

Illustrative render generated from published specifications

18.29 × 65.05 mm  
48 g

LG LGDBB41865

LG · also sold as ICR18650B4 · released 2010



Live page & updates

18650 NMC

|                       |                         |                                |                               |
|-----------------------|-------------------------|--------------------------------|-------------------------------|
| 2,600 mAh<br>CAPACITY | 5 A<br>RATED CONTINUOUS | 3.6 V<br>NOMINAL · 2.8 – 4.2 V | 9.36 Wh<br>ENERGY · 195 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. The cell image is an illustrative render generated from published specifications, not a photograph.

|                                                                                                                                                                                  |                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>CAPACITY AMONG 18650S</p> <p>#39 of 169</p> <p>Lowest in database Highest</p> <p>More capacity than 78% of 18650 cells in our database, but lower discharge than average.</p> | <p>VOLTAGE OPERATING WINDOW</p> <p>1.4 V usable</p> <p>Cutoff 2.8 V Nominal 3.6 V Max 4.2 V</p> <p>Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

|               |                              |
|---------------|------------------------------|
| Manufacturer  | LG                           |
| Model         | LGDBB41865                   |
| Also sold as  | ICR18650B4                   |
| Format        | 18650                        |
| Chemistry     | NMC                          |
| Year released | 2010                         |
| Wrap colour   | <div><div></div> Grey</div>  |
| Insulator     | <div><div></div> White</div> |
| Terminal      | Flat top                     |
| Protection    | Unprotected                  |

OPERATING TEMPERATURE

|             |               |
|-------------|---------------|
| Charging    | 0°C to 45°C   |
| Discharging | -20°C to 60°C |

ENERGY & POWER DENSITY

|                        |                   |
|------------------------|-------------------|
| Energy                 | 9.36 Wh           |
| Specific energy        | 195 Wh/kg         |
| Volumetric density     | 547.66 Wh/L       |
| Power density (mass)   | 375 W/kg          |
| Power density (volume) | 1,053 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.

PHYSICAL

|          |          |
|----------|----------|
| Diameter | 18.29 mm |
| Length   | 65.05 mm |
| Weight   | 48 g     |

ELECTRICAL

|                          |                 |
|--------------------------|-----------------|
| Rated capacity           | 2,600 mAh       |
| Nominal voltage          | 3.6 V           |
| Max charge voltage       | 4.2 V           |
| Discharge cutoff         | 2.8 V           |
| Energy                   | 9.36 Wh         |
| Internal resistance      | 70 mΩ           |
| Max continuous discharge | 5 A (datasheet) |
| Discharge C-rate         | 1.9C            |
| Standard charge current  | 1,250 mA        |
| Typical charge time      | 2.1 h           |
| Standard discharge       | 500mA           |
| Cycle life               | 300 cycles      |

CHARGING

| Rate | Current  | Estimated Time to Full |
|------|----------|------------------------|
| 0.5C | 1,300 mA | ~2h 00m                |
| 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

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           | 7.8 Ah   | 84 Wh  |
| 7S     | 25.2 V  | 29.4 V        | 21          | 7.8 Ah   | 197 Wh |
| 10S    | 36 V    | 42 V          | 30          | 7.8 Ah   | 281 Wh |
| 13S    | 46.8 V  | 54.6 V        | 39          | 7.8 Ah   | 365 Wh |
| 14S    | 50.4 V  | 58.8 V        | 42          | 7.8 Ah   | 393 Wh |

EXAMPLE PACKS

|                                                                                                                                                   |                                                                                                                                                |                                                                                                                                            |                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>7S2P</div> <div>24V ebike / small pack</div> <div>14 cells · 25.2 V</div> <div>5,200 mAh · 131 Wh</div> <div>10 A max · ≈0.67 kg cells</div> | <div>13S4P</div> <div>48V ebike standard</div> <div>52 cells · 46.8 V</div> <div>10,400 mAh · 487 Wh</div> <div>20 A max · ≈2.5 kg cells</div> | <div>16S4P</div> <div>DIY powerwall</div> <div>64 cells · 57.6 V</div> <div>10,400 mAh · 599 Wh</div> <div>20 A max · ≈3.07 kg cells</div> | <div>4S6P</div> <div>Power tool replacement</div> <div>24 cells · 14.4 V</div> <div>15,600 mAh · 225 Wh</div> <div>30 A max · ≈1.15 kg cells</div> |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|

## SIMILAR CELLS

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

| CELL                             | MAH          | CONTINUOUS | WH          | WEIGHT      | WH/KG      |
|----------------------------------|--------------|------------|-------------|-------------|------------|
| <b>LG LGDBB41865 (this cell)</b> | <b>2,600</b> | <b>5 A</b> | <b>9.36</b> | <b>48 g</b> | <b>195</b> |
| 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 2.8V.
- 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/lg-lgdbb41865">cellsaviors.com/cell-database/lg-lgdbb41865</a>         |
| Manufacturer datasheet | <a href="https://www.batteryspace.com/prod-specs/5457_B4.pdf">https://www.batteryspace.com/prod-specs/5457_B4.pdf</a> |
| Full cell database     | <a href="https://cellsaviors.com/cell-database">cellsaviors.com/cell-database</a>                                     |