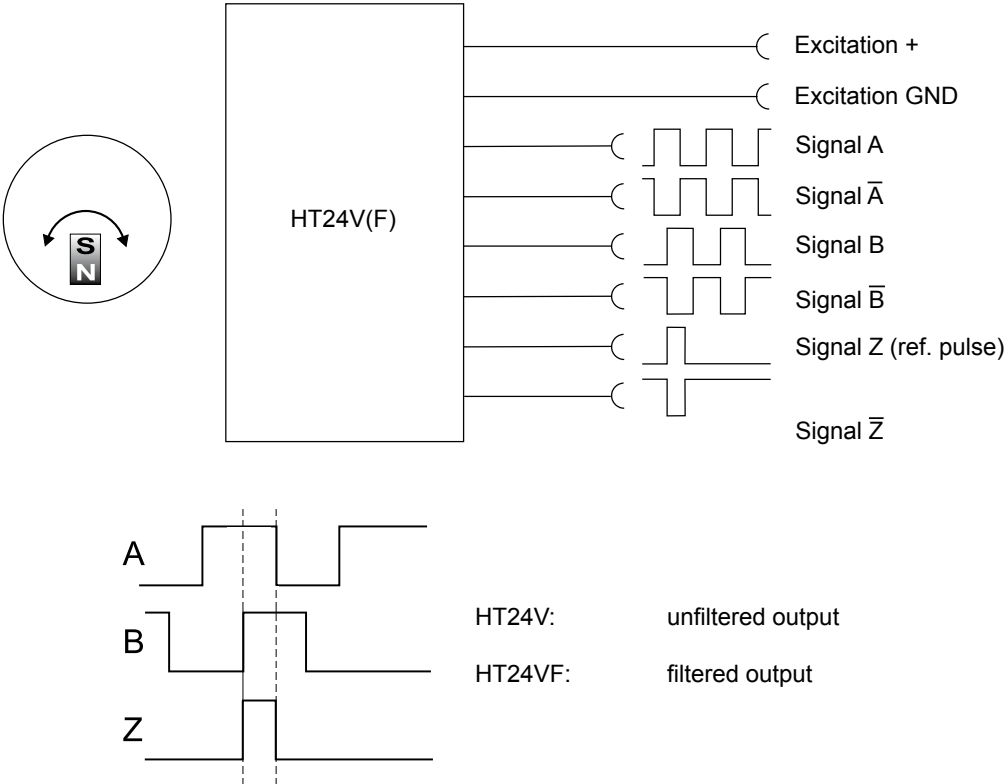
M12A8 / M12R8

POSIROT®
PRDS
Output HT24V(F)



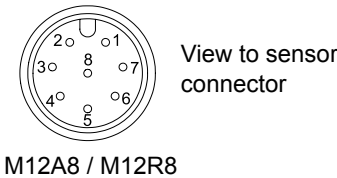
HT24V(F) Incremental <div> </div>	Interface	EIA RS-422
	Excitation voltage	18 ... 36 V DC
	Excitation current	100 mA max., depending on the load
	Pulse frequency	<500 kHz
	Output signals	A, \bar{A} , B, \bar{B} , Z, \bar{Z} Push-Pull
	Output current	50 mA max.
	Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s. (typ.)
	Operating temperature	-40 ... +85 °C
	Protection	Short circuit
	EMC	EN61326-1:2006

