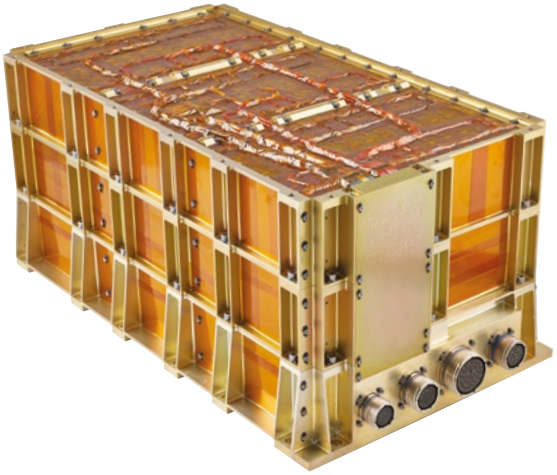

Product Data Sheet

Li-ion Rechargeable Battery
ABSL 8s104p 28V 156Ah

The 8s104p 156Ah battery was originally designed and qualified for the NASA Solar Dynamic Observatory (SDO) mission. The battery does not require cell balancing electronics and includes redundant switching relays that are mounted via a shock and vibration suppression system to ensure reliable operation during launch environments.

Switching relays internal to the battery are an added safety feature that can be utilized leading up to launch without the added mass of an additional box. They can also be used to isolate the battery from the spacecraft depending on mission requirements.

The battery also includes a dead bus recovery diode isolated charge line.

More than 10 flight batteries have been built and delivered.

Facts at a Glance

ABSL™ Cell	18650HCM
Configuration	8s104p
Nameplate Capacity	156 Ah
Energy	4492.8 Wh
Mass	49.9 kg
Footprint	300 x 530 mm
Height	240 mm
Nominal Voltage	28V
Voltage Range	20 - 33.6V

Celebrating customer success with over 2.5 billion cell hours of in-orbit heritage using ABSL Li-ion cell technology

Power/Full Solutions

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Qualification and Flight History

Temperature

Non-Operating	Operating
-20°C to 60°C	Discharge: 5°C to 35°C
	Charge: 5°C to 35°C

Cell Level Radiation Exposure

Dosage	Effects
< 1Mrad	Negligible
Up to 18Mrad	~5% of Capacity

Shock

Frequency (Hz)	PF SRS Level Test Q = 10
100	47 g
1,250	1,907 g
10,000	1,907 g

Random Vibration

Frequency (Hz)	Parallel*+	Normal
20	0.02 g^2/Hz	0.032 g^2/Hz
50	0.06 g^2/Hz	0.12 g^2/Hz
200	0.06 g^2/Hz	0.12 g^2/Hz
300	0.02 g^2/Hz	0.02 g^2/Hz
2000	0.02 g^2/Hz	0.02 g^2/Hz
Overall G_{RMS}	6.9 G_{RMS}	7.7 G_{RMS}
Duration	2 min/axis	2 min/axis
Duration	75 sec/axis	

*In respect to mounting plane
+Notching utilized within profile

Notable Missions

Mission	Customer	Launch Date
SDO	NASA GSFC	February 2010

These batteries and controlled technical data are classified under the Commerce Control List and are subject to licensing requirements for any export. Additional export restrictions and regulations may apply depending on their end use. It is the responsibility of the purchasing or receiving party to comply with all requirements of export laws, including ensuring that all required export authorizations are in place prior to exportation or re-exportation.

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