

7. SHORTENING INSTRUCTIONS

In case the LED-lighting strip is too long, it might be necessary to cut it for a proper installation. This instruction describes the way to shorten the LED-lighting strip without endangering the warranty.

STEP 1: CUTTING

The LED-lighting strip can be cut at each meter. The position is clearly marked by scissors located on the strip.



Before cutting please ensure, that the LED-lighting strip is **disconnected** from the main power supply.



Cut the LED-lighting strip with a sharp device.

STEP 2: ASSEMBLING OF END CAP

The LED-lighting strip **MUST** be closed with a suitable end cap.



Push the sealing cap over the lighting strip up to the end of the cap, no gap should remain.



STEP 3: SEALING OF THE END CAP

The end cap must be sealed correctly to provide IP65-rating. This is done by using an approx. 5 cm long heat shrink tube.



The heat shrink tube must be slipped over the end cap up to approx. 1 cm remains.

The shrinking process must be done with a hot-air blow dryer. The heat must be applied from all sides uniformly. Please avoid too much heat at one position.



It is important that the glue inside the heat shrink sleeve flows outside. This indicates a correct sealing.



LED SHAFT LIGHTING

INSTALLATION & OPERATING MANUAL
NEW & IMPROVED – SILICONE & HALOGEN FREE



J&L Elevator Components Ltd
Unit 46 Capital Court, St Asaph Business Park, Denbighshire, LL17 0JG. Tel:
01745 585 999

Contents	Page
1. Introduction	3
LED Lighting Technology for Lifts	
2. PLUS LED Shaft Lighting Specification	4
PLUS LED Shaft Lighting Technical Specification	
3. PLUS LED Shaft Lighting Installation	5
Safety Information	
LED Shaft Lighting Installation	
4. Power Supply	7
Power Supply Specification	
Power Supply Connection & Installation	
5. BATTERY	10
Battery Safety Information	
6. Commissioning & Test	10
Commissioning & Test	
Schematic Wiring Diagram	
7. Shortening Instructions	12
Cutting, Assembling & Sealing	

1. INTRODUCTION

LED Lighting Technology for Lifts

REDUCED INSTALLATION TIME

PLUS LED Shaft Lighting system is a unique and cost-effective way of providing lift shaft lighting to meet the new EN81-20 regulations. Quick to install, providing both normal and emergency lighting in one simple system.

LONG LIFETIME & LUMEN MAINTENANCE

LEDs maintain over 70% of their original luminous flux at 50,000 hours — long after conventional light sources have burned out.

BETTER FOR THE ENVIRONMENT

Unlike many conventional lighting technologies, LEDs contain no mercury or heavy metals. Not only are LEDs better for the environment during their operational life, but the disposal of LEDs will also not further pollute our world's landfills with hazardous waste.

LED LIGHT IS DIRECTIONAL

Conventional light fixtures waste approximately 20% to 50% of the light generated due to the lack of directionality of the light source. LED-based fixtures overcome this handicap by making use of a directional point light source.

LED OPERATIONAL LIFETIME IS NOT AFFECTED BY SHOCK OR VIBRATION DAMAGE

Shocks and vibration shorten the lifespan of a traditional light bulb.

THE BENEFITS OF OUR LED LIGHTING

High Lumen Output. Tremendous Energy Savings. Reduced Installation Time. Long Life. No Glare or Strobe Effect. No Dust Absorption or Yellowing. IP Protection Rating to IP65.

Silicone & halogen FREE.

WARRANTY OF LIGHTING STRIP

5 year warranty which is guaranteed only if a product fault is proven and applicable to at least 1m of lighting. Warranty does not stand for failure of single LEDs. The lighting strip must be in an acceptable condition according to J&L standards and a new product is issued only once all checks are approved.

ENERGY SAVING LIGHTING

Save up to 80% on power consumption. Cost effective solutions for LED Shaft Lighting.



2. PLUS LED SHAFT LIGHTING – LED120plusHF

PLUS LED Shaft Lighting system is a unique and effective way of providing Lift Shaft Lighting to meet the new EN81-20 regulations. The system is run the full length of the shaft with a continuous linear strip of LED lights protected to class II and IP65.

