CubeSat Structures

Flight heritage since 2012

www.isispace.nl

DESCRIPTION

The ISIS CubeSat structure are developed as generic, modular satellite structures based upon the CubeSat standard. The design created by ISIS allows for multiple mounting configurations, giving CubeSat developers maximum flexibility in their design process. The stack of PCBs and other flight modules can be build up first in the secondary structure and integrated with the load carrying frames at the end of the process, ensuring accessibility of the flight avionics. The use of a load carrying frame and detachable shear panels allows for access to all parts of the spacecraft avionics, even after final integration by removing one or more of the shear panels.

FEATURES

- Highly modular design
- Detachable side panels for maximum accessibility
- Multiple PCB sizes supported
- Duall Kill-switch mechanism
- The interstack volume can be used to mount additional systems
- Scalable design to larger CubeSat form factors
- Compatible with most CubeSatShop products
- Fully compliant with the CubeSat standard

Side shear panels

	1-Unit Structure	2-Unit Structure	2-Unit LS Structure	3-Unit Structure	6-Unit Structure	8-Unit Structure
						

PROPERTIES

Primary Structure Mass	100g	200g	164g	243g	900g	1333g
Primary + Secondary Mass	200g	390g	198g	304g	1100g	1871g
Outside Envelope (l x w x h)	100 x 100 x 113.5mm	100 x 100 x 227mm	100 x 100 x 227mm	100 x 100 x 340.5mm	100 x 226.3 x 340.5mm	226.3 x 226.3 x 227mm

OPTIONS

PCB form factors	PC/104 94 x 94 mm PCBs Custom design	PC/104 94 x 94 mm PCBs Custom design	PC/104 Custom design	PC/104 94 x 94 mm PCBs Custom design	PC/104 Custom design	PC/104 Custom design
PCB stack orientations	Vertical orientation Horizontal orientation	Vertical orientation Horizontal orientation	Horizontal orientation	Vertical orientation Horizontal orientation	Vertical orientation Horizontal orientation	Vertical orientation Horizontal orientation
Customized structural elements	Special mount points Cut-outs Surface treatments	Special mount points Cut-outs Surface treatments	Special mount points Cut-outs Surface treatments Custom stack length	Special mount points Cut-outs Surface treatments	Special mount points Cut-outs Surface treatments	Special mount points Cut-outs Surface treatments

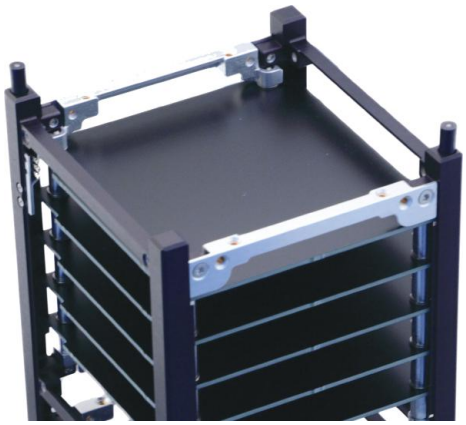
FLIGHT HERITAGE

Year	2012	2013	-	2013	2015	-

QUALIFICATION TESTING

Test	QT
Functional	✓
Vibration	✓
Mechanical Shock	✓
Thermal Cycling	✓
Thermal Vacuum	✓

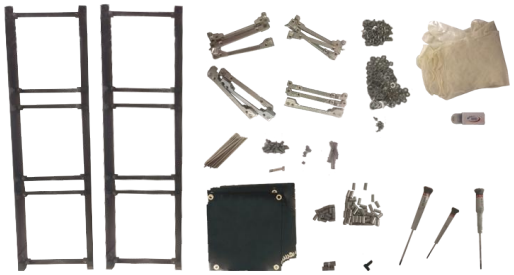
*QT is performed on the design/qualification model



Kill-switch mechanism

PRODUCT CONTENTS AND PACKAGING

- Boxed in rugged storage case
- Contents:
  - Primary structure parts (side frames, ribs)
  - Secondary structure parts (shear panels, PCB mounting elements)
  - Kill-switch
  - Dummy PCBs
  - Fasteners
  - User manual, installation guide and assembly tools



Product contents

CUSTOM SOLUTIONS

ISIS' CubeSat structures are available in a variety of sizes ranging from 1U up to 16U. However, as every mission is unique, if one of our standard structures does not fit your mission requirement, ISIS can develop custom solutions that meet any project specification.

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