UVPOWERLIGHTS
UV control products for professional use

BATTERY MANAGEMENT *POWERLIGHT PDL & PDL-II*

Alcochem Hygiene • Use, charging and safety instructions

1. Purpose and scope

These instructions apply to PowerLight PDL and PDL-II inspection lamps powered by two rechargeable Panasonic 18650 lithium-ion cells. Two battery configurations are described: two individual cells or a pre-assembled pack of two cells connected in series. The supplied product table states that both configurations can be used in both lamp models; verify actual compatibility, connector type and approved charging method for the relevant lamp revision before use.

2. Battery configurations

Configuration	*Description*	*Charging*
A – individual cells	*2 separate Panasonic 18650 Li-ion cells*	*In the lamp, where manufacturer-approved, or individually in a suitable external charger.*
B – series pack	*2 Panasonic 18650 Li-ion cells connected in series as one pack*	*Only with the charging system approved for the pack and relevant lamp; do not treat as separate cells.*

An individual 18650 Li-ion cell typically has a nominal voltage of approximately 3.6–3.7 V; two cells in series approximately 7.2–7.4 V. These are nominal values, not permission to use arbitrary 3.7 V or 7.4 V chargers.

3. Before each use

- Inspect the lamp, battery compartment, contacts, cell sleeves and any battery pack for damage, leakage, corrosion, deformation or unusual odour.
- Use only Alcochem-approved cells/packs with the correct dimensions, polarity, protection and specifications.
- Never use damaged, excessively hot or swollen batteries. Do not mix cells of different types, ages, capacities or states of charge.
- Observe the +/− markings and prevent short circuits caused by metal objects.

4. Charging – configuration A (individual cells)

- Switch off the lamp and follow the instructions for the specific lamp revision.
- For in-lamp charging, use only the approved power supply and charging connection.
- For external charging, remove both cells as described in the product manual and insert them with correct polarity into a suitable Li-ion 18650 charger with independent charging channels.
- Charge on a dry, stable, non-combustible surface, away from heat and flammable materials. Do not leave charging unattended for extended periods.
- Stop charging if there is unusual heat, odour, noise, deformation or a charger fault indication. Disconnect safely.
- Reinsert both cells in accordance with the polarity markings; never force the battery compartment closed.

5. Charging – configuration B (series pack)

- Charge the assembled pack only through the charging arrangement designated by Alcochem for that configuration.
- Never connect the pack directly to a standard single-cell 18650 charger or an arbitrary 7.4 V power supply.
- Do not open, split, solder or modify the pack. In the event of a fault, contact the supplier or technical support.
- The source table does not specify a separate external charger for this pack; do not assume external charging is supported.

6. Daily operation and battery replacement

- Recharge when light output falls or the lamp indicates low battery; avoid deliberately running cells completely flat.
- Preferably replace individual cells as a matched pair; do not combine old and new cells.
- Store spare cells in a protective battery case with insulated contacts. For intensive use, a second approved set may be useful.
- Switch the lamp off before removing or replacing batteries.

7. Maintenance, storage and service life

- When two individual 18650 Li-ion cells are charged inside the lamp, Alcochem states that charging is not individually optimised for each cell. Differences in state of charge may therefore develop. Alcochem recommends removing these individual cells once every six months and charging them separately in a suitable external charger with independently controlled charging bays.
  Any preceding controlled discharge cycle must only be performed using suitable equipment within the cell manufacturer's permitted limits; never deep-discharge Li-ion cells or discharge them to 0 V. Individual charging can correct differences in state of charge but cannot restore capacity lost through ageing. This procedure applies only to two separate cells, not to the assembled series-connected pack.
- For regularly used batteries, inspect the cells, insulation and contacts at least every six months; clean contacts only as specified in the product manual.
- For long-term storage, keep batteries cool, dry and away from direct sunlight, preferably at approximately 40–60% charge; check periodically and prevent deep discharge.
- Do not charge outside the temperature limits specified by the cell, charger and lamp manufacturers. If these are unavailable, obtain confirmation first.
- Replace batteries if run time drops markedly, charging faults recur, physical damage is present or abnormal heating occurs.

8. Troubleshooting

Issue	***Check / action***
Lamp does not operate	*Check the switch, polarity, contacts and whether the set has sufficient charge.*
Charging does not start	*Check the approved charger/power supply, connection and any fault indicator; do not force charging.*
Run time significantly reduced	*Assess both cells as a set; have capacity and condition checked using suitable equipment.*
Battery becomes hot or deformed	*Stop use/charging immediately; isolate safely and arrange assessment under the company safety procedure.*

9. Safety, transport and disposal

- Do not open, crush, puncture, burn or immerse batteries in water. Avoid drops and severe impact.
- In the event of smoke, hissing or fire, keep clear, warn others and follow local emergency procedures; seek professional assistance where necessary.
- Protect spare cells against short circuits during transport. Lithium battery shipping is subject to applicable regulations; consult the carrier.
- Dispose of spent cells and packs through an authorised battery collection scheme, never in general waste.