

LEMLUX

COB LED STRIP

5 Years
Warranty



INSTALLATION & USER MANUAL

COB LED Strip series · 5V / 12V / 24V / 48V DC · IP20 & IP67

This manual applies to the full LEMLUX COB LED Strip range — all constant-voltage DC COB models, both the IP20 indoor-only version and the IP67 outdoor / wet-location version. It explains how to handle, cut, mount, wire and maintain the strip safely and in a way that keeps the product warranty valid.

⚠ Never connect this strip directly to 220–240V mains

This is a low-voltage DC product only (5V, 12V, 24V or 48V DC).

Connect it only through a certified constant-voltage LED driver/power supply that converts 220–240V AC mains down to the strip's rated DC voltage. Wiring the strip straight into a mains socket, junction box, lamp-holder or any 220–240V AC circuit will destroy it instantly and creates a serious fire and electric-shock hazard.

Product-specific values differ by model.

Exact voltage, wattage per metre, cut-segment length, maximum single-run length and lumen output are printed on the product label and datasheet of the exact article code you purchased. Where this manual gives a number for a specific SKU it is only an example — always confirm against your own product's datasheet before installing.

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1. Package contents

Depending on the model and kit ordered, the box may include:

- COB LED strip reel (5m per reel, unless stated otherwise on the label)
- DC feed cable / connector clip (model-dependent)
- Silicone end caps and sealant sachet (IP67 versions only)
- Mounting clips or double-sided adhesive tape (pre-applied to the strip back)

If any item is missing or damaged, contact your point of sale before beginning installation.

2. Safety instructions

Read this section fully before unpacking the reel. Installation that ignores these points is the single most common cause of early strip failure and of warranty claims being declined.

Before you start

1. Installation must be carried out by a competent adult familiar with low-voltage DC wiring.
2. Always disconnect the driver / power supply from mains before wiring, cutting or repositioning the strip.
3. Use only a constant-voltage DC driver matching the strip's rated voltage (5V, 12V, 24V or 48V) — never connect COB strip directly to mains voltage.
4. Do not power the strip while it is still coiled on the reel; unwind fully first, coiled operation traps heat and can damage the LEDs.
5. Check the voltage and polarity of the driver output against the strip label before the first power-on.

During installation

6. Handle the strip by its edges. Avoid pressing, scratching or bending directly over the LED chips.
7. Bend only along the strip's long axis; never twist it or fold it back on itself. Minimum bend radius is 20mm unless the datasheet states otherwise.
8. Keep the strip and connectors away from sharp edges, moving parts and heat sources such as halogen fittings or exhaust ducts.
9. IP20 strip is for dry, indoor locations only. It must never be installed where it can be splashed, condensation can form, or humidity is sustained (bathrooms, exterior soffits, cold stores).
10. IP67 strip resists dust and temporary water jets/rain when correctly sealed, but is not designed for permanent submersion — do not install it inside a pool, pond or fully underwater fixture unless the specific SKU is separately rated IP68.

Electrical

11. Match polarity exactly: reversed +/– connection can damage the strip on first power-up and is not covered by warranty.
12. Do not exceed the driver's rated load — keep at least 20% headroom (see section 8).
13. Every independent run of strip should be fed back to the driver/power source; do not rely on a single feed point for very long daisy-chained runs (see section 8).
14. Do not run the strip continuously above the ambient temperature range stated on the datasheet (typically –20°C to +50°C); insufficient heat-sinking shortens LED life and can trigger thermal protection cut-out on the driver.

3. Technical overview

The table below lists the general characteristics shared across the LEMLUX COB range. Values shown as a range cover the 5V/12V/24V/48V family; use your product's own datasheet for the exact figures of the code you bought.

