Atlas Copco Instruction Manual

Instruction Manual
For Portable Light Tower Generator
English

HiLight V4
HiLight V5+

Engine Kubota Z482

Atlas Copco

Instruction Manual
For Portable Light Tower Generator

HiLight V4
HiLight V5+

Engine Kubota Z482

Original instructions

Printed matter N°
9829 3827 01

09/2016

Atlas Copco

ATLAS COPCO - PORTABLE ENERGY DIVISION
www.atlascopco.com

Warranty and Liability Limitation

Use only authorized parts.
Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability.
The manufacturer does not accept any liability for any damage arising from modifications, additions or conversions made without the manufacturer's approval in writing.
Neglecting maintenance or making changes to the setup of the machine can result in major hazards, including fire risk.
While every effort has been made to ensure that the information in this manual is correct, Atlas Copco does not assume responsibility for possible errors.

Preface

Please read the following instructions carefully before starting to use your light tower.

It is a solid, safe and reliable machine, built according to the latest technology. Follow the instructions in this booklet and we guarantee you years of troublefree operation.

Always keep the manual available near the machine.

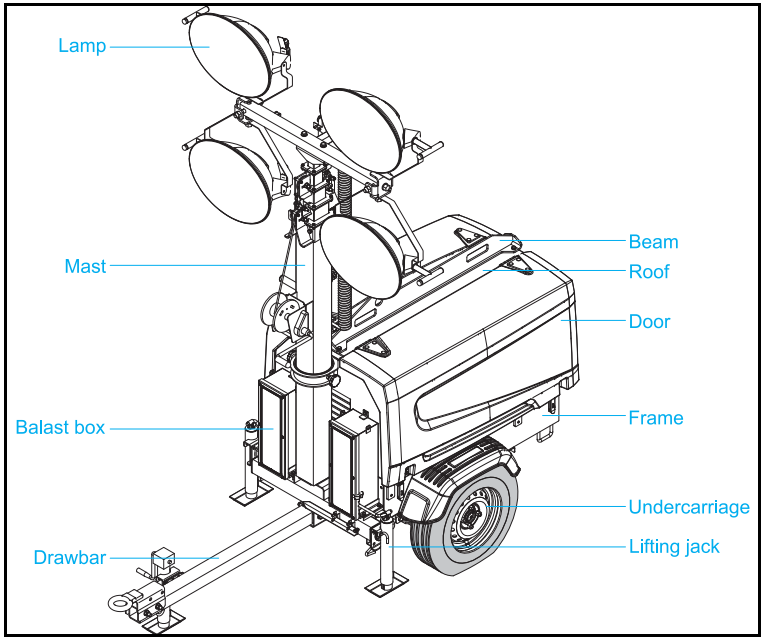
In all correspondence always mention the light tower type and serial number, shown on the data plate.

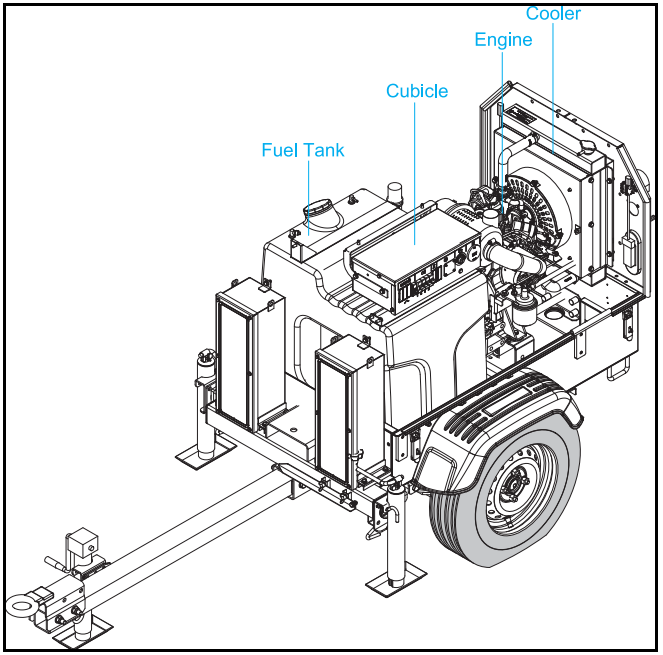
The company reserves the right to make changes without prior notice.

Table of contents

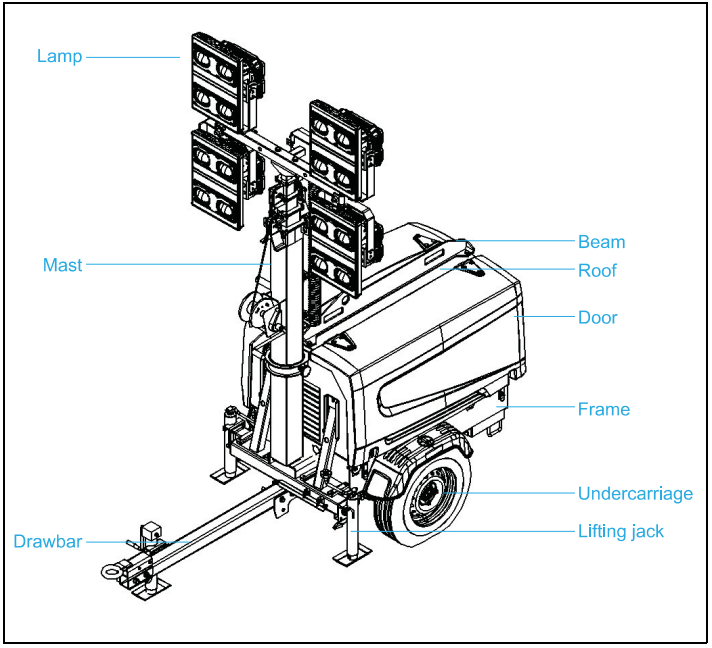
Main parts - HiLight V4

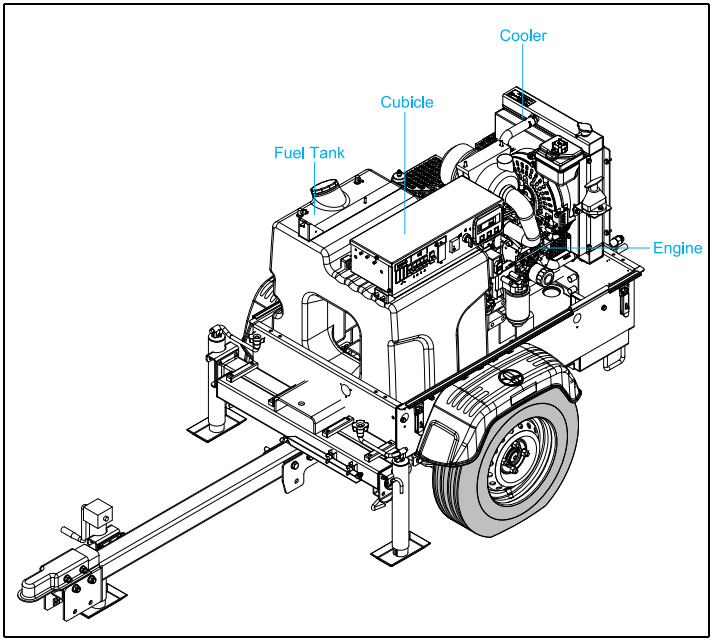
"The light tower provides an undercarriage (frame, axle and towbar) and 4 floodlights of 1000 W each or 4 LED floodlights of 350 W each. The light tower is very useful for construction sites where neither electricity nor lighting is available."





Main parts - HiLight V5+





Safety Information

Operating Safety

⚠ WARNING

Improper use of equipment could cause serious injury or death.

Prior to using this product, carefully read, understand, and observe all instructions in this manual and the engine manual.

⚠ CAUTION

Crush hazard.

When operating or working on the light tower, keep hands and body parts clear of pinch points.

Prior to use

To reduce the risk of personal injury, ensure the surrounding area is in good order and free of debris.

To reduce the risk of shifting, rolling, or overturning, locate the light tower on a firm, level surface, with enough space to deploy the trailer's outriggers.

Do not allow water to accumulate around the base of the light tower.

To improve stability, deploy the outriggers prior to raising the light tower mast.

The light tower mast can be extended to 24.6 feet (7.5 m) in height. Ensure the area above the trailer is clear of obstructions.

⚠ DANGER

Electric shock hazard.

Contact with overhead electrical power lines will cause serious injury or death.

Do not position light tower under power lines.

Ensure the light tower is in good operating condition:

Check tires, lights, protective lamp covers, electrical wiring, and the engine for obvious signs of wear or damage.

Never use any equipment that is damaged or in need of repair.

During operation

⚠ WARNING

Falling equipment could cause serious injury or death.

When raising or lowering the light tower mast, ensure the area directly behind the trailer is clear of people.

If the mast "hangs up" or the winch cable develops slack while raising or lowering the mast, stop immediately, move away from the unit and contact Atlas Copco.

-Ensure the trailer is well grounded, per all applicable regulations.

-Never raise, lower, or move the trailer while the light tower is in use.

-Do not collapse the outriggers or move the trailer while the light tower mast is extended.

-When not in use, or in case of high winds, lower the light tower mast to the travel position (see page 24).

-Light bulbs can be extremely hot. Always allow bulbs to cool at least 15 minutes before handling.

Engine safety

CAUTION

Risk of severe burn.

Before handling lights, allow lights to cool for 15 minutes.

Operator safety

DANGER

Explosion hazard.

- Keep engine, fuel, and other combustibles away from sparks, open flame, and burning objects.
- Do not smoke near engine.
- Stop engine before filling or draining fuel tank.
- Use only diesel fuel.
- Re-place fuel tank cap after refuelling.
- Do not use gasoline, other fuels, or flammable solvents to clean parts.

DANGER

Asphyxiation hazard.

- Operate the engine outdoors and keep away from engine exhaust.
- If operating in an enclosed area, vent exhaust fumes to outdoors and maintain adequate ventilation.
- Refill and drain fuel tank only in a well ventilated area.
- Perform maintenance in a well ventilated area.

WARNING

Fire hazard.

A hot muffler can ignite flammable materials.

Keep area around muffler free of debris such as leaves, paper, and cartons.

⚠ CAUTION

Risk of severe burn.

- Do not touch the engine, exhaust pipes, or areas near the exhaust at rear of trailer.
- Do not remove radiator cap when engine is hot. Contents are hot and under pressure.

California Proposition 65

⚠ DANGER

Health hazard.

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Spark arresters

IMPORTANT!

State and local safety codes specify that, in certain locations, internal combustion engines that use hydrocarbon fuels must be used with spark assesters.

A spark arresters is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles from the exhaust flow of an internal combustion engine.

Service safety

Before servicing

⚠ DANGER

High voltage.

Contact with live electrical circuits will cause severe injury or death.

- Turn off power before servicing any component on the light tower.
- Only a qualified electrician should service the light tower electrical system.

∞ Never perform even routine service (such as changing oil and filters, or cleaning the engine) unless all electrical components are shut down:

- Ensure all light tower power circuits are shut off.
- Turn the engine key to OFF and set all circuit breakers to the OFF position.
- Disconnect cable from negative terminal on battery.

∞ If the ground under or around the trailer is damp or wet, move the trailer to a dry location and allow it to dry before servicing. Do not allow water to accumulate around the base of the light tower.

∞ Do not service the light tower if clothing or skin is wet.

During servicing

∞ Keep hands, feet, and loose clothing away from moving parts on engine and generator.

∞ Keep the light tower and all its components clean.

∞ Keep labels legible. Replace damaged or missing labels. (Replacement labels are available from the factory.)

∞ When hoisting or loading the trailer:

- Ensure devices such as slings, chains, hooks, ramps, and jacks are secure and will bear the weight of the trailer. The trailer's gross vehicle weight rating (GVWR) is displayed on the light tower vehicle identification tag.
- Be aware and cautious of people's proximity to the trailer. Always ensure the safety of nearby people.

Labels

Labels provide instructions and information. They also warn of hazards. For convenience and safety, keep all labels in legible condition, replacing labels when damaged or missing. Replacement labels are available from the factory.

Samples of labels and their descriptions are provided in Table 1.1.

Figure 1.1 Label locations

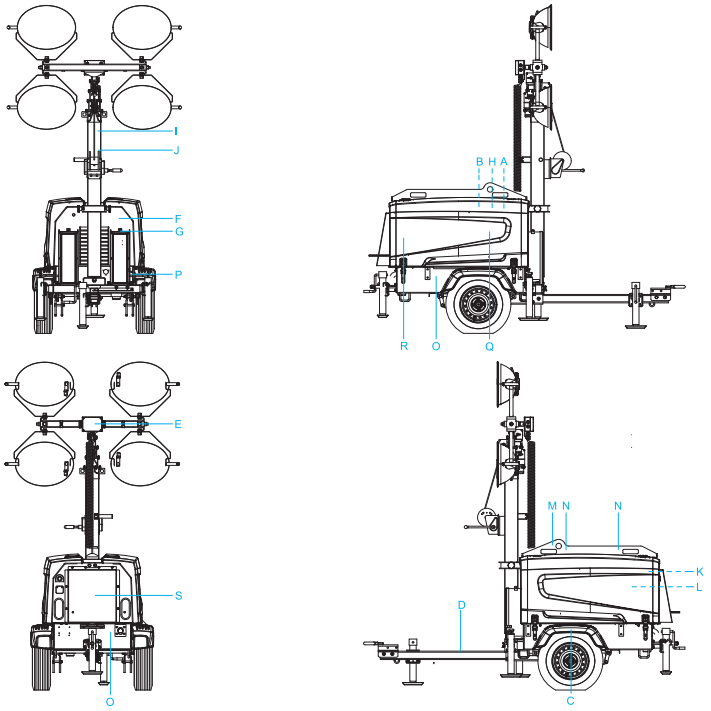
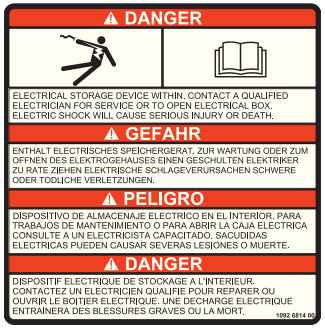
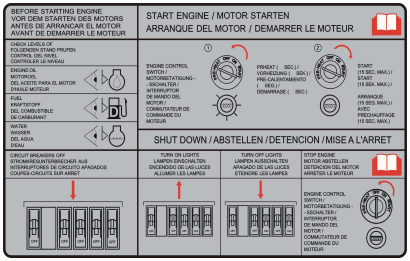
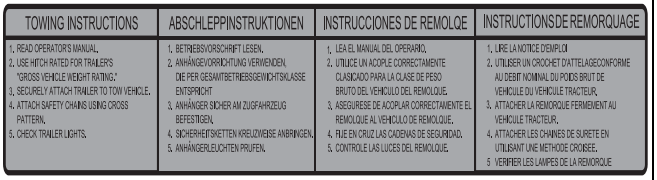


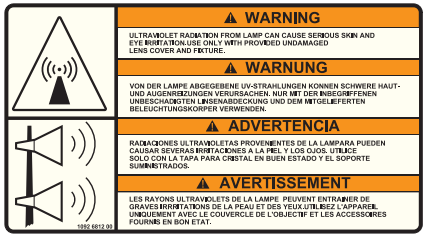
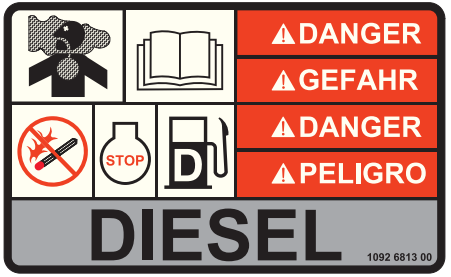
Table 1.1 Label samples and descriptions

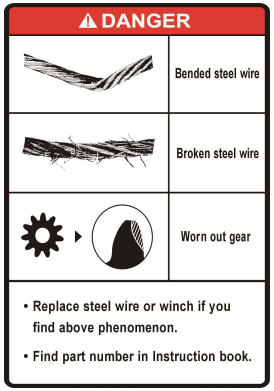
No.	Label	Description	No.	Label	Description
A	1092 6814 00	Decal : Electrical shock	C		Decal : Tyre Pressure
B	1092 6819 00	Decal : Operation manual	D	1092 6805 00	Decal : Towing instruction

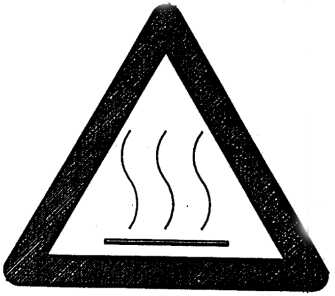
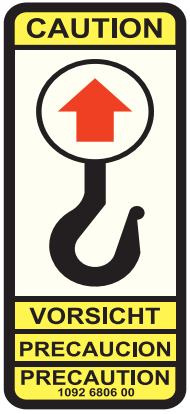
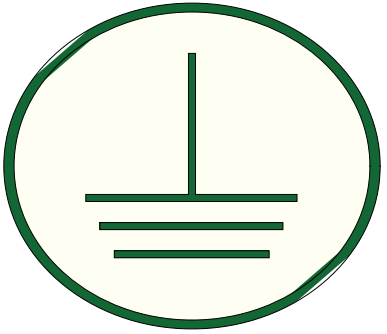






No.	Label	Description	No.	Label	Description
E	1092 6829 00 	Decal : High voltage	G		Deacl : Flash
F	1092 6812 00 	Decal : Light	H	1092 6813 00 	Decal : Poison

No.	Label	Description	No.	Label	Description
I	1094 2280 00 	Decal : Danger electrical power line	K	1079 9919 51 	Decal: Rotation direction
J		Decal : Replace wire or winch	L	1092 6822 00 	Decal : Fan

No.	Label	Description	No.	Label	Description
M		Fork lift	O		Decal : Hot
N		1092 6806 00 Decal : Lifing hook	P		1092 6824 00 Decal : Grounding round

No.	Label	Description	No.	Label	Description
R		Decal : ATLAS COPCO black			
S		Decal : ATLAS COPCO white			

Assembly

Tow hitch

There are 3 options for tow hitch.

- Pintle hook

- 2-inch-ball

- Combo hitch for a 2-inch-ball and pintle hook

For combo hitch option only:

When the light tower ships from the factory, the tow bar is set up to use the lunette ring for towing by a vehicle with a pintle hook. To use a ball coupler, follow the procedure below.

To reverse the tow hitch:

1. Remove the two large bolts that hold the tow hitch to the draw bar.
2. Lift the hitch off the drawbar and rotate the hitch end-to-end.
3. Return the hitch to the draw bar, making sure to align the bolt holes.
4. Reinstall the bolts and tighten the nuts fully.

Loose parts

During transportation, below parts would be disassembled.

- Drawbar with towing hitch

- Lifting jack

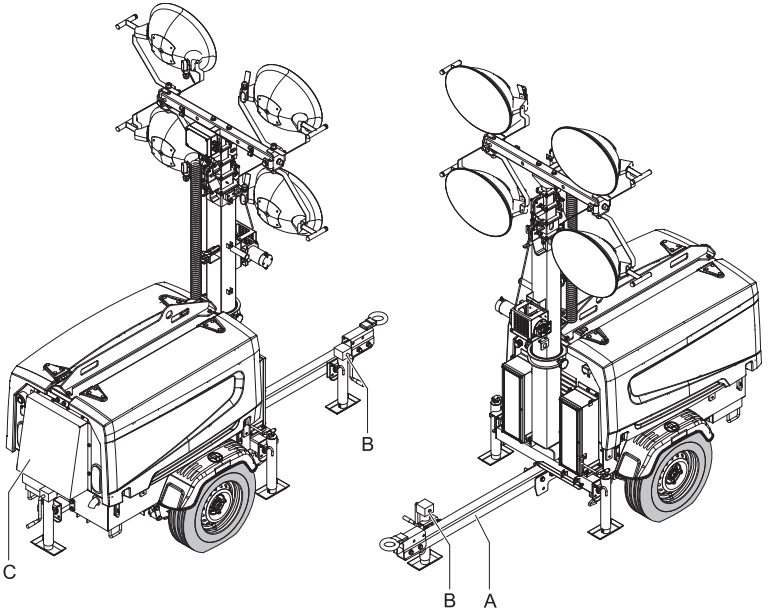
- Air outlet duct

Assemble loose parts before use

Notice

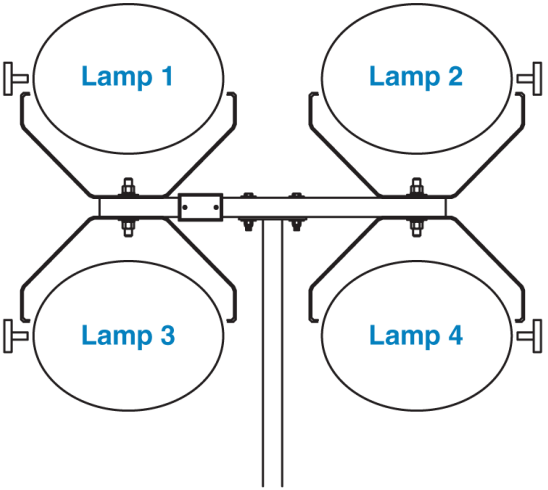
Check and unload loose parts before unloading units from container.

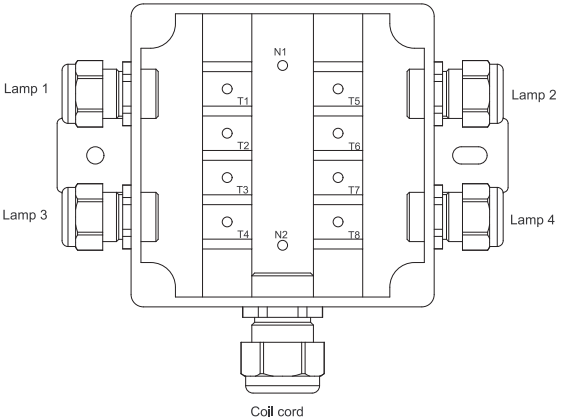
- A - Drawbar with towing hitch (option)
- B - Lifting jack
- C - Air outlet duct



Light fixture wiring

Light fixture numbering sequence





Coil cord wire connection	
Number wire	Connect to
51	T1
52&57	T2
53	T5
54	T6
56	T4
55	T3
58	T8
59	T7

Grounding wire connection		
Name wire	Connect to	Connect to
PE 1	N1	N2
PE 2	N1	T3

Lamp 1 wire connection	
Color wire	Connect to
Black	T1
White	T2
Green	T3

Lamp 2 wire connection	
Color wire	Connect to
Black	T5
White	T6
Green	T3

Lamp3 wire connection	
Color wire	Connect to
Black	T4
White	T2
Green	T3

Lamp 4 wire connection	
Color wire	Connect to
Black	T8
White	T7
Green	T3

Operation

Safety

Before operating the light tower, read and be familiar with this instruction manual.

