OPERATION MANUAL



CCTV BOX

Revision #2 (18/08/25)

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

INTRODUCTION

This manual provides detailed operation, maintenance and troubleshooting procedures for the CCTV Box dedicated to the CCTV BOX. The CCTV Box is designed to real-time monitor the key working parameters of the CCTV BOX (e.g. battery voltage, solar panel status, hydraulic system pressure, mast height).In addition, space and wiring are reserved for installing a security camera.

For personal safety and equipment protection, carefully read, understand and observe all safety instructions and operating procedures in this manual before use.

DO NOT modify the equipment or use it for any application other than its designed purpose.

Only trained and authorized personnel are allowed to operate the CCTV BOX.

Keep a copy of this manual with the unit at all times.

Unit Model Number:_____

Unit Serial Number: _____

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1.SAFETY

1.1 Safety Notes



This is the safety alert symbol.It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains **DANGERS**, **WARNINGS**, **CAUTIONS**, **NOTICES** and **NOTES** which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury or death. The following formatting options will apply when calling the readers attention to the **DANGERS**, **WARNINGS**, **CAUTIONS**, **NOTICES** and **NOTES**.

⚠ DANGER

Indicates a hazardous situation which, if not avoided,
will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation
which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

Indicates a hazardous situation which, if not avoided,
may result in property or equipment damage.

Note: Notes contain additional information important to a procedure and will be found within the regular text body of this manual.

1.2 Operational Safety



Before using the CCTV BOX , be sure you read and understand all of the instructions! This equipment was designed for specific applications; DO NOT modify or use this equipment for any application other than which it was designed for. Equipment operated improperly or by untrained personnel can be dangerous! Read the operating instructions and familiarize yourself with the location and proper use of all instruments and controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate or set up the CCTV BOX. The following points should be practiced at all times:

- Ensure the Solar Trailer is leveled, grounded and outriggers extended before operating the CCTV Box to avoid misoperation caused by equipment shaking.
- The CCTV BOX is a precision electronic device; DO NOT strike, drop or squeeze the unit. Avoid operating in environments with strong electromagnetic interference, heavy dust or splashing liquid.
- Use dedicated keys/touch stylus for operation; DO NOT scratch or tap the screen with sharp hard objects (e.g. screwdrivers, metal tools).
- Non-authorized personnel are strictly prohibited from accessing the parameter configuration and alarm threshold setting functions.
- Keep the area around the CCTV BOX clean and free of debris; DO NOT place conductive metal objects on the unit or its interfaces to prevent short circuit.
- When performing Solar Trailer operations (e.g. mast lifting/lowering, solar panel retraction/extension), ensure

the CCTV BOX is in normal monitoring status to detect equipment abnormalities in a timely manner.

1.3 Installation & Mounting Safety



Installation on masts, towers or machines must be performed by qualified personnel.Falling equipment can cause death or serious injury.

- Ensure the mounting surface, bracket and mast/frame are strong enough to support the CCTV BOX weight.
- Tighten all mounting bolts securely; check regularly for looseness.
- DO NOT mount the unit where it can be hit, shaken or damaged during machine operation.
- Keep away from moving parts, sharp edges, hot surfaces or high- voltage components.
- Use safety belts and proper lifting tools when mounting on high masts or towers.
- Secure all cables to avoid pinching, pulling or entanglement.

1.4 Service Safety

CAUTION

- Disconnect power before disassembly, cable replacement or repair.
- DO NOT wash the unit with water, pressure washer or high- pressure air.
- Use only manufacturer- approved accessories and mounting parts.
- Do not expose the unit to long- time direct strong sunlight or high temperatures.