The lighting strip runs the complete length of the lift shaft and has two separate circuits: one supplying 230v to 108 LEDs per meter and the second circuit providing 24 volts to 12LED lights per meter length for Emergency Lift Shaft Lighting.

The PLUS LED comes complete with its own emergency power supply (EPS) with 3-hour back-up system for use in the event of power failure. The EPS has terminals provided for 3 pulse switches and also an extra pulse already installed at the side of the EPS unit. This has the facility to switch the lighting on and off from the top of car, machine room and the lift pit.

Technical Specification 240 v Standard Light	
Colour Temperature	4000 - 4500 K
Vertical Illumination [@1M]	80 Lux
Operating Temperature	-20°C - 50°C
No. LED's Normal Lighting	108 LED per meter
Angle of Radiation	120°
Input Voltage	230-240 V AC 50/60Hz
Output Voltage	230-240 V DC
Dimensions	18.5mm x 9mm (wxh)
Weight	145 grams per meter
Lifetime	50,000 hours mttf (Mean Time To Failure)
Protection class	2
IP Protection	IP 65 / 2
Compliance	EN81-20
Length	8 - 75 meters
Fixings	Knock-in wall mounts every 2m
Technical Specification 24 v Emergency Light	
Vertical Illumination [@1M]	5 Lux
No. LED's Emergency Lighting	12 LEDs per meter
Emergency Back up	3 hours
Voltage	24 V DC
Angle of Radiation	120°
Power Consumption	30mA per meter. Max 1 amp at 50m

3. PLUS LED SHAFT LIGHTING INSTALLATION



Safety Information:

The installation of the lighting should only be carried out by a qualified person. All wirings must have a 5cm distance away from any moving parts. The EPS voltage is 230V AC. The max 6.0amp rated fuse should be used to protect the LED Lighting per 75m length or for each LED light unit. A separate EPS connection is necessary for each individual length. Make sure the PVC coat of the light is not damaged; otherwise this could cause a short circuit. Never install the lighting under live power conditions and never try to repair the light yourself if damaged. Never turn or squeeze the PLUS LED Lighting strip itself. Despite great robustness, the lighting can be damaged by rough handling. **Careful handling is therefore necessary.**

Installation Guide for PLUS LED Shaft Lighting:

The most suitable mounting position is a wall where there are no other components/parts installed that could influence the luminosity. Ideally, it would be next to the landing door access. Before installing the PLUS LED Shaft Lighting, you need to check if the EPS will come from the top or bottom of the shaft. The maximum distance to the pit floor and to the headroom ceiling should be 50cm, please consider this recommended distance before starting the installation. The PLUS LED Shaft Lighting must be installed **from the top of the shaft down** and fixed to the wall the Knock-in wall mounts provided. The PLUS LED Shaft Lighting must be on the front side. Distance between the fixings is 2m. The EPS needs to be connected as described in Section 4 below, according to the circumstances and situation on site.

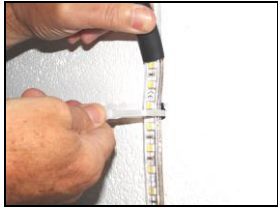
1. For fixing the PLUS LED Shaft Lighting use the Knock-in Wall Mounts provided.



2. Using a 6.0mm drill bit, drill the first hole 50cm from the top of the lift shaft. Using the Knock-in Wall Mounts provided, push this into the hole as shown.



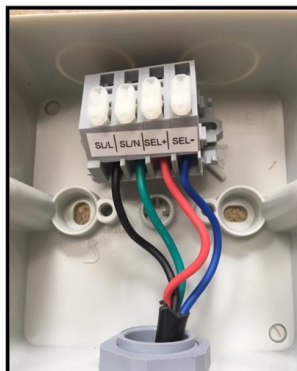
3. Secure the lighting strip to the knock-in wall mount with the cable tie.



4. Continue the installation of the PLUS LED Shaft Lighting, making a fixing every 2 meters, for the full length of the Shaft Lighting.
5. Securely fix the Terminal Connection Box at the top of the lift shaft



6. Make the wiring connections between the PLUS LED Shaft Lighting Terminal Connection Box at the top of the shaft and the EPS.
- These terminals are marked ML+, ML-, EL+, EL-.
- (The cable for connecting between the LED shaft lighting terminal box and the EPS is not provided with this kit)
7. Shaft Lighting end connector in junction box.