Read and follow all safety instructions (see page 8).

CAUTION

Do not run unit with door opened.

Control panels

The light tower control panel comprises:

- Circuit breakers for engaging power
- An electrical receptacle for powering external equipment (Option)
- An hour meter to track engine use
- Key switch for starting and stopping the engine and a glow-plug indicator for the engine's start coil
- For engine operating instructions. (See page 25)
- Do not overload machine with socket. Turn off some lamps if you need more power

•

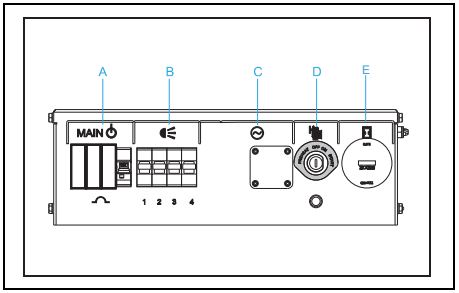


Figure 3.1 A standard control panel.

A - Main circuit breaker/power switch

B - Lamp circuit breakers/power switches

C - Electrical receptacle and breaker for external power (Option)

D - Engine key switch and glow-plug indicator.

E - Hour meter.

Towing and hoisting

Before towing

Before towing, prepare the light tower as follows.

1. Lower the light tower:

a Verify the light tower mast is in the down position and secured in place with the horizontal-lock pin .

b If necessary, attach a red flag to the end of the mast.

2. Check tires, wheels, and lights:

a Check tires for wear. Replace worn tires.

b Verify tires are fully inflated to the proper pressure.

c Verify that all wheel lugs are in place and tightened. Do not tow the trailer if a wheel lug is missing.

d Ensure the trailer brake lights, taillights, and directional (turn) indicators are hooked up and functioning properly.

3. Check the tow hitch and safety chains:

a Ensure the tow hitch and coupling on the tow vehicle are rated for weight equal to or greater than the trailer's gross vehicle weight rating (GVWR). The GVWR is displayed on the light tower vehicle identification tag.

b Inspect the tow hitch and coupling for wear and damage. Replace or repair if necessary.

c Verify the rear and side levelling jacks are in the up position, the outriggers are contracted, and all are secured with their locking pins.

d Use the drawbar-mounted jack to raise the front of the trailer and set the tow hitch on the tow vehicle. Ensure the tow hitch is properly engaged and locked.

e Raise, rotate, and lock the front jack in the up position.

f Verify approved safety chains are attached properly to both the trailer and tow vehicle.

During towing

- Do not tow the trailer with any people, parts, supplies, or additional equipment attached to it or loaded onto it.
- Do not tow additional trailers or other equipment in tandem with the light tower trailer.
- The recommended maximum speed for highway towing is 45 MPH (72 km/h). For offroad towing, the recommended maximum speed is 10 MPH (16 km/h) or less, depending on terrain.
- Adhere to all applicable DOT regulations when towing the trailer.

After towing

Release the trailer tow hitch from the tow vehicle as follows:

1. Locate the levelling jack on the trailer drawbar at the front of the trailer.
2. Pull the locking pin and rotate the jack downward. When the jack is properly set, the locking pin snaps into position with an audible “click.”
3. Block or chock the trailer wheels.
4. Release the tow hitch from the ball coupler or pintle on the tow vehicle.
5. Crank the jack handle until the jack foot touches the ground and the tow hitch rises up off the tow vehicle.
6. Move the tow vehicle away from the trailer.

Hoisting

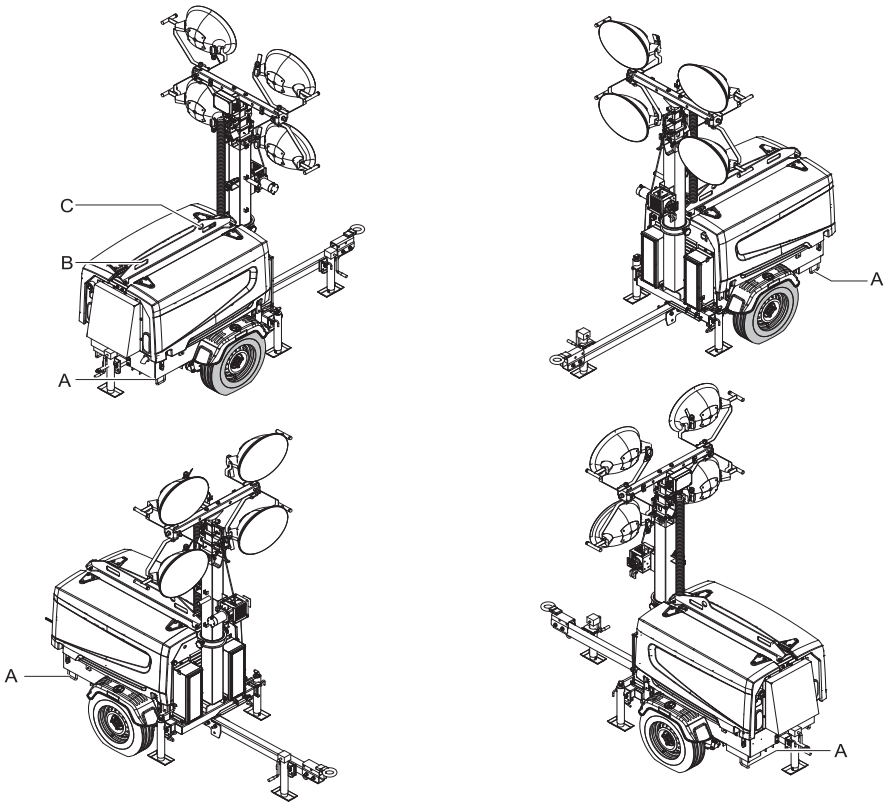
The light tower may be hoisted by means of the hoist ring or forklift slots mounted on the lifting beam.

(see Figure 3.2).

Prior to hoisting:

- Ensure the mast is in the lowest position.
- Return levelling jacks and outriggers to the travelposition, and ensure they are all secured in place with their locking pins.

Figure 3.2 Hoisting ring and forklift slots



A - Tie down point
B - Forklift slot
C - Hoisting ring slot

Location

- To achieve the best possible light coverage, locate the light tower on the same level as the area to be lighted, or higher.
- To reduce the risk of personal injury, ensure the surrounding area is in good order and free of debris.
- To reduce the risk of shifting, rolling, or overturning, locate the light tower on a firm, level surface, with enough space to deploy the trailer's outriggers.
- Ensure convenient access to earth ground.
- The light tower mast can be extended to 24.5 feet (7.5 meters) in height. Ensure the area above the trailer is clear of obstructions.

DANGER

Electric shock hazard.

Contact with overhead electrical power lines will cause serious injury or death.

Do not position light tower under power lines.

Deployment

Levelling the trailer

Prior to raising and extending the light tower mast, the trailer must be level and the outriggers extended for increased stability

⚠ WARNING

Falling equipment could cause serious injury or death.

- Level the trailer and extend outriggers prior to use.
- For safe operation, outriggers must remain extended while the tower mast is vertical.

To level the trailer:

1. Locate the levelling jack on the trailer drawbar at the front of the trailer.
2. Pull the locking pin and rotate the jack downward. When the jack is properly set, the locking pin snaps into position with an audible “click.”
3. Block or chock the trailer wheels.
4. Release the tow hitch from the ball coupler or pintle on the tow vehicle.
5. Crank the jack handle until the jack foot touches the ground and the tow hitch rises up off the tow vehicle.
6. Locate the outrigger on either side of the trailer. Pull the outrigger locking pin (not the jack locking pin) and pull the outrigger outward, away from the trailer, as far as it will go. When fully extended, the locking pin snaps into position with an audible “click.”
7. Pull the jack locking pin and rotate the jack downward until the locking pin engages. Do not lower the jack foot yet.
8. Repeat the previous two steps for the other outrigger, then locate and set the jack at the rear of the trailer.
9. Determine which side of the trailer is highest, and extend the jack foot on that side downward until it rests firmly on the ground. Then level the trailer with the remaining three jacks.
10. Use leveler for leveling the machine.

Raising the tower

When the tower is vertical, the mast can be extended to 24.5 feet (7.5 meters). The tower can be rotated 360 degrees left or right while the mast is extended and the lights are lit.

To raise the tower and aim the lights, use the following instructions.

1. Before raising the tower:

a Adjust the light fixtures to point upward or downward, and inward or outward.

- The lights can be positioned without tools.
- To aim the lights, loosen the knob on the outside end of each fixture, and use the integrated handles to move the fixture. Tighten the knob when done.

b Ensure the trailer wheels are blocked or chocked.

c Level the trailer and extend the outriggers.

d Connect the trailer ground stud to earth ground (see Figure 3.3).

e Take the weather into account: do not raise or use the tower in high winds or an electrical storm. The tower can afford 80 km/h wind load.

f Ensure the area above the tower is clear of all obstructions.

g Stop raising tower when you see "STOP" on mast

⚠ DANGER

Electric shock hazard.

Contact with overhead electrical power lines will cause serious injury or death.

Do not position light tower under power lines.

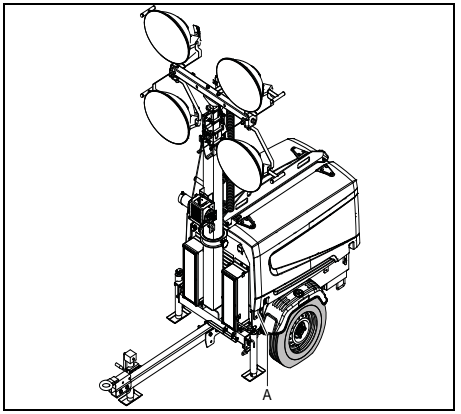


Figure 3.3 Ground stud

2. To raise the tower, see Figure 3.5 and follow these instructions:

a Remove the horizontal-lock pin from the transport cradle.

b Rotate the handle of the drawbar-mounted winch to tighten the cable and raise the light tower mast.

Figure 3.5 Raising the tower

Lowering the tower

Before moving or storing the light tower, lower the mast and lock it in place. To lower the tower, see Figure 3.6 and use the following instructions.

1. Turn off the tower lights and the engine. For increased lamp life, allow the lights to cool for 15 minutes before proceeding.
2. Rotate the mast:

a Loosen the rotation-lock knob.

b Use the handle on the mast to rotate the mast until the mast-mounted winch is on the same side of the mast as the trailer tow hitch.

c Tighten the rotation-lock knob.

3. Lower the tower:

- Rotate the mast-mounted winch handle to lower the tower until the lights are down as far as possible.
- While lowering the mast, ensure the power cord on the mast collapses freely and does not become pinched or tangled.

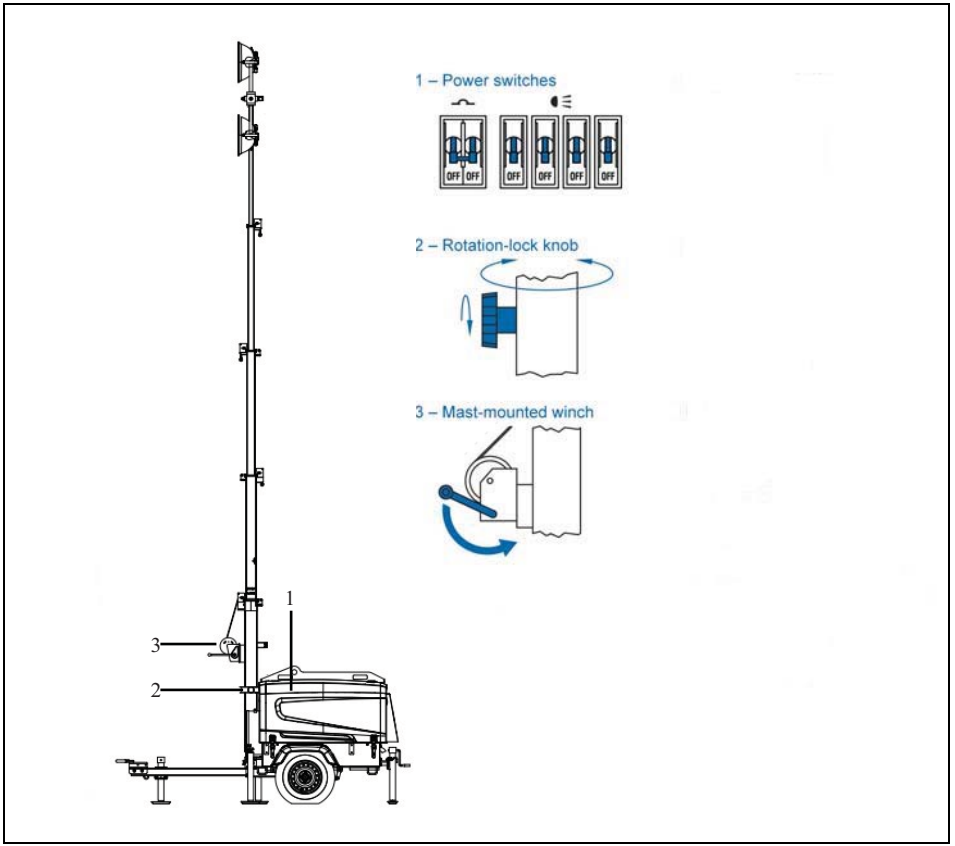


Figure 3.6 Lowering the tower

Engine operation

Starting the engine

1. Before starting the engine:

a Observe all engine safety precautions in page 8.

b Check engine oil, fuel, and coolant levels. Use only diesel fuel.

c If the fuel tank was drained or run dry, it might be necessary to prime the fuel lines. Refer to the engine manual for instructions.

d Ensure all circuit breakers on the light tower control panel are in the OFF position.

⚠ CAUTION

Starting the engine under load will damage the light tower.

Before starting the engine, ensure all power switches (circuit breakers) are in the OFF position.

2. To start the engine:

a Insert the engine key into the key slot and turn the key one click clockwise.
control panel (see Figure 3.7).

b The glow-plug indicator will remain lit until the engine's start coil reaches a predetermined temperature.

- Do not start the engine while this indicator is lit.
- Crank the engine immediately after the indicator light goes out.

3. When the glow-plug indicator light goes out, turn and hold the key at the START position.

4. Release the key as soon as the engine starts, or after 10 seconds if the engine does not start.

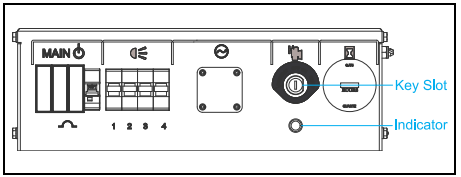


Figure 3.7 Key slot and glow-plug indicator on main control panel

⚠ CAUTION

The engine can overheat and damage the start motor.

- Do not hold the engine key at the START position longer than 10 seconds, regardless of whether the engine starts.
- After 10 seconds, return the key to the OFF position and wait 15 to 30 seconds before attempting to start the engine.

- If the engine does not gain sufficient oil pressure within 30 seconds of starting, the automatic shutdown system will engage.
- Allow the engine to warm up before engaging power to the lights or an external device connected to the power receptacle.

Stopping the engine

To stop the engine:

1. Shut down power to lights and external devices plugged into the power receptacle.

CAUTION

Shutting down the engine before disengaging power could damage the ballasts and generator.

Shut down power to all lights and the power receptacle before shutting down the engine.

2. Turn the engine key to the OFF position.

Automatic engine shutdown

The power system is equipped with an automatic shutdown feature. This system prevents damage by shutting down the engine when oil pressure is too low or engine temperature is too high.

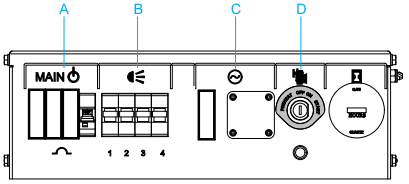
To restart the engine after an automatic shutdown has occurred, return the engine key to the OFF position, then follow the procedures above for starting the engine.

Lights

Turning the lights on

To turn on the lights, first toggle the main circuit breaker to ON (see Figure 3.8), then toggle the individual circuit breakers for each light one at a time.

- Metal halide lamps require a warm-up time of 5 to 15 minutes before reaching full brightness.
- After the metal halide lamps are turned off, they will not turn on again until they are cool. The lamps can take up to 15 minutes to cool.



A - Main breaker
B - Lamp breaker
C - Aux power
D - Key switch

Figure 3.8 Circuit breakers/power switch

Turning the lights off

For increased lamp life, turn off lights and let the metal halide lamps cool 15 minutes before lowering the tower and moving the trailer.

After the metal halide lamps are turned off, they will not turn on again until they are cool. The lamps can take up to 15 minutes to cool.

Degraded lamps

Degraded metal halide lamps may be difficult to light, and may shut off unpredictably after starting.

Degraded metal halide lamps should be replaced.

Lamps that will not turn on

If the lamps do not light when power is applied, ensure the appropriate circuit breakers are set in the ON position. If the circuit breakers are on, and the lights are not visibly lighted within 5 minutes, follow these steps:

1. Switch all circuit breakers OFF. If any of the lights were lit, allow the lights to cool for 15 minutes before proceeding.
2. Lower the mast.
3. Ensure the lamps are cool.

CAUTION

Risk of severe burn.

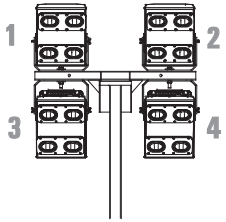
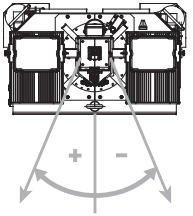
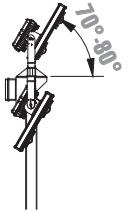
Before handling lights, allow lights to cool for 15 minutes.

4. Check that all lamps are tightened securely into their sockets.
5. Check for, and replace, burned out metal halide lamps.

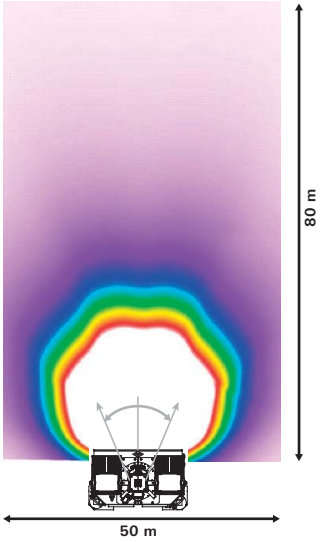
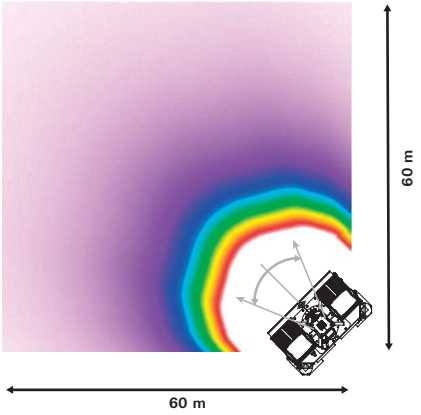
Lamp replacement

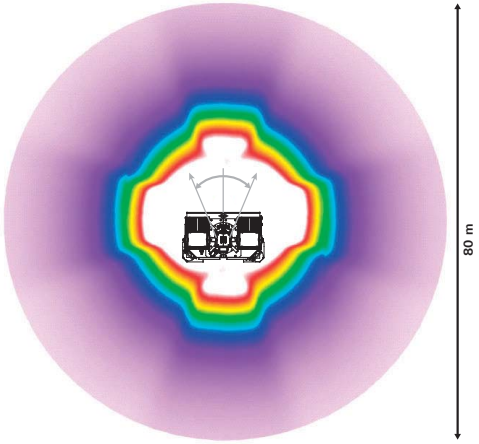
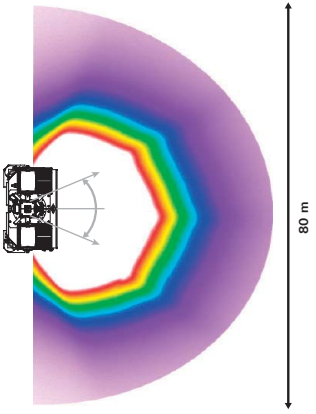
For lamp replacement instructions. (See page 30)

Floodlight lux level - HiLight V5+

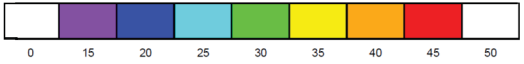
Lamps	Rotation angle	Inclination angle
		

Case	Angle	Lamp 1	Lamp 2	Lamp 3	Lamp 4
1	**Inclination**	80	80	70	70
	Rotation	0	0	-25	+25
2	**Inclination**	80	80	70	70
	Rotation	+10	-10	-20	+20
3	**Inclination**	80-70	80-70	80-70	80-70
	Rotation	0	-180	-90	+90
4	**Inclination**	80	80	70	70
	Rotation	-20	-20	-60	+60

Case 1	Case 2
	
Average Lux: 23 *4000 m²*	*Average Lux: 23* *3600 m²*

Case 3	Case 4
	
Average Lux: 20 *5000 m²*	*Average Lux: 33* *2500 m²*

Lux level:



Maintenance

Daily inspection

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

- Check fluid levels and look for leaks.
- Inspect all exposed wiring for damage, worn insulation, and cuts.
- Inspect winch cables for wear and damage.

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

DANGER

High voltage.

Contact with live electrical circuits will cause severe injury or death.

- Turn off power before servicing any component on the light tower.

Lamp replacement

To replace a light bulb (lamp), refer to Figure 4.1 and follow the instructions below.

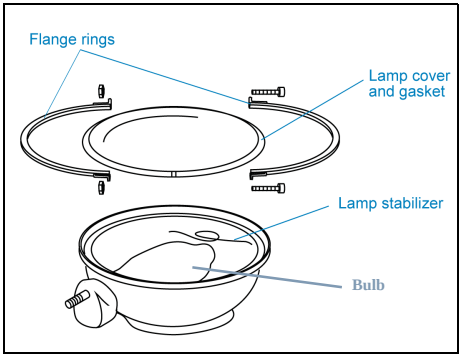


Figure 4.1 Lamp assembly

1. To remove a lamp:

a Turn off power to all lamps and the control panel receptacle.

b Shut down the engine and allow the lamps to cool for 15 minutes.

CAUTION

Risk of severe burn.

