

Digital Slip Ring Assembly

Model S_/D

- Designed for digital signals
- 4, 6, 8 and 10 connections
- Twisted pairs for differential signals
- Low electrical noise level
- Rated to 12,000 RPM



Description

Michigan Scientific's *S_/D Series Slip Ring Assemblies* are based on the proven S-Series, but are built specifically for transmitting digital signals. The *S_/D Digital Series Slip Ring Assemblies* have special considerations for digital signal protocols, such as twisted pairs for differential signals or routing of the shield through a slip ring connection. They are designed to transfer high speed digital signals and power electrical devices on spinning shafts. Internal components are made of precious metals, which minimize noise and data loss. In addition, a high grade stainless steel case provides protection from dust and other contaminants.

Compared to other slip ring assemblies for digital signals, these assemblies have longer life ratings and can spin at higher speeds while still maintaining signal integrity. They are available in 4, 6, 8, and 10 connection variations. Connections are made through color-coded solder terminals located on both the slip ring rotor and stator. The lightweight and compact design of these Slip Ring Assemblies make them ideal for use in applications where space is limited.

Specifications

| | S4/D | S6/D | S8/D | S10/D |
|--|------------------------------------|---|--|---------------------------------------|
| Circuits | 4 (2 Twisted Pairs) | 6 (3 Twisted Pairs) | 8 (4 Twisted Pairs) | 10 (5 Twisted Pairs) |
| Current Capacity per Circuit | 500 mA | 500 mA | 500 mA | 500 mA |
| Temperature Range ¹ | -40°F to 250°F (-40°C to 121°C) | -40°F to 250°F (-40°C to 121°C) | -40°F to 250°F (-40°C to 121°C) | -40°F to 250°F (-40°C to 121°C) |
| RPM Rating | 12,000 | 12,000 | 12,000 | 12,000 |
| Maximum Peak Noise ² | 0.1 Ω | 0.1 Ω | 0.1 Ω | 0.1 Ω |
| Digital Connection Option | 10/100 Base-T Ethernet, USB 2.0 | 10/100 Base-T Ethernet with power or shield | 10/100 Base-T Ethernet with PoE, Gigabit Ethernet, USB 3.0 | Gigabit Ethernet with power or shield |
| ¹ For operation below 0°F, specify low temperature lubricant. | | | | |
| ² Resistance variation across slip ring contact | | | | |

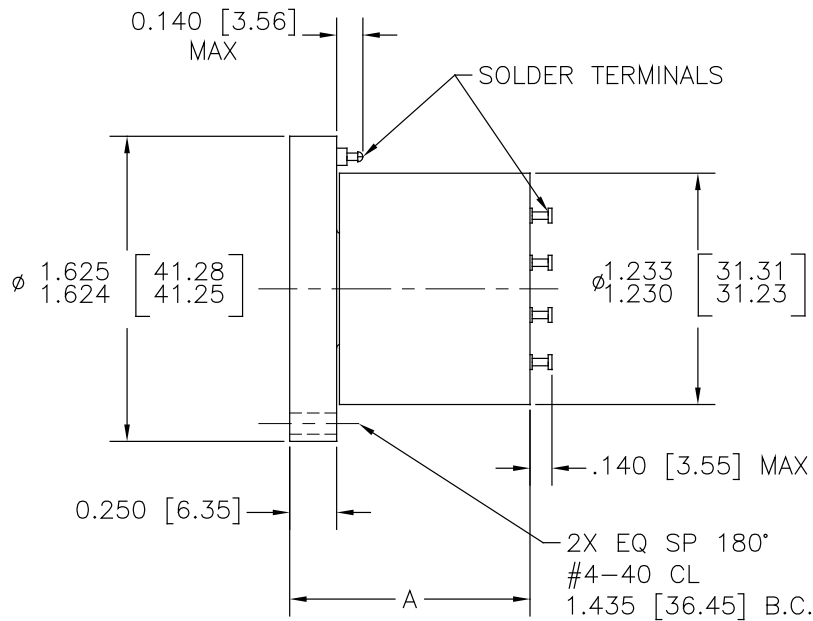
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Digital Slip Ring Assembly

S-Series Configuration



DIMENSIONS ARE INCH [mm]

C566019A
S-Series
07/18/2005

| MODEL | A |
|-------|----------|
| S4 | 1.2 [30] |
| S6 | 1.3 [33] |
| S8 | 1.5 [38] |
| S10 | 1.5 [38] |

Mounting

The *S-Series Slip Ring Assemblies* can easily be mounted to the end of a shaft. An adapter may be required for mounting the slip ring to an instrumented shaft. The slip ring rotor is configured with two #4-40 clearance holes, 180° apart, used for mounting. Signal wires from the sensor can be routed along the outside diameter of the shaft or through the center of a hollow shaft. A slot must be machined in the shaft or adapter to open a pathway to the slip ring rotor terminals when signal leads are routed through the center of the shaft.

Contact Michigan Scientific for applications in which the slip ring assemblies are subjected to extreme vibration.

Ordering Options

For information regarding slip ring accessories, refer to the Tech Note section of the catalog.

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