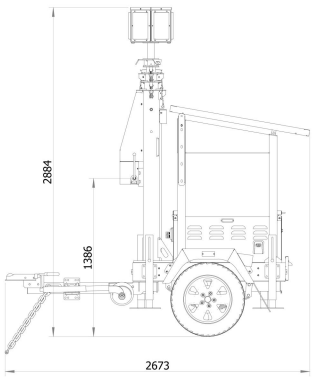
1.5 Transportation Safety

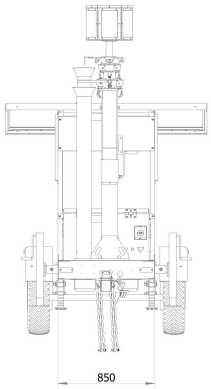
CAUTION

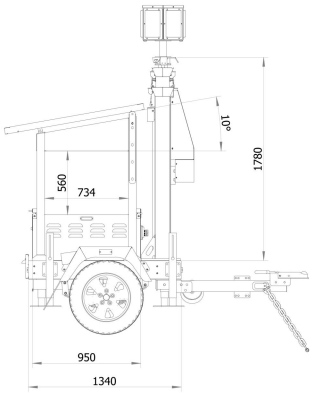
- Before lifting, make sure that light tower parts are not damaged and screws are not loosened or lost.
- Always make sure crane or lifting device has been properly secured to lifting hook of the equipment.
- NEVER lift the equipment while light tower is working.
- Make sure the tower is in the stowed position before lifting.
- Always Make sure all solar panel lock is secure before lifting.
- Use adequate lifting cable (wire or rope) of sufficient strength.
- Use one point suspension hook and lift straight upwards.
- Never allow any person or animal to stand underneath the equipment while lifting.
- If lifting through pockets, make sure forks of forklift are inserted in pockets as far as possible before lifting.
- When loading onto flatbed truck, make sure that front jack stand of light tower is retracted and in th3 horizontal position so that the foot does not make contact with the deck floor.
- DO NOT secure the unit by running a strap or chain over the tongue of the light tower. This may cause severe damage to the unit.
- Straps and chains should be routed through the transport tie-down points located beneath each corner of the
- cabinet to allow even application of forece to the front and rear of the machine.