Before handling lights, allow lights to cool for 15 minutes.

c Remove the screws securing the flange rings and remove the flange rings.

d Remove the protective lamp cover with the gasket attached.

e Remove the hardware securing one side of the lamp stabilizer. Once removed, swing the stabilizer to the side and unscrew the lamp.

2. To install a lamp:

IMPORTANT!

Lamps will last longer if they are free of contaminants. To protect a new lamp from the natural oils on the fingertips, handle the lamp with cotton gloves or a clean, soft cloth.

a Insert the lamp into the socket and secure it with the lamp stabilizer.

b Ensure the gasket is fastened properly around the lamp cover.

c Secure the cover to the reflector with the flange ring and screws.

Servicing the engine

For engine-related maintenance and servicing, see the engine instruction manual.

Replacement parts

For replacement parts, see the parts manual, document 9829 3827 01.

Wiring diagrams

DANGER

High voltage.

Contact with live electrical circuits will cause severe injury or death.

- Turn off power before servicing any component on the light tower.
- Only a qualified electrician should service the light tower electrical system.

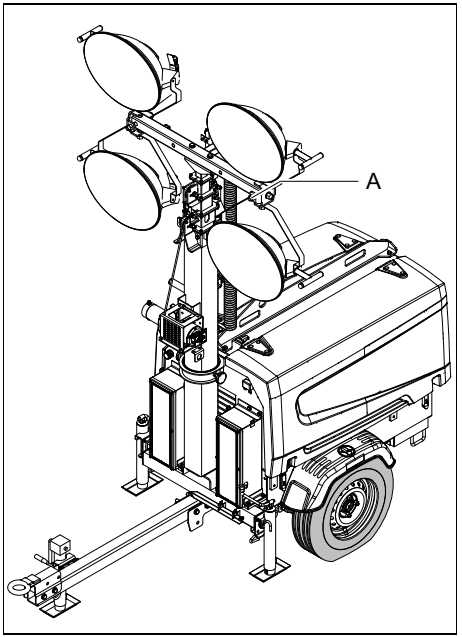
Lamp Positioning

Transport mode

- Horizontal position

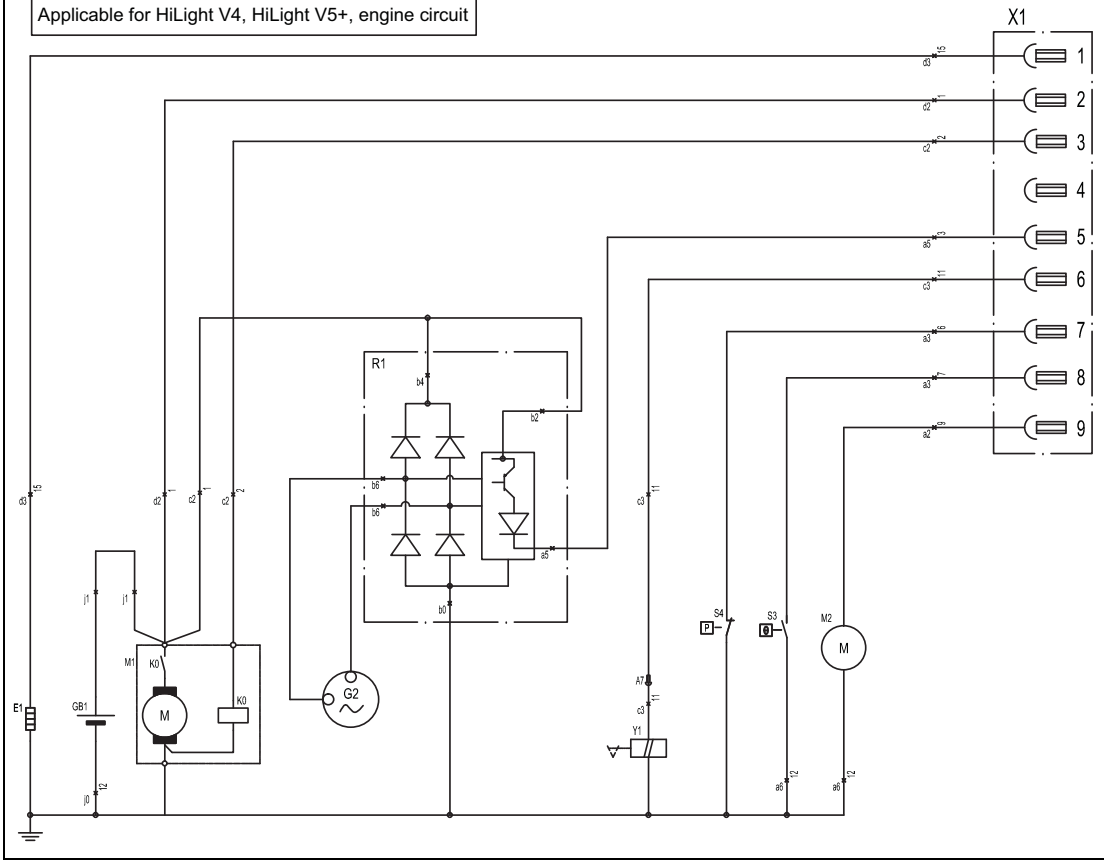
Tilting

- Release the safety screw
- Rotate the lamps as per your desired position



Circuit diagram - 9829 3552 00-01

Applicable for HiLight V4, HiLight V5+, engine circuit

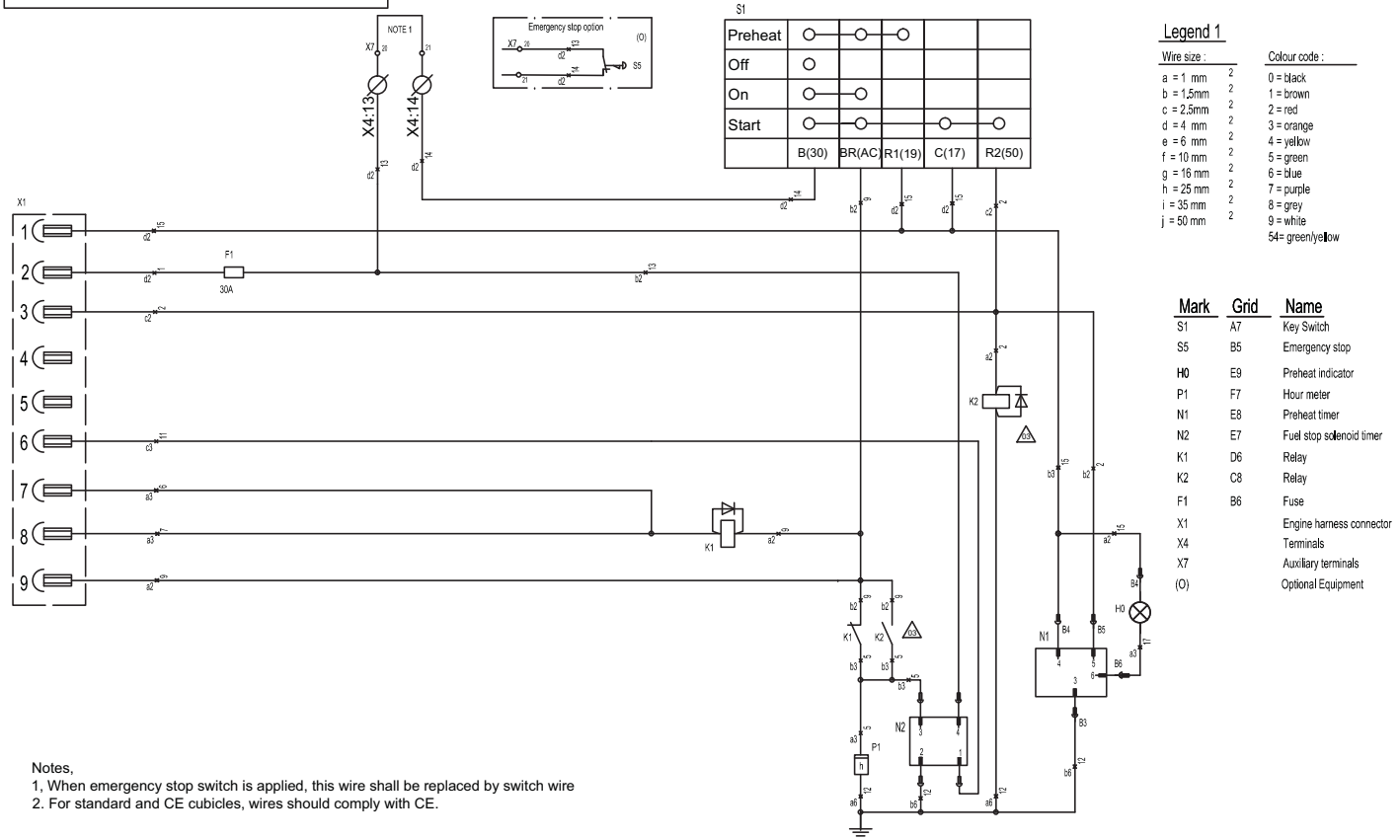


Legend 1

Wire size :	Colour code :
a = 1 mm²	0 = black
b = 1.5mm²	1 = brown
c = 2.5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
	54= green/yellow

Mark	Grid	Name
S3	E6	Coolant temp. switch
S4	E6	Oil pressure switch
E1	F1	Preheat Resistor
GB1	F2	Battery 12Vdc
G2	F4	Charging Alternator
R1	E4	Regulator
K0	F3	Starter Relay
M1	F3	Starter Motor
M2	E6	Fuel pump
Y1	F5	Fuel stop solenoid
X1		Engine harness connector
(O)		Optional Equipment

Applicable for HiLight V4, engine control circuit



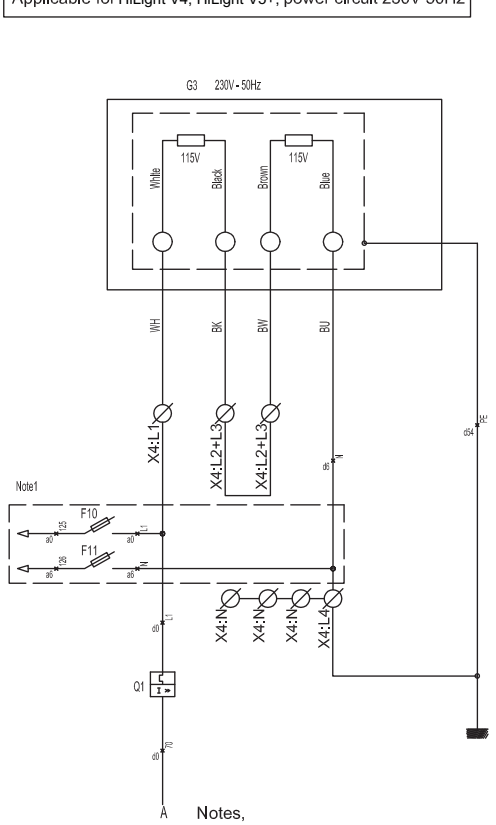
Legend 1

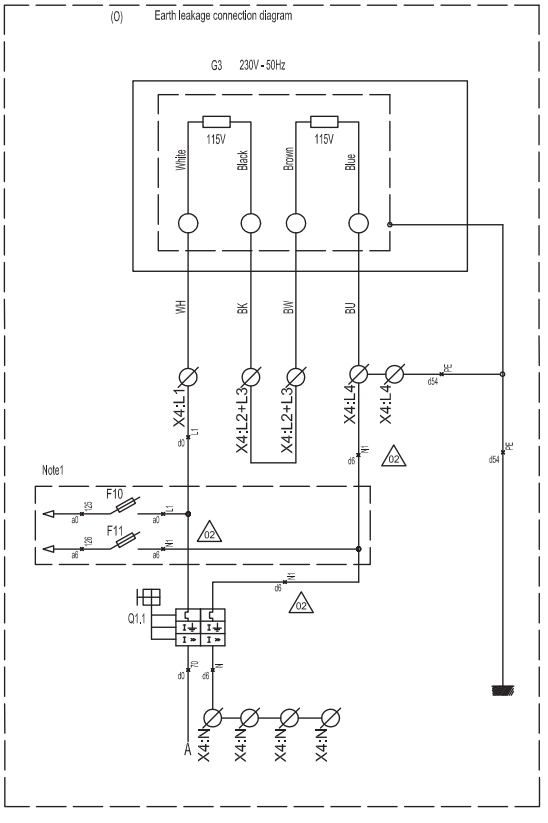
Wire size :		Colour code :
a = 1 mm	2	0 = black
b = 1,5mm	2	1 = brown
c = 2,5mm	2	2 = red
d = 4 mm	2	3 = orange
e = 6 mm	2	4 = yellow
f = 10 mm	2	5 = green
g = 16 mm	2	6 = blue
h = 25 mm	2	7 = purple
i = 35 mm	2	8 = grey
j = 50 mm	2	9 = white
		54= green/yellow

Mark	Grid	Name
S1	A7	Key Switch
S5	B5	Emergency stop
H0	E9	Preheat indicator
P1	F7	Hour meter
N1	E8	Preheat timer
N2	E7	Fuel stop solenoid timer
K1	D6	Relay
K2	C8	Relay
F1	B6	Fuse
X1		Engine harness connector
X4		Terminals
X7		Auxiliary terminals
(O)		Optional Equipment

Notes,
1, When emergency stop switch is applied, this wire shall be replaced by switch wire
2. For standard and CE cubicles, wires should comply with CE.

Applicable for HiLight V4, HiLight V5+, power circuit 230V 50Hz





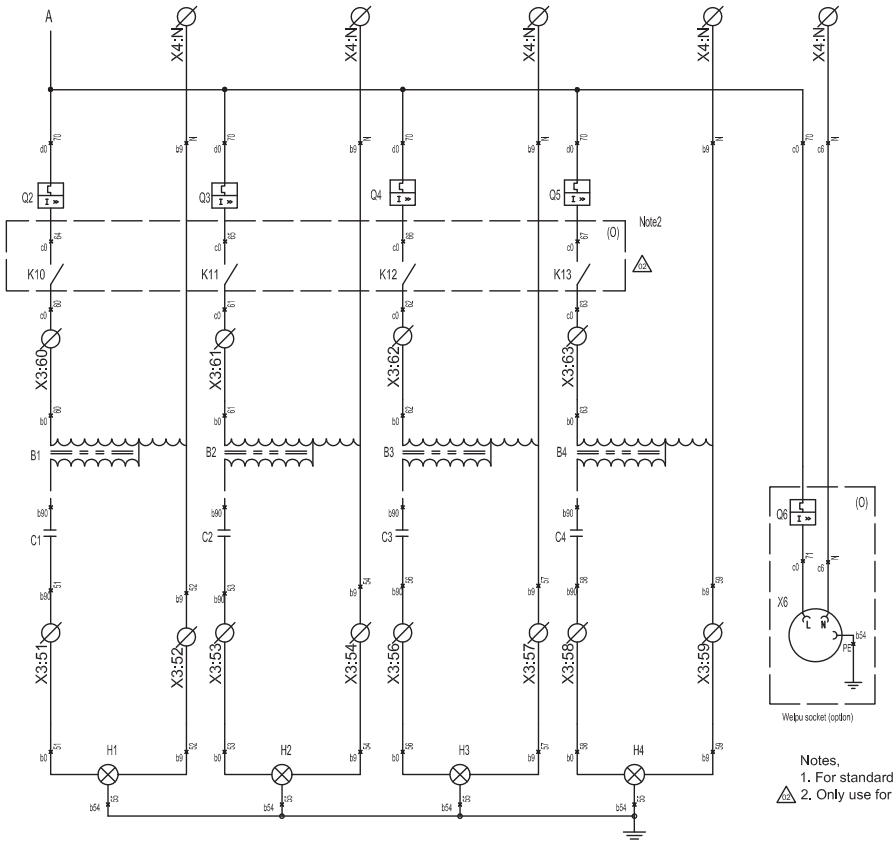
Legend 1

Wire size :	Colour code :
a = 1 mm ^{2}	0 = black
b = 1.5mm ^{2}	1 = brown
c = 2.5mm ^{2}	2 = red
d = 4 mm ^{2}	3 = orange
e = 6 mm ^{2}	4 = yellow
f = 10 mm ^{2}	5 = green
g = 16 mm ^{2}	6 = blue
h = 25 mm ^{2}	7 = purple
i = 35 mm ^{2}	8 = grey
j = 50 mm ^{2}	9 = white
	54= green/yellow

Ma	Grid	Name
G3	A4	Alternator 6KVA, 50Hz
Q1	G4	Main breaker 25A
Q1.1	G4	Earth leakage breaker 25A 30mA
F10	D2	Fuse 2A
F11	D2	Fuse 2A
X4		Terminals

Notes,
1, Only for controller cubicle DSEL401 MKII
2. For standard and CE cubicles, wires should be comply with CE

Applicable for HiLight V4, circuit 230V 50Hz



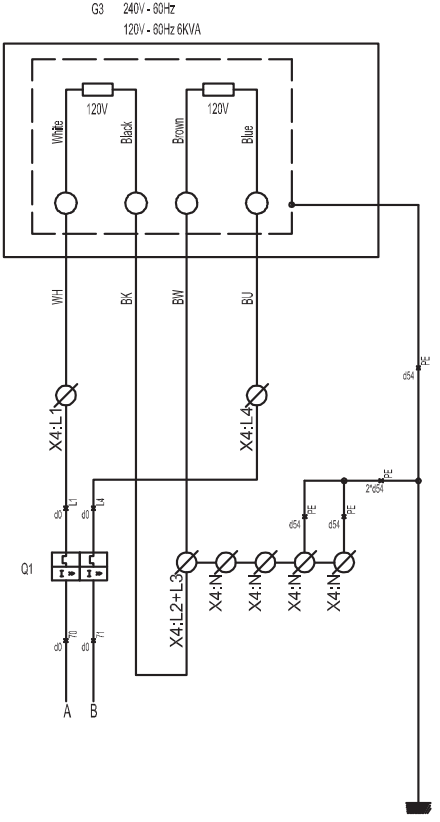
Ma	Grid	Name
Q2	C1	Breaker 10A
Q3	C2	Breaker 10A
Q4	C3	Breaker 10A
Q5	C5	Breaker 10A
Q6	E6	Breaker 10A
B1-B4	D1-D5	Light ballast 230V 50HZ
C1-C4	E1-E5	Light capacity 480V, 30uf, 50Hz
H1-H4	F1-F5	Halogen lamp
X3		Terminals
X4		Terminals
X6	F6	Socket 10A
(O)		Option equipments

Legend 1

Wire size :	Colour code :
a = 1 mm^2	0 = black
b = 1.5mm^2	1 = brown
c = 2.5mm^2	2 = red
d = 4 mm^2	3 = orange
e = 6 mm^2	4 = yellow
f = 10 mm^2	5 = green
g = 16 mm^2	6 = blue
h = 25 mm^2	7 = purple
i = 35 mm^2	8 = grey
j = 50 mm^2	9 = white
	54= green/yellow

Notes,
1. For standard and CE cubicles, wires should comply with CE.
△02 2. Only use for LC1003 MKII

Applicable for HiLight V4, HiLight V5+, AC power circuit 240/120V 60Hz



Legend 1

Wire size :	Colour code :
a = 1 mm ^{2}	0 = black
b = 1.5mm ^{2}	1 = brown
c = 2.5mm ^{2}	2 = red
d = 4 mm ^{2}	3 = orange
e = 6 mm ^{2}	4 = yellow
f = 10 mm ^{2}	5 = green
g = 16 mm ^{2}	6 = blue
h = 25 mm ^{2}	7 = purple
i = 35 mm ^{2}	8 = grey
j = 50 mm ^{2}	9 = white
	54= green/yellow

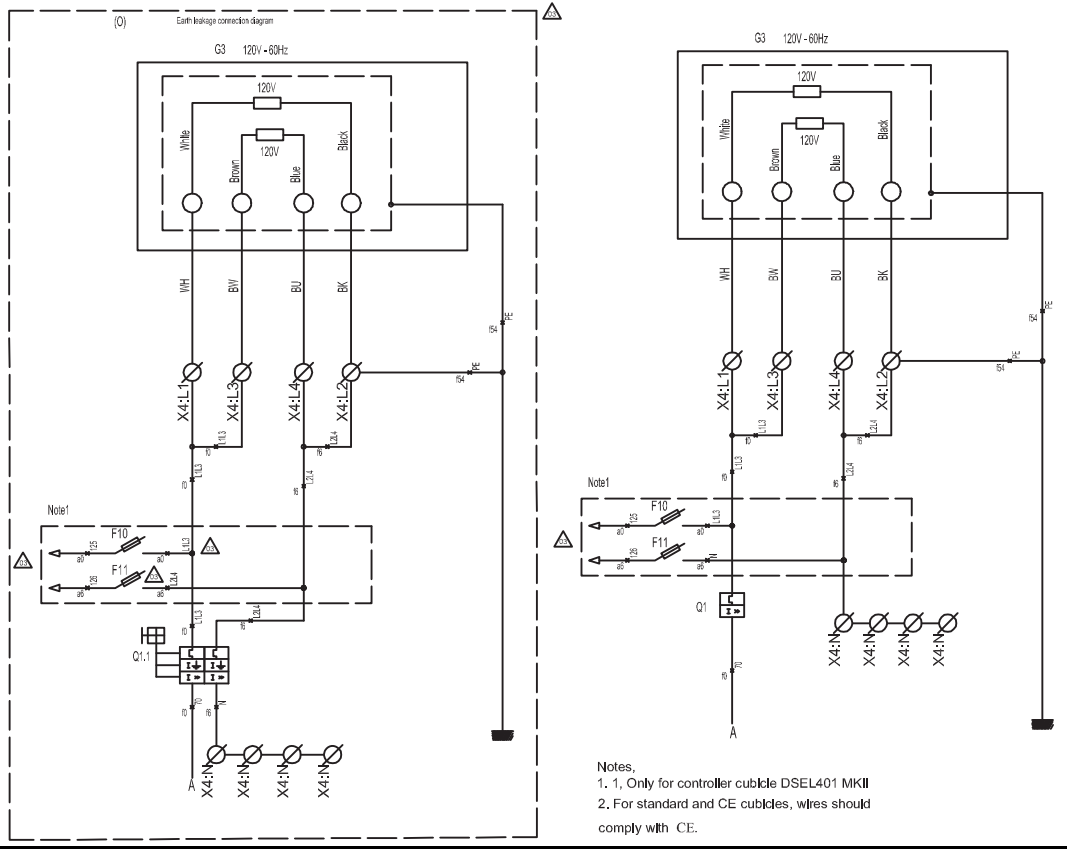
Ma	Grid	Name
G3	A4	Alternator 6KVA, 50Hz
Q1	G4	Main breaker 25A
X4		Terminals

