

STM STANDARD STRUCTURES FOR CUBESATS





SUMMARY

STM Standard Nano Satellite Structures (NU series) are compatible with the CubeSat Design Specification¹. All NU standard structures have 1U modular substructure elements, i.e. U frames, rods, stand-off.

NU structures are compatible with PC104 standard. All type of NU structures allows to assemble PCB stacks separately. Then all separated stacks can integrate with main frames easily. Standard NU structures allows integration of PC104 stacks continuously.

In addition, Nano Satellite Structures have also modular designs that can be easily adapted to customer needs. Please contact STM for custom design solutions.

Reference:






¹ CubeSat Design Specification, REV 14, July 2020, The CubeSat Program, Cal Poly SLO



GENERAL FEATURES

- Available CubeSat Structure Products: 1U, 2U, 3U, 6U or upgraded versions (1.5U-8U-12U-16U etc.)
- Modular design compatible with CDS and PC104 standards
- Continuous PCB stack assembly and integration
- Maximized stack height for each product
- Non-magnetic materials
- 2xKill Switches with springs and housings is standard.
- Hard anodized in black color is standard. Natural color or other colors are available upon request.
- Spacers for circuit board stack are not included in standard product.
- Design customization is applicable.
- Mechanical ground support equipment is available upon request.

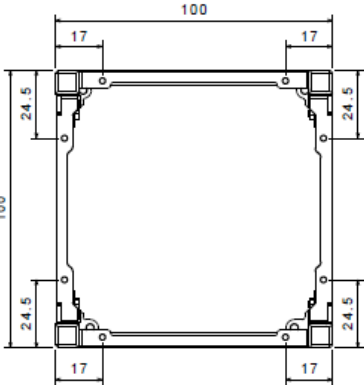
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PRODUCT ID	NU01	NU02	NU03A	NU03B	NU06
Standard Type	1U	2U	3U	3U	6U
Applicable Configurations	- 1U - Custom	- 2x1U - 1x2U - Custom	- 3x1U - 1x2U+1x1U - 1x3U - Custom	- 2x1.5U - 1x3U - Custom	- 6x1U (H / V / T) - 2x3U (V) - 3x2U (H / V) - Custom
External Dimensions (mm x mm x mm)	100 x 100 x 113.5	100 x 100 x 227.0	100 x 100 x 340.5	100 x 100 x 340.5	100 x 226.3 x 340.5
Primary Structure Mass (g)	101,3	181,8	263,4	235,4	835,6
Total Mass (g)	145,1	248,5	357,4	319,5	1048,8
Kill Switches	4	4	4	4	4
PCB Stack Type	- PC104 Standard PCB - Max 95mm x 95mm Custom PCBs	- PC104 Standard PCB - Max 95mm x 95mm Custom PCBs	- PC104 Standard PCB - Max 95mm x 95mm Custom PCBs	- PC104 Standard PCB - Max 95mm x 95mm Custom PCBs	- PC104 Standard PCB - Custom PCB design
PCB Stack Orientation	Vertical	Vertical	Vertical	Vertical	Vertical / Horizontal / Transversal
Side Panel Holes	- Standard - Custom	- Standard - Custom	- Standard - Custom	- Standard - Custom	- Standard - Custom
Standard Deliveries	- 2x1U Main Frames - 2xU Module Frames - 2xKill Switches with Mechanisms - Fasteners	- 2x2U Main Frames - 4xU Module Frames - 2xKill Switches with Mechanisms - Fasteners	- 2x3U Main Frames - 6xU Module Frames - 2xKill Switches with Mechanisms - Fasteners	- 2x3U Main Frames - 6xU Module Frames - 2xKill Switches with Mechanisms - Fasteners	- 2x6U Main Frames - 12xU Module Frames - 2xKill Switches with Mechanisms - Fasteners
Optional Deliveries	- Threaded rods - Hex Stand-off parts - 2xKill Switches with Mechanisms	- Threaded rods - Hex Stand-off parts - 2xKill Switches with Mechanisms	- Threaded rods - Hex Stand-off parts - 2xKill Switches with Mechanisms	- Threaded rods - Hex Stand-off parts - 2xKill Switches with Mechanisms	- Threaded rods - Hex Stand-off parts - 2xKill Switches with Mechanisms
Materials	Primary Structures: Aluminum 7075 or 6061 / black or natural colored hard anodized Secondary Structures: Stainless Steel				

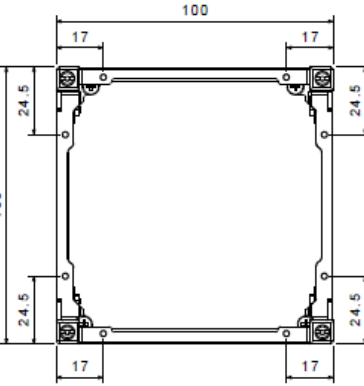
NU01/NU02

- Overall dimensions for side panels are given below.
- Top and bottom views are the same for NU01/NU02.
- All dimensions are in mm.

