

v.7.11

Overview

ISIS CubeSat structures are developed as a generic, modular nanosatellite structure concept, compliant with the CubeSat standard. The design created by ISIS allows CubeSat developers a high level of freedom in their spacecraft configuration. Avionics or payload modules are built up as single 1-Unit form factor building blocks that are mounted onto the primary load carrying elements. This design concept, together with the accessibility of the internal subsystems even after assembly, creates an open structure which is easy and straightforward to use.

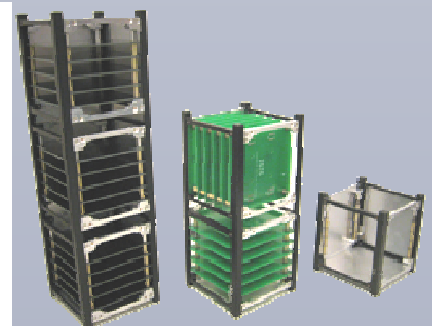


Compatibility

- All off-the-shelf CubeSat products from ISIS, Clyde Space, GomSpace and Pumpkin
- All off-the-shelf CubeSat Deployers: ISIPOD, P-POD, SPL, X-POD
- Fully compatible with ISIS mechanical ground support equipment for easy integration and assembly
- Fully compatible with ISIS deployable antennas and solar arrays

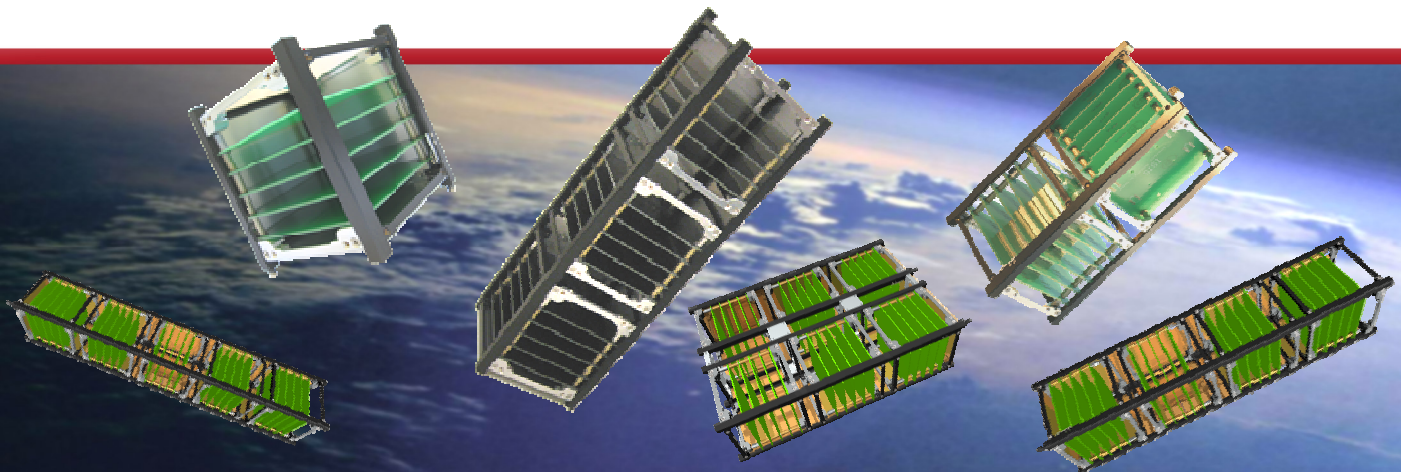
Features

- Modular, scalable design for easy integration and accessibility
- ISIS CubeSat structures are based on a modular frame in combination with shear panels
- Multiple circuit board sizes supported
 - PC/104 Standard form factor (default)
 - Custom 94x94 [mm] circuit boards
- Redundant Kill Switch Mechanism with integrated separation springs



Available Configurations

- Available in 1U, 1.5U, 2U, 3U, 4U, 5U, 6U and custom versions
- Possibility to accommodate different board orientations into the same structure (2U and 3U version)
- Custom internal mounting interfaces for custom boards sizes, tanks, reaction wheel assemblies, etc.
- Custom external mounting interfaces for deployable booms, panels, external payloads, etc.



Include with Shipment

- Primary Structure:
 - 2x Side Frames, Black Hard Anodised
 - Ribs, Blank Alodined
 - 2x Kill Switch Mechanisms
 - Supplied with inserted Phosphor Bronze HeliCoils
 - Fasteners
- Secondary Structure:
 - 6x Aluminium Shear Panels, Blank Alodined
 - M3 Threaded Rods, M3 Hex Nuts, M3 Bus Spacers
 - Boards are supported using M3 Washers



Performance

Primary structure mass:

- 1U STS: 100 grams
- 2U STS: 190 grams
- 3U STS: 270 grams
- 4U STS: 345 grams
- 5U STS: 420 grams
- 6U STS: 600 grams

Secondary structure mass per 1-Unit Stack: 100 grams
(Aluminum shear panels & PCB stacking elements)

Inside Envelope (1U)(l x w x h): 98.4 x 98.4 x 98.4 mm

Outside Envelope (1U)(l x w x h): 100 x 100 x 113.5 mm

Qualification

Design Qualification Loads:

- Static +21.6 [g], three axes
- Sine Vibration 4.0 [g], 5 – 100 [Hz]
- Random Vibration 14.1 [grms], NASA GEVS

Thermal Range (min – max): -50 to 90 °C

Qualification and Acceptance testing

<u>Test</u>	<u>QT</u>	<u>AT</u>
Functional	✓	✓
Vibration	✓	■
Mechanical Shock	✓	■
Thermal Cycling	✓	■
Thermal Vacuum	✓	■
Total Ionizing Dose	■	■

QT is performed on the design/qualification model

AT is performed on the unit to be shipped

Related Products

- Integration Jig Set for CubeSat
- CubeSat Antenna System
- ISIPOD CubeSat Deployer
- Solar Panels



This document is subject to change without notice. The latest technical information and price information is available on www.cubesatshop.com