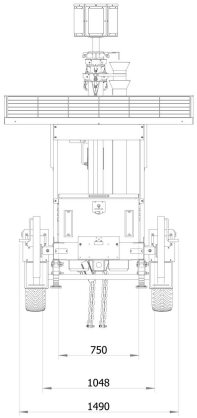
2.General Information

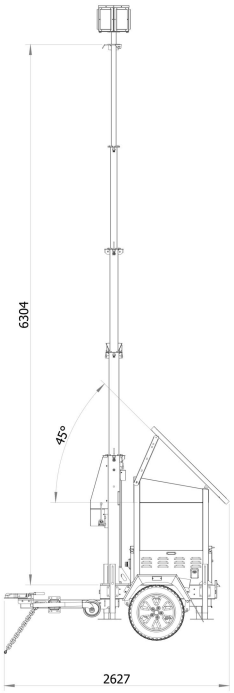
2.1 Dimensions

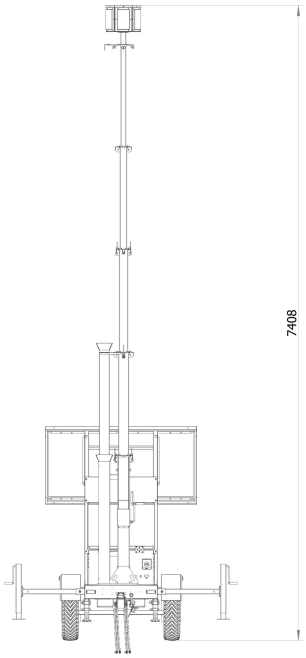


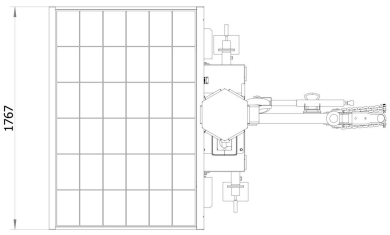


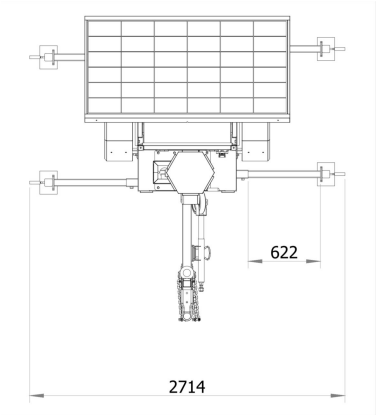












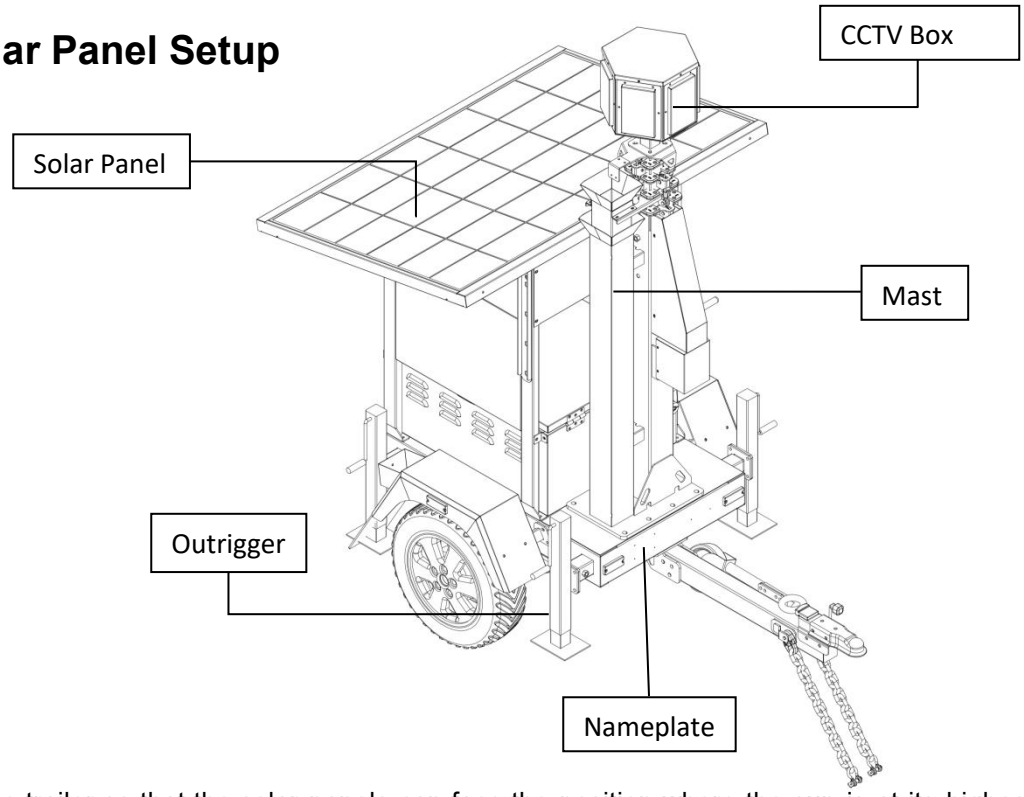
2.2 Safety Symbols Summary

This equipment has been supplied with numerous safety and operating decals. These decals provide important operating instructions and warn of dangers and hazards.



3.Operating Instructions

3.1 Solar Panel Setup



1.Adjust the trailer so that the solar panels can face the position where the sun is at its highest point during the day.(Usually it is from 12:00 to 1:00 PM when the sun is located in this position.)

- Regarding some specific operations, for example how to change direction: One or two people are needed to lower the jockey wheel and rotate it to the corresponding position. Then, hold the Drawbar and push the tire to make the trailer rotate.

2.Inquire about the optimal placement angle for solar panels in the local area.Refer to the table below based on your location.

Location Latitude	Suggested Angle(Summer,Winter)
Madrid 40.4°N	20-55
Barcelona, Catalonia 41.4°N	15-55
Seville, Andalusia 37.4°N	10-50
Valencia 39.5°N	15-50
Malaga, Andalusia 36.7°N	10-50
Zaragoza, Aragon 41.6°N	20-55
Bilbao, Basque Country 43.2°N	20-60
Granada, Andalusia 37.2°N	15-50
Cordoba, Andalusia 37.9°N	15-50
Palma de Mallorca, Balearic Islands 39.6°N	15-50

- The optimal average angle for solar panels throughout the year is approximately equal to the latitude of the location and faces towards the equator (in the Northern Hemisphere, it is due south; in the Southern Hemisphere, it is due north).

- You can also visit the website, for example https://chatgpt.com/, Search for the optimal placement of the local solar panels for maximum efficiency.



3.

- For maximum light coverage, locate the unit at ground level or in a spot higher than the area being illuminated by the lamps.