Notes,

1. For standard and CE cubicles, wires should comply with CE.

2. This circuit for cubicle 1094052780,1094052880,1094062880,1094052881.

Applicable for HiLight V4, AC power circuit 120V 60Hz with Duplex socket or no socket or no socket with ELR or Duplex with ELR



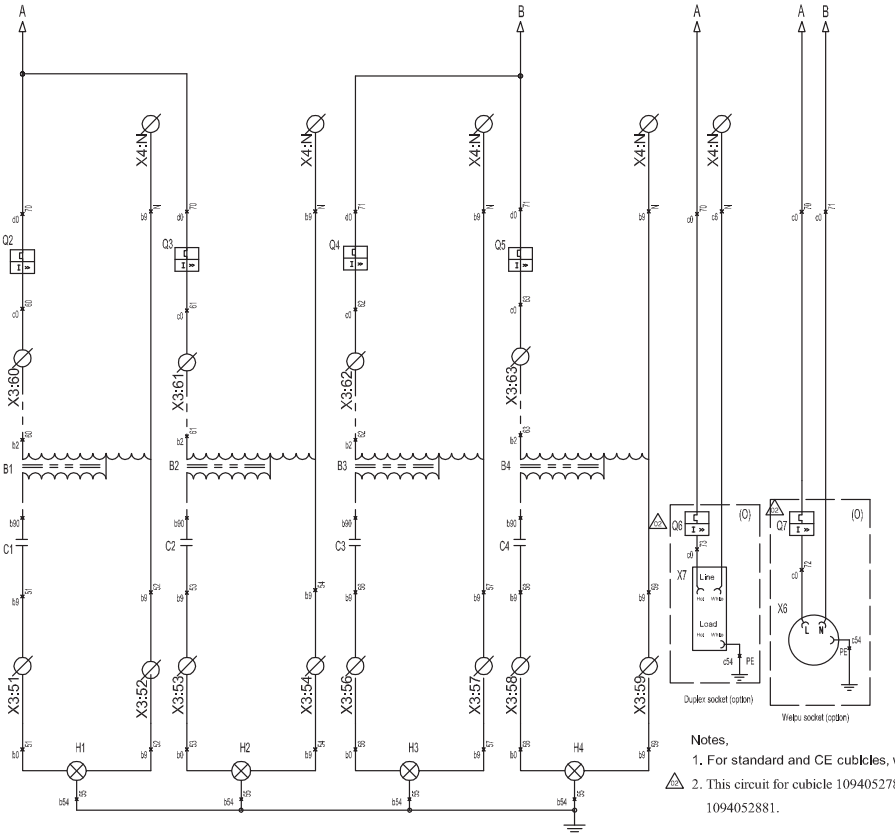
Legend 1

Wire size :	Colour code :
a = 1 mm ^{2}	0 = black
b = 1.5mm ^{2}	1 = brown
c = 2.5mm ^{2}	2 = red
d = 4 mm ^{2}	3 = orange
e = 6 mm ^{2}	4 = yellow
f = 10 mm ^{2}	5 = green
g = 16 mm ^{2}	6 = blue
h = 25 mm ^{2}	7 = purple
i = 35 mm ^{2}	8 = grey
j = 50 mm ^{2}	9 = white
	54= green/yellow

Ma	Grid	Name
G3	A4	Alternator
Q1	G4	Main breaker 50A
Q1.1	G4	Earth leakage breaker 30mA
F10	D2	Fuse 2A
F11	D2	Fuse 2A
X4		Terminals

Notes,
1. 1, Only for controller cubicle DSEL401 MKII
2. For standard and CE cubicles, wires should comply with CE.

Applicable for HiLight V4, HiLight V5+, lamp circuit 240/120V 60Hz



Legend 1

Wire size:	Colour code:
a = 1 mm²	0 = black
b = 1,5mm²	1 = brown
c = 2,5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
	54= green/yellow

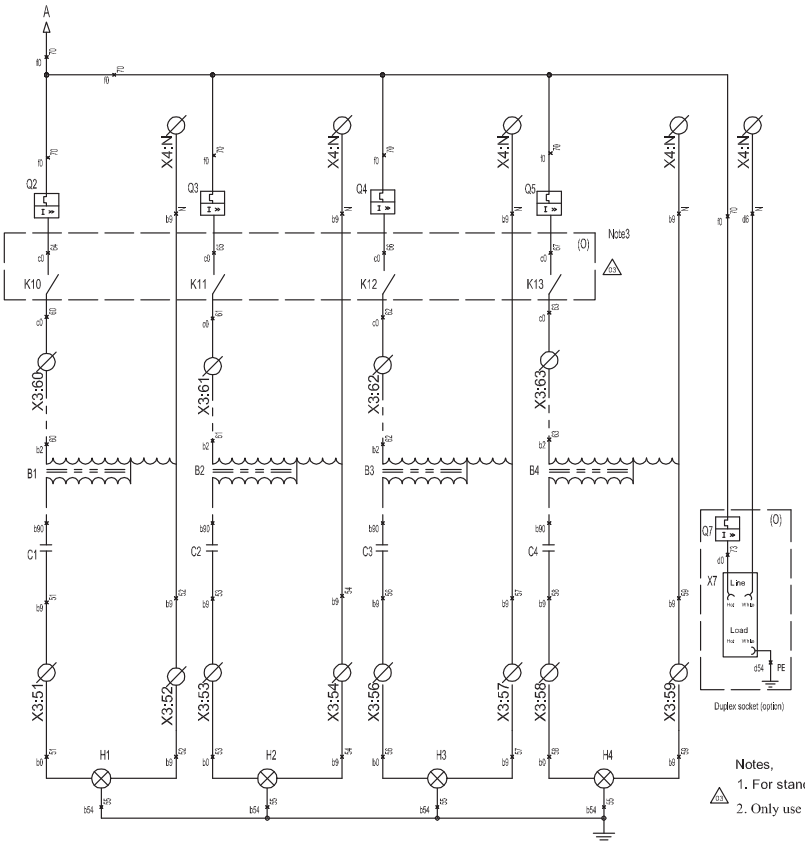
Ma	Grid	Name
Q2	C1	Breaker 16A
Q3	C2	Breaker 16A
Q4	C3	Breaker 16A
Q5	C5	Breaker 16A
Q6	E6	Breaker 20A
Q7	E7	Breaker 10A
B1-B4	D1-D5	Light ballast 120V 60HZ
C1-C4	E1-E5	Light capacity 480V, 25uf, 60Hz
H1-H4	F1-F5	Halogen lamp
X6	F6	Socket 10A 240V
X7	E6	Socket 20A 120V
X3		Terminals
(O)		Option equipments

Notes,

1. For standard and CE cubicles, wires should comply with CE.

⚠ 2. This circuit for cubicle 1094052780,1094052880,1094062880, 1094052881.

Applicable for HiLight V4, lamp circuit 120V 60Hz with Duplex or no socket



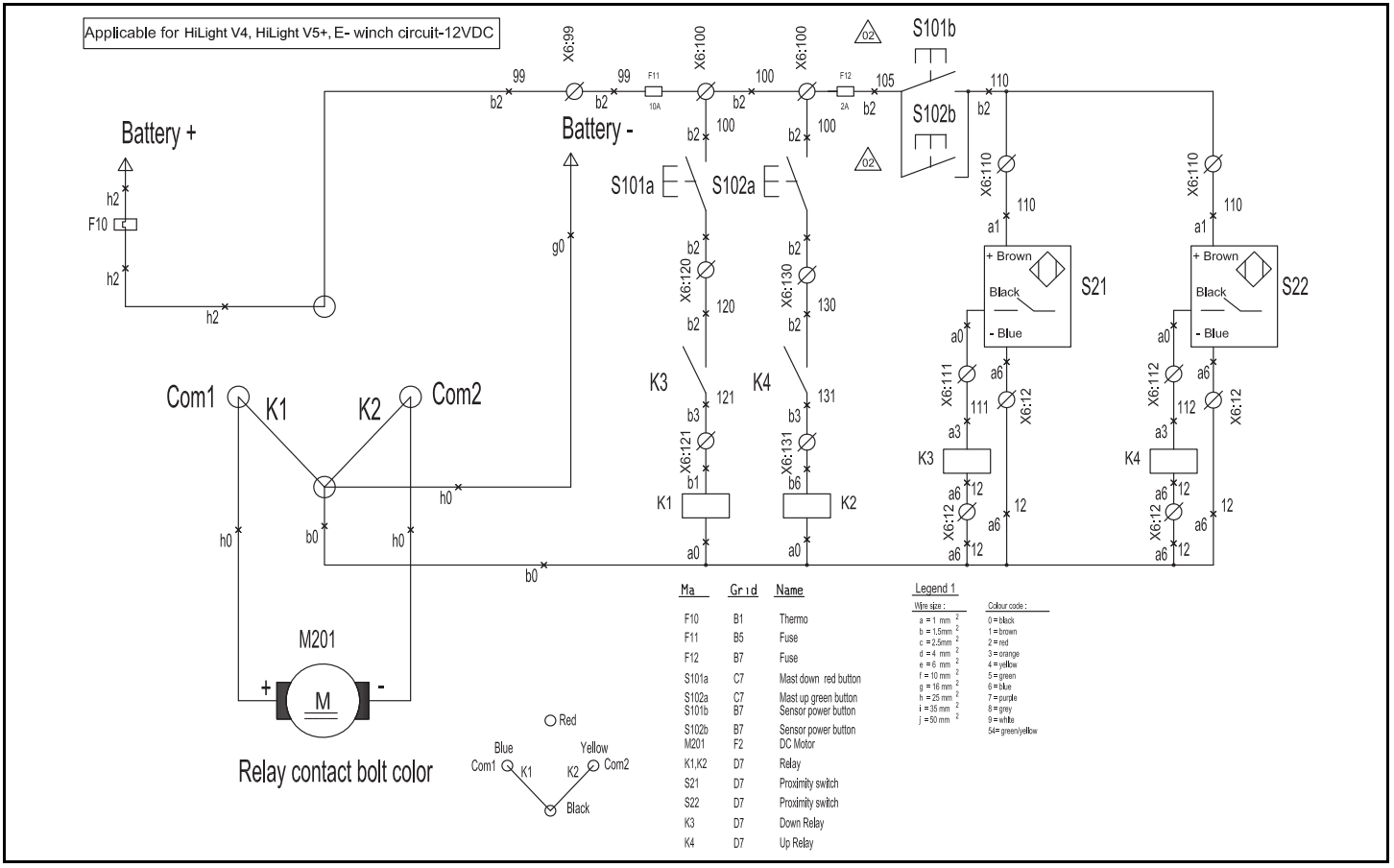
Legend 1

Wire size :	Colour code :
a = 1 mm ^{2}	0 = black
b = 1.5mm ^{2}	1 = brown
c = 2.5mm ^{2}	2 = red
d = 4 mm ^{2}	3 = orange
e = 6 mm ^{2}	4 = yellow
f = 10 mm ^{2}	5 = green
g = 16 mm ^{2}	6 = blue
h = 25 mm ^{2}	7 = purple
i = 35 mm ^{2}	8 = grey
j = 50 mm ^{2}	9 = white
	54= green/yellow

Ma	Grid	Name
Q2	C1	Breaker 16A
Q3	C2	Breaker 16A
Q4	C3	Breaker 16A
Q5	C5	Breaker 16A
Q6	E6	Breaker 20A
B1-B4	D1-D5	Light ballast 120V 60HZ
C1-C4	E1-E5	Light capacity 480V, 24uf, 60Hz
H1-H4	F1-F5	Halogen lamp
X7	E6	Socket 20A 120V
X3		Terminals
(O)		Option equipments

Notes,

1. For standard and CE cubicles, wires should comply with CE.
2. Only use for LC1003 MKII



Ma	Grid	Name
F10	B1	Thermo
F11	B5	Fuse
F12	B7	Fuse
S101a	C7	Mast down red button
S102a	C7	Mast up green button
S101b	B7	Sensor power button
S102b	B7	Sensor power button
M201	F2	DC Motor
K1,K2	D7	Relay
S21	D7	Proximity switch
S22	D7	Proximity switch
K3	D7	Down Relay
K4	D7	Up Relay

Legend 1

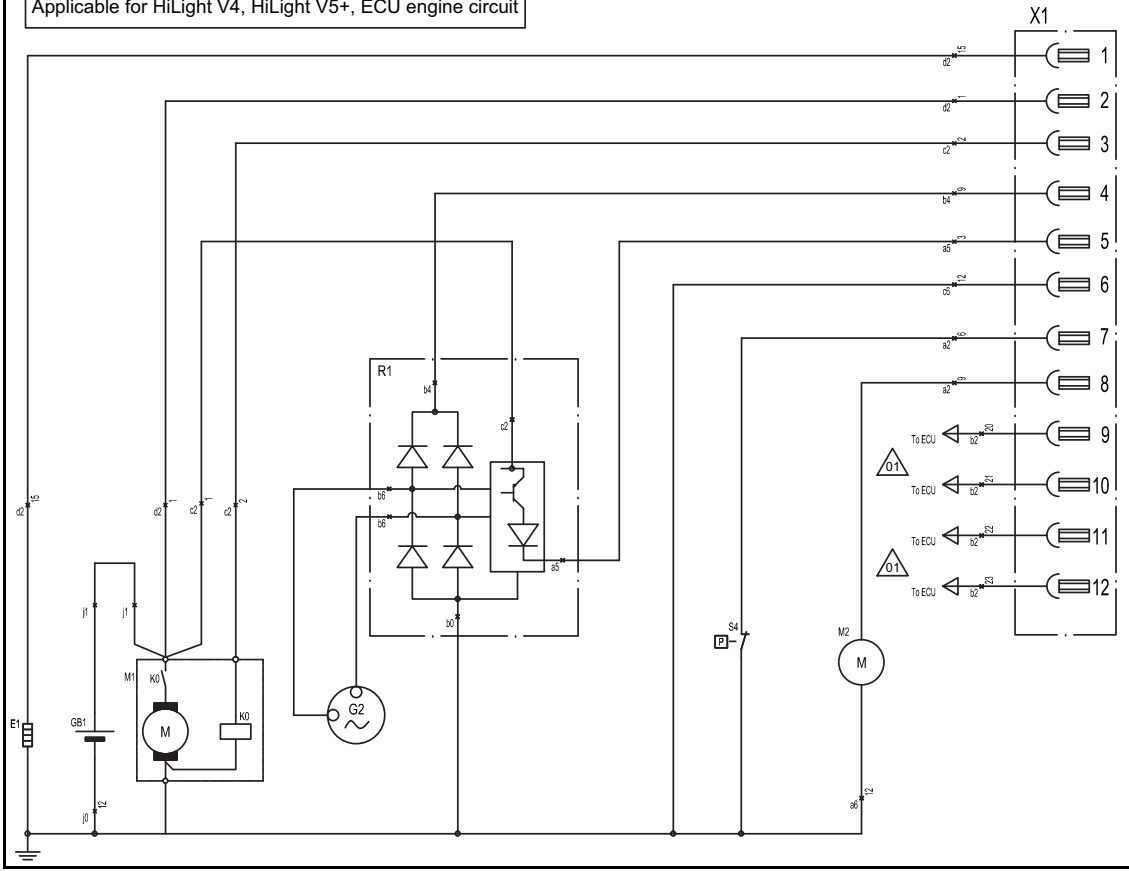
Wire size :

a = 1 mm²	
b = 1,5mm²	
c = 2,5mm²	
d = 4 mm²	
e = 6 mm²	
f = 10 mm²	
g = 16 mm²	
h = 25 mm²	
i = 35 mm²	
j = 50 mm²	

Colour code :

0 = black
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = purple
8 = grey
9 = white
54= green/yellow

Applicable for HiLight V4, HiLight V5+, ECU engine circuit

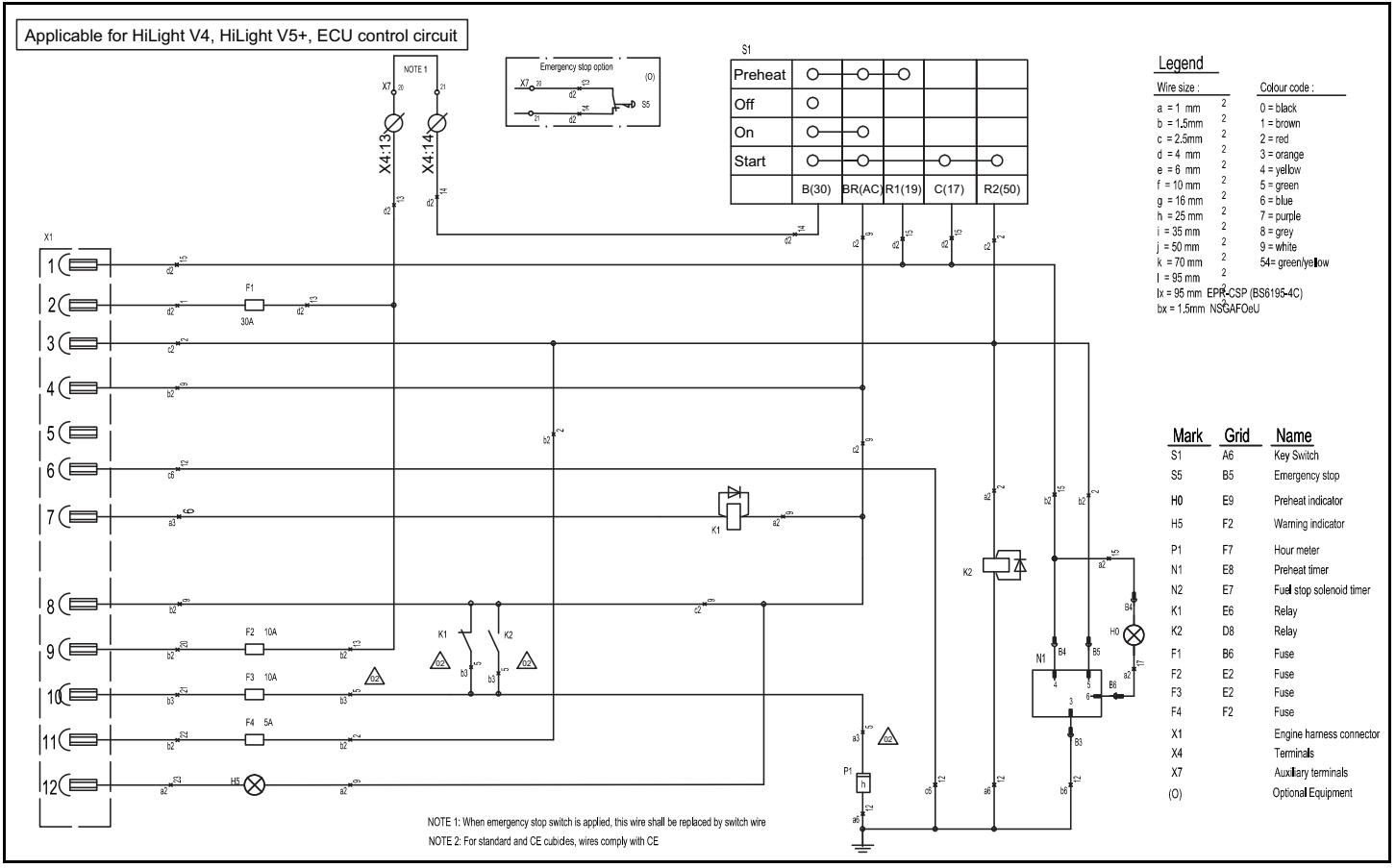


Legend

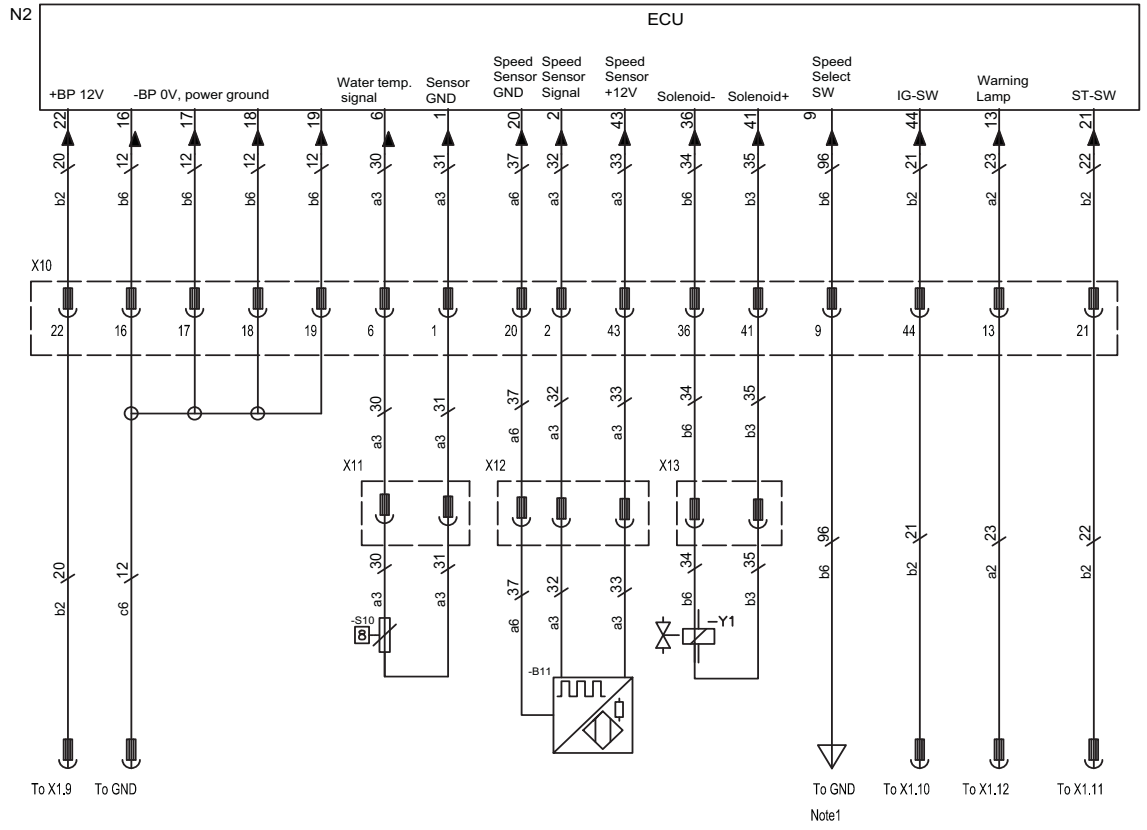
Wire size :	Colour code :
a = 1 mm²	0 = black
b = 1,5mm²	1 = brown
c = 2,5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
k = 70 mm²	54= green/yellow
l = 95 mm²	

lx = 95 mm EPR-CSP (BS6195-4C)
bx = 1.5mm NSGAFOeU

Mark	Grid	Name
S3	E6	Coolant temp. switch
S4	E6	Oil pressure switch
E1	F1	**Preheat Resistor**
GB1	F2	Battery 12Vdc
G2	F4	**Charging Alternator**
R1	E4	Regulator
K0	F3	Starter Relay
M1	F3	**Starter Motor**
M2	E6	Fuel pump
Y1	F5	Fuel stop solenoid
X1		Engine harness connector
(O)		Optional Equipment


