

MS-22H series - Non-Contact Rotary Sensors



Manufactured in UK

- **Rugged Construction**
- **Compact Design**
- **Single and Dual output**
- **IP67 Dual Seal Option**
- **Long Life**
- **Electrical angles from 20° - 360°**
- **High Operating Temperature**



The MS22H 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, 22.5mm diameter MS-22H is available as either a single output or dual output sensor, with a choice of electrical angle, flange mount and shaft design 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 or PWM
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

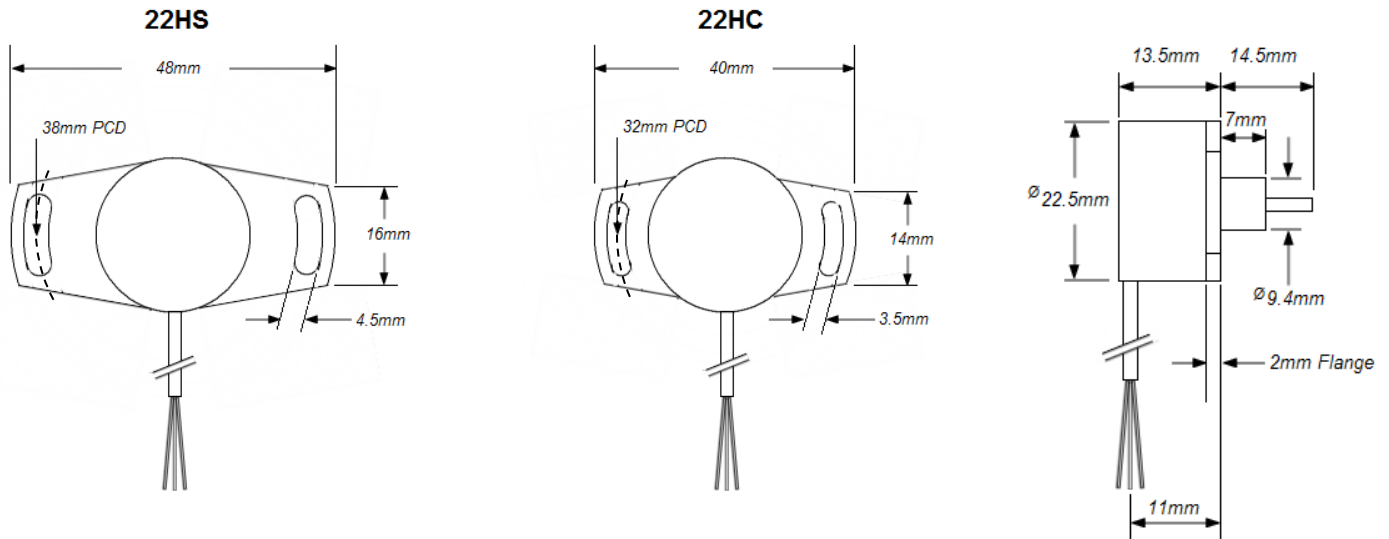
Max. Shaft Velocity	600 RPM
Mechanical Angle	360° continuous rotation
Mechanical Life	>50 million operations (depending on installation and environmental conditions)
Torque	<3Ncm (IP67 seal)
Housing Material	Aluminium
Shaft Material	Stainless Steel
Weight	15g (without cable)

Environmental

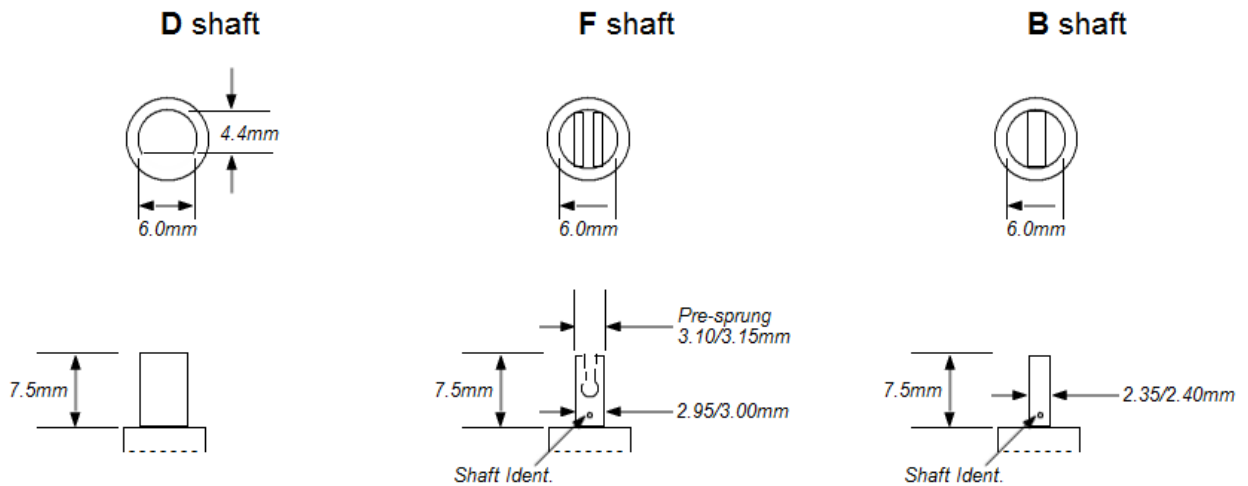
Sealing	IP67 operational
Operating Temperature	-40°C - +150°C
Vibration & Shock	5-2000Hz random , 3m drop onto concrete

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Dimensions



Shaft Options:



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 shaft.
Alignment	Sensor output is at approximate electrical centre, when shaft flat (D) or shaft ident (F, B) is aligned towards 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 – 22HS – 360 – 5 AB – 67 F – 000

Series MS-22H

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

67 = IP67

Shaft Style

D = Shaft design D (refer to drawing)

F = Shaft design F (refer to drawing)

B = Shaft design B (refer to drawing)

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

000 = No options selected

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