



**IT IS RECOMMENDED THAT
THIS PRODUCT BE INSTALLED
BY A QUALIFIED ELECTRICIAN**

INSTALLATION GUIDELINES

GENERAL

- NEVER EXCEED THE RECOMMENDED MAXIMUM RUNNING LENGTH FOR YOUR MODEL OF LUMUL FLEXIBLE STRIP.
- ALWAYS INSTALL YOUR LUMUL FLEXIBLE STRIP IN ACCORDANCE WITH THE SPECIFIED IP RATING.
- OPERATE YOUR LUMUL FLEXIBLE STRIP IN ACCORDANCE WITH THE RECOMMENDED MAXIMUM OPERATING HOURS FOR THAT MODEL.
- ALWAYS OPERATE YOUR LUMUL FLEXIBLE STRIP WITHIN THE OPERATING TEMPERATURE RANGE SPECIFIED FOR THAT MODEL.
- ALWAYS UNROLL YOUR LUMUL FLEXIBLE STRIP FROM THE REEL SO AS TO NEVER TWIST THE STRIP.
- WITH THE EXCEPTION OF THE LUMUL S-STRIP, ALL OTHER LUMUL FLEXIBLE STRIP MODELS WILL BE SEVERELY DAMAGED IF BENT SIDEWAYS.
- NEVER ALLOW LENGTHS OF LUMUL FLEXIBLE STRIP OVER 5M TO HANG FREELY AS THE DELICATE INTERNAL PRINTED CIRCUIT BOARD MAY SNAP.
- NEVER REPEATEDLY BEND THE FLEXIBLE STRIP AS THIS WILL WEAKEN THE COPPER PRINTED CIRCUIT BOARD.
- ONLY POWER ON ONCE CONNECTIONS ARE FIRMLY MADE.
- ENSURE ALL SILICONE GLUE SEALS HAVE CURED BEFORE POWERING THE FLEXIBLE STRIP ON TO PREVENT A SHORT CIRCUIT.
- WHEN INSTALLED IN WET OR DAMP CONDITIONS, ENSURE ALL CONNECTION POINTS ARE WELL-SEALED WITH A **NEUTRAL CURE** SILICONE GLUE.
- NEVER PLACE IP65 220V FLEXIBLE STRIPS IN WET ENVIRONMENTS ESPECIALLY POOLS, WATER FEATURES, FOUNTAINS.
- IP65 220V LUMUL FLEXIBLE STRIP MUST BE INSTALLED WITH A DOUBLE CONVERSION / ONLINE UPS TO PROTECT FROM POWER FLUCTUATIONS, SURGES AND OTHER POWER FEED ANOMALIES.
- NEVER INSTALL IP65 SILICONE GLUE DRIPPING FLEXIBLE STRIPS OUTDOORS; THEY ARE FOR INTERNAL USE ONLY.

USAGE (HOURS PER DAY)

- LUMUL FLEXIBLE STRIP PRODUCT SPECIFICATIONS STATE THE RECOMMENDED MAXIMUM RUNNING TIME PER DAY FOR THAT PRODUCT.
- DO NOT EXCEED THIS RECOMMENDATION AS DOING SO WILL INCREASE THE LUMEN DECAY OF THE LEDs.
- INSTALL A TIMER DEVICE OR DAY-NIGHT SWITCH TO LIMIT USAGE.

CUTTING THE STRIP

- EACH MODEL OF LUMUL FLEXIBLE STRIP HAS A DIFFERENT CUTTING UNIT – VARYING FROM EVERY 1CM UP TO EVERY 50CM – AND IT IS ESSENTIAL THAT YOU MATCH YOUR PROJECTS' FLEXIBLE STRIP LENGTH REQUIREMENTS TO THE MODEL OF FLEXIBLE STRIP YOU PURCHASE.
- LUMUL FLEXIBLE STRIP MUST ONLY BE CUT ON DEMARCATED CUTTING POINTS.
- USING A SHARP PAIR OF ROBUST SCISSORS, CUT THE FLEXIBLE STRIP ON A DEMARCATED CUTTING MARK. CUT THROUGH ANY SILICONE WATER PROTECTION AND THE COPPER CIRCUIT IN ONE CUT, ENSURING YOU CUT STRAIGHT.
- IF YOU ARE CONNECTING TWO IP65, IP67 OR IP68 STRIPS OR CONNECTING WIRES TO THE STRIP, USE AN NT CUTTER TO CUT THE SILICONE GLUE OR SLEEVE BACK ABOUT 2MM ON ONE OF THE STRIPS BEING JOINED, BEING CAREFUL NOT TO CUT OR DAMAGE THE INTERNAL STRIP.