Applicable for HiLight V4, HiLight V5+, ECU control circuit
NOTE 1
X4:13
X4:14
Emergency stop option
S5
S1
Preheat
Off
On
Start
B(30)
BR(AC)
R1(19)
C(17)
R2(50)
X1
F1
30A
F2 10A
F3 10A
F4 5A
H5
K1
K2
P1
H0
N1
NOTE 1: When emergency stop switch is applied, this wire shall be replaced by switch wire
NOTE 2: For standard and CE cubicles, wires comply with CE
Legend
Wire size :
a = 1 mm 2
b = 1.5mm 2
c = 2.5mm 2
d = 4 mm 2
e = 6 mm 2
f = 10 mm 2
g = 16 mm 2
h = 25 mm 2
i = 35 mm 2
j = 50 mm 2
k = 70 mm 2
l = 95 mm 2
lx = 95 mm EPR-CSP (BS6195-4C)
bx = 1.5mm NSGAFOeU
Colour code :
0 = black
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = purple
8 = grey
9 = white
54= green/yellow
Mark Grid Name
S1 A6 Key Switch
S5 B5 Emergency stop
H0 E9 Preheat indicator
H5 F2 Warning indicator
P1 F7 Hour meter
N1 E8 Preheat timer
N2 E7 Fuel stop solenoid timer
K1 E6 Relay
K2 D8 Relay
F1 B6 Fuse
F2 E2 Fuse
F3 E2 Fuse
F4 F2 Fuse
X1 Engine harness connector
X4 Terminals
X7 Auxiliary terminals
(O) Optional Equipment

Applicable for HiLight V4, HiLight V5+, ECU control circuit



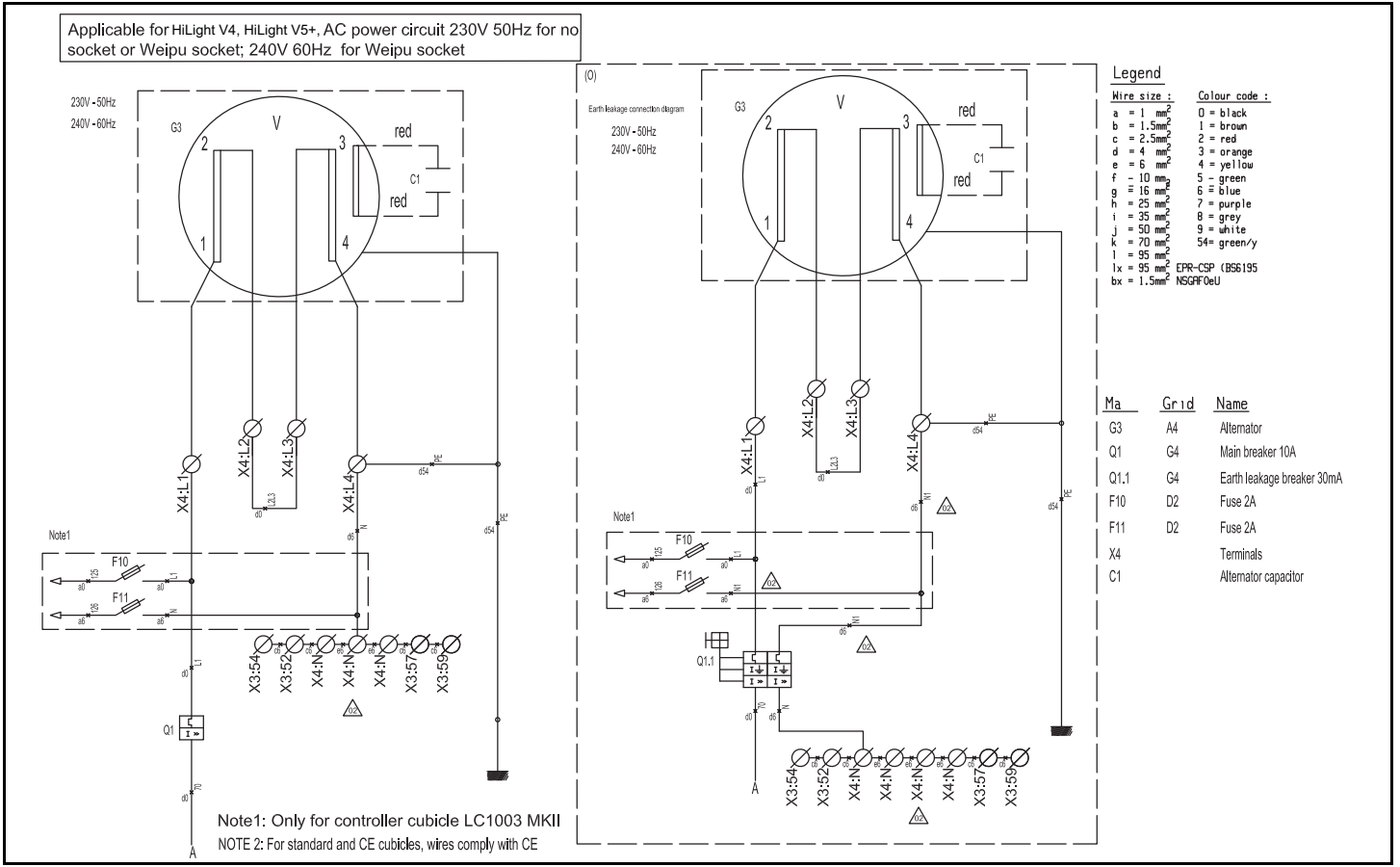
Legend

Wire size :		Colour code :
a = 1 mm	2	0 = black
b = 1.5mm	2	1 = brown
c = 2.5mm	2	2 = red
d = 4 mm	2	3 = orange
e = 6 mm	2	4 = yellow
f = 10 mm	2	5 = green
g = 16 mm	2	6 = blue
h = 25 mm	2	7 = purple
i = 35 mm	2	8 = grey
j = 50 mm	2	9 = white
k = 70 mm	2	54= green/yellow
l = 95 mm	2	

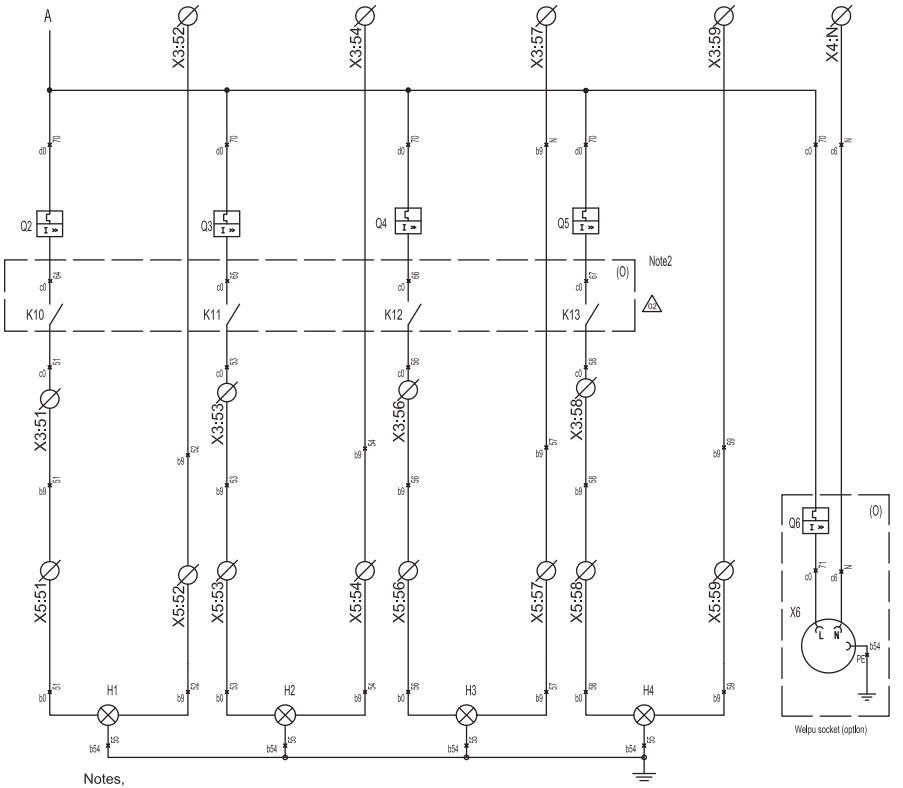
lx = 95 mm EPR-CSP (BS6195-4C)
bx = 1.5mm NSGAFOeU

Mark	Grid	Name
N2		ECU
S10	E4	Water temp. sensor
B11	E5	Speed sensor
Y1	E6	Solenoid
X10		ECU connector
X11		Water temp. sensor connector
X12		Speed sensor connector
X13		Solenoid connector
(O)		Optional Equipment

Note1,
50Hz, wrie 96 connecting GND
60Hz, wire 96 not connecting GND


Applicable for HiLight V4, HiLight V5+, AC power circuit 230V 50Hz for no socket or Weipu socket; 240V 60Hz for Weipu socket
230V - 50Hz
240V - 60Hz
G3
V
red
C1
red
X4:L1
X4:L2
X4:L3
X4:L4
PE
Note1
F10
F11
X3:54
X3:52
X4:N
X4:N
X4:N
X3:57
X3:59
Q1
A
(O)
Earth leakage connection diagram
Q1.1
Note1: Only for controller cubicle LC1003 MKII
NOTE 2: For standard and CE cubicles, wires comply with CE
Legend
Wire size :
Colour code :
a = 1 mm²
b = 1.5mm²
c = 2.5mm²
d = 4 mm²
e = 6 mm²
f = 10 mm²
g = 16 mm²
h = 25 mm²
i = 35 mm²
j = 50 mm²
k = 70 mm²
l = 95 mm²
lx = 95 mm² EPR-CSP (BS6195
bx = 1.5mm² NSGAFOeU
0 = black
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = purple
8 = grey
9 = white
54= green/y
Ma
Grid
Name
G3 A4 Alternator
Q1 G4 Main breaker 10A
Q1.1 G4 Earth leakage breaker 30mA
F10 D2 Fuse 2A
F11 D2 Fuse 2A
X4 Terminals
C1 Alternator capacitor

Applicable for HiLight V5+, AC power circuit 230V 50Hz for no socket or Weipu socket; 240V 60Hz for Weipu socket



Notes,
1. For standard and CE cubicles, wires should comply with CE.
2. Only use for LC1003 MKII

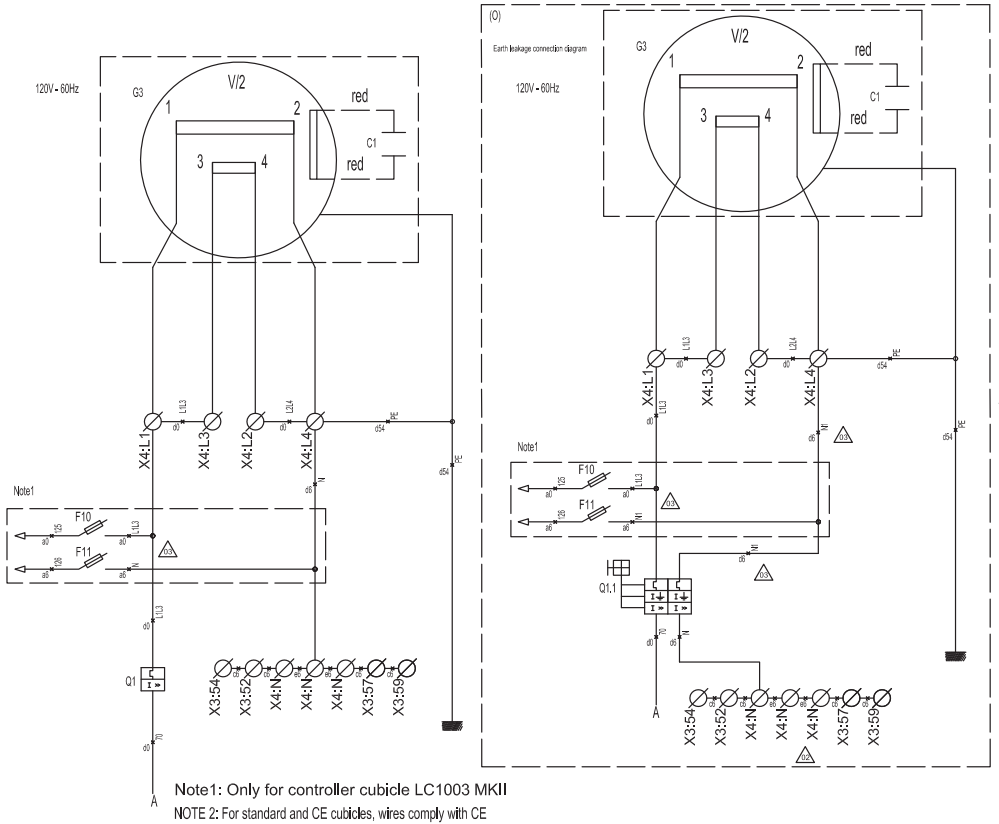
Legend

Wire size :	Colour code :
a = 1 mm²	0 = black
b = 1.5mm²	1 = brown
c = 2.5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
k = 70 mm²	54= green/y
l = 95 mm²	

lx = 95 mm² EPR-CSP (BS6195-4C)
bx = 1.5mm NSGAFOeU

Ma	Grid	Name
Q2	C1	Breaker 6A
Q3	C2	Breaker 6A
Q4	C3	Breaker 6A
Q5	C5	Breaker 6A
Q6	E6	Breaker 10A
H1-H4	F1-F5	LED AC
X3		Terminals
X4		Terminals
X6	F6	Socket 10A
(O)		Option equipments

Applicable for HiLight V4, HiLight V5+, AC power circuit 120V 60Hz for no socket or Duplex socket



Note1: Only for controller cubicle LC1003 MKII

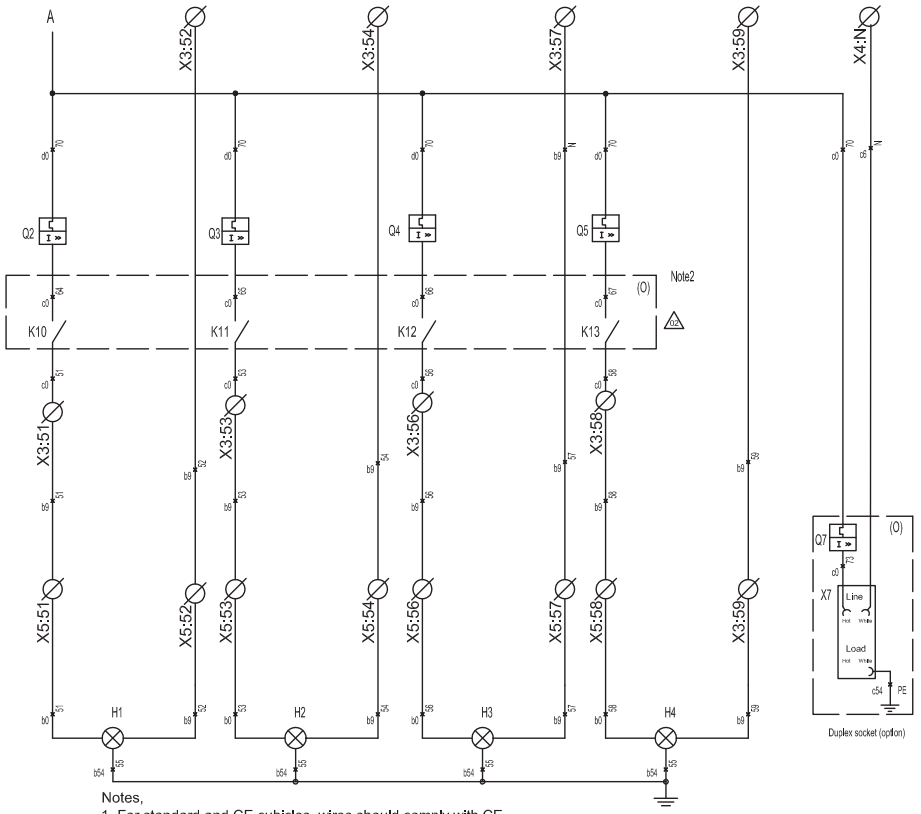
NOTE 2: For standard and CE cubicles, wires comply with CE

Legend

Wire size :	Colour code :
a = 1 mm²	0 = black
b = 1.5mm²	1 = brown
c = 2.5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
k = 70 mm²	54= green/y
l = 95 mm²	
lx = 95 mm²	EPR-CSP (BS6195
bx = 1.5mm²	NSGAFOeU

Ma	Grid	Name
G3	A4	Alternator
Q1	G4	Main breaker 20A
Q1.1	G4	Earth leakage breaker 30mA
F10	D2	Fuse 2A
F11	D2	Fuse 2A
X4		Terminals
C1		Alternator capacitor

Applicable for HiLight V5+, AC lamp circuit 120V 60Hz for Duplex socket

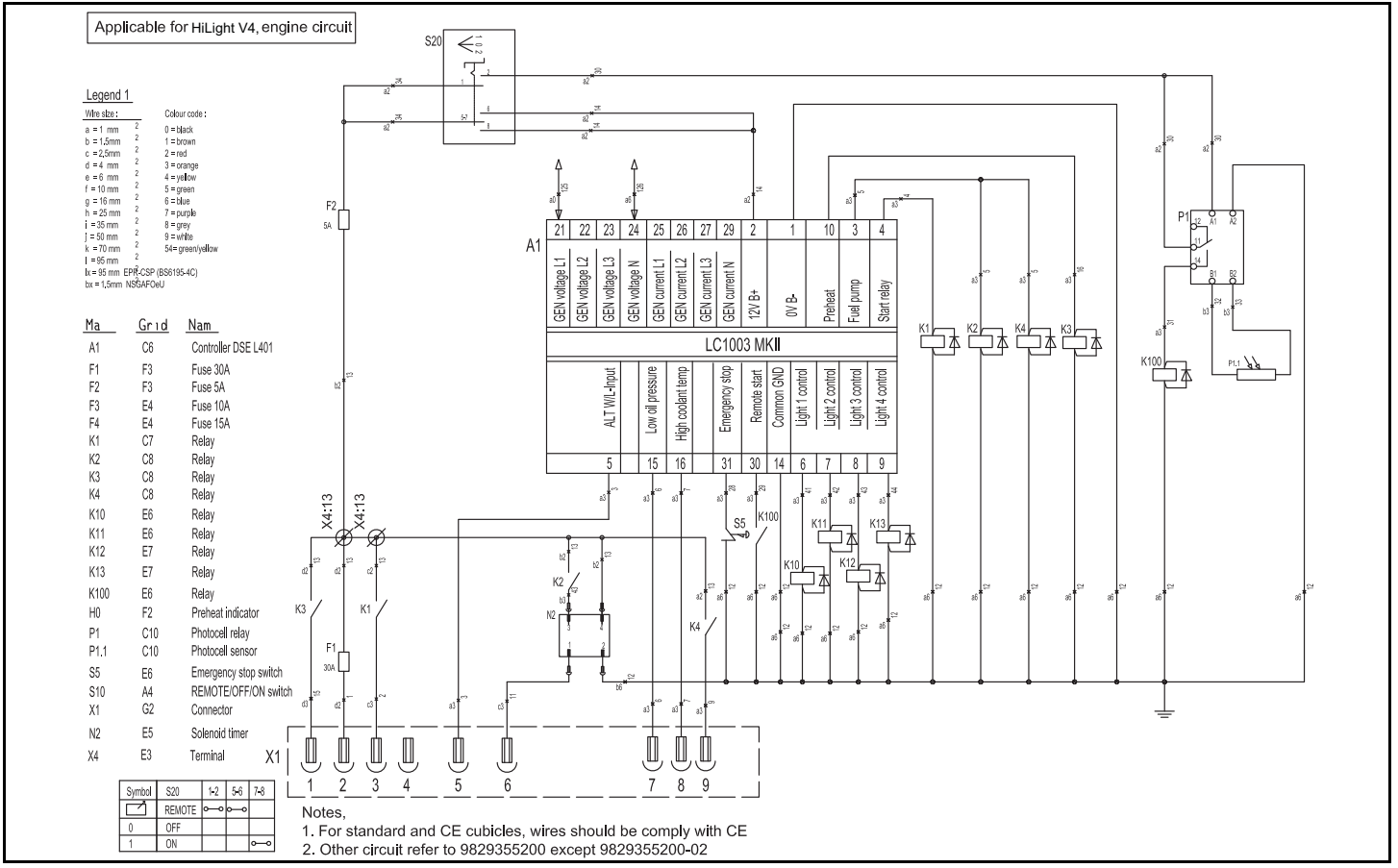


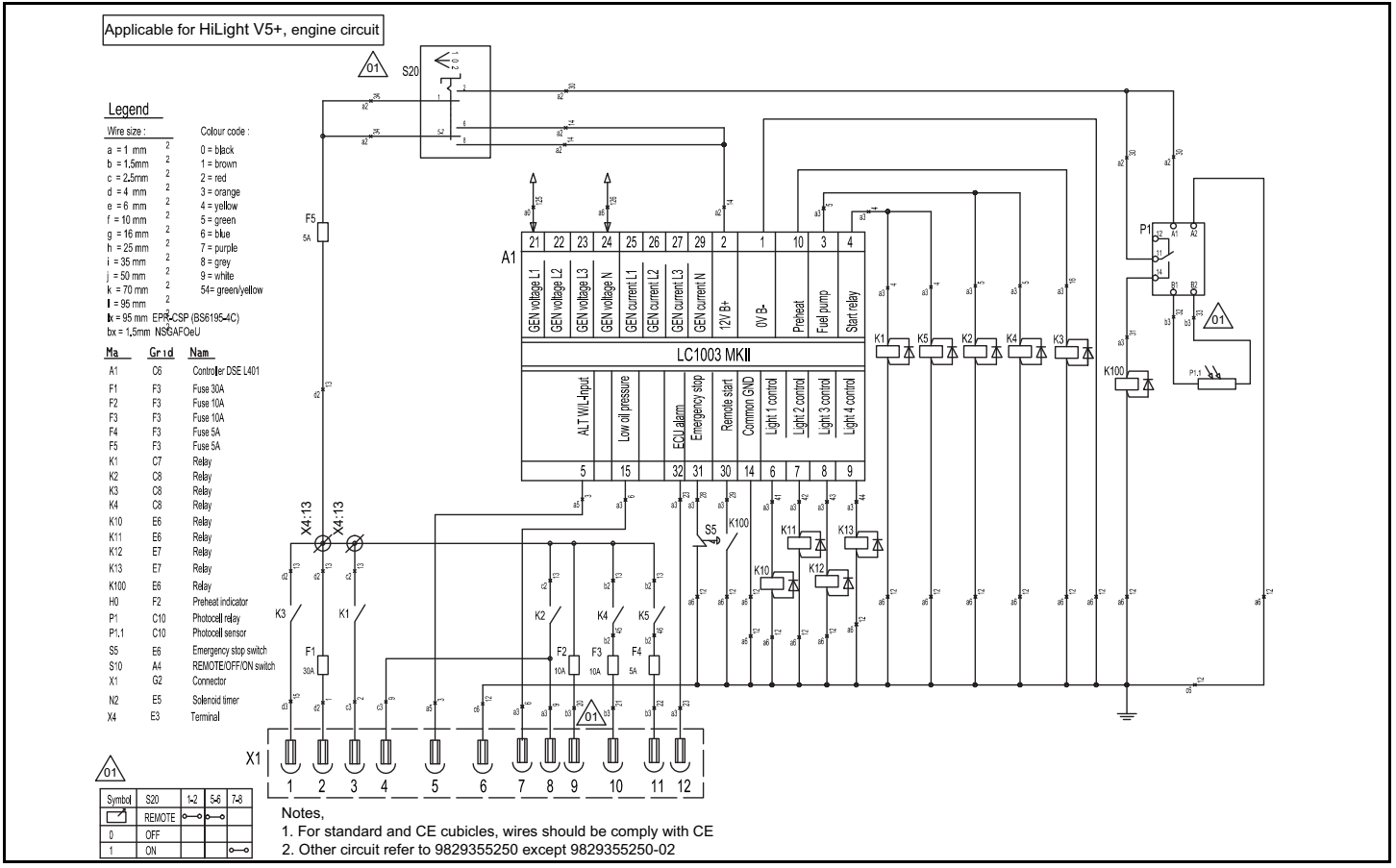
Legend

Wire size :	Colour code :
a = 1 mm²	0 = black
b = 1.5mm²	1 = brown
c = 2.5mm²	2 = red
d = 4 mm²	3 = orange
e = 6 mm²	4 = yellow
f = 10 mm²	5 = green
g = 16 mm²	6 = blue
h = 25 mm²	7 = purple
i = 35 mm²	8 = grey
j = 50 mm²	9 = white
k = 70 mm²	54= green/y
l = 95 mm²	
lx = 95 mm² EPR-CSP (BS6195	
bx = 1.5mm² NSGAFOeU	

