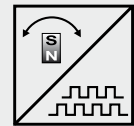


POSIROT®
PRDS1
Magnetic Angle Encoder with Incremental Output



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	$\pm 1^\circ$	
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)	
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



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

M12A8 = 8-pin socket M12

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

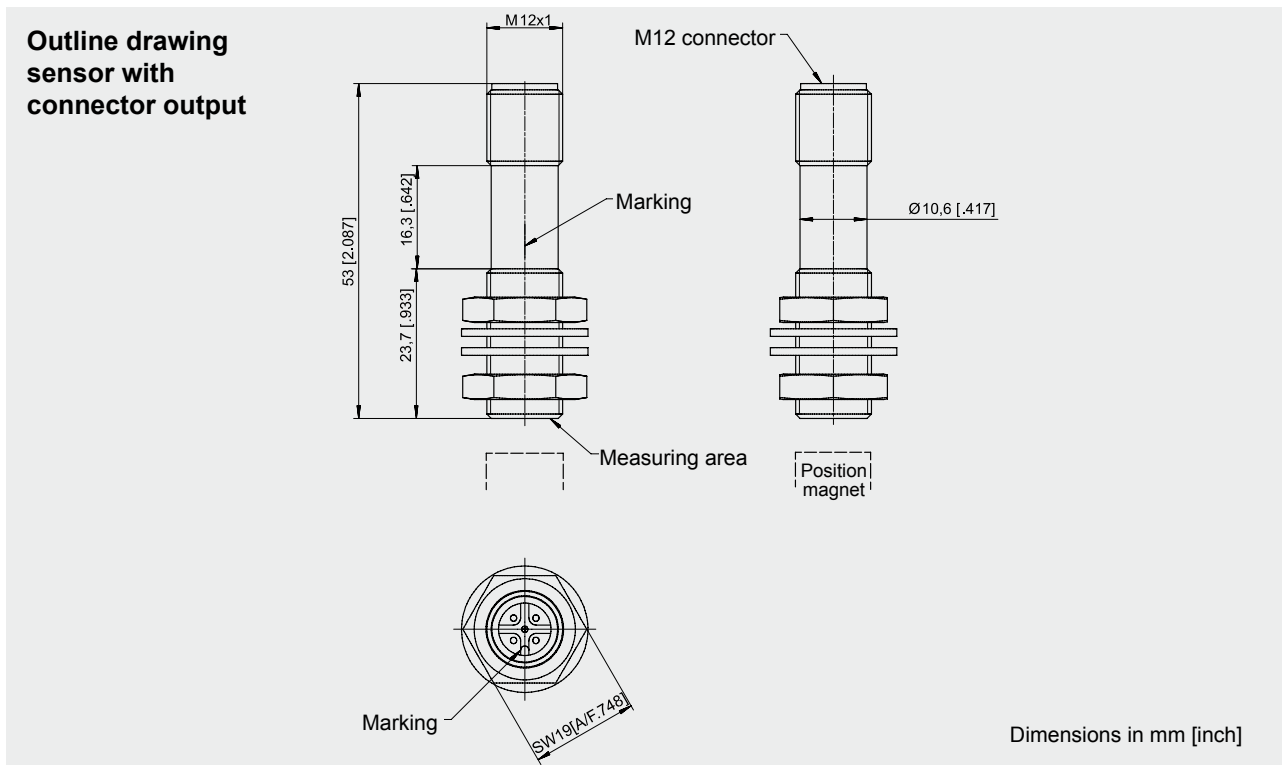
PRMAG ...

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



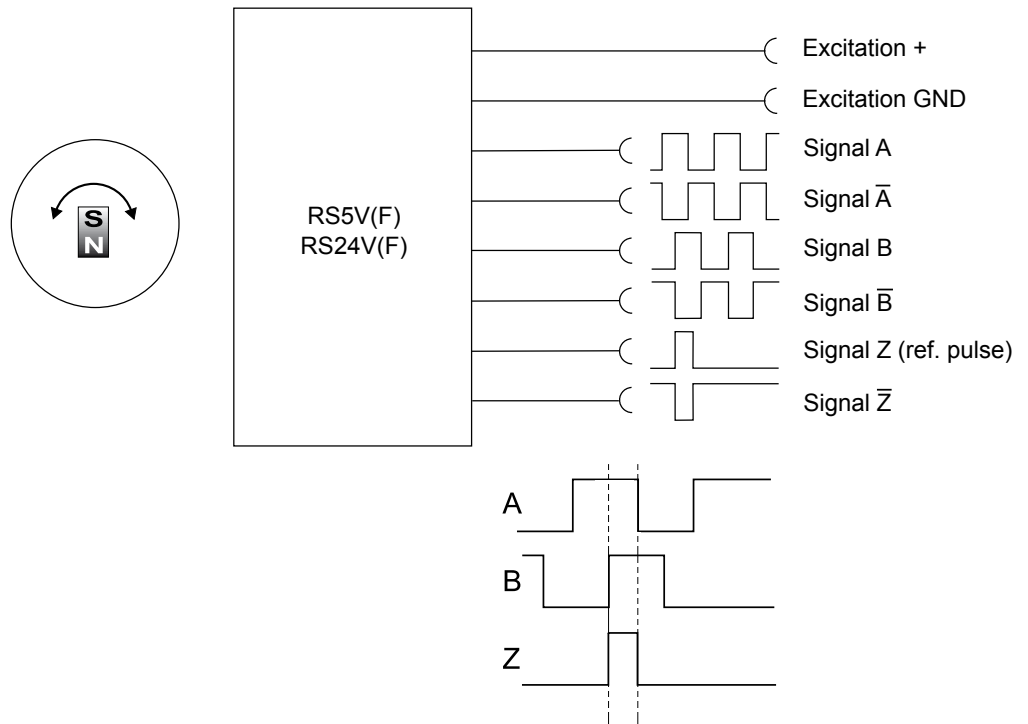
Weight 35 g approx.
Dimensions informative only.
For guaranteed dimensions please consult factory.

