MS-23H series - Non-Contact Rotary Sensors

Manufactured in UK



- ***Rugged Construction***
- ***Compact Design***
- ***Single and Dual output***
- ***IP68 Sealed***
- ***'Non Contact' Magnet***
- ***Electrical angles from 20° - 360°***
- ***High Operating Temperature***

The MS23H series of 'non-contact' rotary position sensors are designed to withstand the harsh environments of motorsport, testing and industrial applications. Using proven 'Hall Effect' technology, the sensors offer high performance and reliability at operational temperatures up to +150°C

The small and lightweight, 23mm diameter MS-23H is available as either a single output or dual output sensor, with a choice of electrical angle, flange mount and Magnet options.

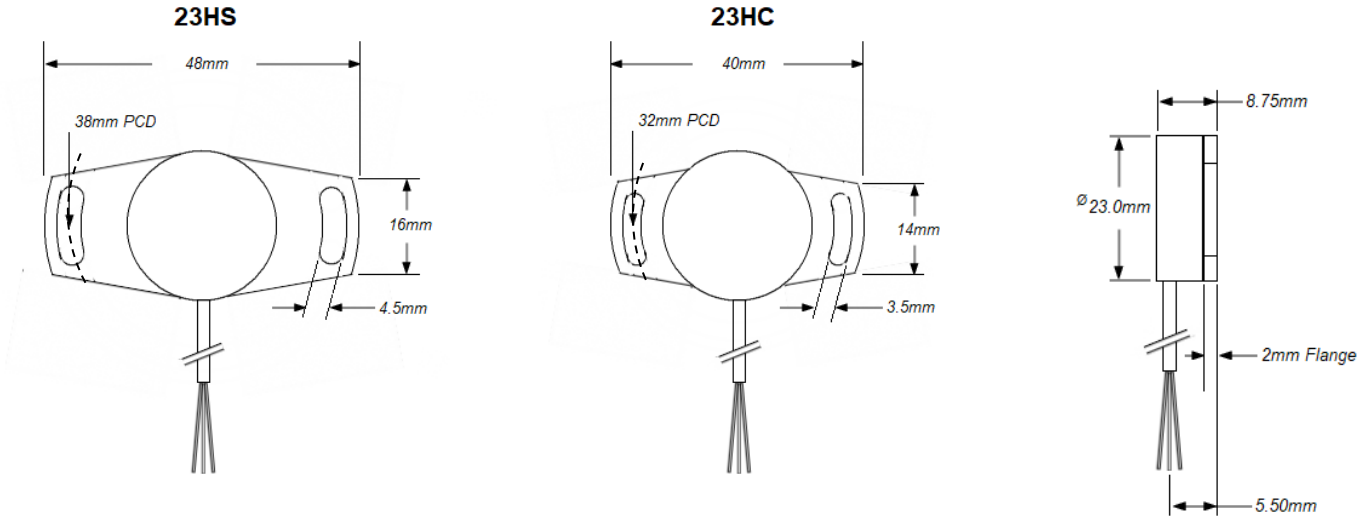
Specifications

Electrical	
Technology	Hall Effect
Electrical Angle	20° - 360° specified in 1° increments
Channel Option	Single & Dual channel (semi-redundant and fully redundant options)
Supply Voltage	5VDC regulated or 6-30VDC unregulated (max 32mA)
Output Signal	Analogue voltage
Resolution	12 Bit @ 5Khz (<0.09°, 360° angle) 14 Bit @ 1.667Khz (option)
Independent Linearity	≤0.3% of measurement range
Temperature Coefficient	50 ppm/°K of output signal
Reverse Polarity Protection	Yes
Over Voltage Protection	Up to 40VDC
Max. Output Current	8mA (per channel)
Mechanical	
Magnet	Diametric Polarity, 8mm Ring Magnet.
Magnet Distance from Sensor	Ideally 1-3mm from Flange surface
Mechanical Life	>50 million operations (depending on installation and environmental conditions)
Magnet Carrier (option)	Peek, 10mm diameter with M3 x 2mm thread
Housing Material	Aluminium
Magnet Material	Neodymium
Weight	8g (without cable)
Environmental	
Sealing	IP68
Operating Temperature	-40°C - +150°C
Vibration & Shock	5-2000Hz random , 3m drop onto concrete

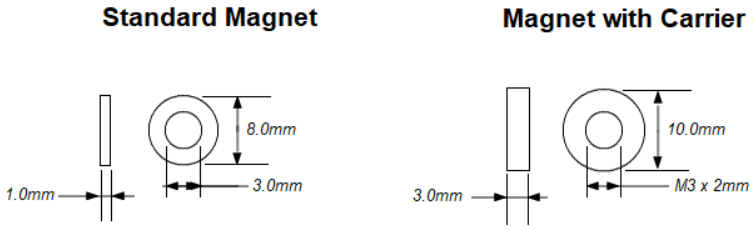
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Dimensions



Magnet Options:



Magnets are diametric polarity.

Standard magnet supplied with sensor. Magnet bonded to Peek carrier with M3 thread optional.

Electrical Connection

Wiring	+Ve Supply	0V Supply (GND)	Signal
Single Channel (3 wire)	RED	BLACK	YELLOW
Dual Channel (6 wire)	BROWN*	BLUE*	WHITE

*Not required for 4 wire option

Cable Type	Raychem 55A, 26AWG, FDR 25 sleeve
Cable Length	Approximately 500mm
Output Rotation	Output increases to clockwise (CW) or counter-clockwise (CCW) when viewed on flange.
Alignment	Sensor output is at approximate electrical centre, when magnet north pole is aligned with the cable exit

Custom Options available

See ordering information

Since the suitability of these products depends upon a wide range of factors not in our control, the manufacturer expects and understands that you will conduct the testing and evaluation necessary to determine that these products are suitable for your application. Whilst every effort is made to ensure the above details are correct at the time of printing, the manufacturer reserves the right to make material changes, and / or technical changes without notification.

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Ordering Information

Please use the chart below to construct your product code…

Sample Product Code: **MS – 23HS – 360 – 5 AB – 68 – 000**

Series **MS-23H**

Housing

S = Standard flange mount (refer to drawing)

C = Compact flange mount (refer to drawing)

Electrical Angle

XXX = Insert required electrical angle from 20° - 360°, specified in increments of 1° eg: 045, 360

Power Supply & Output

5 = 5VDC regulated.
Ratiometric output 10-90% of supply (0.5-4.5VDC)

6 = 6-30VDC unregulated.
Absolute output 0.5-4.5VDC

Output Channel & Direction

AX = Single channel, clockwise rotation output (CW)

BX = Single channel, counter-clockwise rotation output (CCW)

AA = Dual channel, clockwise rotation outputs (CW, CW)

BB = Dual channel, counter-clockwise rotation outputs (CCW, CCW)

AB = Dual channel, opposite rotation outputs (CW, CCW)

Seal Rating

68 = IP68

Shaft Style

Non Contact

Options (compatible options may be selected, separated by – between codes)

000 = No options selected
MC = Magnet Carrier
4W = Dual Channel, 4 Wire (semi-redundant)
R14 = Resolution 14 Bit @ 1.66Khz
V1 = Voltage output - 0.25-4.75VDC (5V ratiometric 5-95% ; 6-30V absolute)
V2 = Voltage output - 0.1-4.9VDC (5V ratiometric 2-98% ; 6-30V absolute)
Lxxxx = Cable length in mm (500mm cable supplied as standard)
Consult Factory - PWM output
Consult Factory - Independent measurement angles for channel 1 and channel 2
Consult Factory - Channel 1 and channel 2 output phasing and offsets