Operating voltage	5V / 12V / 24V / 48V DC (constant voltage)
Input type	Low-voltage DC only, via matching driver
Beam angle	180°
Ingress protection	IP20 (indoor) or IP67 (outdoor/wet, sealed)
Working temperature	–20°C to +50°C ambient
Storage temperature	–20°C to +60°C, original packaging, dry
Cut interval	Model-specific — marked by copper cut-points on the PCB, see label
Max. recommended one-side run	Model-specific — see datasheet (typically limited by voltage drop at ≥30% output loss)
Dimming	Compatible with constant-voltage DC dimmers/controllers rated for the same voltage and sufficient load

4. Tools required



Sharp scissors or flush cutters (cut strip only at marked points)



Small flat screwdriver or spudger (for clip connectors)



Soldering iron, fine solder and flux (if soldering feeds/joins)



Silicone sealant / end caps, supplied or LEMLUX-approved equivalent (IP67 only)



Tape measure, pencil, and — for aluminium profile installs — a hacksaw/mitre box and drill

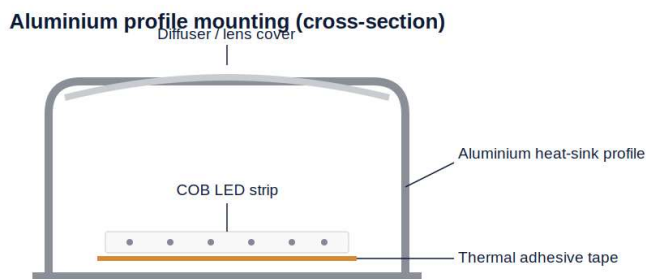


Multimeter (recommended, to confirm polarity and driver output voltage before connecting)

5. Handling & mounting

15. Plan the route and measure the required length before unrolling more strip than needed.
16. Any drilling, cutting or painting of the mounting surface or profile must be finished first; keep the area clean, dry and free of dust, grease and solvent residue.
17. For any strip rated above roughly 5W per metre — which includes the great majority of COB models — mount it onto an aluminium profile or another heat-sinking surface. Mounting directly onto wood, MDF, plastic or painted plasterboard prevents heat escaping and shortens LED life; it will also usually void the warranty.
18. Peel back a short section of the adhesive backing at a time and press the strip into the profile channel, working along the length. Apply light, even pressure to the two edges of the PCB — never press directly on top of the LEDs or the driver-side components.
19. On runs over 2m, it helps to have a second person feed the reel steadily so it is never left to hang or drop, which can stress and crack the PCB.
20. Where extra hold is needed (vertical runs, high-vibration areas, long-term outdoor use) add a bead of neutral-cure silicone adhesive under the strip every ~100mm in addition to the factory tape.

21. Route the feed cable and any connectors so they are not under tension and do not sit in a shadow line of the fitting.



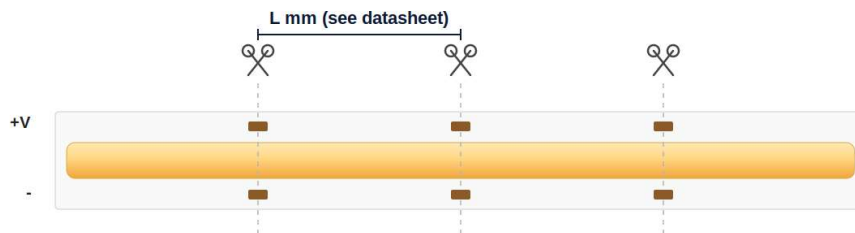
Press the strip lightly along both edges of the PCB — never on top of the LEDs — for full-length contact with the heat sink.

Fig. 1 — Typical aluminium profile cross-section with COB strip and diffuser.

6. Cutting the strip

COB strip can only be shortened at the marked copper cut-points; cutting anywhere else opens a live circuit path and permanently disables the nearest LED segment on both sides of the cut.

22. Measure and mark the exact cut point you need on the strip.
23. Locate the printed cut line and scissor icon nearest that point (it is always positioned between two sets of copper pads).
24. Cut squarely across the marked line only, using sharp scissors — do not cut at an angle.
25. On IP67 strip, expect to expose ~10mm of bare PCB inside the silicone sleeve; this must be re-sealed before the joint is used outdoors (section 9).



COB strip emits as one continuous line, not individual dots — cut strictly along the marked copper cut-points only.

Fig. 2 — Cut only along the marked copper cut-point (interval L varies by SKU).