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.

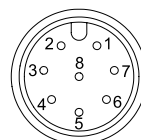
Filtered output RS5VF / RS24VF

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

Signal wiring	Output signals	Connector pin
	Excitation +	1
	GND	2
	A	4
	\bar{A}	6
	B	3
	\bar{B}	5
	Z	7
	\bar{Z}	8

Connection

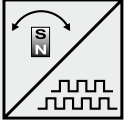
View to sensor
connector



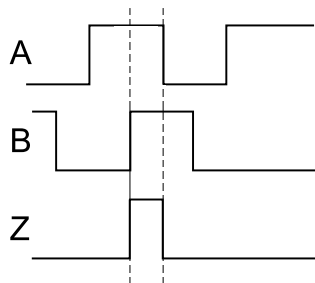
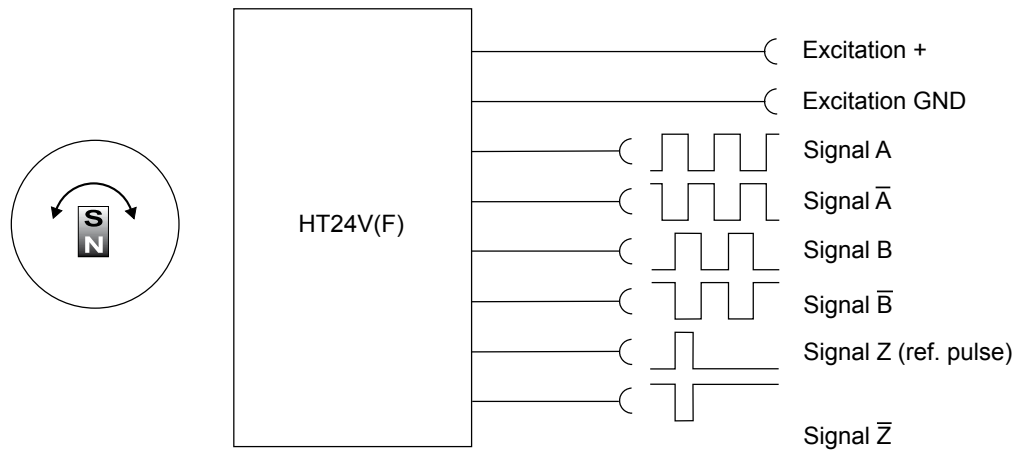
M12A8 / M12R8

POSIROT®
PRDS
Output HT24V(F)



HT24V(F) Incremental 	Interface	24 V-HTL
	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)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. (typ.)
	Operating temperature	-40 ... +85 °C
	Protection	Short circuit
	EMC	EN61326-1:2006

Output signals



Unfiltered output HT24V

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

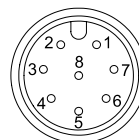
Filtered output HT24VF

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

Signal wiring	Output signals	Connector pin
	Excitation +	1
	GND	2
	A	4
	\bar{A}	6
	B	3
	\bar{B}	5
	Z	7
	\bar{Z}	8

