

Illustrative render generated from published specifications

18.6 × 65.2 mm  
50 g

Moli Energy ICR-18650K



Live page & updates

Moli Energy

18650 NMC

|                                          |                                            |                                                 |                                                    |
|------------------------------------------|--------------------------------------------|-------------------------------------------------|----------------------------------------------------|
| <div>2,600 mAh</div> <div>CAPACITY</div> | <div>5 A</div> <div>RATED CONTINUOUS</div> | <div>3.7 V</div> <div>NOMINAL · 3 – 4.2 V</div> | <div>9.62 Wh</div> <div>ENERGY · 192.4 WH/KG</div> |
|------------------------------------------|--------------------------------------------|-------------------------------------------------|----------------------------------------------------|

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. The cell image is an illustrative render generated from published specifications, not a photograph.

|                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>CAPACITY AMONG 18650S</div> <div>#39 of 169</div> <div><div></div></div> <div>Lowest in databaseHighest</div> <div>More capacity than 78% of 18650 cells in our database, but lower discharge than average.</div> | <div>VOLTAGE OPERATING WINDOW</div> <div>1.2 V usable</div> <div><div></div></div> <div>Cutoff 3 VNominal 3.7 VMax 4.2 V</div> <div>Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.</div> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

APPLICATION SUITABILITY

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

|                   |                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------|
| Powerwalls        | High capacity means more stored energy per cell. Fewer cells needed for a given kWh target.         |
| Ebike packs       | Marginal. Check your motor's peak draw first. You might get voltage sag under load.                 |
| Car audio         | Not enough discharge for car audio amplifiers. You need at least 15-20A continuous for most setups. |
| High-drain vaping | Below the 25A Mooch CDR threshold that high-drain vaping needs. Use a higher-drain cell.            |
| Flashlights       | Decent runtime. Works well for most flashlights.                                                    |
| Power tools       | Not enough discharge or capacity for power tool use.                                                |

| IDENTITY                      |                   | PHYSICAL                 |                 |
|-------------------------------|-------------------|--------------------------|-----------------|
| Manufacturer                  | Moli Energy       | Diameter                 | 18.6 mm         |
| Model                         | ICR-18650K        | Length                   | 65.2 mm         |
| Format                        | 18650             | Weight                   | 50 g            |
| Chemistry                     | NMC               | ELECTRICAL               |                 |
| Wrap colour                   | ■ Purple          | Rated capacity           | 2,600 mAh       |
| Insulator                     | ■ Blue (Dark)     | Nominal voltage          | 3.7 V           |
| Terminal                      | Flat top          | Max charge voltage       | 4.2 V           |
| Protection                    | Unprotected       | Discharge cutoff         | 3 V             |
| OPERATING TEMPERATURE         |                   | Energy                   | 9.62 Wh         |
| Charging                      | 0°C to 45°C       | Internal resistance      | 80 mΩ           |
| Discharging                   | -20°C to 60°C     | Max continuous discharge | 5 A (datasheet) |
| ENERGY & POWER DENSITY        |                   | Discharge C-rate         | 1.9C            |
| Energy                        | 9.62 Wh           | Standard charge current  | 1,820 mA        |
| Specific energy               | 192.4 Wh/kg       | Typical charge time      | 1.4 h           |
| Volumetric density            | 543.01 Wh/L       | Standard discharge       | 520mA           |
| Power density (mass)          | 370 W/kg          |                          |                 |
| Power density (volume)        | 1,044 W/L         |                          |                 |
| Capacity ranking              | #39 of 169 18650s |                          |                 |
| C-RATE CONVERSION · 2,600 MAH |                   |                          |                 |
| C-RATE                        | CURRENT           | THEORETICAL RUNTIME      |                 |
| 0.2C                          | 0.52 A            | 5h 00m                   |                 |
| 0.5C                          | 1.3 A             | 2h 00m                   |                 |
| 1C                            | 2.6 A             | 1h 00m                   |                 |
| 2C                            | 5.2 A             | 30m                      |                 |

Highlighted row is closest to the rated 5 A continuous discharge.

CHARGING

| RATE     | CURRENT  | ESTIMATED TIME TO FULL |
|----------|----------|------------------------|
| 0.5C     | 1,300 mA | ~2h 00m                |
| Standard | 1,820 mA | ~1h 26m                |
| 1C       | 2,600 mA | ~1h 00m                |

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

SERIES PACK CONFIGURATIONS

Voltagess 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     | 11.1 V  | 12.6 V        | 9           | 7.8 Ah   | 87 Wh  |
| 7S     | 25.9 V  | 29.4 V        | 21          | 7.8 Ah   | 202 Wh |
| 10S    | 37 V    | 42 V          | 30          | 7.8 Ah   | 289 Wh |
| 13S    | 48.1 V  | 54.6 V        | 39          | 7.8 Ah   | 375 Wh |
| 14S    | 51.8 V  | 58.8 V        | 42          | 7.8 Ah   | 404 Wh |

EXAMPLE PACKS

|                                                                                                                                                  |                                                                                                                                                |                                                                                                                                           |                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>7S2P</div> <div>24V ebike / small pack</div> <div>14 cells · 25.9 V</div> <div>5,200 mAh · 135 Wh</div> <div>10 A max · ≈0.7 kg cells</div> | <div>13S4P</div> <div>48V ebike standard</div> <div>52 cells · 48.1 V</div> <div>10,400 mAh · 500 Wh</div> <div>20 A max · ≈2.6 kg cells</div> | <div>16S4P</div> <div>DIY powerwall</div> <div>64 cells · 59.2 V</div> <div>10,400 mAh · 616 Wh</div> <div>20 A max · ≈3.2 kg cells</div> | <div>4S6P</div> <div>Power tool replacement</div> <div>24 cells · 14.8 V</div> <div>15,600 mAh · 231 Wh</div> <div>30 A max · ≈1.2 kg cells</div> |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

## SIMILAR CELLS

Same format and chemistry, within  $\pm 500$  mAh.

| CELL                               | MAH   | CONTINUOUS | WH   | WEIGHT | WH/KG |
|------------------------------------|-------|------------|------|--------|-------|
| Moli Energy ICR-18650K (this cell) | 2,600 | 5 A        | 9.62 | 50 g   | 192   |
| LG LGABD11865                      | 3,000 | —          | 11.3 | —      | —     |
| LG LGDBD11865                      | 3,000 | 5.8 A      | 11.3 | 48.5 g | 232   |
| Panasonic NCR18650BD               | 3,100 | 10 A       | 11.2 | 49.5 g | 225   |
| Samsung ICR18650-30B               | 2,950 | 5.9 A      | 11.2 | 48 g   | 232   |
| Samsung ICR18650-30A               | 3,000 | 6 A        | 11.1 | 48 g   | 231   |

## HANDLING & SAFETY

- Never charge above 4.2V or discharge below 3V.
- 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 Savors page       | <a href="https://cellsaviors.com/cell-database/moli-energy-icr-18650k">cellsaviors.com/cell-database/moli-energy-icr-18650k</a>                   |
| Manufacturer datasheet | <a href="https://www.molicel.com/wp-content/uploads/DM_ICR18650K-V8-800...">https://www.molicel.com/wp-content/uploads/DM_ICR18650K-V8-800...</a> |
| Full cell database     | <a href="https://cellsaviors.com/cell-database">cellsaviors.com/cell-database</a>                                                                 |