ML+ = 230v +	BLACK / Schwarz
ML- = 230v -	GREEN / Grün
EL+ = 24v +	RED / Rot
EL- = 24v-	BLUE / Blau

When using the SW-2937
Emergency Power Supply, match
up terminals in Connection Box
to terminals in EPS Unit.

4. EMERGENCY POWER SUPPLY (EPS) SPECIFICATION

Part Number: **SW-2937**

Function: PLUS LED Lighting EPS

Type: Maintained (24VDC power supply maintained when 240VAC supply is lost, automatic switching to battery voltage)

Compatible Lamps: PLUS LED Shaft Lighting

Features:

Casing: 255 x 180 x 110 mm

Material: Plastic

Housing Protection: IP66

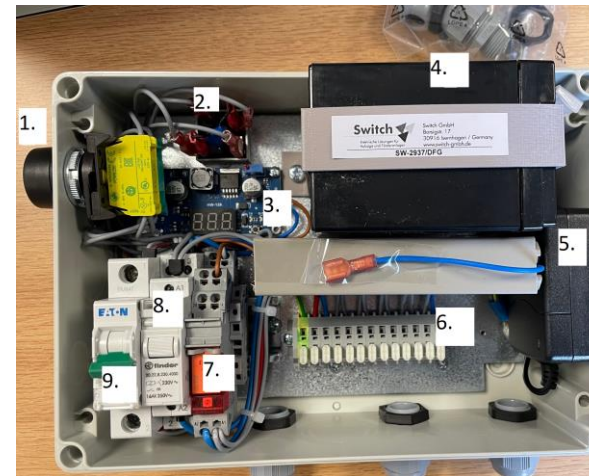
Weight: 3.5 KG

Supply Voltage: 230V AC 50/60 Hz

Type of Battery: Lead 12V DC 4.5 Ah (type V0) FIAMM ®

Battery: Autonomy 2 Hour / Time Support 24 h

Temperature Range: - 20°C to + 60°C



1. EPS pulse switch
2. Rectifier for semi-conductor protection
3. DC/DC converter
4. Battery
5. Battery charger
6. Terminals
7. Lighting strip isolation relay
8. Power failure indication relay
9. Main fuse

4.a EMERGENCY POWER SUPPLY (EPS)




Connection:

