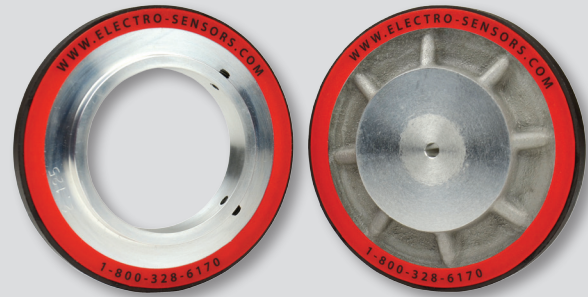


Key Features

- Use with 1101/1201/1202 Hall Effect and 1102 Magneto-resistive shaft speed sensors
- 60 pole pairs (Hall Effect)
- 120 alternating magnets (Magneto-resistive)
- Non-contact sensing
- End-of-shaft (198EM) or over-shaft (199SM models) mounting
- NEMA C Ring Kit compatible
- 10,000 rpm maximum speed



199SM

198EM

Description

The 199SM and 198EM Magnet Wheels comprise a ferro-magnetic nylon ring with 120 alternating magnetic poles and an aluminum hub. The wheel is 3.75" in diameter with the magnetic surface on the outside circumference of the wheel. The magnets are rectangular and evenly spaced between non-magnetized spaces. The wheel is typically mounted on a shaft up to 3" in diameter. Our shaft mount wheels are custom-bored to slide snugly onto the shaft, and are then secured with two set screws. Many standard hub sizes are in stock, including common NEMA C Frame Motor sizes.

Sensor Compatibility

The 199SM and 198EM Magnet Wheels are compatible with Electro-Sensors' Hall Effect and Magneto-resistive sensors.

Hall Effect Sensors: The signal switches high on one pole and low on the opposite pole, producing 60 pulses per revolution with a 50/50 duty cycle.

Magneto-resistive Sensors: The signal switches low in the presence of a magnetic field of either polarity, and high in the spaces between the magnetic poles, producing 120 pulses per revolution. The 50/50 duty cycle of the Magneto-resistive sensor will vary slightly depending on the orientation of the sensing surface to the ring.

Sensor Installation

Mount the sensor so that the sensing surface is centered and perpendicular to the magnetic surface on the outside edge of the magnet wheel. Use the chart to the right to determine appropriate gap distances.

Sensor Comparison / Compatibility Chart

| | Hall Effect | Magneto-resistive |
|-----------------------|------------------------------|-------------------|
| | 1101, 1201, 1202, Series 18* | 1102, Series 18* |
| Pulses Per Revolution | 60 | 120 |
| Wave Type | Square | Square |
| Output Type | NPN | NPN |
| Duty Cycle of Pulses | 50/50 | 50/50 |
| Ring Kit Compatible | Yes | Yes |
| Gap Distance | 0.05" - 0.040" | 0.05" - 0.040" |

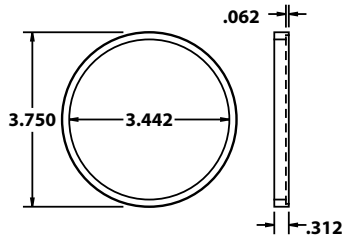
* Open-ended (not sealed)

Mounting

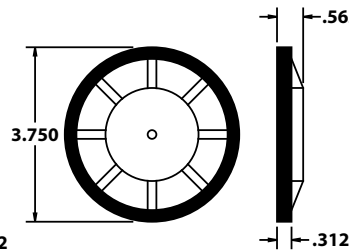
End Mount: The 198EM mounts on the end of a shaft. Center-drill the shaft to a depth of 0.5" with a No. 21 drill, then tap for a 10-32 UNF screw. Apply Loctite® or a similar adhesive to the screw threads and secure onto the end of the shaft with the provided 10-32 mounting screw. Torque the mounting screw to a maximum of 8-10 foot pounds.

Shaft Mount: The 199SM models mount around shafts up to 3" in diameter and are secured with the provided set screws.

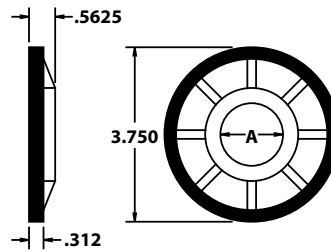
Magnet Ring only



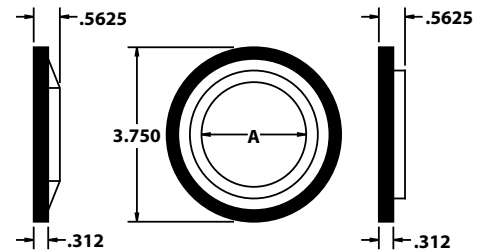
Magnet wheel with hub for end mount



Magnet wheel with hub for shaft mount ≤ 1.875 "



Magnet wheel with hub for shaft diameters 1.875" to 3.0" max.



Ordering (Standard Models)

| Model | Bore | Part Number |
|---------------------|-----------|-------------|
| 198EM 60PP | 0.196 in | 700-002400 |
| 199SM, 0.375, 60PP | 3/8 in | 700-210375 |
| 199SM, 0.500, 60PP | 1/2 in | 700-210500 |
| 199SM, 0.625, 60PP | 5/8 in | 700-210625 |
| 199SM, 0.750, 60PP | 3/4 in | 700-210750 |
| 199SM, 0.875, 60PP | 7/8 in | 700-210875 |
| 199SM, 1.00, 60PP | 1 in | 700-211000 |
| 199SM, 1.125, 60PP | 1-1/8 in | 700-211125 |
| 199SM, 1.250, 60PP | 1-1/4 in | 700-211250 |
| 199SM, 1.375, 60PP | 1-3/8 in | 700-211375 |
| 199SM, 1.4375, 60PP | 1-7/16 in | 700-211437 |
| 199SM, 1.500, 60PP | 1-1/2 in | 700-211500 |
| 199SM, 1.625, 60PP | 1-5/8 in | 700-211625 |
| 199SM, 1.875, 60PP | 1-7/8 in | 700-211875 |

Magnet Wheel Specifications

| Product | |
|-------------------------|----------------------------------|
| Material | Ferro-magnetic nylon |
| Number of Magnet Poles | 60 North, 60 South (alternating) |
| Gauss Rating of Magnets | 400 +/- s0 |
| Operating Temperature | -40° C → +150° C |
| Maximum Speed | 10,000 rpm at ambient temp. |
| Hub Material | Aluminum |
| Maximum Hub Bore | 3 inches |

Specifications subject to change without notice.

Customization

If one of our standard products does not meet your specifications, please call one of our applications specialists. Many of our products can be customized to fit specific needs.