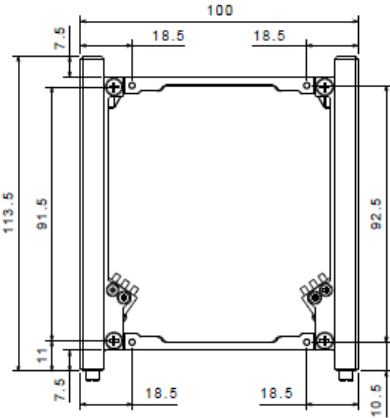
TOP VIEW



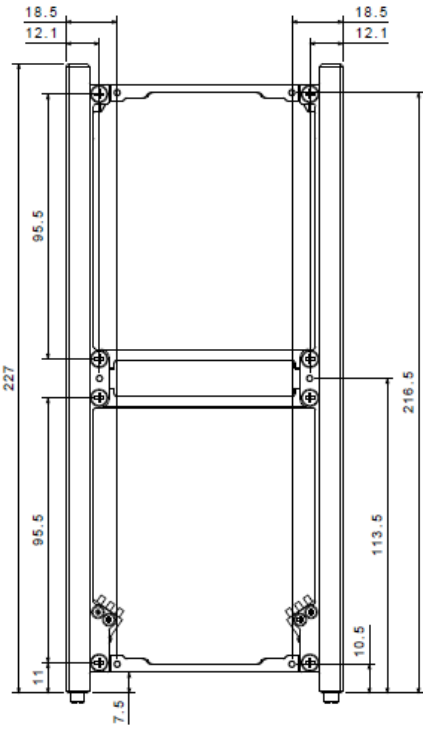
BOTTOM VIEW



NU01

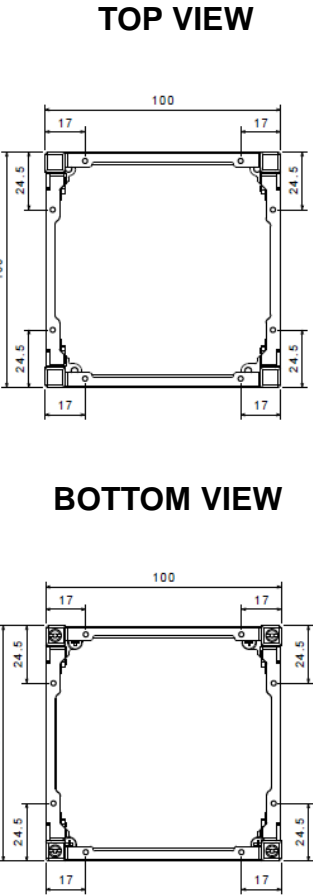


NU02

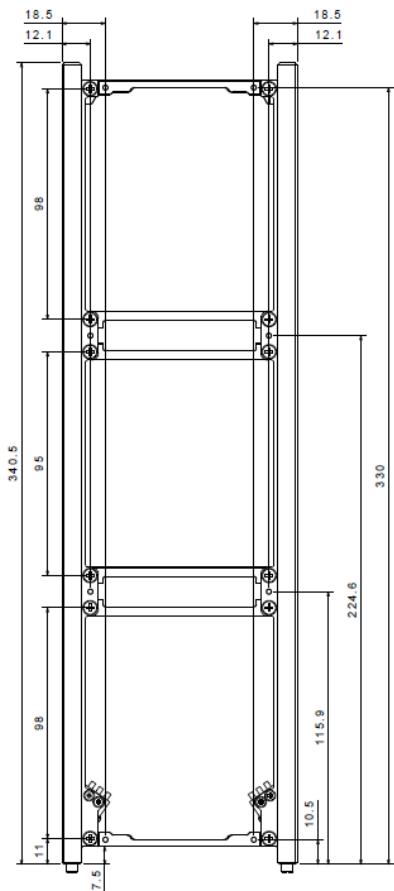


NU03A/NU03B

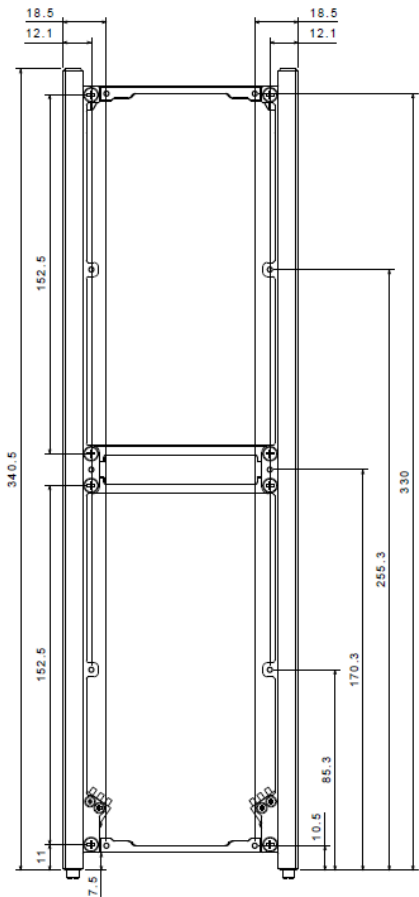
- Overall dimensions for side panels are given below.
