

Technical Documentation for Performance and Durability Requirements

SolarEdge Nexis Battery

Industrial Battery - according to Article 10 of (EU)
2023/1542

Version 1.0

March 2026

Name: SolarEdge Nexis Battery Block

Technology: LiFePo4 - Rechargeable Battery

Model: NX-BLCK-5K

Ratings: 4.896 Wh

No.	Technical parameter	Parameter value	Test condition and method
1	Rated capacity (Ah)	102 Ah	Step 1: At 25 ± 2 °C, discharge the cell with a constant current of 0.2 A to the cut off voltage 2.5 V, then rest for 30 minutes. Step 2: At 25 ± 2 °C, charge the cell with a constant current of 0.2 A to the cut off voltage of 3.65 V, keep charging at 3.65 V till the charging current drops to 0.05 A, then rest for 30 minutes. Step 3: Repeat step 1 and record the capacity obtained.
2	Capacity fading (%)	20%	5.000 cycles @ 0.5 C / 0.5 C, 25 ± 2 °C, the cell voltage range is 2.5 - 3.6 V continuous cycle BOL=102 A.
3	Power (W)	3.500 W (maximum continuous charge and discharge power)	Charge @ > 25 °C ambient, SOE $< 80\%$. Discharge @ $10 - 40$ °C ambient at all SOC.
4	Power fading (%)	No power fading	
5	Initial Internal resistance (Ω)	< 0.5 m Ω per cell	ACR: test the cell at 50% SOC with 1 kHz sine wave current at room temperature.
6	Internal resistance increase (%)	$< 150\%$	The increase in DC internal resistance was measured using the DCR DC internal resistance testing method. The result is based on 70% SOH at 50% SOC, 25 °C
7	Energy round trip efficiency (%)	94% or higher	The battery is discharged to 2.5 V and charged to 3.65 V by standard charging mode. Repeat it again. The battery is discharged to 2.0 V at a current of 1 C at 25 °C and rests for 30 min. The battery is charged to 3.65 V at a constant current of 0.5 C, rests for 60 min, record the charge energy E0. The battery is discharged to 2.0 V at a constant current of 0.5 C and rests for 60 min, record the discharge energy E1, energy efficiency $\eta_0 = E1/E0$. Repeat those steps 4 times, take the average value of η for 3 times after the cycle as the judgment basis.
8	Energy round trip efficiency fading (%)	$< 1\%$ after 3.000 cycles	Test conditions at 25 ± 2 °C. The cell is discharged to 2.5 V at a current of 1 C and rests for 30 min. The battery is charged to 3.65 V at a constant current of 1 C and rests for 30 min.
9	Expected lifetime	5.475 cycles @ more than 60% SOH	The battery SOH is above 60% of rated capacity after 5.475 charge-discharge cycles have been conducted at 20 ± 2 °C and 97% DOD. Charge power at 0.25 C and discharge power at 0.1 C.

Manufacturer: SolarEdge Technologies GmbH

Address: Werner-Eckert-Straße 6 81829 München, Germany