Sensata Technologies

AIRPAX® | 7024 SERIES

Speed & Position Sensors

Overview

Variable reluctance (VR) and Hall Effect IC (HE) speed sensors have no moving parts, ensuring reliability and long life. VR speed sensors accurately measure speed or position with simple installation and easy target alignment. Hall Effect IC determine position, rotation, direction angle, timing, and speed, and are ideal for low-speed or zero speed applications. Each technology detects ferrous material, VR provides a voltage output and Hall Effect IC's provide a square wave output which replicates the target profile.

Typical applications include automotive, over-the road trucks, rail, agricultural equipment and construction equipment.

Design Specifications

Model		SME	PD-8	TMG	TN-1	KM	MHS-SS (*HE)
Output Voltage*1		≥ 0.7 Vp-p	≥ 1.4 Vp-p	≥ 2.1 Vp-p	≥ 0.8 Vp-p	≥ 1.1 Vp-p	Square wave (open collector output)
Output Current		----	----	----	----	----	Max 20mA sink
Input Voltage		----	----	----	----	----	4.5 to 24VDC
DC Resistance (kΩ)		~ 2.5	~ 2.3	~ 1.8	~ 1.5	~ 0.6	----
Insulation Resistance (MΩ)		≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	----
Target Frequency (Hz)		≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 10
Recommended Air Gap (mm)		≤ 0.039 (≤ 1.0)	≤ 0.059 (≤ 1.5)	≤ 0.079 (≤ 2.0)	≤ 0.030 (≤ 0.75)	≤ 0.059 (≤ 1.5)	≤ 0.059 (≤ 1.5)
Body Material		PPS	Stainless Steel	Stainless Steel	Stainless Steel	Brass	PPS
Tighting torque to break (N•m)		----	50	50	50	50	----
Vibration (m/s²)		100	100	100	100	100	147
Shock (m/s²)		980	980	980	980	980	294
Suggested Gear	D.P.	≤ 10.2	≤ 10.2	≤ 10.2	≤ 10.2	≤ 10.2	See note *3
	M	≥ M2.5	≥ M2.5	≥ M2.5	≥ M1.5	≥ M2.5	
Operating Temperature		-40°C to +120°C					
Weight (g)		~ 35	~ 75	~ 90	~ 90	~ 180	~ 30
External Diameter*2 (mm)		≥ Ø0.512 (≥ Ø13)	≥ Ø0.551 (≥ Ø14)	≥ Ø0.551 (≥ Ø14)	≥ Ø0.551 (≥ Ø14)	≥ Ø0.709 (≥ Ø18)	≥ Ø0.433 (≥ Ø11)
Length (mm)		≥ 1.575 (≥ 40)	≥ 1.969 (≥ 50)	≥ 2.362 ≥ 60	≥ 1.969 (≥ 50)	≥ 1.772 (≥ 45)	≥ 1.181 (≥ 30)

*1. Output voltage (measured gear = Module 2.5, revolution speed = 100Hz, air gap = 1.0mm, overload resistance = 100k)
*2. D.P. = Diametral Pitch (gear pitch), M = Module (size of gear tooth)
*3. Gear Information: Diameter: 1.724in (120mm), tooth width: 0.118in (3mm), tooth valley: 0.118in (3mm), thickness: 0.236 in (6mm)
*4. External diameter represents the minimum diameter part of the products (diameter of the groove for the O-ring in products and root diameter of screws shall be minimum or above)

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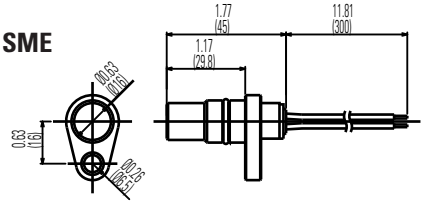
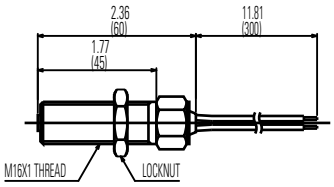
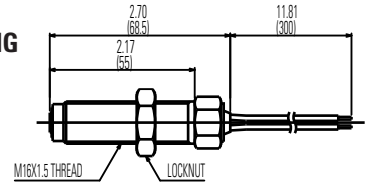
SME



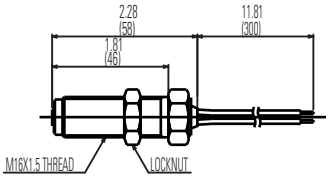
PD-8



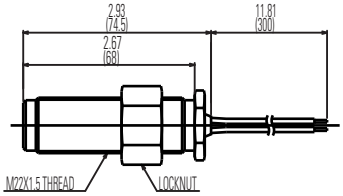
TMG



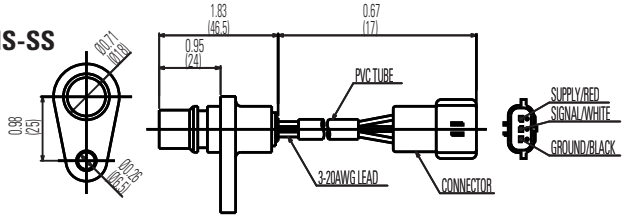
TN-1



KM



MHS-SS

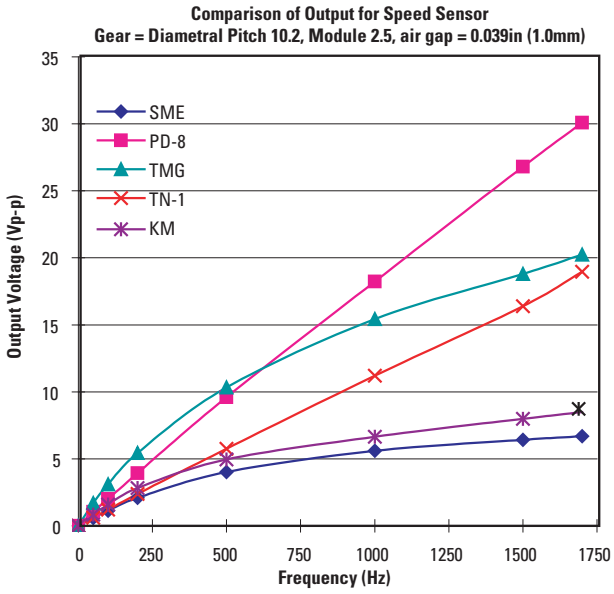


Dimensions = in (mm)

Options

The products shown are a representative example of our offerings. Consult factory for specific applications and options, including:

- Lead wire type, length, thickness and color variation
- Body materials and shapes
- Thread type
- Connectors
- Tube Covers



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The World Depends on Sensors and Controls

SENSATA TECHNOLOGIES

6-3, Chiyoda 5-Chome, Sakado-shi,
Saitama-ken, 350-0214 Japan
81.49.283.7575 (Main)
81.49.283.7560 (Fax)
www.airpax.jp
www.sensata.com

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