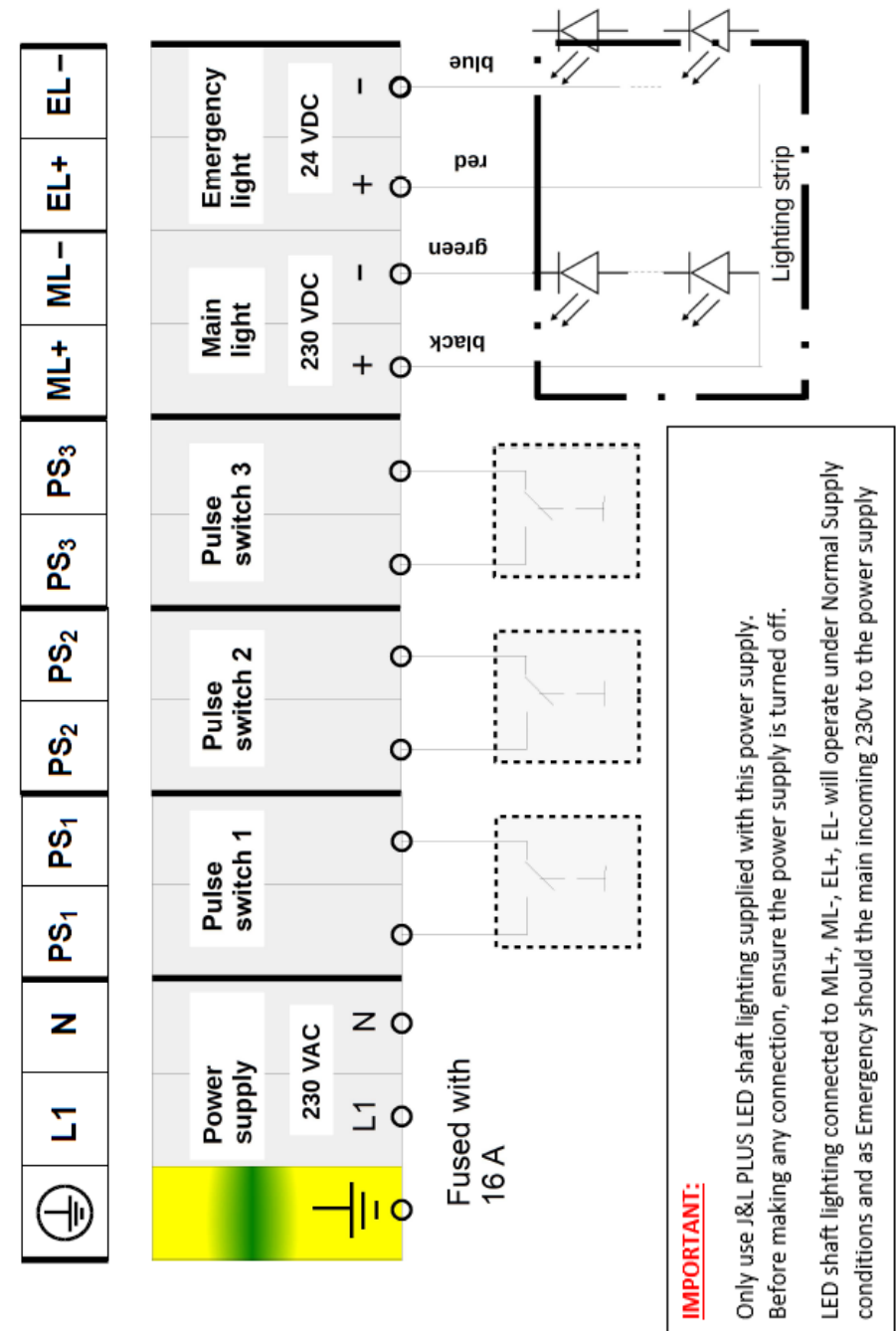
The power of your installation must be turned off prior to connection of this product

- Open the housing to access the Din Rail mounted Connection Terminals (6)
- Use the connection plan on the inside lid and as part of this document (connecting the EPS)
- Only PLUS LED Shaft Lighting should be connected.

4.b CONNECTING THE POWER SUPPLY

**CHECK THE ELECTRICITY SUPPLY IS SWITCHED OFF**

1. A Cable entry gland plate has been provided in the EPS enclosure for the incoming Supply and the out-going supply to the PLUS LED Shaft Lighting.
2. Connect the incoming main Supply voltage: 230VAC 50/60 Hz The mains power must be turned off prior to connection of the PLUS LED Shaft Lighting. The prime conductor is connected to Terminal L1, Neutral to N and Earth to Terminal 
3. The terminals for the PLUS LED Shaft Lighting are marked ML+, ML-, EL+, EL-.
4. Terminals are provided for 3-way shaft switching. Terminals PS1, PS2 and PS3 are used for each pulse switch as shown in the electrical schematic. Each one can be used for motor room, shaft and pit lighting switches and allows each location to switch and turn off the light independently.



5. BATTERY



This product contains a battery. It should not be stored for more than 6 months without the recharge! For long discharge following a cut of mains supply of long duration, the battery should be replaced. See date of manufacture on label.

N.B. In accordance with the Guidelines 2006/95/EEC "low voltage". 89/336/EEC "COS". & Standard RoHS

Do not connect the battery supply until 230V A.C supply is permanently fed and PLUS LED Shaft Lighting is fitted. Switch on the Trip Fuse (9) Allow 24 hours charge before running the Shaft Lighting in Emergency Mode.

The batteries supplied with this EPS are not covered under the warranty of the product.

6. COMMISSIONING & TEST

- Once the wiring has been completed, connect the cable lug to the negative lug terminal of the battery.
- Switch on the mains voltage supply. Allow 24 hours charge before running the LED PLUS shaft lighting into emergency mode.
- Press and hold the test button on the front lid of the EPS. The LED lights will switch off for a short while and the Emergency LED will illuminate and will stay on for as long as the button is held on.
- Release the button and all lighting will illuminate for normal operation. Replace the EPS enclosure lid.

6.a WIRING DIAGRAM