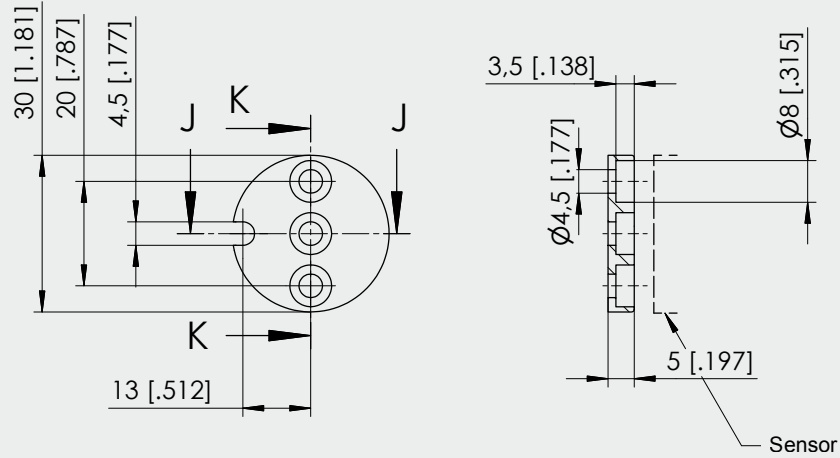
Connection

View to sensor connector



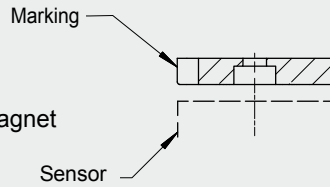
M12A8 / M12R8

PRMAG20

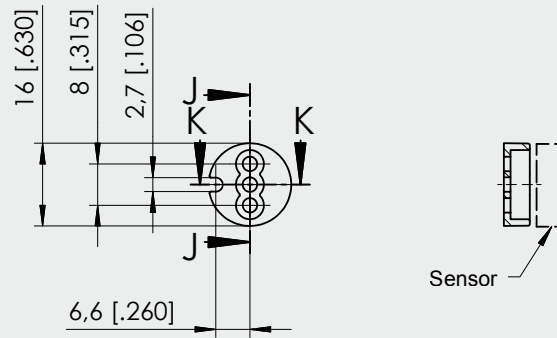


Weight 11 g approx.,
 moment of inertia 1.2 kgmm²

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

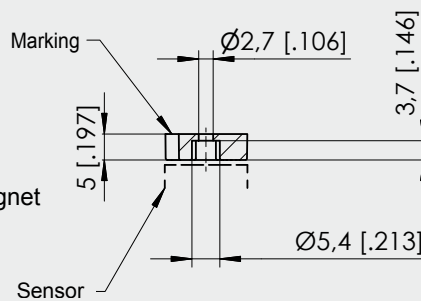


PRMAG21



Weight 3 g approx.,
 moment of inertia 0.1 kgmm²

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



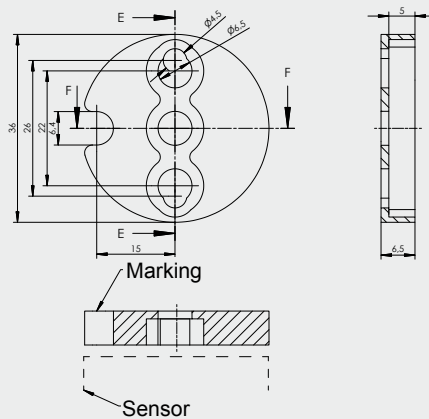
Dimensions in mm [inch]

Dimensions informative only
 For guaranteed dimensions please consult factory

PRMAG22

Weight 17 g approx.,
 moment of inertia 3 kgmm²

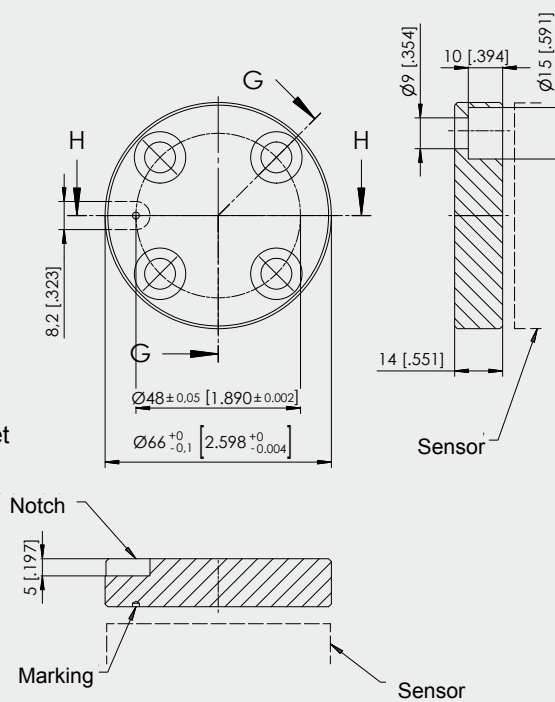
A misalignment of the position magnet
 has an effect on the linearity



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

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

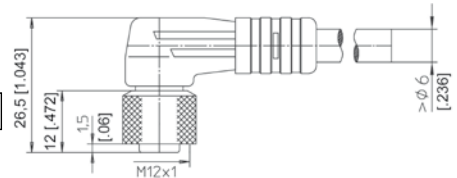
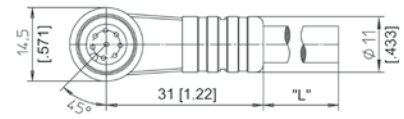
The 8-core screened cable is supplied with a mating 8-pin 90° M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

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

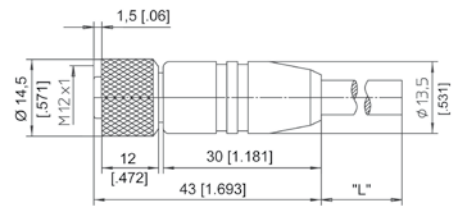
The 8-core screened cable is supplied with a mating 8-pin M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

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