



# 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 I<sup>2</sup>C 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

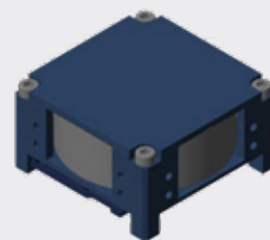
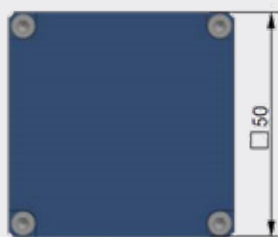
Dimensions		
Outer dimensions	50 x 50 x 27	mm
Mass	197 / 210 / 375	g

Enviromental		
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 <sup>1</sup>	mW
Nominal	-	1000 <sup>1</sup>	-	mW
Peak	-	1900 <sup>1</sup>	15000 <sup>1</sup>	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:

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