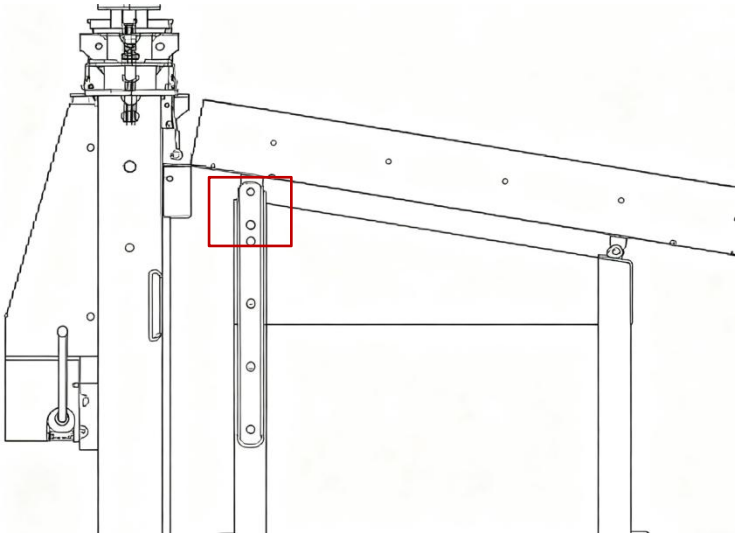
⚠ WARNING

The tower extends up to 22.97ft (7m). Make sure
area above the trailer is open and clear of overhead wires and obstructions

- Place the trailer on firm ground that is relatively flat. This will make it easier to level the tower. Apply the hand brake and block the wheels on the trailer to keep it from moving.
- Connect a good earthen ground to the grounding stud on the base of mast.
- Pull the locking pin on the outrigger and pull the 4 outriggers.
- Turn the jack handle clockwise to start leveling the trailer. Adjust all four jacks by turning their handles clockwise until they are firmly in contact with the ground and the trailer is as level as possible.

4.

- Unscrew the fixing screws on both sides of the solar panel and adjust the angle of the solar panel (select the angle closest to the local latitude). Tighten the screws on both sides to fix the solar panel.



- Connect the solar panel connectors to those plugs on the cabinet. Turn on the breakers for solar panels and batteries on the control panel.

NOTICE

Under charging condition, make sure the solar panels are faced to the direction of the sun, no shading and the surface is clean.

NOTICE

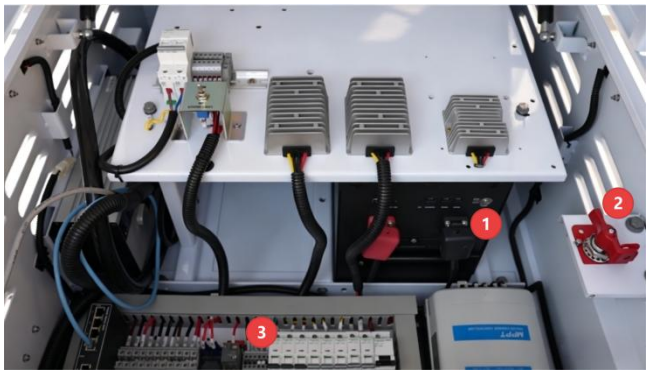
Do not operate the unit in the dangerous area where there are macadams fly and under weather condition with strong wind. It will damage the solar panels.

⚠WARNING

Do not unplug the solar panel connectors when it is under charging condition. (It may cause personal injury.)

3.2 Raising the Tower Manually

1. Switch on ①the battery switch,② isolator and ③all breakers in the control cabinet in order.

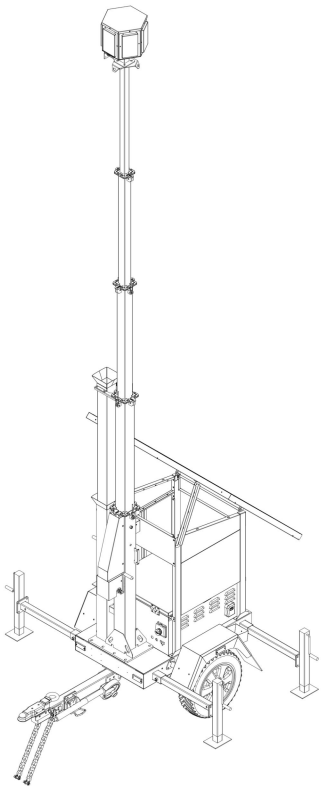


2.Before raising the tower it is be necessary to install the top devices and adjust them to the required condition.

3.Check whether the exposed wire rope is broken, whether the crank handle is loose, and whether the sound of the machine is stable. Ensure that the machine can operate normally.

