MOOG

Ethernet and High Definition Slip Ring Solutions

High performance slip ring solutions for reliable Ethernet and high definition transmission

Motion integration at work for you

Ethernet, developed in 1976, has become the primary LAN technology and serves as the basis for the IEEE 802.3 standard. Ethernet provides significant advantage as a robust, inexpensive and widely supported format leading to its implementation in a wide variety of data communication networks.

Moog's Ethernet slip ring solutions have been developed to provide reliable products to allow transfer of the Ethernet protocol through a rotating interface. The innovative designs meet the challenge of matching impedance, controlling crosstalk and managing losses. A wide range of product solutions are offered with combinations of data and power in multiple mechanical configurations to meet your application needs.

ADVANTAGES

- Pre-configured for Ethernet and HD transmission
- RJ45 connector for direct plug-and-play standard (M12 and other options available upon request)
- High performance contact technology
- Available with multiple Ethernet channel, power and signal combinations

APPLICATIONS

- 10 / 100 / 1000BaseT transmission
- Motion control
- Video over Ethernet
- CCTV IP-surveillance

SELECTING A SLIP RING

There are three important parameters that must be considered when incorporating a slip ring in an Ethernet communication line: insertion loss, return loss and crosstalk. These parameters establish the signal to noise ratio of the transmission line and ultimately the Bit Error Rate (BER).

As the world's leading manufacturer of slip rings, Moog slip rings are uniquely suited for critical Ethernet applications. Founded over 65 years ago, the company has developed products for critical applications in military, space, medical and industrial environments. Our industrial slip ring products are based on our years of material and design experience and provide unrivaled contact technologies.

To respond to market demand for engineered Ethernet solutions, Moog has developed an extensive line of Ethernet products based on our popular capsule and through-bore products.

Model #	Features / Advantages
SRA-73799 / SRA-73806	• Smallest Ethernet capsule, 0.44 inch diameter • Ethernet and 6, 2 amp contacts
SRA-73798 / SRA-73805	• 0.61 inch diameter capsule, less than 2 inch total length • Ethernet plus 12, 2 amp contacts
AC7203	• 0.87 inch diameter capsule in 4 lengths • Ethernet plus 2 / 5 / 10 amp circuit options
AC7188	• 0.87 inch diameter capsule • HD video plus 2 amp contacts
SRA-73810	• Compact, .61 inch diameter • HD video plus 12, 2 amp contacts
SRA-73811	• Compact, .87 inch diameter • Dual HD video connections plus 4, 2 amp contacts
AC7195	• 1 inch diameter capsule • Versatile unit with multiple Ethernet lines, 2 / 5 / 10 amp circuits and coax options • Ethernet and HD video capability plus 2 / 5 / 10 amp circuits • IP65 sealing available
AC7217	• 1 inch diameter capsule • Ethernet and HD video capability plus 2 / 5 / 10 amp circuits and coax options • Shorter length and lower cost option than AC7195 • IP65 sealing available
AC7183	• 1.34 inch diameter capsule • Completely configurable circuits with multiple Ethernet, HD, 2 / 5 / 10 amp circuits and coax lines
SRA-73801 / SRA-73808 / SRA-73830	• 0.5 inch bore, most compact through-bore solution • Ethernet plus 2 amp or 8 amp circuits • Optional single channel FORJ on ID
AC6438 / AC6349 / AC7296 / AC6200 / AC4598 (AC6419) / AC6275 (AC6793) / AC6098	• Through bores from 0.5 to 4.0 inches • Fiber brush contacts for long life • Extremely reliable communication for UDP or "real-time" formats like EtherCAT® and Ethernet/IP™*

All Ethernet configurations are unshielded standard, except the AC6275. Contact the factory for details on available shielded options.

*For UDP or "real-time" Ethernet protocols, Moog recommends gold plated rings with fiber brushes for ultimate reliability. In addition to EtherCAT® and EtherNet/IP™, when properly specified and configured Moog slip rings are compatible with all of the following: CC-Link IE Field®, Ethernet PowerLink, MECHATROLINK III®, PROFINET® and Sercos III®.

Ethernet slip ring overview

The matrix below provides an overview of the slip ring Ethernet product offerings. Detailed specification sheets are available on each product, visit www.moog.com/components. For additional designs with Ethernet, contact the factory.

SRA-73799

AC7203

AC7195

SRA-73801

AC7296

Ethernet and High Definition Video Slip Ring Specifications												
Model #	Continuous Current (amps)				Coaxial			Ethernet		Size	Bore	Rated Speed
	2	5	10	15+	RG178	RG179	HD-SDI	100BaseT	1000BaseT	DIA" x LG"	DIA"	RPM
SRA-73806	9							1		.44 x 1.16		250
SRA-73799	6								1	.44 x 1.16		250
SRA-73805	12							1		.61 x 1.79		250
SRA-73798	12								1	.61 x 1.79		250
SRA-73810	12						1			.61 x 1.79		250
AC7203	X	X	X					X	X	.87 x 1.14		250
AC7188	X	X					X			.87 x 1.68		250
SRA-73811	4						2			.87 x 1.79		250
AC7217	X	X	X		X	X	X		X	1.0 x 2.6		250
AC7195	X	X	X		X	X	X		X	1.0 x 3.5		250
AC7183	X	X	X		X	X	X	X	X	1.34 x 5.015		250
SRA-73808	12							1		1.375 x 3.5		250
SRA-73801	12								1	1.375 x 3.5		250
SRA-73830	X	8A						X	X	1.375 x 1.32 – 2.22	0.5	250
AC6438		X			X	X		X	X	2.1 x 1.6 – 3.2	0.5	250
AC6349				X	X	X		X	X	3.07 x 2.9 – 6.5	1.0	250
AC7296	X	X	X	X	X	X		X	X	3.9 X 2.13 – 7.34	1.0	250
AC6200	X		X	X	X	X		X	X	3.9 X 2.13 – 4.94	1.5	250
AC4598 / AC6419			X	X	X	X		X	X	3.9 x 2.13 – 4.94	1.5	250
AC6275 / AC6793		X	X	X	X	X		X	X	6.63 x 6.6 – 20.5	2.75	1000
AC6098			X	X	X	X		X	X	8.0 x 4.6 – 14.4	4.00	250

ADDITIONAL FORMAT OPTIONS
The twisted pairs used for Ethernet can be configured to support multiple other data protocols.
Contact the factory for details regarding possible solutions for HDMI, PROFIBUS®, USB, RS-422, RS-485, and other data protocols.

STANDARD DATA FORMATS
Standard signal circuits can support many data formats without the Ethernet configuration. Data protocols supported by the standard circuits include but are not limited to CAN Bus, CANopen, ControlNet, DeviceNet, RS-232 and RS-423.

Moog's white paper, "When Ethernet Rotates: Ethernet and Slip Rings," provides in-depth information about how slip ring designers are able to meet the challenge of more exacting performance parameters with innovative methods of matching impedance, controlling crosstalk and managing losses.

Americas
1213 North Main Street
Blacksburg, VA 24060
United States

Tel: +1 540-552-3011
Fax: +1 540-557-6400

Asia-Pacific
Yokohama Nishiguchi KN Bldg. 10F
2-8-4 Kitasaiwai, Nishi-ku
Yokohama, Kanagawa 220-0004
Japan

Tel: +81 45-328-1803
Fax: +81 45-328-1801

Europe
30 Suttons Business Park
Reading, Berkshire RG6 1AW
United Kingdom

Tel: +44 (0) 118-966-6044
Fax: +44 (0) 118-966-6524

MOOG

www.moog.com

Email: mcg@moog.com