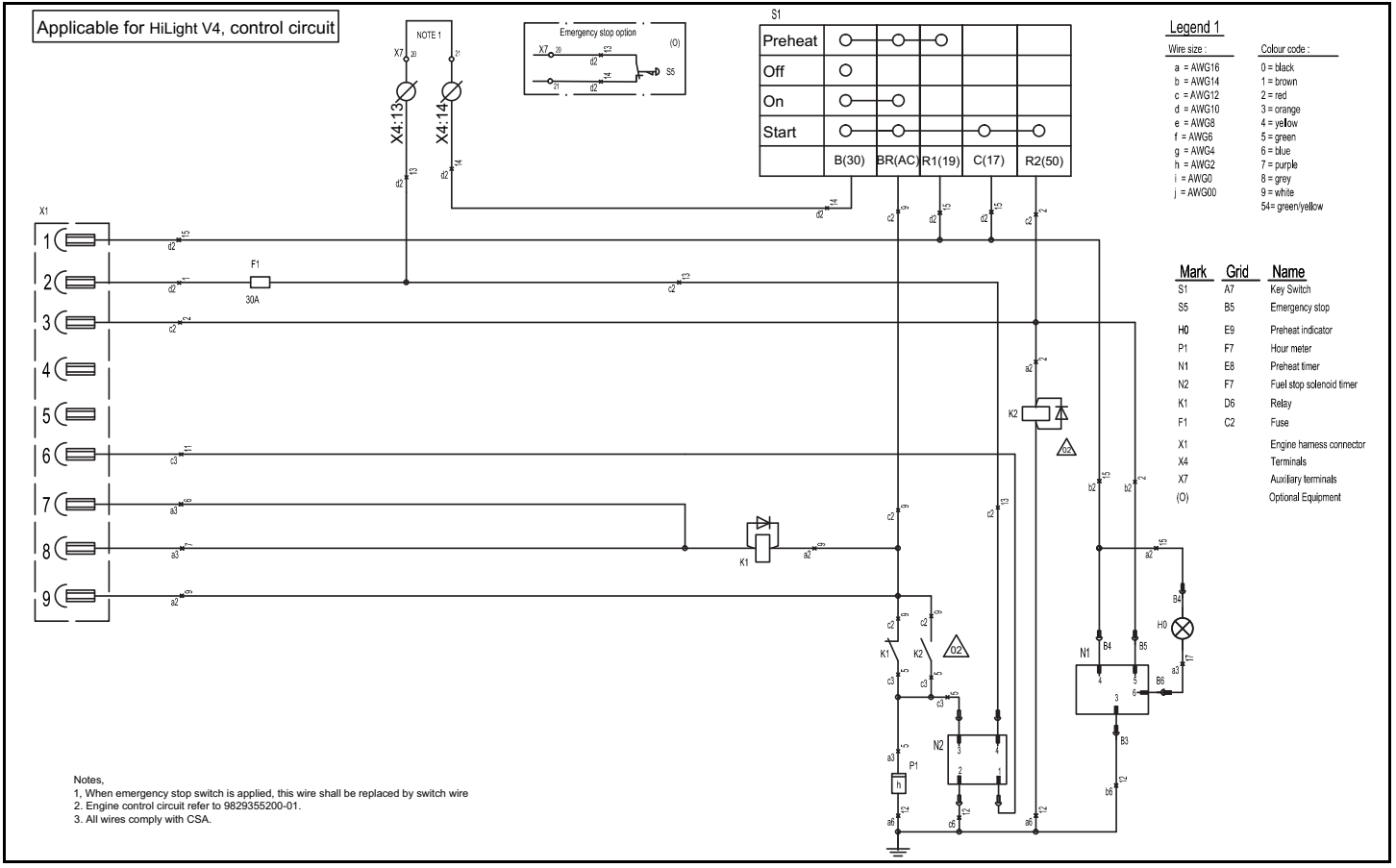
Ma	Grid	Name
Q2	C1	Breaker 6A
Q3	C2	Breaker 6A
Q4	C3	Breaker 6A
Q5	C5	Breaker 6A
Q7	E6	Breaker 20A
H1-H4	F1-F5	LED AC
X3		Terminals
X4		Terminals
X7	F6	Socket 20A
(O)		Option equipments

Notes,
1. For standard and CE cubicles, wires should comply with CE.
2. Only use for LC1003 MKII

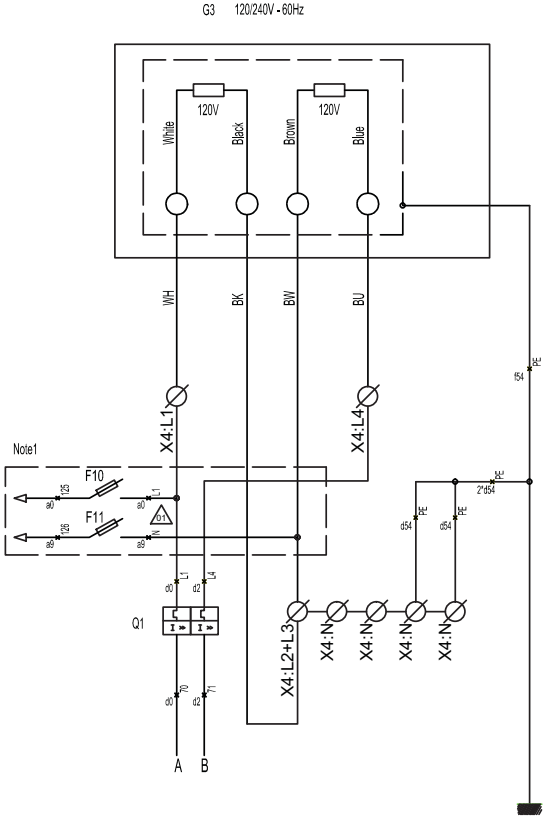

Applicable for HiLight V4, engine circuit
Legend 1
Wire size:
a = 1 mm²
b = 1,5mm²
c = 2,5mm²
d = 4 mm²
e = 6 mm²
f = 10 mm²
g = 16 mm²
h = 25 mm²
i = 35 mm²
j = 50 mm²
k = 70 mm²
l = 95 mm²
lx = 95 mm² EPR-CSP (BS6195-4C)
bx = 1,5mm² NSGAFOeU
Colour code:
0 = black
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = purple
8 = grey
9 = white
54= green/yellow
Ma | Grid | Nam
A1 C6 Controller DSE L401
F1 F3 Fuse 30A
F2 F3 Fuse 5A
F3 E4 Fuse 10A
F4 E4 Fuse 15A
K1 C7 Relay
K2 C8 Relay
K3 C8 Relay
K4 C8 Relay
K10 E6 Relay
K11 E6 Relay
K12 E7 Relay
K13 E7 Relay
K100 E6 Relay
H0 F2 Preheat indicator
P1 C10 Photocell relay
P1.1 C10 Photocell sensor
S5 E6 Emergency stop switch
S10 A4 REMOTE/OFF/ON switch
X1 G2 Connector
N2 E5 Solenoid timer
X4 E3 Terminal
Symbol | S20 | 1-2 | 5-6 | 7-8
REMOTE
0 OFF
1 ON
S20
F2 5A
F1 30A
A1
21 22 23 24 25 26 27 29 2 1 10 3 4
GEN voltage L1
GEN voltage L2
GEN voltage L3
GEN voltage N
GEN current L1
GEN current L2
GEN current L3
GEN current N
12V B+
0V B-
Preheat
Fuel pump
Start relay
LC1003 MKII
5 15 16 31 30 14 6 7 8 9
ALT WL-Input
Low oil pressure
High coolant temp
Emergency stop
Remote start
Common GND
Light 1 control
Light 2 control
Light 3 control
Light 4 control
X4:13
X4:13
K3
K1
K2
K4
N2
S5
K100
K11
K13
K10
K12
K1
K2
K4
K3
K100
P1
P1.1
X1
1 2 3 4 5 6 7 8 9
Notes,
1. For standard and CE cubicles, wires should be comply with CE
2. Other circuit refer to 9829355200 except 9829355200-02



Notes,
1. For standard and CE cubicles, wires should be comply with CE
2. Other circuit refer to 9829355250 except 9829355250-02


Applicable for HiLight V4, control circuit
NOTE 1
X4:13
X4:14
Emergency stop option
S5
S1
Preheat
Off
On
Start
B(30)
BR(AC)
R1(19)
C(17)
R2(50)
Legend 1
Wire size :
a = AWG16
b = AWG14
c = AWG12
d = AWG10
e = AWG8
f = AWG6
g = AWG4
h = AWG2
i = AWG0
j = AWG00
Colour code :
0 = black
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = purple
8 = grey
9 = white
54= green/yellow
X1
F1
30A
K1
K2
N1
N2
P1
H0
Mark Grid Name
S1 A7 Key Switch
S5 B5 Emergency stop
H0 E9 Preheat indicator
P1 F7 Hour meter
N1 E8 Preheat timer
N2 F7 Fuel stop solenoid timer
K1 D6 Relay
F1 C2 Fuse
X1 Engine harness connector
X4 Terminals
X7 Auxiliary terminals
(O) Optional Equipment
Notes,
1, When emergency stop switch is applied, this wire shall be replaced by switch wire
2. Engine control circuit refer to 9829355200-01.
3. All wires comply with CSA.

Applicable for HiLight V4, AC power circuit 120/240V 60Hz



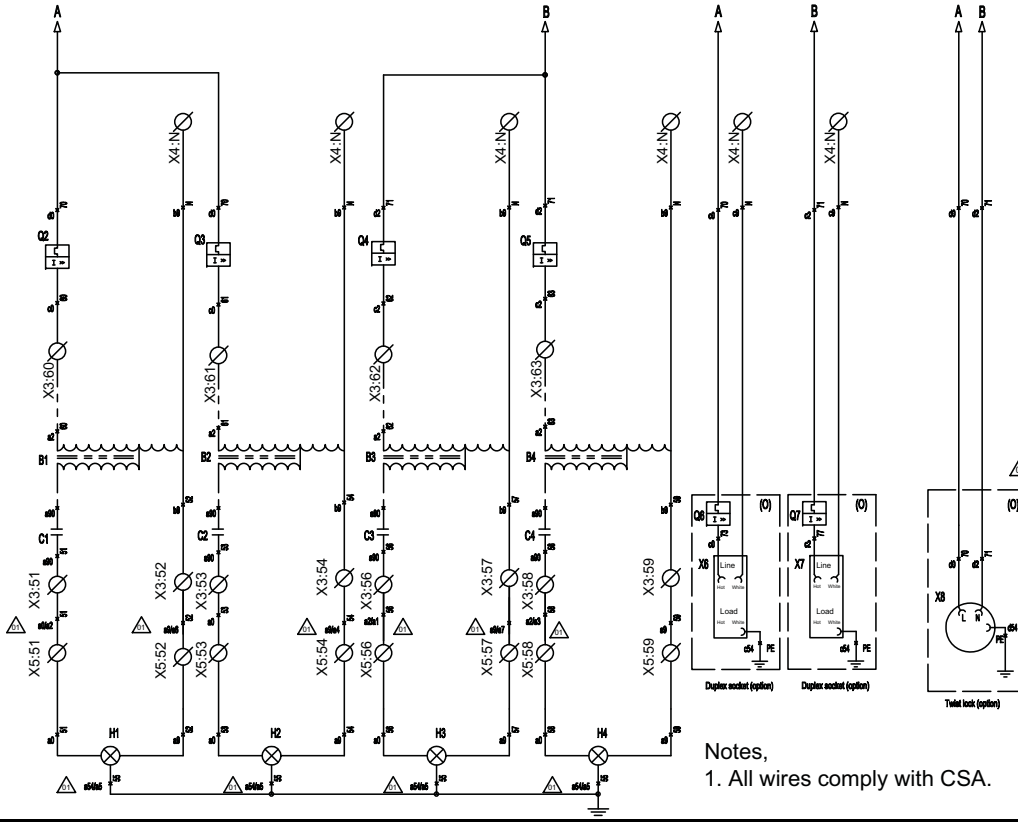
Legend 1

Wire size :	Colour code :
a = AWG16	0 = black
b = AWG14	1 = brown
c = AWG12	2 = red
d = AWG10	3 = orange
e = AWG8	4 = yellow
f = AWG6	5 = green
g = AWG4	6 = blue
h = AWG2	7 = purple
i = AWG0	8 = grey
j = AWG00	9 = white
	54= green/yellow

Ma	Grid	Name
G3	A4	Alternator
Q1	D4	Main breaker 25A
X4		Terminals
F10	D4	Fuse
F11	D4	Fuse

Notes,
1. Only for controller cubicle LC1003 MKII
2. All wires comply with CSA.

Applicable for HiLight V4, lamp circuit 120/240V 60Hz
With Longxin coil cord, wire color 51 and 53 are black; 56 and 58 are red; 52,54,57 and 59 are white; 55 is green/yellow;
or with Philatron coil cord, wire color 51 is red; 53 is black; 56 is brown; 58 is orange; 52 is blue; 54 is yellow; 57 is purple; 59 is white; 55 is green.



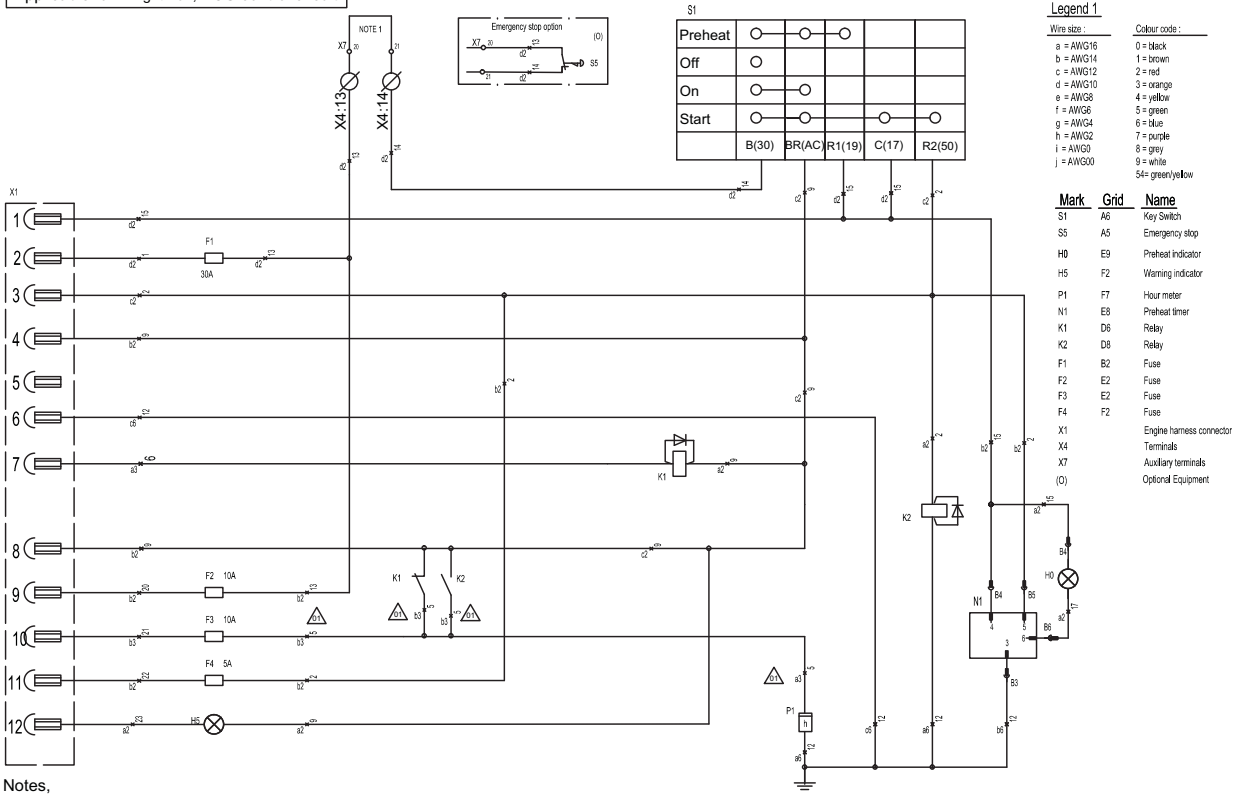
Legend 1

Wire size :	Colour code :
a = AWG16	0 = black
b = AWG14	1 = brown
c = AWG12	2 = red
d = AWG10	3 = orange
e = AWG8	4 = yellow
f = AWG6	5 = green
g = AWG4	6 = blue
h = AWG2	7 = purple
i = AWG0	8 = grey
j = AWG00	9 = white
	54= green/yellow

Ma	Grid	Name
Q2	C1	Breaker 16A
Q3	C2	Breaker 16A
Q4	C3	Breaker 16A
Q5	C5	Breaker 16A
Q6	E6	Breaker 20A
Q7	E7	Breaker 20A
B1-B4	D1-D5	Light ballast 120V 60HZ
C1-C4	E1-E5	Light capacity 480V, 24uf, 60Hz
H1-H4	F1-F5	MH lamp
X6	F6	Socket 20A 120V
X7	F7	Socket 20A 120V
X9	F8	Socket 30A 240V
X3		Terminals
X5		Terminals
(O)		Option equipments

Notes,
1. All wires comply with CSA.