4.Check the mast cables for excessive wear or damage. Make sure the cables are properly centered in each pulley . Check the electrical cord for damage.

5. Turn the winch.Use the winch to extend the mast slowly, making sure that the coiled electrical cord is extending at the top sections of the mast. If, for any reason, the winch cable begins to develop slack or any of the mast sections get stuck, STOP IMMEDIATELY and contact an authorized service center.



⚠ WARNING

The trailer must be leveled with the outriggers extended before raising the tower.The outriggers must remain extended while the tower is up.Failure to level the trailer or extend the outriggers will severely reduce the stability of the unit and could allow the tower to tip and fall.

⚠ WARNING

Do not operate the unit if the insulation on the electrical cord is cut or worn through.Bare wires in contact with the mast or frame may energize the trailer and cause electrocution. Repair or replace cord.

3.3 Lowering the Mast Manually

1. Check mast ropes for excessive wear or damage. Make sure the ropes are properly centered in each pulley.
2. Check the mast electrical cord for damage.

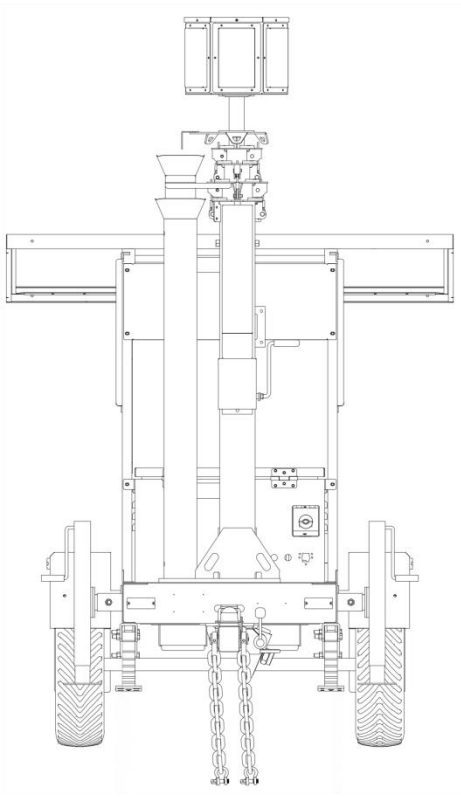
⚠ WARNING

Do not operate the unit if the insulation on the electrical cord is cut or worn through.Bare wires in contact with the mast or frame may energize the trailer and cause electrocution. Repair or replace cord.

3.Use the handle to crank the manual winch, lower the mast to its original static height (A) and make sure the steel rope is orderly.

CAUTION

On CCTV BOX equipped with the electric winch option, a limit switch on the main mast section will disconnect power to the electric winch to prevent it from overextending.



CAUTION

When the mast is extended, do not operate the neutral gear bolt on the electric winch. It will lead to sudden falling of the mast and cause equipment damage and personal injury or death.

4.Maintenance

4.1 Precautions

Do not carry out any change or modification to any part of the solar light tower or its electric system.
Do not carry out any maintenance when the battery is running.

4.2 Daily Inspection

When the solar light tower is in regular use, the following items should be checked daily:

– Check that the solar panels are clean and unobstructed. If necessary, clean the solar panels with a soft cloth or sponge and a cleaning solution of mild detergent and warm water.

– Make sure that the photocell is clean.

– Check the battery charge:

• Do not allow batteries to fully discharge. If the red battery-charge LED on the control panel is lit, charge the batteries immediately. See also “Battery charging”.

• Ensure batteries are fully charged before using the solar light tower.

– Inspect all exposed wiring for damage, worn insulation and cuts.

– Inspect the winch cable for wear and damage.

– If the solar light tower is vertical, verify the vertical-lock pin is engaged and secure

– Repair or replace worn and damaged components immediately. Never use any equipment that is damaged or in need of repair.

4.3 Regular Maintenance

The following items should be checked regularly:

– Battery voltage should be checked once a week, to ensure the charging system is keeping the batteries charged. During winter, where sunlight is less intense, battery voltage should be checked more often.

– At least once a year, visually inspect battery terminals and cables for signs of corrosion,especially in hot temperatures.