Output signals

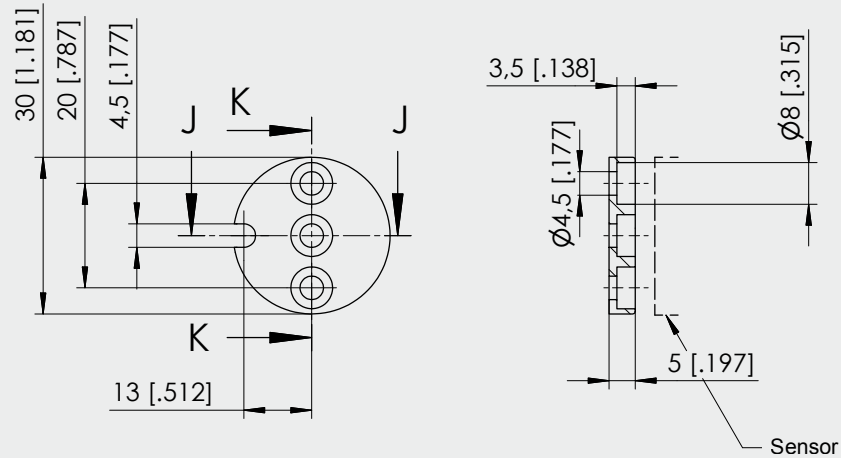


Signal wiring	Output signals	Connector pin	Cable color
	Excitation +	1	white
	GND	2	brown
	A	4	yellow
	\bar{A}	6	pink
	B	3	green
	\bar{B}	5	grey
	Z	7	blue
	\bar{Z}	8	red

Connection

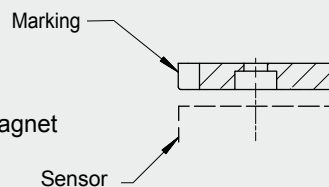


PRMAG20

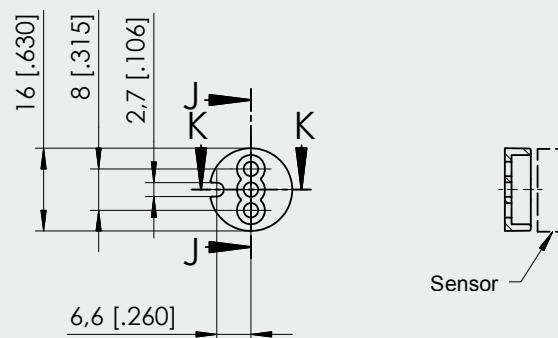


Weight 11 g approx.,
moment of inertia 1.2 kgmm²

A misalignment of the position magnet
has an effect on the linearity

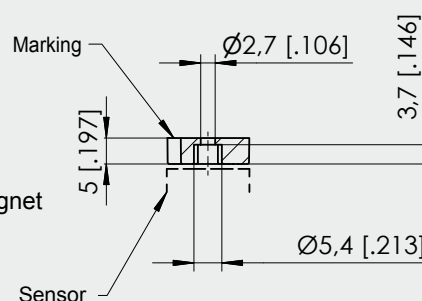


PRMAG21



Weight 3 g approx.,
moment of inertia 0.1 kgmm²

A misalignment of the position magnet
has an effect on the linearity



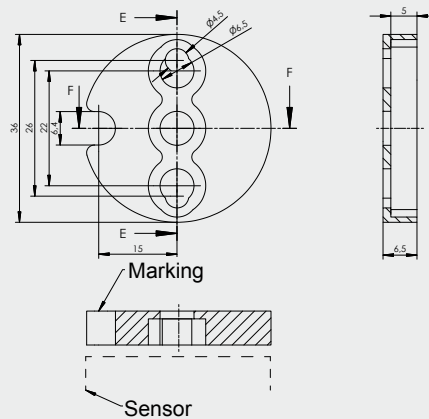
Dimensions in mm [inch]

Dimensions informative only
For guaranteed dimensions please consult factory

PRMAG22

Weight 17 g approx.,
moment of inertia 3 kgmm²

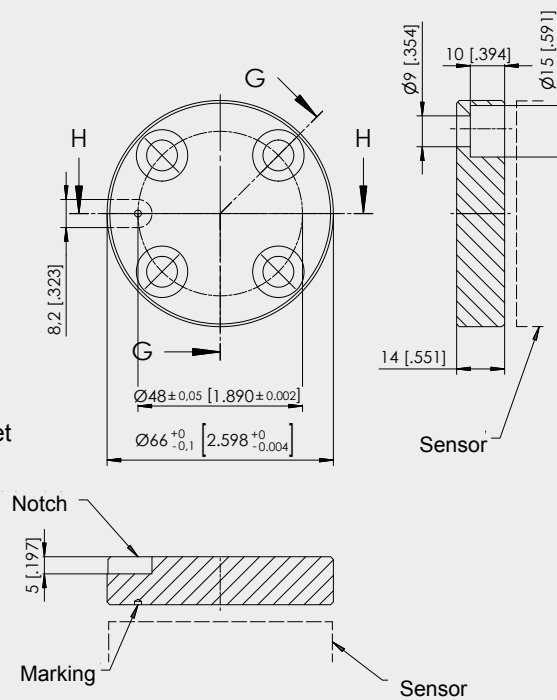
A misalignment of the position magnet
has an effect on the linearity