Applicable for HiLight V5+, ECU control circuit



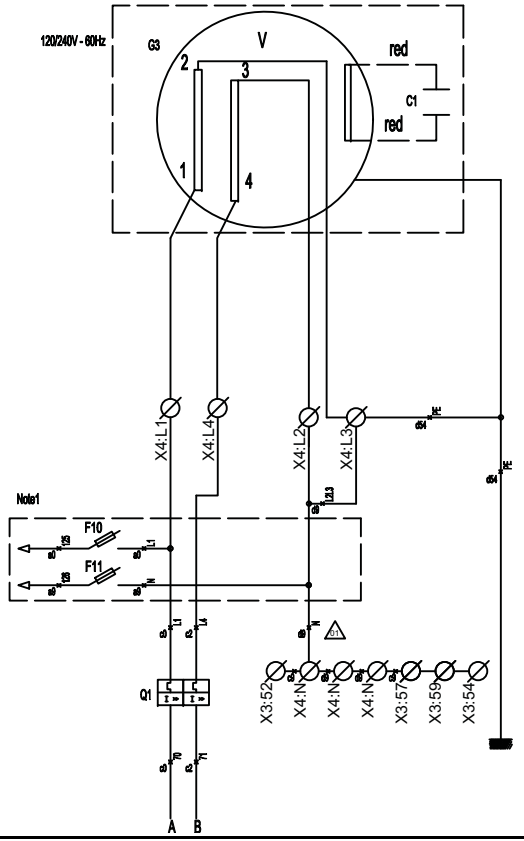
Legend 1

Wire size :	Colour code :
a = AWG16	0 = black
b = AWG14	1 = brown
c = AWG12	2 = red
d = AWG10	3 = orange
e = AWG8	4 = yellow
f = AWG6	5 = green
g = AWG4	6 = blue
h = AWG2	7 = purple
i = AWG0	8 = grey
j = AWG00	9 = white
	54= green/yellow

Mark	Grid	Name
S1	A6	Key Switch
S5	A5	Emergency stop
H0	E9	Preheat indicator
H5	F2	Warning indicator
P1	F7	Hour meter
N1	E8	Preheat timer
K1	D6	Relay
K2	D8	Relay
F1	B2	Fuse
F2	E2	Fuse
F3	E2	Fuse
F4	F2	Fuse
X1		Engine harness connector
X4		Terminals
X7		Auxiliary terminals
(O)		Optional Equipment

Notes,
1. When emergency stop switch is applied, this wire shall be replaced by switch wire
2. Control circuit see page 9829355250-01,9829355250-03
3. All wires comply with CSA

Applicable for V5+, AC power circuit 120/240V 60Hz



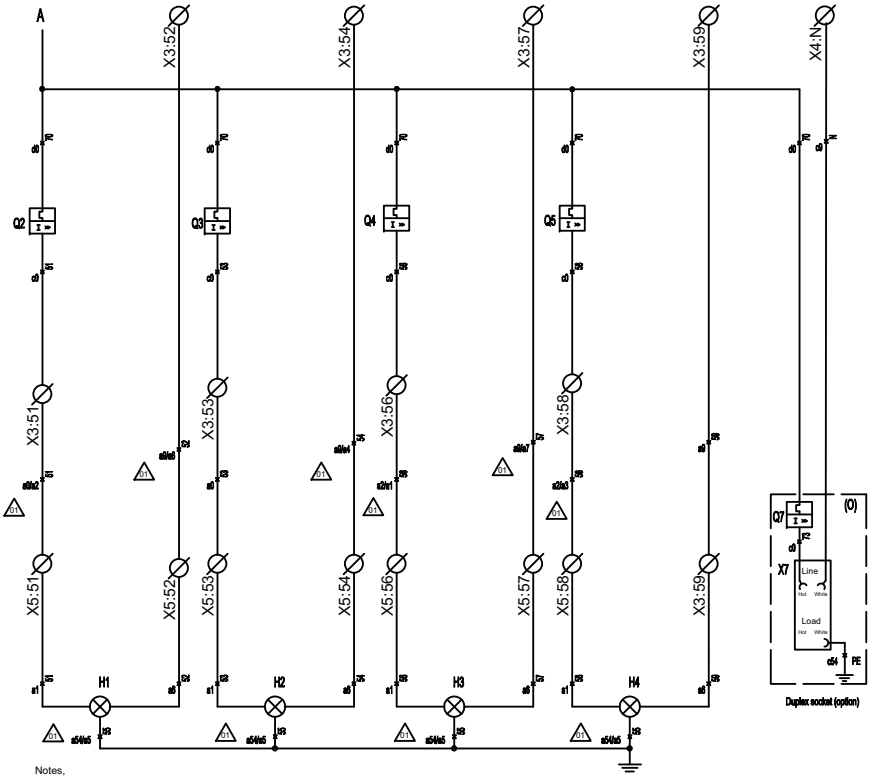
Legend 1

Wire size :	Colour code :
a = AWG16	0 = black
b = AWG14	1 = brown
c = AWG12	2 = red
d = AWG10	3 = orange
e = AWG8	4 = yellow
f = AWG6	5 = green
g = AWG4	6 = blue
h = AWG2	7 = purple
i = AWG0	8 = grey
j = AWG00	9 = white
	54= green/yellow

Ma	Grid	Name
G3	A4	Alternator
Q1	F2	Main breaker 10A
X3		Terminals
X4		Terminals
C1		Alternator capacitor

Notes,
1, Only for controller cubicle LC1003 MKII
2, All wires comply with CSA.

Applicable for HiLight V5+, LED circuit 120V 60Hz only
With Longxin coil cord, wire color 51 and 53 are black; 56 and 58 are red; 52,54,57 and 59 are white; 55 is green/yellow;
or with Philatron coil cord, wire color 51 is red; 53 is black; 56 is brown; 58 is orange; 52 is blue; 54 is yellow; 57 is purple; 59 is white; 55 is green.



Legend 1

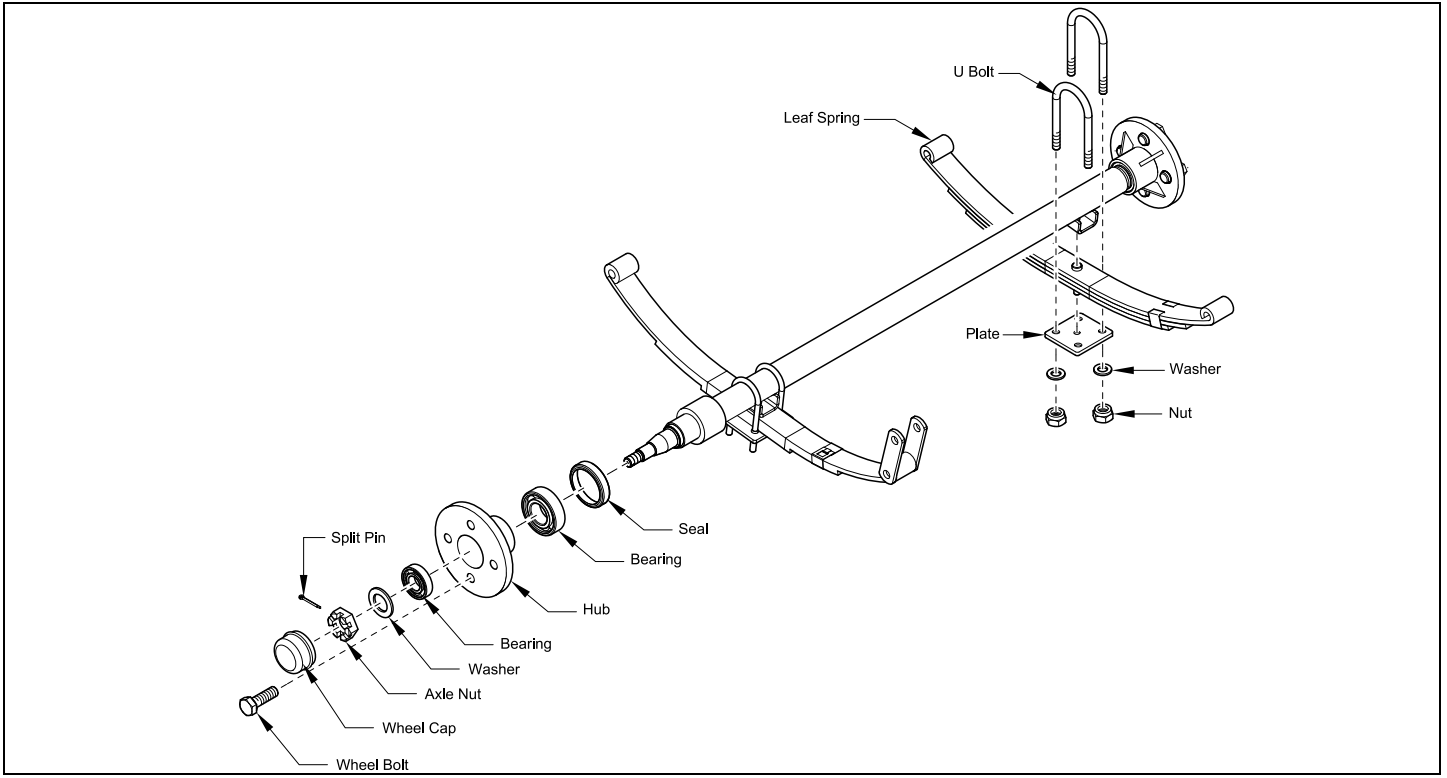
Wire size :	Colour code :
a = AWG16	0 = black
b = AWG14	1 = brown
c = AWG12	2 = red
d = AWG10	3 = orange
e = AWG8	4 = yellow
f = AWG6	5 = green
g = AWG4	6 = blue
h = AWG2	7 = purple
i = AWG0	8 = grey
j = AWG00	9 = white
	54= green/yellow

Ma	Grid	Name
Q2	C1	Breaker 6A
Q3	C2	Breaker 6A
Q4	C3	Breaker 6A
Q5	C5	Breaker 6A
Q7	E6	Breaker 20A
H1-H4	F1-F5	LED AC
X7	F6	Socket 120V20A
X3		Terminals
X4		Terminals
(O)		Option equipments

Notes,
1, All wires comply with CSA.

Axle maintenance manual

Axle



Safety Precautions

- Welding or drilling on shaft tube is not allowed.
- Select the matching wheel hub: wheel offset, PCD (bolt circle), tire bolt hole diameter, with the angle must be connected with the hub and the wheel bolts to match. Pay particular attention to the recommended tightening torque.

Maintenance

After 10,000 km or 3 years (whichever is earlier):

- Check the wheel bearing axial clearance and adjust, if necessary.
- Check the quality and quantity of grease and replace if necessary.

Operation

Check the axle wheel bearing axial clearance:

Steps:

- Jacking trailer, check whether the wheels turn smoothly, without hindrance.
- Axial flipping tires, whether we can feel the obvious gap

Re-adjust the axle hub bearing axial clearance:

Steps:

- Remove the wheels and wheel covers.
- Remove the slotted nut cotter pin.
- Tighten shaft nut, then back to loose 1/2 turn (180 °), then tighten 1/4 turn (90 °).
- Check the wheel functioning - is free to rotate, and the wheel can not be detected with axial clearance.
- Plug cotter pin.

  Note: Adjust the bearing correctly. Over tightening may result in bearing damage.
- Check the quality and quantity of grease. If necessary, fill or replace the grease.

  Wheel Bearing Grease: 2 # of lithium grease.
- Replace the wheel hub cover.

Wheel bolt tightening torque

Thread Size	Hexagon square width	Tightening torque Nm
M12X1.5	SW19	90

U-bolt nut tightening torque

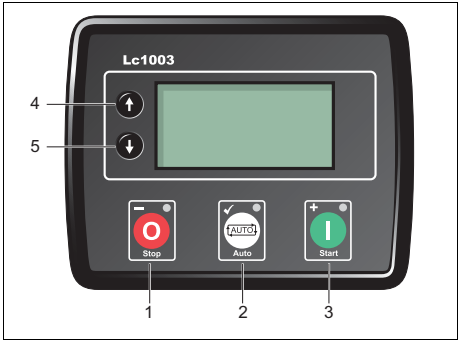
Thread Size	Hexagon square width	Tightening torque Nm
M12X1.5	SW18	90

Setting the Lc1003™ controller

Controller settings should only be performed by a qualified technician.

Push button and LED functions

Following push buttons are used on the Lc1003™:



1 

STOP: Is used to activate Stop/Reset mode. When pressing the STOP button, the generator will unload (Light Output 1, 2, 3 & 4 becomes inactive (if used)), the fuel supply de-energises and the engine shuts down. Pressing the STOP button will also clear any alarm conditions for which the triggering criteria have been removed.

2 

AUTO: Is used to activate Auto mode.
It is also used for floodlight operation:

- switch on the floodlights manually (S20: ON)
- switch on/off the floodlights automatically, in REMOTE mode (S20: REMOTE)

3 

START: Is used to start the unit in Manual mode.
It is also used to switch off the floodlights manually (S20: ON).

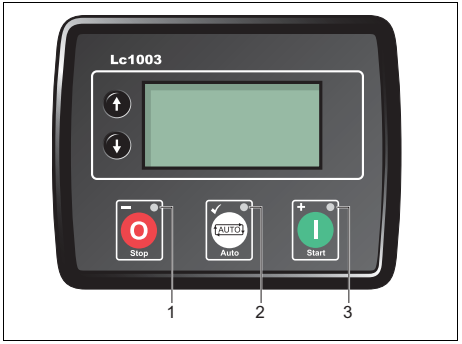
4 

UP: Is used for navigating the instrumentation, event log and configuration screens and to go to the previous parameter level.

5 

DOWN: Is used for navigating the instrumentation, event log and configuration screens and to go to the next parameter level.

Following LEDs are used on the Lc1003™:

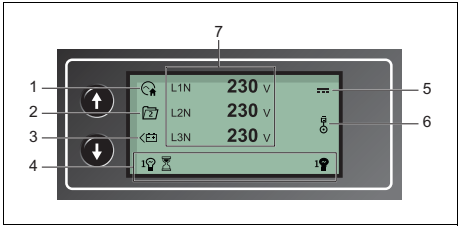


1	**Stop**	LED indicates that the unit is in Stop/ Reset Mode.
2	**Auto**	LED indicates that the unit is in Auto Mode.
3	**Start**	LED indicates that the unit is in Manual/Start Mode.

Module display

Home page

The home page is the page displayed when no other page has been selected:



1	Instrumentation icon
2	Active configuration
3	FPE/Auto run
4	Light output icons
5	Alarm icon
6	Mode icon
7	Instrumentation and Unit e.g. voltage reading

Icon overview

Instrumentation icons

Display	Description
	The default home page which displays Generator voltage and the Auto Run icon
	Generator voltage and frequency instrumentation screen
	Current and load instrumentation screen
	Engine speed instrumentation screen
	Hours run instrumentation screen
	Battery voltage instrumentation screen
	Oil pressure instrumentation screen
	Coolant temperature instrumentation screen
	Fuel sender instrumentation screen

Display	Description
	Appears when the event log is being displayed
	Current time held in the unit
	The current value of the scheduler run time and duration
	ECU diagnostic trouble codes
	Oil Filter maintenance timers
	Air Filter maintenance timers
	Fuel Filter maintenance timers

Active configuration

Display	Description
1	Appears when the main configuration is selected.
2	Appears when the alternative configuration is selected.

Front panel editor (FPE) / Auto Run icons

Display	Description
	Appears when a remote start input is active
	Appears when a low battery run is active
	Appears when a scheduled run is active

Mode icons

Display	Description
	Appears when the engine is at rest and the unit is in stop mode.
	Appears when the engine is at rest and the unit is in auto mode.
	Appears when the engine is at rest and the unit is waiting for a manual start.
	Appears when a timer is active, for example cranking time, crank rest etc.
	Appears when the engine is running, and all timers have expired, either on or off load. The animation speed is reduced when running in idle mode.

Display	Description
	Appears when the unit is in the front panel editor.
	Appears when a USB connection is made to the controller.
	Appears if either the configuration file or engine file becomes corrupted.

Light output icons

Display	Description
	Appears when the corresponding light output has been configured and is not active.
	Appears when the corresponding light output has been configured and is active.
	Appears when a timer to delay the light output activating or de-activating is in progress

Alarm icons

To indicate the alarm that is currently active on the controller, an icon is displayed in the Alarm Icon section.

Navigation menu

To enter the navigation menu, press both the UP and DOWN buttons simultaneously.

To navigate to the desired page, select the corresponding icon by pressing the UP and DOWN button and press the AUTO (Accept) button to enter.

If the AUTO button is not pressed, the display automatically returns to the home page.

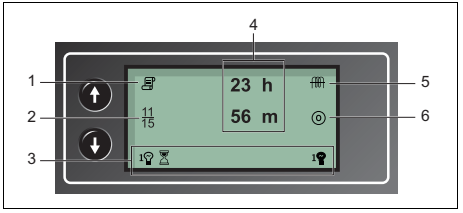
Display	Description
	Home and generator voltage and frequency instrumentation
	Generator current and load instrumentation
	Engine instrumentation
	Module information
	Engine DTCs (Diagnostic Trouble Codes) if active

Display	Description
	Event Log

Event log

The Lc1003™ module's event log contains a list of the last 15 record electrical trip or shutdown events and the engine hours at which they occurred.

Once the log is full, any subsequent electrical trip or shutdown alarms over writes the oldest entry in the log. Hence, the log always contains the most recent shutdown alarms. The module logs the alarm, along with the engine running hours.



1	Icon to indicate that the event log is currently displayed
2	Number of event displayed out
3	Light output status
4	The engine hours at which the event occurred
5	Icon to indicate the electrical trip or shutdown alarm that has been recorded
6	Current operating state of the module

To view the event log:

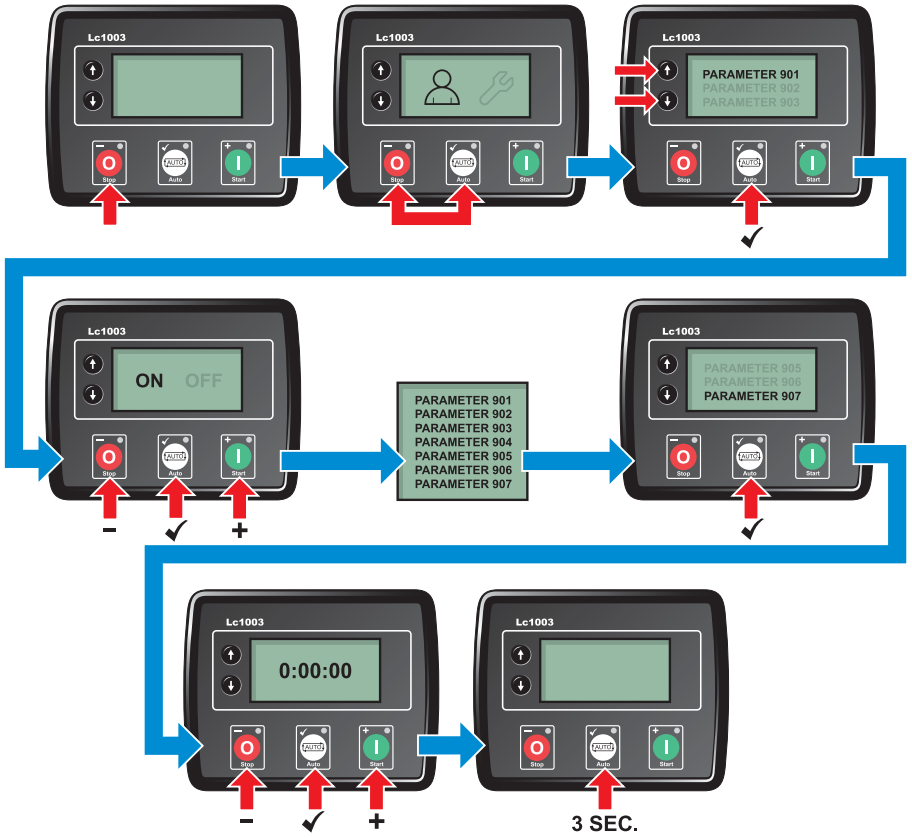
1. Press the UP and DOWN buttons simultaneously to display the navigation menu.
2. Once entered, cycle to the event log section (1) and enter.
3. To view the event log, repeatedly press the UP or DOWN buttons until the LCD screen displays the desired event.
4. Continuing to press the UP or DOWN buttons will cycle through the past alarms.
5. To exit the event log, press the UP and DOWN buttons simultaneously.

Setting the Lc1003™ clock and timer

The Lc1003™ controller provides a basic scheduler that allows the operator to set a detailed time schedule following which the igniting of the floodlights can be programmed.

To set the Lc1003™ timer, follow the flow on the next page.

Menu flow



Configuration Parameters – Scheduler		
901	Enable Scheduler	On (1), Off (0)
902	Schedule Run On or Off Load	On (1), Off (0)
903	Schedule Period	Weekly (0), Monthly (1)
904	Scheduler (1) Start Time	0:00:00
905	Scheduler (1) Start Day	0 (1=Monday)
906	Scheduler (1) Start Week	1,2,3,4
907	Scheduler (1) Duration	0:00:00
908	Scheduler (2) Start Time	0:00:00
...		
935	Scheduler (8) Duration	0:00:00

Configuration Parameters – Clock		
1001	Time of Day	0:00:00
1002	Day of Month	00
1003	Month of Year	00
1004	Year	0000

Setting the Lc1003™ clock

1. Enter the weekly timer menu by pressing the STOP and AUTO button simultaneously.

   The Operator and Service icon appear on the display.
2. To toggle between both icons, press the START (+) and STOP (-) button.
3. When the Operator icon lights up, press the AUTO button.

   The scheduler parameter list appears on the display.
4. Scroll through the parameter list by pressing the UP/DOWN button, till parameter **1001** (Time of Day) is highlighted.
5. Press the AUTO (Accept) button to enter the parameter.
6. Scroll through the parameter values by pressing the START (+) and STOP (-) button.
7. When the desired value is reached, press the AUTO (Accept) button.

   After setting a parameter, the parameter list appears again on the display.
8. Set parameters **1002**, **1003** and **1004** following the same procedure.
9. To exit the parameter list, press the AUTO button for three seconds.

Setting the Lc1003™ timer

1. Enter the weekly timer menu as described above.
2. Select following parameters and settings to enable/set up the timer:

   901 Enable scheduler: ON

   902 Schedule run On or Off load: ON
3. To program the settings for Event 1, proceed as follows:

   903 Schedule period
   - 0 = Weekly: Event 1 repeats every week
   - 1 = Monthly: Event 1 repeats every month

   Suggested: Weekly (0)

   904 Scheduler start time period
   Set the desired time period. Therefore, the Lc1003™ clock should be set first.

   905 Scheduler start day
   - 1 = Monday
   - 2 = Tuesday
   - ...

   For one Event only one week day can be selected. To set several week days, more Events should be programmed.

   906 Scheduler start week
   - 1 = monthly week 1
   - 2 = monthly week 2
   - ...

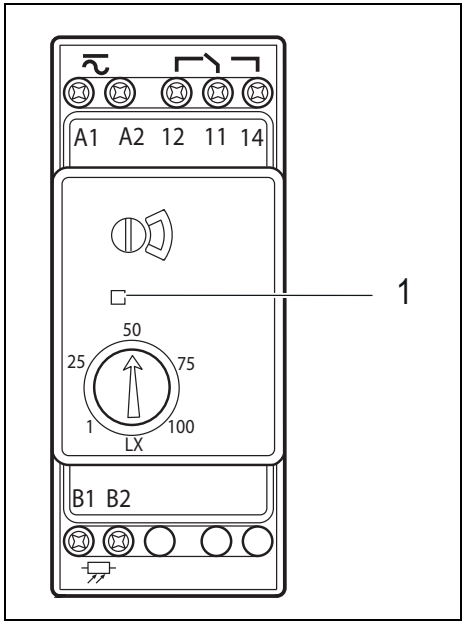
   If for parameter 903 “week” schedule “0” has been selected, parameter 906 is set by default “monthly week 1”.

   907 Scheduler duration
   Set the desired time period. When this value is set, Event 1 is closed.
4. To program the next event (Event 2), select and program parameter **908**. Continue with parameters **909**, **910** and **911** to complete Event 2.
5. Following this procedure up to 8 events can be programmed, e.g. 1 event per week day.
6. To exit the parameter list, press the AUTO button for three seconds.
7. To enable the weekly timer, put switch S20 to remote mode and push the AUTO button on the controller.

Setting the sensitivity regulator

The photocell sensitivity regulator is used for regulating the luminosity sensitivity level of the photocell.

When the red LED (1) on the regulator is blinking, the regulator is reading the luminosity level measured by the photocell.



There are 2 blinking levels:

– Level 1: slow blinking
  The photocell detects there is enough light, according to its set sensitivity level.
– Level 2: fast blinking
  The photocell detects there is a prolonged luminosity change that falls below the set sensitivity level. Remote start will be triggered and the floodlights of the light tower will switch on automatically (if Remote start and Auto mode are selected, see also chapter “Operating the light tower” on page26).

