



POTEL
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Rotary Multiturn Angle Sensor



RHMS-22

Rotary multiturn Angle sensor is based on contactless magnetic hall's Effect technology. (RHMS-22).

RHMS is in a compact dimension of 22mm OD with Maximum 10 turn (3600 deg) and 20 turn (7200 deg)

The Output signal correspondence to 0 to maximum number of turns and degree. Standard being 10 turn and 20 turn. However we customise the sensor based on application requirement.

Since the Product is based on Contactless **Magnetic Technology** it has very long life, No effect of radial load upto certain extent, High vibration withstanding rating.

The USP of the Product is with inbuilt signal conditioner card with 0-10Vdc output or PWM output or 0-5Vdc output. Beside this the back side slot allows the end user to precisely set the starting and end point.

For angle measurement less than 360 deg we have sensors with model number RHSS12, RHSS22 and RHSS48.

RHMS is a economical product with highly good accuracy and resolution of 12bit over a full range.



Variants

12 bit resolution 5V input and 0.5 to 4.5Vdc Analog Ratio matrix Output.

12 bit resolution 24V input and 0 to 10Vdc Analog Ratio matrix Output.

12 bit resolution PWM Output.

Electrical angle can be 3 turn, 5 turn, 10 turn, 15 turn and 20 turn.

Mechanical angle can be 10 turn or 20 turn.

Shaft on both sides and Threaded shaft available.

Metal housing housing version available in 48mm dia.

Terminal Block, Turrets, Fly wire or cable output version available.

Benefits

Non Contact Linear Position Sensor based on Hall Effect Technology.

Accurate Linearity upto 1% F.S. or 0.5% F.S (on request)

Extremely Long Life.

Extremely Compact in Size.

Short Circuit, Overvoltage and Reverse polarity protected.



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POT-TECH Electronics(Bombay) Pvt. Ltd.

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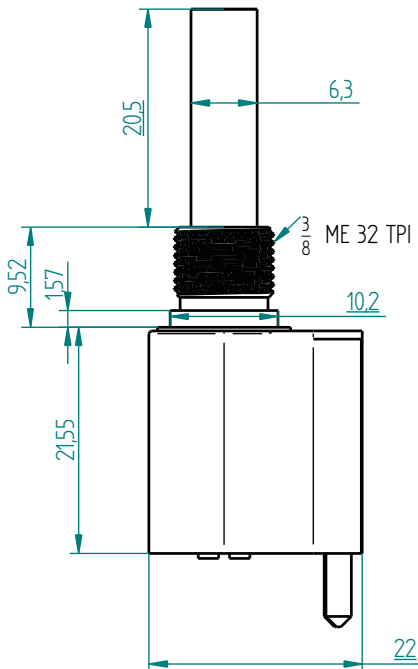
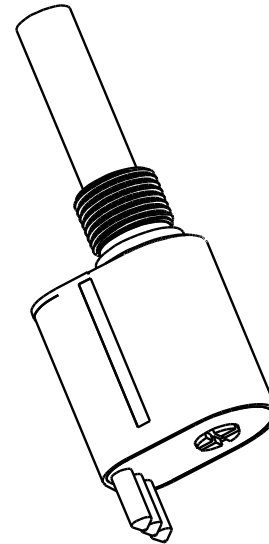
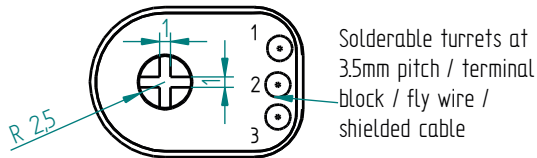
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Mechanical Characteristics



Wiring connection

1- input voltage	Red - Fly wire Brown - cable out
2- Gnd	Green - Fly wire Green - cable out
3- Output signal	Yellow - Fly wire White - cable out

Repeatability	+/-10 deg
Effective electrical angle	1080,1800,3600,7200. Other angle on request available
Mechanical angle	3600 deg (for angle upto 3600 deg) 7200 deg (for angle between 3600 to 7200 deg)
Maximum mechanical speed	500 RPM
Torque	1.8 N cm maximum
IP rating	IP 50
Rotation shaft life	40 Million cycles.



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Pulse Width Modulation Out



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pos 0 (0 mm), ton = 1 micro sec @200 Hz.



pos 4093 [{{ (max stroke length / 4096)*4093} mm], ton = 4094 micro sec @200Hz.



pos 4094 [{{ (max stroke length / 4096)*4094} mm], ton = 4095 micro sec @ 200Hz.



pos 4095 [{{ (max stroke length / 4096)*4095} mm], ton = 4097 micro sec @200Hz.



Stroke Length calculation

$$\text{mm} = \frac{(\text{ton} * 4098)}{(\text{ton} + \text{toff})} - 1$$

Paameters	Results
Supply Voltage (Vsupply)	5Vdc (+/- 10%) // 6 to 35Vdc
Supply Current	20mA // 35mA
Frequency	200Hz, 500Hz, 1K Hz or 2 Khz based on requirement
Resolution	12bit
Output Signal	10% to 90% duty Cycle
Linearity	1% Independent Linearity (Available 0.5% on request)



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Mounting



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For best performance of RHMS-22 below points needs to be taken into consideration.

- 1) The hole in the panel should not be more than 9.5mm.
- 2) RHMS-22 should be mounted with Star washer given along with the product and perpendicularity between the panel and axis of Sensor should be maintained.

Magnetic Cross Talk

If two RHMS-22 units are to be installed closer than 4 inch (measured between the center of both shafts), a magnetic shield, such as a small steel plate should be installed in between to prevent one encoder from causing small changes in reported position through magnetic field cross-talk.

Material

Component	Material
Housing	Brass (endless) PBT (with stop or endless)
Shaft	Stainless
Busing	Brass

Environment

Parameter	Value
Operating Temperature	-40 to 75 deg (standard) -40 to 140 deg (on request)
Storage Temperature	-40 to 75 degC
Vibration	20g.

Ordering Information

RHMS22 - nos. of mechanical turns - nos. of electrical turns - Input voltage - output signal -type of conn

10 - 10 turns (3600deg)	1080- 3 turn	5 - 5 Volt	R - Ratiometric	T- Turret
20 - 20 turns (7200 deg)	1800- 5 turn	635- 6 to 35Volt	0545 - 0.5 to 4.5V	C- Terminal
	3600- 10 turn	24- 24 Volt	PWM - PWM output	Block
	7200- 20 turn			FW- Fly wire cab- cable

For Example: RHMS22-10-3600-24010-T