PRMAG5Z

Weight 100 g approx.,
moment of inertia 55 kgmm²

A misalignment of the position magnet
has an effect on the linearity



Dimensions in mm [inch]

Dimensions informative only
For guaranteed dimensions please consult factory

POSIROT® / POSITILT®

Accessories

Connector Cables



Connector cable for POSIROT®-POSITILT® sensors 4 pins M12

Suitable for 5-pin sensor connectors M12A5 and M12R5

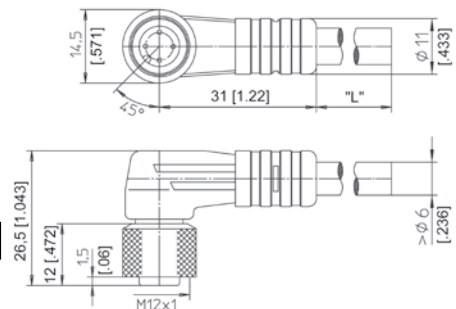
The 4-core screened cable is supplied with a mating 4-pin 90° M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/4F/W - LITZE

IP69K: **KAB - XM - M12/4F/W/69K - LITZE**

Length in m



Connector cable for POSIROT®-POSITILT® sensors 4 pins M12

Suitable for 5-pin sensor connectors M12A5 and M12R5

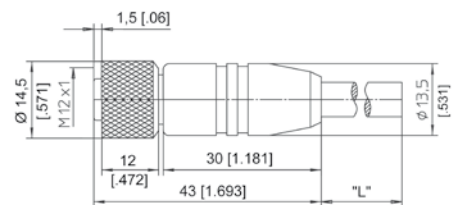
The 4-core screened cable is supplied with a mating 4-pin M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/4F/G - LITZE

IP69K: **KAB - XM - M12/4F/G/69K - LITZE**

Length in m



Signal wiring M12, 4 pin

Connector pin / cable color

1	2	3	4
Brown	White	Blue	Black

Connector cable for POSIROT®-POSITILT® sensors 8 pins M12

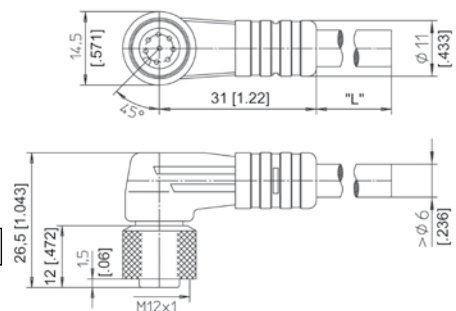
The 8-core screened cable is supplied with a mating 8-pin 90° M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/8F/W - LITZE

IP69K: **KAB - XM - M12/8F/W/69K - LITZE**

Length in m



Connector cable for POSIROT®-POSITILT® sensors 8 pins M12

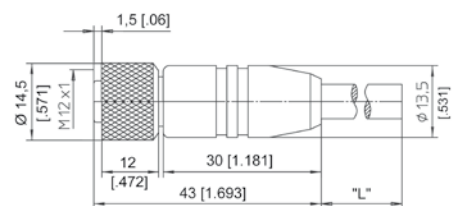
The 8-core screened cable is supplied with a mating 8-pin M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/8F/G - LITZE

IP69K: **KAB - XM - M12/8F/G/69K - LITZE**

Length in m



Signal wiring M12, 8 pin

Connector pin / cable color

1	2	3	4	5	6	7	8
White	Brown	Green	Yellow	Grey	Pink	Blue	Red