18.2 × 64.86 mm
45.3 g

Nitecore NL1821

Nitecore

18650 · LI-ION · MOOCH-TESTED · 38 A

Live page & updates

2,100 mAh	38 A	3.6 V	7.56 Wh
CAPACITY	MOOCH CONTINUOUS	NOMINAL · 2.5 – 4.2 V	ENERGY · 166.89 WH/KG

REFERENCE ONLY — NOT AN OFFICIAL DOCUMENT

This information is gathered from multiple sources, including manufacturer datasheets, independent third-party testing, and community contributions. Cell specifications vary between production batches and change over time, and no figure here is guaranteed to be correct or current. **Always consult the manufacturer's spec sheet directly.** Use this sheet for reference only — never as the sole basis for a safety-critical decision about charging, discharging, or assembling cells.

CAPACITY AMONG 18650S

#212 of 279

Lowest in database — Highest

Higher discharge than 95% of 18650 cells in our database. Great for high-drain builds.

VOLTAGE OPERATING WINDOW

1.7 V usable

Cutoff 2.5 V — Nominal 3.6 V — Max 4.2 V

Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.

APPLICATION SUITABILITY

Rule-of-thumb ratings from this cell's capacity and continuous discharge. Check your own load before committing.

Powerwalls	Usable for powerwalls but lower capacity means you'll need more cells to hit your target kWh.
Ebike packs	Marginal. Check your motor's peak draw first. You might get voltage sag under load.
Car audio	Enough discharge to handle amplifier bursts without voltage sag.
High-drain vaping	Above the 25A Mooch CDR threshold. Suitable for regulated and mechanical mods.
Flashlights	Lower capacity means shorter runtime. Better cells are available for flashlight use.
Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY

Manufacturer	**Nitecore**
Model	**NL1821**
Format	**18650**
Chemistry	**Li-ion**
Terminal	**Flat top**
Protection	**Unprotected**

ENERGY & POWER DENSITY

Energy	**7.56 Wh**
Specific energy	**166.89 Wh/kg**
Volumetric density	**448.04 Wh/L**
Power density (mass)	**3,020 W/kg**
Power density (volume)	**8,107 W/L**
Capacity ranking	**#212 of 279 18650s**

PHYSICAL

Diameter	**18.2 mm**
Length	**64.86 mm**
Weight	**45.3 g**

ELECTRICAL

Rated capacity	**2,100 mAh**
Nominal voltage	**3.6 V**
Max charge voltage	**4.2 V**
Discharge cutoff	**2.5 V**
Energy	**7.56 Wh**
Max continuous discharge	**38 A (mooch)**
Discharge C-rate	**18.1C**

C-RATE CONVERSION · 2,100 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.42 A	5h 00m
0.5C	1.05 A	2h 00m
1C	2.1 A	1h 00m
2C	4.2 A	30m
3C	6.3 A	20m
5C	10.5 A	12m
8C	16.8 A	7m 30s
10C	21 A	6m
15C	31.5 A	4m

Highlighted row is closest to the rated 38 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	1,050 mA	~2h 00m
1C	2,100 mA	~1h 00m

Constant-current phase only. Real charge time runs longer because of the constant-voltage taper at the end.

SERIES PACK CONFIGURATIONS

Voltages calculated from this cell's own nominal and maximum charge voltage. The 3P columns show one common parallel count as a worked example — scale the parallel group to the capacity you need.

SERIES	NOMINAL	FULLY CHARGED	CELLS AT 3P	CAPACITY	ENERGY
3S	10.8 V	12.6 V	9	6.3 Ah	68 Wh
7S	25.2 V	29.4 V	21	6.3 Ah	159 Wh
10S	36 V	42 V	30	6.3 Ah	227 Wh
13S	46.8 V	54.6 V	39	6.3 Ah	295 Wh
14S	50.4 V	58.8 V	42	6.3 Ah	318 Wh

EXAMPLE PACKS

7S2P

24V ebike / small pack

14 cells · 25.2 V

4,200 mAh · 106 Wh

76 A max · ≈0.63 kg cells

13S4P

48V ebike standard

52 cells · 46.8 V

8,400 mAh · 393 Wh

152 A max · ≈2.36 kg cells

16S4P

DIY powerwall

64 cells · 57.6 V

8,400 mAh · 484 Wh

152 A max · ≈2.9 kg cells

4S6P

Power tool replacement

24 cells · 14.4 V

12,600 mAh · 181 Wh

228 A max · ≈1.09 kg cells

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Nitecore NL1821 (this cell)	**2,100**	**38 A**	**7.56**	**45.3 g**	**167**
Nitecore NL1825R	2,500	35 A	9	—	—
FP 18650-1800mAh	1,800	—	6.5	46 g	141

HANDLING & SAFETY

- Never charge above 4.2V or discharge below 2.5V.

- Store cells at around 3.6-3.8V (roughly 40-60% charge) for long-term storage.
- Don't mix cells with different capacities, chemistries, or states of charge in a pack.
- Inspect wraps before use. A torn wrap can cause a short circuit.
- Always use a BMS or balance charger appropriate for your pack configuration.
- Keep cells away from metal objects, keys, and coins. A short across the terminals can cause fire.

SOURCES & FURTHER READING

Cell Saviors page	cellsaviors.com/cell-database/nitecore-nl1821
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/nitecore-38a-2100mah...
Full cell database	cellsaviors.com/cell-database