- Top and bottom views are the same for NU03A/NU03B.
- All dimensions are in mm.



NU03A

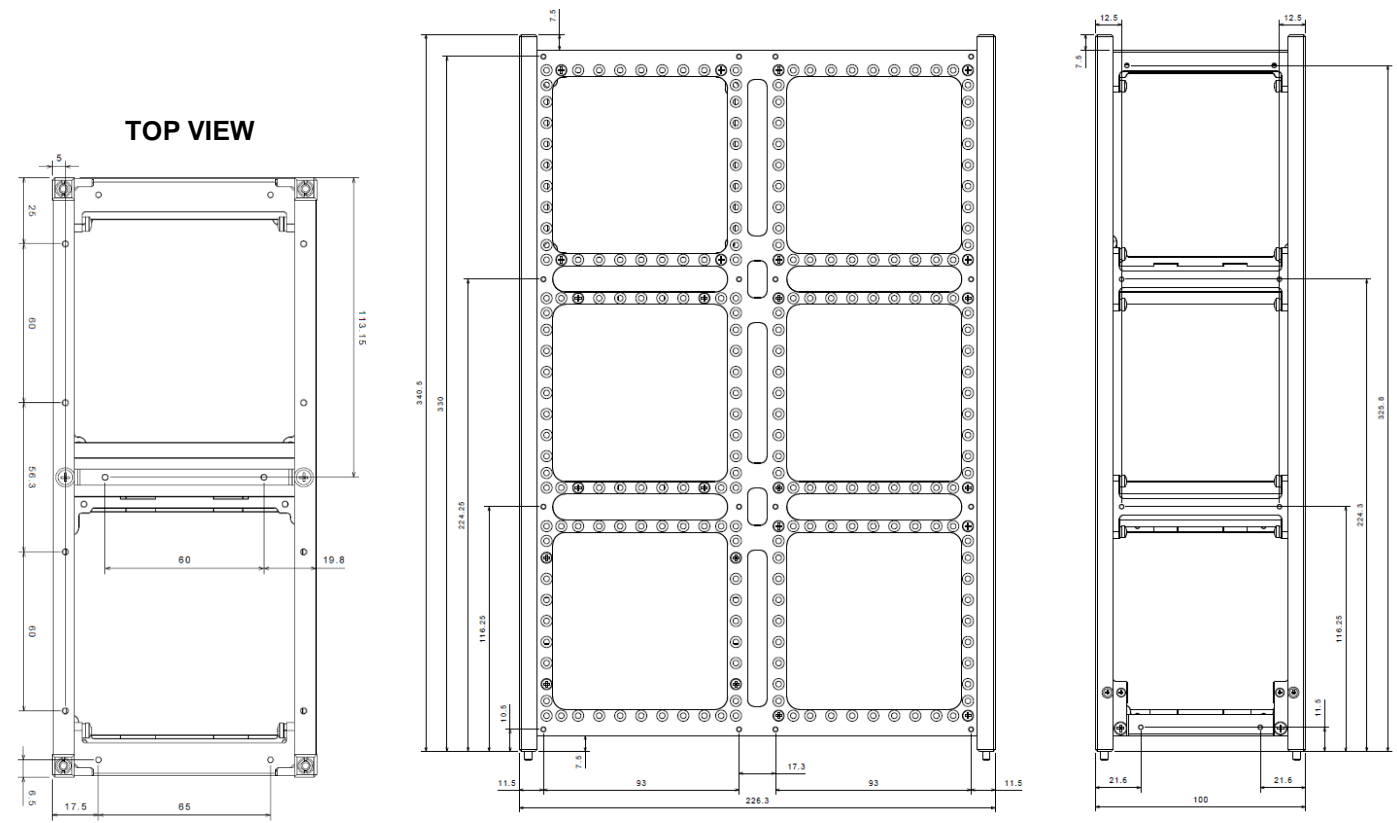


NU03B



NU06

- Overall dimensions for side panels are given below.
- Bottom side dimensions are same with top view.
- All dimensions are in mm.





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