INSTALLATION GUIDELINES

SOLDERING WIRES ONTO THE STRIP

- THE END OF THE STRIP CONTAINS TWO SMALL ELONGATED COPPER CONNECTORS WHICH ARE EASY TO SOLDER ON TO.
- PRE-TIN THE CONNECTORS AND WIRE ENDS INDIVIDUALLY USING A HOT SOLDERING IRON AND SOLDER.
- FOR IP67 AND IP68 INSTALLATIONS RUN THE WIRES THROUGH SMALL HOLES IN THE END CAP.
- SOLDER THE WIRES ONTO THE TINNED CONNECTORS, ENSURING THEY ARE FIRMLY SOLDERED.
- DO NOT APPLY THE SOLDERING IRON TO THE FLEXIBLE STRIP FOR TOO LONG OTHERWISE YOU RISK DAMAGING THE COMPONENTS.

SOLDERING TWO STRIPS TOGETHER

- THE END OF THE STRIP CONTAINS TWO SMALL ELONGATED COPPER CONNECTORS WHICH ARE EASY TO SOLDER ON TO.
- PRE-TIN THE CONNECTORS ON BOTH STRIP ENDS USING A HOT SOLDERING IRON AND SOLDER.
- PLACE THE TWO STRIPS TOGETHER, ONE OVERLAPPING THE OTHER SLIGHTLY WITH THE COPPER CONNECTORS PERFECTLY IN LINE AND SOLDER THE CONNECTORS TOGETHER.
- IT IS UNLIKELY YOU CAN ACHIEVE AN IP67 OR IP68 SEAL WHEN JOINING TWO STRIPS IN THIS MANNER HOWEVER AN IP65 SEAL CAN BE ACHIEVED BY USING A HEAT SHRINK TUBE WITH A NEUTRAL CURE SILICONE. PULL AN APPROPRIATELY SIZED HEAT SHRINK TUBE OVER THE STRIP. LIBERALLY SPREAD A NEUTRAL CURE SILICONE SEALANT OVER THE JOINT AND ON ALL SIDES OF THE SILICONE SLEEVE OF THE STRIP. PULL THE HEAT SHRINK TUBE OVER THE JOINT AND USING A HEAT GUN, SHRINK THE TUBE. WIPE AWAY ANY EXCESS SILICONE SEALANT.

CONNECTING TWO STRIPS WITH WIRES

- THIS METHOD OF CONNECTING TWO STRIPS ALLOWS FOR AN IP67 OR IP67 SEAL.
- SOLDER WIRES ONTO THE CONNECTORS OF ONE OF THE STRIPS.
- PULL TWO END CAPS THROUGH THE WIRES, BACK TO BACK.
- SOLDER THE OTHER END OF THE WIRES ONTO THE OTHER STRIP.
- PULL EACH END CAP TO THEIR RESPECTIVE STRIPS, PULLING THE WIRES THROUGH THE END CAPS AS NEEDED.
- PULL THE END CAPS OVER THE STRIP ENDS.
- IF NECESSARY, SEAL THE END CAPS AND STRIP ENDS WITH A NEUTRAL CURE SILICONE SEALANT AS DESCRIBED EARLIER.

CONNECTING WITH FAST CONNECTORS

- FAST (SOLDERLESS) CONNECTORS CAN BE USED TO QUICKLY CONNECT POWER CABLES TO A STRIP.
- WE DO NOT RECOMMEND CONNECTING WITH FAST CONNECTORS WHEN A MOISTURE-PROOF SEAL IS REQUIRED.
- FAST CONNECTORS CAN BE USED ON IP20, IP65, IP67 AND IP68 FLEXIBLE STRIPS, HOWEVER THEY ARE DESIGNED TO CLIP ONTO THE BARE (IP20) STRIP; ON IP65 STRIPS THE SILICONE GLUE DRIPPING MUST BE CUT BACK, AND IP67 AND IP68 SLEEVES NEED TO BE CUT BACK BEFORE THE CONNECTOR CAN BE USED.
- OPEN THE FAST CONNECTOR SO THAT THE CONNECTING PINS ARE EXPOSED.
- PLACE THE FAST CONNECTOR OVER THE FLEXIBLE STRIP END, ALIGNING THE CONNECTOR PADS ON THE STRIP WITH THE CONNECTING PINS IN THE FAST CONNECTOR.
- FIRMLY PRESS THE FAST CONNECTOR CLOSED.

MOUNTING THE STRIP

- IP20 & IP65 FLEXIBLE STRIP IS USUALLY MOUNTED USING THE DOUBLE-SIDED 3M ADHESIVE BACKING ON THE STRIP.
- IP67 & IP68 FLEXIBLE STRIP IS USUALLY MOUNTED USING SILICONE MOUNTING BRACKETS AND STAINLESS SCREWS.

