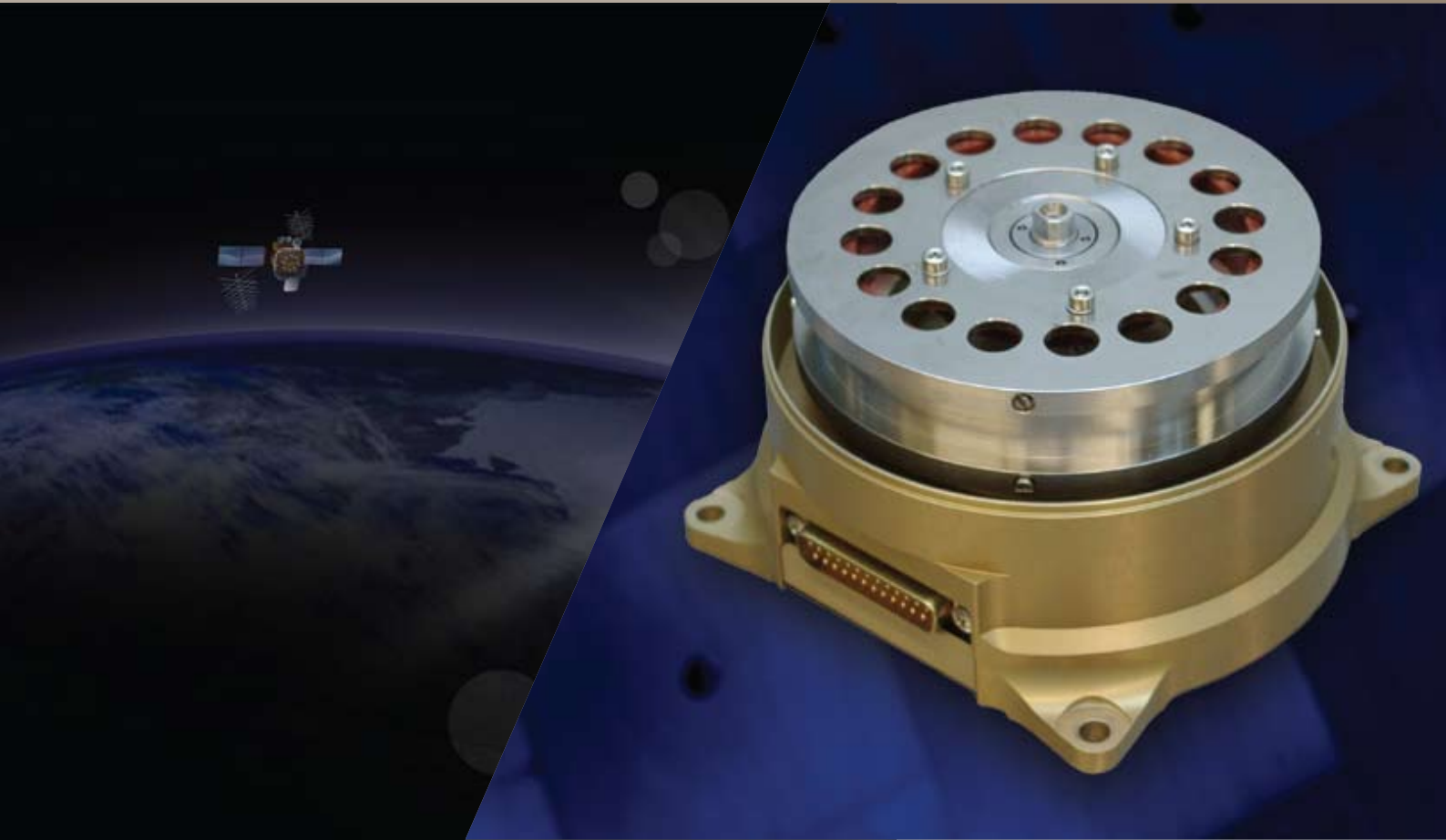


RSI 02 Momentum and Reaction Wheels 0.2 – 1.6 Nms with integrated Wheel Drive Electronics



TELDIX® Space Wheels deliver industry leading capability and reliability for spacecraft attitude control.

They are available with an angular momentum storage capacity spanning a range between 0.04 Nms and 68 Nms. The wheels accommodate the requirements of attitude control systems for spacecraft weighing between 30 kg and 7,000 kg.

With more than 30 years experience in Space Wheel technology, our Teldix Space Wheels have accumulated more than 2900 years of in-orbit operational time - far exceeding competing products.

KEY BENEFITS

- › Power/loss torque optimized
- › Volume/mass optimized
- › Hermetically sealed
- › Modular configuration
 - Fast adaptation to customer requirements
 - Space qualified subsystems (Rotor, Motor, Bearing unit, Electronics)
- › Broad spectrum of different wheel types

KEY FEATURES

- › For satellites weighing 100 – 500 kg
- › High reliability through heritage
- › Usable as momentum or reaction wheel
- › More than 15 years lifetime design
- › 15 years lifetime optional

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Main technical data	RSI 02-33/30A	RSI 04-33/60A	RSI 1.6-33/60A
Angular momentum at nominal speed	0.2 Nms	0.4 Nms	1.6 Nms
Operational speed range	± 3,000 rpm	± 6,000 rpm	± 6,000 rpm
Speed limiter (EMF)	< 15,000 rpm	< 15,000 rpm	< 15,000 rpm
Motor torque at nominal speed	± 33 mNm	± 33 mNm	± 33 mNm
Loss torque	< 20 mNm	< 20 mNm	< 20 mNm
Dimensions			
Diameter	135.5 mm	135.5 mm	135.5 mm
Height	110 mm	110 mm	110 mm
Mass	< 1.75 kg	< 1.75 kg	< 2.45 kg
Power consumption			
Steady state at nominal speed	< 10 W	< 17 W	< 17 W
Maximum torque at nominal speed	< 20 W	28 W	< 28 W
Power interface			
Supply voltage	23 to 30 VDC	23 to 30 VDC	23 to 30 VDC
Input current	< 1.0 A	< 1.0 A	< 1.0 A
Galvanic isolation between primary return and secondary return	Yes	Yes	Yes
Preceding stage	Yes	Yes	Yes
On/off relay	Yes	Yes	Yes
Signal interface			
Torque command and direction	Analog/bi-level	Analog/bi-level	Analog/bi-level
Speed measurement and direction	Analog/bi-level	Analog/bi-level	Analog/bi-level
Motor torque (current)	Analog	Analog	Analog
Bearing temperature	Analog (thermistor)	Analog (thermistor)	Analog (thermistor)
On/off status	Bi-level	Bi-level	Bi-level
On/off command	Pulses	Pulses	Pulses
Environmental conditions			
Qualification/protoflight temperature	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
Operating temperature	-10 to +45 °C	-10 to +45 °C	-10 to +45 °C
Survival/nonoperating temperature	-15 to +60 °C	-15 to +60 °C	-15 to +60 °C
Lifetime	> 15 years (in orbit)	> 15 years (in orbit)	> 15 years (in orbit)

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Rockwell Collins delivers smart communication and aviation electronics solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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