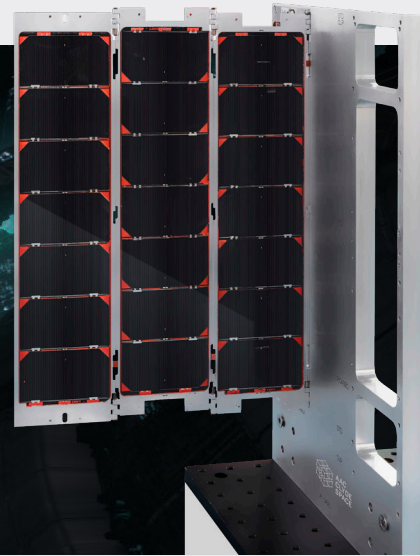




FOR THE MOST DEMANDING MISSIONS



The AAC Clyde Space PHOTON solar panels are designed for maximum power generation and ease of platform integration, as used by our own missions. Available in a variety of configurations, the PHOTON solar panels are designed to be compatible with AAC Clyde Space ZAPHOD structure range. The side solar panels are designed to fit at the side panels of our CubeSat structures, to provide optimized power generation from any side of the satellite. From body mounted only to triple deployed solar panels, we utilise the latest manufacturing techniques to deliver highly reliable, low-mass, high density, power generation solutions. These are designed to fit within the majority of CubeSat deployment mechanisms.

Universally featuring 30.7% efficient Spectrolab XTJ-Prime solar cells, PHOTON solar panels are constructed using a cost-effective combination of FR4 substrates, either alone or combined with a specially developed lightweight aluminium support structure depending on the size of deployable array required. This product leverages decades of on-orbit heritage and proven deployment mechanisms. The panels are constructed from low out-gassing materials and are supplied staked and head-locked for flight. Each array is designed to be compliant with applicable NASA GEVS vibration testing and receives illumination testing and thermal cycling prior to shipment. Each Photon product comes packaged in protective container, suitable for storage before final integration.



POWER

This range makes use of decades of on-orbit heritage and deployments to ensure a consistently performing products which utilise the latest in mechanical design techniques.



PERFORMANCE

Supporting 3U to 12U form factors the PHOTON range offers body, single, double and triple deployment options. Temperature and coarse sun sensors included. Proprietary low profile and robust reliable design with lightweight aluminium framing.



RELIABILITY

Our solar panel solutions are some of the most flown in history with an unparalleled track record in orbit. With PCB Substrate with space-grade Kapton coverlay and Spectrolab XTJPrime solar cells as standard. Restorable during testing with redundant hold down release mechanism.

TECHNICAL SPECIFICATIONS

General

Telemetry available	Temperature Sensors Coarse Sun Sensors
Cell Type	XTJ Prime (others available on request)
Power Generation	Up to 9W per 3U populated face
Operating Temperature Range	-40°C to +80°C
	4 mil Anti-reflective coated cover glass
Low outgassing materials used	
Staked and head-locked for flight	
Designed to withstand NASA GEVS qualification testing	
Delivered in a rugged container suitable for storage before integration.	

PHOTON-DD 3U Size Only

Stowed height	9.55mm
Mass (3U)	330g
Details on substrate	FR4
HDRM	Thermal knife/cord

PHOTON-TD 3U Size Only

Stowed height*	9.5mm**
Mass (3U)*	330g
Details on substrate	FR4 cell substrate
Details on frame	Aluminium support structure
HDRM	Thermal screw release

Custom solar arrays available upon request.
Compatible with AAC Clyde Space ZAPHOD Structures, meeting ISS Crewed Flight design requirements when combined.

To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact:
enquiries@aac-clydespace.com

Standard Acceptance Testing

Thermal Cycling
Illumination Testing
Deployment Testing
Sensor check
Visual inspection and weighing

PHOTON Range

PHOTON-SIDE
PHOTON-SD
PHOTON-DD
PHOTON-TD

PHOTON-SIDE 1U, 2U, 3U and 6U face sizes available

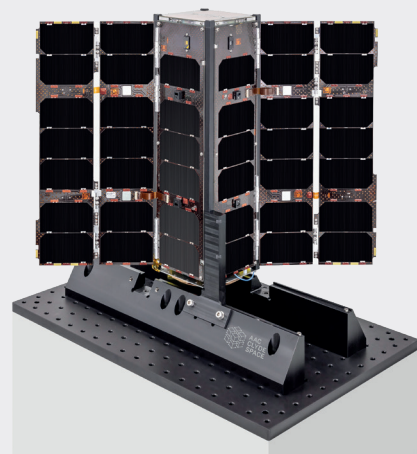
Stowed height	3.5mm
Mass (3U)	135g
Details on substrate	FR4
HDRM	None

PHOTON-SD 1U, 2U, 3U face sizes available

Stowed height	7mm
Mass (3U)	310g
Details on substrate	FR4
HDRM	Thermal knife/cord

* Stowed height and mass based on single populated face on deployed array.

** Stowed height does **not** include 1mm negative offset, which is possible in some cases on Clyde Space structure to aid pod clearance.



#SPACEISAWESOME

www.aac-clyde.space

Copyright AAC Clyde Space 2021. All rights reserved.
All information subject to change. Release date 28 July 2020.