INSTALLATION GUIDELINES

SEALING THE STRIP

- SEALING AGAINST MOISTURE SHOULD ONLY BE DONE USING A **NEUTRAL CURE** SILICONE SEALANT.
- TO MAINTAIN THE IP67 / IP68 RATING OF A STRIP IT IS IMPERATIVE TO PROPERLY SEAL THE END OF THE STRIP IF YOU HAVE CUT THE STRIP TO SIZE.
- MOISTURE SEALING IS ACHIEVED BY INSTALLING A SILICONE END CAP AND SEALING WITH A NEUTRAL CURE SILICONE SEALANT.
- IF THE STRIP END HAS WIRES SOLDERED, PULL THESE THROUGH A SILICONE END CAP AND PULL THE END CAP TO ABOUT 3CM FROM THE STRIP.
- LIBERALLY SPREAD A 1CM RIDGE OF NEUTRAL CURE SILICONE SEALANT AROUND THE OUTER PART OF THE END OF THE SILICONE SLEEVE AS WELL AS INSIDE THE END CAP.
- FIT THE END CAP ONTO THE SILICONE SLEEVE. ENSURE THE END CAP IS COMPLETELY FULL OF SILICONE SEALANT AND ALL EDGES HAVE BEEN SEALED WITH SILICONE SEALANT.
- IF THERE ARE WIRES ON THIS END, PULL THEM UNTIL THEY ARE TIGHT.
- WIPE OFF EXCESS SILICONE SEALANT.
- ALLOW THE SEALANT TIME TO CURE BEFORE POWERING THE STRIP TO AVOID A SHORT CIRCUIT.
- ENSURE ALL EXPOSED WIRE CONNECTIONS ARE PROTECTED FROM WATER AND THE ELEMENTS USING APPROPRIATE WATERPROOF CONNECTORS.
- YOU MAY FURTHER IMPROVE THE CONNECTION BY SEALING WITH A HEAT SHRINK TUBE.

POWERING THE STRIP

- WHILST MANY LED PRODUCTS CLAIM TO HAVE LIFESPANS OVER 30,000 TO 50,000 HOURS IT IS USUALLY THE POWER SUPPLY WHICH WILL FAIL SOONER, THEREFOR IF YOU WANT A RELIABLE INSTALLATION TO LAST YEARS, ENSURE YOU PURCHASE A GOOD QUALITY POWER SUPPLY SUCH AS THE MEAN WELL RANGE OF POWER SUPPLIES.
- LOW VOLTAGE (5V, 12V, 24V, 36V & 48V) FLEXIBLE STRIPS ARE POWERED BY A LOW VOLTAGE POWER SUPPLY OF THE SAME VOLTAGE.
- 220V FLEXIBLE STRIPS ARE POWERED VIA A 220V RECTIFIER.
- IT IS IMPERATIVE TO ENSURE THAT YOU UTILISE A CORRECTLY SIZED POWER SUPPLY FOR YOUR 12V STRIP AS AN UNDER-SIZED POWER SUPPLY WILL EXPERIENCE PREMATURE FAILURE OR WILL FAIL TO OPERATE.
- DO NOT CONSUME MORE THAN 80% OF THE MAXIMUM POWER RATING OF THE POWER SUPPLY WHICH CAN BE FOUND IN THE SPECIFICATION FOR THAT MODEL OF POWER SUPPLY.
- 220V AND DIGITAL RGB FLEXIBLE STRIPS ARE DIRECTIONAL : THEY CAN ONLY BE POWERED FROM ONE SIDE.
- ALL OTHER FLEXIBLE STRIPS CAN BE POWERED FROM TWO SIDES WHICH ALLOWS A LONGER LENGTH OF FLEXIBLE STRIP TO BE RUN WITHOUT EXPERIENCING VOLTAGE DROP AND WITHOUT BURNING THROUGH THE DELICATE CIRCUIT BOARD.
- NEVER ATTEMPT TO INCREASE THE AVAILABLE CURRENT BY WIRING POWER SUPPLIES IN PARALLEL UNLESS THE DRIVERS ARE SPECIFICALLY DESIGNED FOR THIS (WITH A SYNC WIRE RUNNING BETWEEN THEM).
- POWER SUPPLIES WITH ACTIVE PFC - SUCH AS THE MEAN WELL ELG AND HLG RANGES - OFFER GOOD POWER FACTORS WHEN COMPARED TO A NON-PFC DRIVER SUCH AS THE MEAN WELL LRS RANGE.

DIMMING THE STRIP

- ALL LUMUL FLEXIBLE STRIPS CAN BE DIMMED WITHOUT FLICKER: LOW VOLTAGE STRIPS CAN BE DIMMED WITH A DIMMING DRIVER (E.G. THE ELG & HLG MODEL B AND MODEL DA DRIVERS) OR WITH A LUMUL DIMMING CONTROLLER WHILST LUMUL 220V FLEXIBLE STRIPS CAN BE DIMMED WITH A LUMUL DIMMING CONTROLLER.
- ENSURE YOUR DIMMING CONTROL UNIT IS COMPATIBLE WITH YOUR DIMMING DRIVER OR DIMMING CONTROLLER.