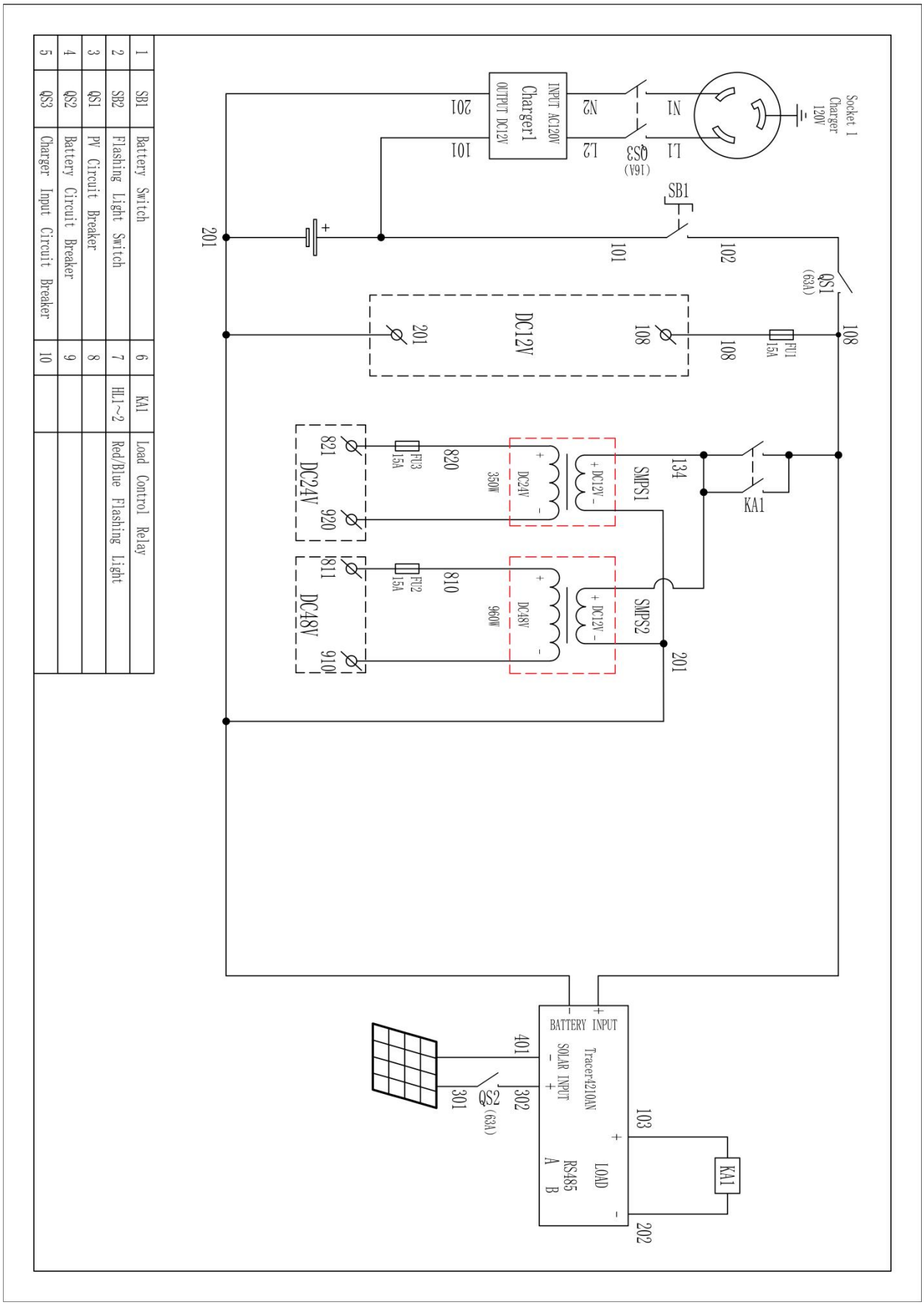
4.4 Ordering Spare Parts

It is possible to order spare parts for the solar light tower by making reference to the parts as mentioned in the enclosed Parts List manual.

Always quote the part number, the designation and the quantity of the parts required, as well as the type

and the serial number of the machine.

5.Diagrams



1	SB1	Battery Switch	6	KA1	Load Control Relay
2	SB2	Flashing Light Switch	7	HL1~2	Red/Blue Flashing Light
3	QS1	PV Circuit Breaker	8		
4	QS2	Battery Circuit Breaker	9		
5	QS3	Charger Input Circuit Breaker	10		