2NDSpace

SOLO EPS

MODULAR CUBESAT POWER UNIT

TRL 9

SOLO is 2NDSPACE's flagship modular EPS, offering more than any other solution on the market in terms of **performance, reliability, number of power outputs, and configuration flexibility**. The product is designed to ensure high robustness and reliability, supporting CubeSats from 1U to 27U and meeting the needs of even the most power-demanding missions.

Modular configuration

Fault tolerant power-continuity architecture

12x to **24x** Customizable power outputs

6x independent MPPT driven solar panel inputs

Full battery protections

Modular battery pack Included up to 150WHr

Customizable power delivery units from 3.3V to 28V



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PRODUCT **PORTFOLIO**

	SOLO-EPS 4 (PDCU + BP4)	SOLO-EPS 8 L (PDCU + BP8-L)	SOLO-EPS 8 H (PDCU + BP8-H)
Dimensions [mm]	97x92x44	97x92x66	97x92x66
Mass [g]	497g	790g	790g
Number of channels [n]	4x		
Number of controllable outputs [n] (3x per channel)	12x		
Battery nominal voltage [V]	14.4	14.4	28.8
VBAT range [V]	11.25 – 16.7	11.25 – 16.7	22.5 – 33.4
Channels Voltage Output [V]	Custom Standard 3.3/5/12/VBAT	Custom Standard 3.3/5/12/VBAT	Custom Standard 3.3/5/12/24/28/VBAT
Peak current per channel / (PDU) [A]	3.3 / 5		
Overall Peak Power output* [W]	111W	111W	222W
Power Storage [Wh]	50 Wh	100 Wh	100 Wh
Independent MPPT inputs	6		
Maximum voltage (current) for each MPPT input	35 V (3 A)		
Typical system power consumption [W]**	0.9 – 1.2		
Operating Temperature [°C]	-20 / +60		
Communication Interfaces	RS485/UART/CAN/I2C		
Features	OV,UV,OC protection; Controllable output; Integrated MCU; Latch-up protected outputs/Keep alive output and input signal		

*depending of product configuration
**power required for the system to operate autonomously, excluding the power absorbed by payloads

QUALIFICATION AND **ACCEPTANCE TEST**

	Functional/AIT	Electrical control	Vibration test	Mechanical Shock	TVAC Test
Qualification Test	✓	✓	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	✓	✓			

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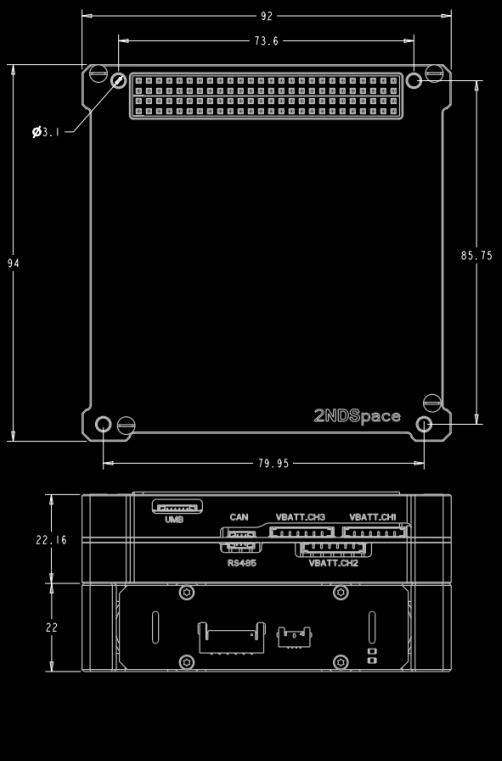
FLIGHT HERITAGE



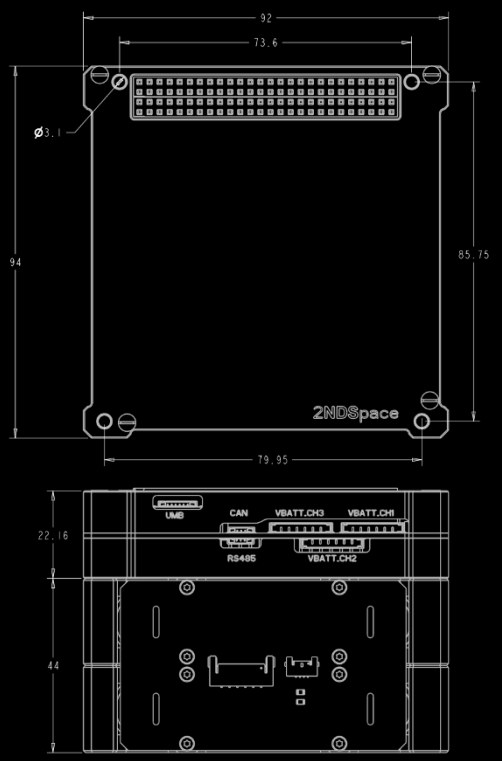
SOLO is designed to meet the needs of CubeSats platforms from 1 to 16U offering high versatility and composed by SOLO-PDCU (single or double) and SOLO-BP4/BP8-L(H).

- 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 pre-launch operations (RBF, Inhibits, Umbilical)

SOLO-EPS4



SOLO-EPS8



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