7. Making connections & polarity

Two connection methods are normally available, depending on the connector kit supplied with your model:

Soldering

26. Pre-tin both the copper pad and the cable end.
27. Hold the iron on the pad for as short a time as possible (around 2–3 seconds) — prolonged heat delaminates the pad and can damage nearby LEDs.
28. Solder the feed cable so that red (+) lines up with the pad marked +V and black (–) with the pad marked –.
29. Once cool, gently tug-test the joint; it should not move under normal handling.

Clip / clamp connectors (no soldering)

30. Peel back enough adhesive backing to expose the cut end of the strip.
31. Slide the strip fully into the connector so the copper pads line up with the connector's contact teeth.
32. Close and press down the clamp firmly (by hand or with pliers, per the connector type) until it seats flush — check it is not pinching the outer edge of the PCB.
33. Re-apply the tape flap, or add your own tape/adhesive, once the joint is closed.

Feed-wire connection & polarity



Red = positive (+V), Black = negative (–). Match polarity exactly before power-on — reverse connection can damage the strip and voids the warranty.

Fig. 3 — Feed-wire polarity: red = +V, black = –.

Reversed polarity

Connecting the feed with reversed polarity can permanently damage the strip on power-up. This failure mode is visible on inspection and is excluded from warranty in virtually all cases — always verify polarity with a multimeter before switching on.

8. Long runs, parallel wiring & power-supply sizing

Every metre of energised LED strip draws current along the copper track, so voltage drops gradually along a run fed from only one end — the strip visibly dims toward the far end. Two rules keep output even:

- Do not exceed the maximum single-side run length stated on your product's datasheet (this is the point at which output has fallen by roughly 30%).
- For anything longer, feed each run back to the driver or a distribution block individually ("home-run" / parallel wiring) rather than daisy-chaining many runs end-to-end from a single feed point.

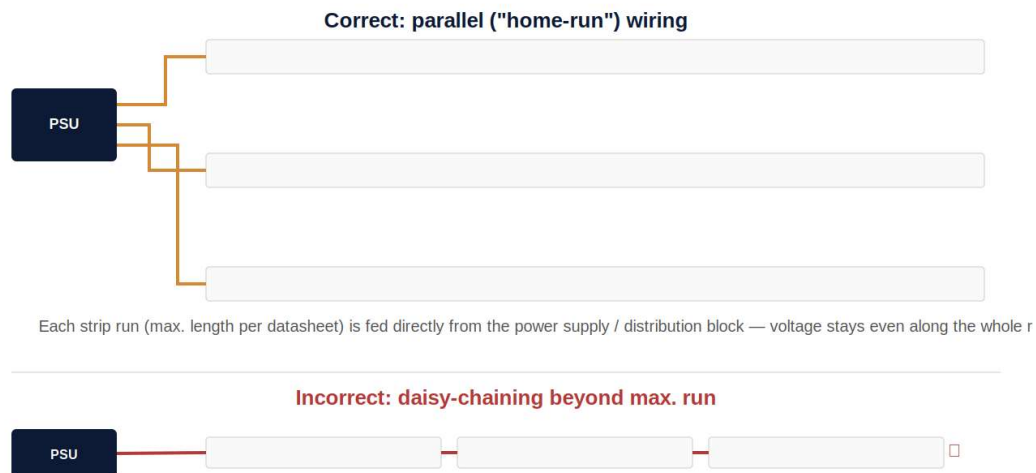


Fig. 4 — Correct parallel ("home-run") feed vs. daisy-chaining beyond the rated run length.

Sizing the power supply

Use the strip's own rated power-per-metre (from its datasheet/label) with this formula:

$$\text{Required driver wattage} = (\text{strip length, m}) \times (\text{W/m}) \times 1.2$$

The 1.2 factor keeps the driver loaded at a maximum of ~80% of its rated output, which is good practice for long-term reliability and heat management.

Worked example — 10m of a strip rated at 14W/m:

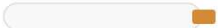
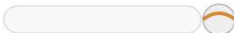
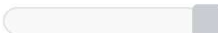
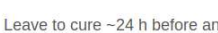
- Raw load: $10\text{m} \times 14\text{W/m} = 140\text{W}$
- With 20% headroom: $140\text{W} \times 1.2 = 168\text{W}$
- Choose the next standard driver size at or above 168W (e.g. a 180W or 200W unit) rather than rounding down.

