

# SOLO EPS

TRL9

### MODULAR CUBESAT POWER UNIT

2NDSpace products derived from a decade of experience of the 2NDSpace team in the design of space systems and successful nanosatellites missions. All 2NDSpace products are conceived to offer excellence combined with customization-as-a-standard approach and reduced lead time.

SOLO is a **modular EPS** configurable according to mission and platform requirements offering high versatility from **1U to 16U** CubeSat combined with high performances for platform subsystem and demanding payload units.

Modular configuration

Fault tolerant power-continuity architecture

12 to 24 Customizable power outputs

6 wider range solar panel inputs

Full battery protections

Modular battery pack

Flexible power delivery unit



# 2NDSpace

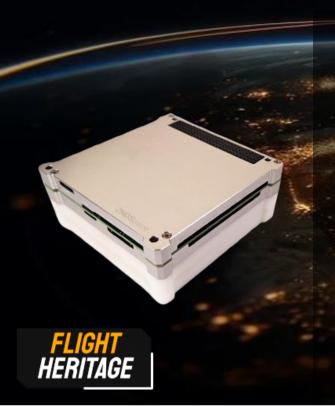
#### PRODUCT **PORTFOLIO**

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	SOLO-EPS 4 (PDCU + 4xBMS)	SOLO-EPS 8 (PDCU + 4xBMS)	SOLO-EPS X4 (2PDCU + 4xBMS)	SOLO-EPS X8 (2PDCU + 8xBMS)			
Dimensions [mm]	97x92x48	97x92x48	97x92x68	97x92x68			
Mass [g]	340g	340g	500g	500g			
Number of channels [n]	4x	4x	8x	8x			
Number of controllable outputs [n] (3x outputs per channel)	12x	12x	24x	24x			
Channels Voltage Output [V]	Custom Standard 3.3/5/12/17	Custom Standard 3.3/5/12/17	Custom Standard 3.3 / 5 / 12 / 17	Custom Standard 3.3/5/12/17			
Peak current output(channel) [A]	3.3(6)A@3.3V 3.3(6)A@5V 3.3(6)A@12V 3.3(6)A@16.8V Custom	3.3(6)A@3.3V 3.3(6)A@5V 3.3(6)A@12V 3.3(10)A@16.8V Custom	3.3(6)A@3.3V 3.3(6)A@5V 3.3(6)A@12V 3.3(6)A@16.8V Custom	3.3(6)A@3.3V 3.3(6)A@5V 3.3(6)A@12V 3.3(10)A@16.8V Custom			
Overall Peak Power output [W]	104W	160W	104W	160W			
Power Storage [Wh]	50 Wh	100 Wh	50 Wh	100 Wh			
Independent MPPT inputs	6	6	6	6			
Communication Interfaces	RS485/UART/CAN/I2C						
Features	OV,UV,OC protection; Controllable output; Integrated MCU; Latch-up protected outputs						

### QUALIFICATION AND ACCEPTANCE TEST

	Functional/AIT	Electrical control	Vibration test	Mechanical Shock	TVAC Test
Qualification Test	<b>~</b>	V	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C
Acceptance Test	<b>~</b>	<b>~</b>			No.

## 2NDSpace



**SOLO** is designed to meet the needs of CubeSats platforms from 1 to 16U offering high versatility and composed by **SOLO-PDCU** (single or double) and **SOLO-BM4/BM8**.

- PDM (Power Delivery Module): configurable power outputs for subsystems ranging from 12x to 24x at configurable voltage levels.
- SACU (Solar Array Conditioning Unit) 6 independent MPPT for harvesting power from solar panels
- BMS (Battery Management System): battery charging and protection unit capable of handling up to 3x battery pack 4S (in standard version).
- C&DH (Command & Data Handling Module): include a dedicated microcontroller for system management and control with multiple data interfaces available
- PLI (Power and Launch Interface): external interfaces with platform peripherals for system managing during prelaunch operations (RBF, Inhibits, Umbilical)

