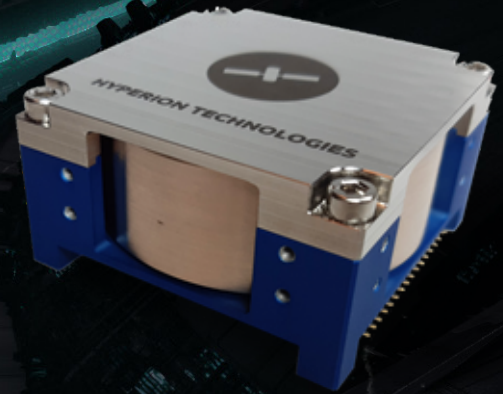


HIGH PRECISION HIGH PERFORMANCE



The RW400 series reaction wheel is a low mass, low power reaction control wheel, which allows CubeSats and other small platforms to control their attitude. The wheel was specifically designed for 6 - 12U CubeSat platforms, and is also used in the iADCS400-series of attitude determination and control systems. It features an internal fire-and-forget controller, which frees up the host processor's workload. The RW400 is available with either 15, 30 or 50 mN.m.s of angular momentum storage in both directions of rotation.

KEY HIGHLIGHTS:

- Total momentum storage: +/-15 mN.m.s, +/-30 mN.m.s, +/-50 mN.m.s
- Maximum torque: > 12 mN.m (braking)
- Primary components radiation tolerant at least up to 36 krad
- Low mass: 197 / 210 / 375 g
- Low power: < 1900 mW @ 55 mN.m.s
- Compact: 50 x 50 x 27 mm



DESIGN

The RW400 reaction wheel series has been designed with the user in mind. Thanks to its plug-and-play set-up, it is easy to use and integrate.



PERFORMANCE

All versions feature in excess of 8 mN.m of torque and both I²C compliant interface as well as a bidirectional RS422 interface. Different interfaces are available on request.



HERITAGE

The RW400 series is based on the experience of AAC Clyde Space in the design, development and flight qualification of small reaction wheels.

TECHNICAL SPECIFICATIONS

| Performance | | |
|------------------------|------------------------|-----------------|
| Total momentum storage | +/- 15, +/- 30, +/- 50 | mN.m.s |
| Maximum torque | +/- 8 | mN.m |
| Maximum rotation speed | 5000 | rpm |
| Control accuracy | +/- 1 | % of target rpm |

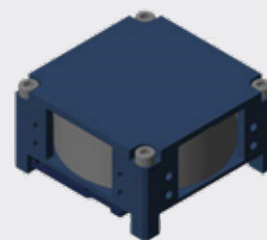
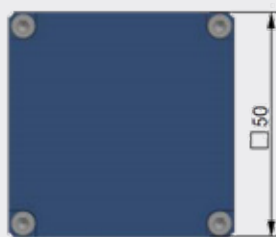
| Dimensions | | |
|------------------|-----------------|----|
| Outer dimensions | 50 x 50 x 27 | mm |
| Mass | 197 / 210 / 375 | g |

| Environmental | | |
|-----------------------|--------------|-----------|
| Operating temperature | - 40 to + 60 | °C |
| Radiation tolerance | >36 | krad (Si) |

| Electrical specifications | | | | |
|---------------------------|-----------|------|------|---|
| | Min. | Typ. | Max. | |
| Supply voltage | 4.5 | 5.0 | 5.25 | V |
| Logic supply voltage | 2.3 | 3.3 | 5.1 | V |
| Bus logic level voltage | 3.3 - 5.1 | | | V |

| Power consumption | | | | |
|-------------------|------|-------------------|--------------------|----|
| | Min. | Typ. | Max. | |
| Idle | - | - | 75 ¹ | mW |
| Nominal | - | 1000 ¹ | - | mW |
| Peak | - | 1900 ¹ | 15000 ¹ | mW |

¹ Can be tailored



To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact:

enquiries@aac-clydespace.com



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