This example is illustrative only — always substitute the exact W/m value printed on your product's own datasheet.

9. Sealing IP67 strip after cutting or connecting

An IP67-rated strip only keeps its rating where the silicone sleeve is intact. Any cut end or connector joint must be re-sealed before the strip is exposed to moisture.

Re-sealing an IP67 strip after cutting / connecting

- 1 
Cut on the marked point; strip the silicone sleeve back ~10mm.
- 2 
Fill the silicone end-cap with sealant / connector gel, no air pockets.
- 3 
Push the cap fully over the joint until it seats flush against the sleeve.
- 4 
Leave to cure ~24 h before any exposure to water or humidity.

Rating is only kept if:

- Only the cap/sealant kit supplied or specified by LEMLUX is used
- The joint is not flexed while curing
- Cut ends are always re-sealed — an open cut end is IP20 only
- Strip is fully submersible only if explicitly rated IP68 on the label

Fig. 5 — Re-sealing sequence for a cut or joined IP67 end.

As a general guide, soldered or clipped joints on IP67 strip are harder to reseal reliably than a factory end; if the installation is exposed to sustained wet conditions, consider minimising the number of field joints, or ask your supplier about pre-made sealed leads for the exact run lengths you need.

10. Dimming & control

COB strip is dimmed by controlling the DC output rather than the mains side, so the controller/dimmer must sit between the driver and the strip (or be built into a smart/DC driver) and must be rated for the strip's voltage and total connected load.

- Common compatible control types include 0–10V, PWM/DC-DC, DALI (via a DALI-to-DC driver), and RF/Wi-Fi DC controllers — but confirm the specific controller model is rated for your strip's voltage before purchase.
- Never wire a mains-side (leading/trailing-edge) dimmer directly onto the DC output side — this does not work correctly with constant-voltage LED strip and can damage the driver or strip.
- When in doubt about compatibility with a specific third-party controller, contact LEMLUX support (section 15) with the driver and controller model numbers before installing.

11. Maintenance & cleaning

- The strip itself needs no scheduled maintenance beyond periodic visual inspection of joints and fixings.
- Dust can be removed with a soft, dry, lint-free cloth. For sealed IP67 strip only, a cloth lightly dampened with water may also be used.

- Do not use solvents, alcohol-based or abrasive cleaners (e.g. acetone, thinners, ammonia-based glass cleaner) — these can attack the sleeve, lens coating or printed markings.
- Do not open, pierce or attempt to repair the LED chip encapsulation.
- Periodically check that adhesive/mechanical fixings are still secure, especially after temperature-cycling seasons.

12. Troubleshooting

Symptom	Likely cause / action
No light at all	Check driver is powered and output voltage matches strip rating; check polarity; check for a break at the nearest cut/joint
Dim / uneven brightness along the run	Run exceeds max. single-feed length — rewire as parallel/home-run feeds (section 8)
One segment dark, rest fine	Damage or bad joint at the nearest cut-point on either side of that segment
Flickering	Loose connector/solder joint, or driver underrated/overloaded for the connected length
Strip noticeably hot / early failure	Insufficient heat-sinking — remount onto an aluminium profile (section 5)
Moisture ingress on IP67 install	Cut end or joint not re-sealed, or sealant not fully cured before exposure (section 9)

13. Warranty

LEMLUX COB LED Strip is covered by the manufacturer's 5 years warranty stated at the time of purchase (see product packaging / point of sale for the applicable duration and territory).

The warranty is void where failure results from: installation contrary to this manual (incorrect polarity, unsuitable mounting surface, exceeding rated voltage/current, inadequate heat-sinking); cutting outside the marked points; unsealed or improperly resealed IP67 joints; use outside the stated IP rating or temperature range; or unauthorised repair.

For a warranty claim, retain your proof of purchase and, where possible, photograph the installation before and at the time the fault appeared.

14. Compliance & disposal



This product is CE marked and RoHS compliant where applicable to the specific model and market of sale.

At end of life, dispose of the strip and any driver/controller via WEEE / electronic-waste recycling channels in accordance with local regulations — do not dispose of with general household waste.