The recommended value to set the regulator is at 50 Lux.

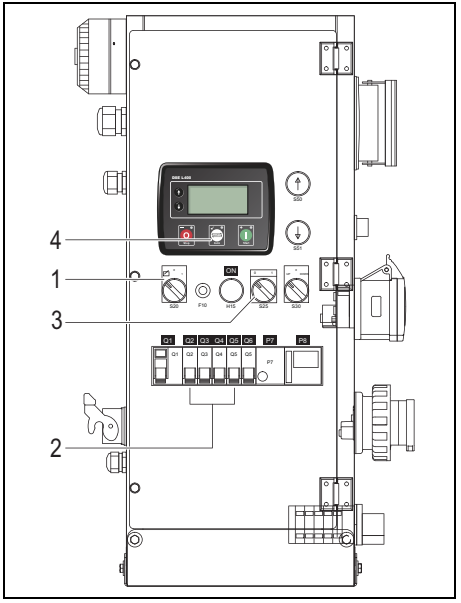
– < 50 Lux: the floodlights switch on.
– > 50 Lux: the floodlights switch off.

The luminosity level can be adjusted to a desired higher/lower level, according to the specific operating conditions of the light tower.

ASM (Auto Rise and Lower Safety Mast)

The ASM option provides the possibility to not only switch on/off the floodlights automatically, but also to extend/lower the mast automatically.

Before activating the ASM option, make sure that the lighting tower is properly positioned, away from overhead power cables or other obstructions.



Maintenance

Maintenance schedule

Before carrying out any maintenance activity, check that the ignition switch is in position OFF and that no electrical power is present on the terminals.

Service PAK	**Notes**	**Daily**	**Every 200 hrs**	**Every 400 hrs**	**Every 800 hrs**
Service Pak HiLight V4	-	-	**3002 6076 10**	**3002 6076 20**	**3002 6076 30**
Service Pak HiLight V5+	-	-	**3002 6078 40**	**3002 6078 50**	**3002 6078 60**
for the most important sub-assemblies, Atlas Copco has developed service kits that combine all wear parts. These service kits offer you the benefits of genuine parts, save on administration costs and are offered at reduces price, compared to the loose components. Refer to the parts list for more information on the contents of the service kit.					
Maintenance schedule (running hrs)	**Notes**	**Daily**	**Every 200 hrs**	**Every 400 hrs**	**Every 800 hrs**
Empty air filter vacuator valves		x			
Check engine oil level (if necessary top up)		x			
Check coolant level	(4)	x			
Check/Fill fuel level	(3)	x			
Check air intake vacuum indicators		x			
Check for leaks in engine-, compressor-, air-, oil-, or fuel system			x	x	x
Check function of coolant heater (option)					x
Check on abnormal noise		x			
Check electrical system cables for wear				x	x
Check torque on critical bolt connections				x	x
Check electrolyte level and terminals of battery	(6)		x	x	x
Check engine speed			x	x	x

Service PAK	Notes	Daily	Every 200 hrs	Every 400 hrs	Every 800 hrs
Inspect/Adjust fan belt				x	
Replace fan belt					x
Hoses and clamps - Inspect/Replace			x	x	x
Change engine oil	(2) (5)		x	x	x
Replace engine oil filter	(2)		x	x	x
Replace fuel pre-filter	(5)		x	x	x
Replace fuelfilter	(5)			x	x
Check/Test glow plugs - grid heater					x
Check rubber flexibles	(7)			x	
Check emergency stop		x			
Clean radiator	(1)			x	
Replace air filter element	(1)				x
Check/Replace safety cartridge					x
Inspection by Atlas Copco service technician					x
Inspect starter motor					x
Inspect waterpump					x
Inspect alternator					x
Check engine protective devices					x
Check valve in the fuel return line (for mechanical injection system)					x
Maintenance schedule (km)	**Notes**	**Daily**	**Every 500 Km**	**Every 1000 km**	**Every 2000 km**
Check tyre pressure			x	x	x
Check tyres for uneven wear					x
Check torque of wheel nuts					x

Notes :
(1) More frequently when operating in a dusty environment.
(2) HiLight V4 add 2L oil, HiLight V5+ add 2.5L oil.
(3) After a days work.
(4) Change coolant every 2 years, coolant volume is 4L.
(5) Gummed or clogged filters means fuel starvation and reduced engine performance.
(6) See section "Before starting".
(7) Replace all rubber flexibles each 6 years.

Hilight V4	
PAK & KIT	**AC PN**
SERVICE PAK 200H	3002607610
SERVICE PAK 400H	3002607620
SERVICE PAK 800H	3002607630
KIT: STEEL CABLE	3002608400
STARTER MOTOR	1094150200
FUEL SOLENIOD	1092638800
ELECTRICAL FUEL PUMP	1094066600
FAN	1094150300
V-BELT	1094150500
LIFTING JACK TOP WIND	1092642000
LIFTING JACK SIDE WIND	1092642100
FUEL TANK CAP	1092628639
WINCH RBW 2500	1092870900
LAMP 1000W MH	1092629700
BULB LIGHT TOWER 1000W	1310072643
COIL CORD	1092872301
KEY SWITCH	1092684400
KEY	1094190004
HOUR METER	1092049817
BATTERY HILIGHT V4	1092852000

Hilight V5+	
PAK & KIT	**AC PN**
SERVICE PAK 200H	3002607840
SERVICE PAK 400H	3002607850
SERVICE PAK 800H	3002607860
KIT: STEEL CABLE	3002608400
STARTER MOTOR	1094150200
FUEL SOLENIOD	1092638800
ELECTRICAL FUEL PUMP	1094066600
FAN	1094150300
V-BELT	1094150500
LIFTING JACK TOP WIND	1092642000
LIFTING JACK SIDE WIND	1092642100
FUEL TANK CAP	1092628639
WINCH RBW 3500	1092871500
Lamp LED	1636004999
COIL CORD	1092872301
KEY SWITCH	1092684400
KEY	1094190004
HOUR METER	1092049817
BATTERY HILIGHT V5+	1092852000

AML DATA

Reference conditions 1) 4)		**HiLight V4 50Hz**	**HiLight V4 60Hz**	**HiLight V5+ 50Hz**	**HiLight V5+ 60Hz**
1.Rated frequency	Hz	50	60	50	60
2.Rated speed	rpm	3000	3600	1500	1800
3.Generator service duty		PRP	PRP	PRP	PRP
4.Absolute inlet pressure	kPa	100	100	100	100
5.Relative air humidity	%	0	0	0	0
6.Air inlet temperature	°C	20	20	20	20
Limitations 2)					
1.Maximum ambient temperature	°C	49	49	50	50
2.Altitude capability	m	3500	3500	3500	3500
3.Relative air humidity maximum	%	85	85	85	85
4.Minimum starting temperature unaided	°C	-10	-10	-10	-10
5.Minimum starting temperature aided	°C	-25	-25	-25	-25 (a)
Performance data 2) 3) 5)					
1.Rated active power (PRP) 1ph	kW	5.5	6.5	2.5	2.8
2.Rated power factor (lagging) 1phase	cos f	1.00	1.00	1.00	1.00
3.Rated apparent power 1ph	kVA	5.5	6.5	2.5	2.8
4.Rated voltage 1ph. line to line	V	230	240	230	240
5.Rated current 1ph.	A	23.7	27.0	11.1	11.6
6.Fuel consumption at no load (0%)	kg/h	0.87	1.05	0.28	0.31
Fuel consumption at 1 lamp on	kg/h	1.03	1.28	0.42	0.40

		HiLight V4 50Hz	HiLight V4 60Hz	HiLight V5+ 50Hz	HiLight V5+ 60Hz
Fuel consumption at 2 lamps on	kg/h	1.23	1.51	0.48	0.50
Fuel consumption at 3 lamps on	kg/h	1.45	1.74	0.53	0.57
Fuel consumption at 4 lamps on	kg/h	1.66	1.96	0.69	0.65
7.Specific fuel consumption (at 4 lamps on)	kg/kWh	0.415	0.489	0.172	0.163
8.Fuel autonomy at 4 lamps on with fuel tank	h	55.6	47.2	134.6	142.2
9.Maximum sound power level (LWA) measured according to 2000/14/EC OND	dB(A)	94	95	88	88
10. Capacity of fuel tank	I	110	110	110	110
Application data					
1.Mode of operation		PRP	PRP	PRP	PRP
2.Site		land use	land use	land use	land use
3.Operation		single	single	single	single
4.Start-up and control mode		manual	manual	manual	manual
5.Start-up time		unspecified	unspecified	unspecified	unspecified
6.Mobility/ Config. acc. to ISO 8528-1:1993		mobile/E	mobile/E	mobile/E	mobile/E
7.Mounting		fully resilient	fully resilient	fully resilient	fully resilient
8.Climatic exposure		open air	open air	open air	open air
9.Status of neutral		earthed	earthed	earthed	earthed
Design data 4)					
Alternator					
1.Standard		EN50081-1	EN50081-1	EN50081-1	EN50081-1
		EN50082-1	EN50082-1	EN50082-1	EN50082-1

		HiLight V4 50Hz	HiLight V4 60Hz	HiLight V5+ 50Hz	HiLight V5+ 60Hz
2.Make		Sincro	Sincro	Mecc Alte	Mecc Alte
3.Model		EK 2 MCT	EK 2 MCT	LT3N-75	LT3N-75
4.Rated output,class H temp. rise	kVA	6	7.5	3	4.5
5.Degree of protection	IP	23	23	21	21
Engine					
1.Standard		ISO 3046	ISO 3046	ISO 3046	ISO 3046
		ISO 8528-2	ISO 8528-2	ISO 8528-2	ISO 8528-2
		GB/T 6072.1	GB/T 6072.1	GB/T 6072.1	GB/T 6072.1
		GB/T 2820.2	GB/T 2820.2	GB/T 2820.2	GB/T 2820.2
2.Maker		Kubota	Kubota	Kubota	Kubota
3.Model		Z482	Z482	Z482	Z482
4.Rated output	kW	8.3	9.9	3.4	3.63
production tolerance	%	±5	±5	±5	±5
5.Coolant		PARCOOL	PARCOOL	PARCOOL	PARCOOL
6.Combustion system		direct injection	direct injection	direct injection	direct injection
7.Aspiration		naturally aspirated	naturally aspirated	naturally aspirated	naturally aspirated
8.Number of cylinders		2	2	2	2
9.Swept volume	I	0.479	0.479	0.479	0.479
10.Speed governing		mechanical	mechanical	mechanical	mechanical
11.Capacity of oil sump	I	2.5	2.5	2.5	2.5
12.Electrical system	Vdc	12	12	12	12

		HiLight V4 50Hz	HiLight V4 60Hz	HiLight V5+ 50Hz	HiLight V5+ 60Hz
Power circuit					
Circuit-breaker					
1.Number of poles		1	2	1	2
2.Thermal release It	A	36.25	36.25	14.5	29 (b) (c)
3.Magnetic release Im	A	5..10xIn	5..10xIn	5..10xIn	5..10xIn
Fault current protection					
1.Residual current release IDn	A	0.03	0.03	0.03	0.03 (a)

Notes

1) Reference conditions for engine performance to ISO 3046-1 / GB/T 6072.1

2) See derating diagram or consult the factory for other conditions

3) At reference conditions unless otherwise stated

4) Rating Definition (ISO 8528-1 / GB/T 2820.1):

LTP	Limited Time Power is the maximum electrical power which a generating set is capable of delivering (at variable load), in the event of a utility power failure (for up to 500 hours per year of which a maximum of 300 hours is continuous running). No overload is permitted on these ratings. The alternator is peak continuous rated (as defined in ISO8528-3) at 25°C.
PRP	Engines with this rating are available for an unlimited number of hours per year in a variable load application. Variable load is not to exceed a 70% average of the Prime Power Ratingduring any operating period of 250 hours. Total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of one hour within a 12-hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

5) Specific mass fuel used: 0.85 kg/l

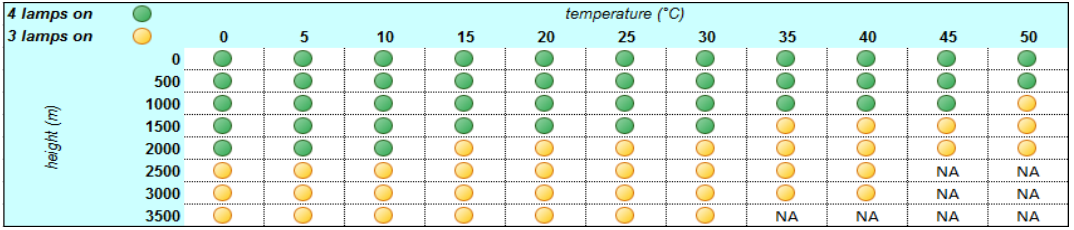
(a) optional equipment

(b) thermal release is higher at 30°C

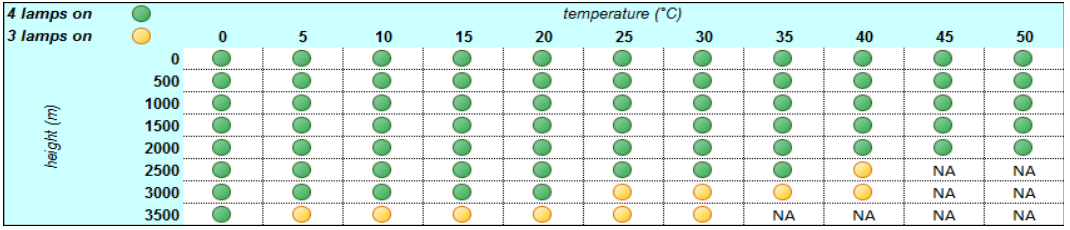
(c) thermal release within 1 hour

DERATING FACTOR LIGHT TOWER (%)

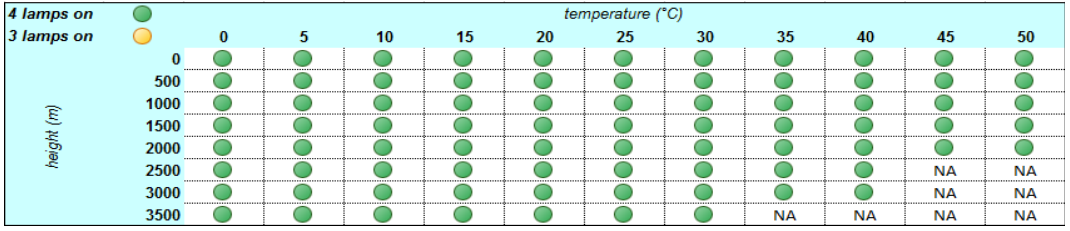
50 Hz



60 Hz



LED 50/60 Hz



For use of light tower outside these conditions, please contact Atlas Copco

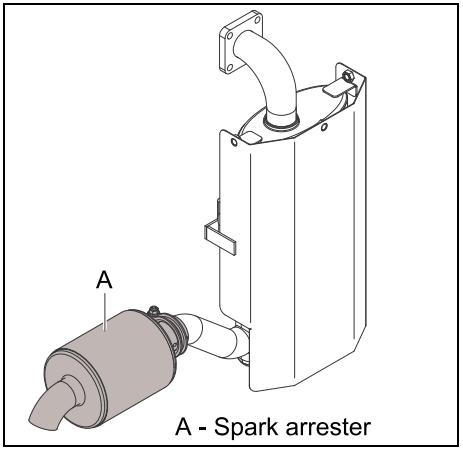
Options

Spark arresters

IMPORTANT!

State and local safety codes specify that, in certain locations, internal combustion engines that use hydrocarbon fuels must be used with spark arrestors.

A spark arresters is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles from the exhaust flow of an internal combusion engine.



Tow hitch

There are 3 options for tow hitch.

- Pintle hook
- 2-inch-ball
- Combo hitch for a 2-inch-ball and pintle hook

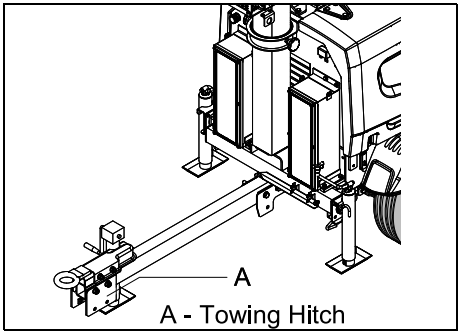
For cambo hitch option only:

When the light tower ships from the factory, the tow bar is set up to use the lunette ring for towing by a vehicle with a pintle hook. To use a ball coupler, follow the procedure below.

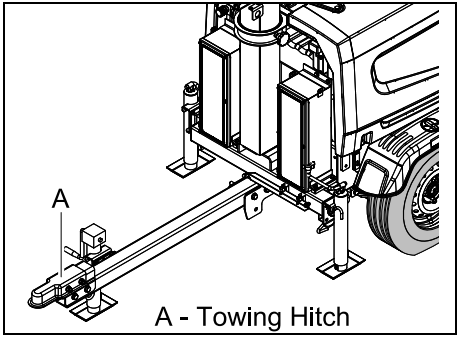
To reverse the tow hitch:

1. Remove the two large bolts that hold the tow hitch to the draw bar.
2. Lift the hitch off the drawbar and rotate the hitch end-to-end.
3. Return the hitch to the draw bar, making sure to align the bolt holes.
4. Reinstall the bolts and tighten the nuts fully.

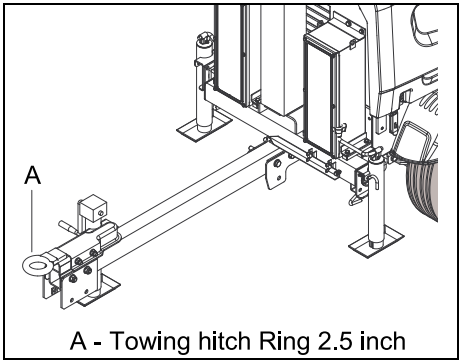
Towing hitch Combo



Towing hitch Ball coupling 2 inch



Towing hitch Ring 2.5 inch



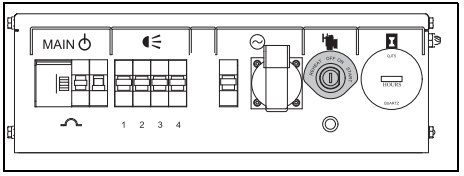
A - Towing hitch Ring 2.5 inch

Control panels

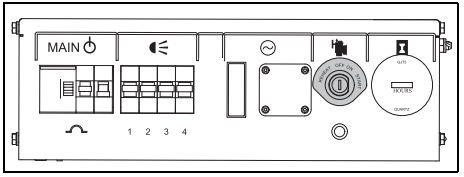
The light tower control panel comprises:

- Circuit breakers for engaging power
- An electrical receptacle for powering external equipment (Option)
- A gauge to track engine use
- Key switch for startingand stopping the engine and a glow-plug indicator for the engine's start coil
- For engine operating instructions, see page 23
- Do not overload machine with socket. Turn off some lamps if you need more power

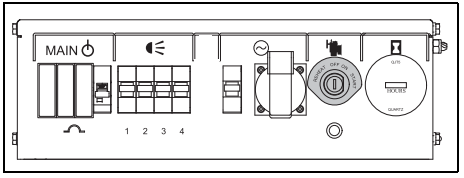
Cubicle ELCB with Universal socket 230V 50Hz



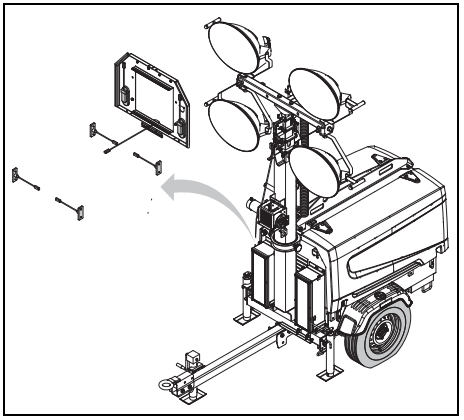
Cubicle ELCB without socket 230V 50Hz



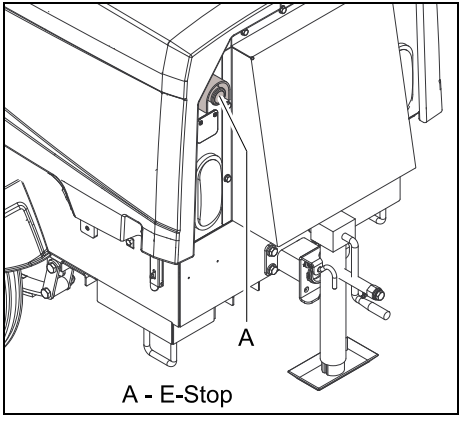
Cubicle with Universal socket 230V 50Hz



Road light system

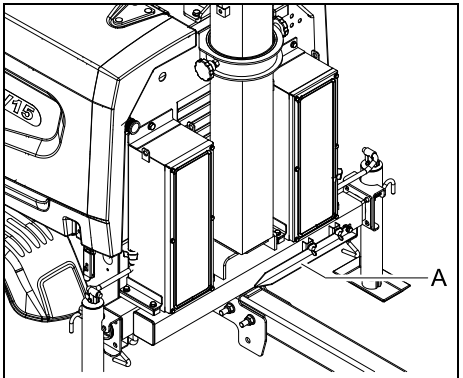


E-Stop



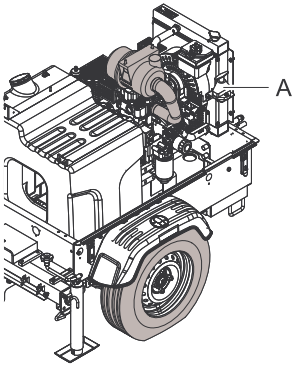
A - E-Stop

Earthing pin



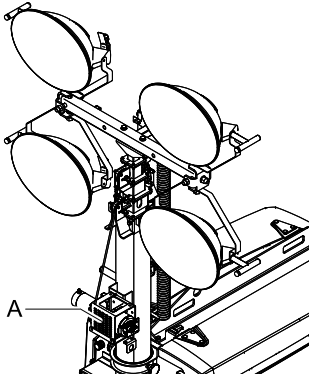
A - Earthing Pin

Battery isolator



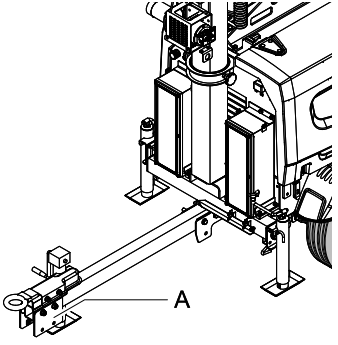
A - Battery Isolator

DC E-winch



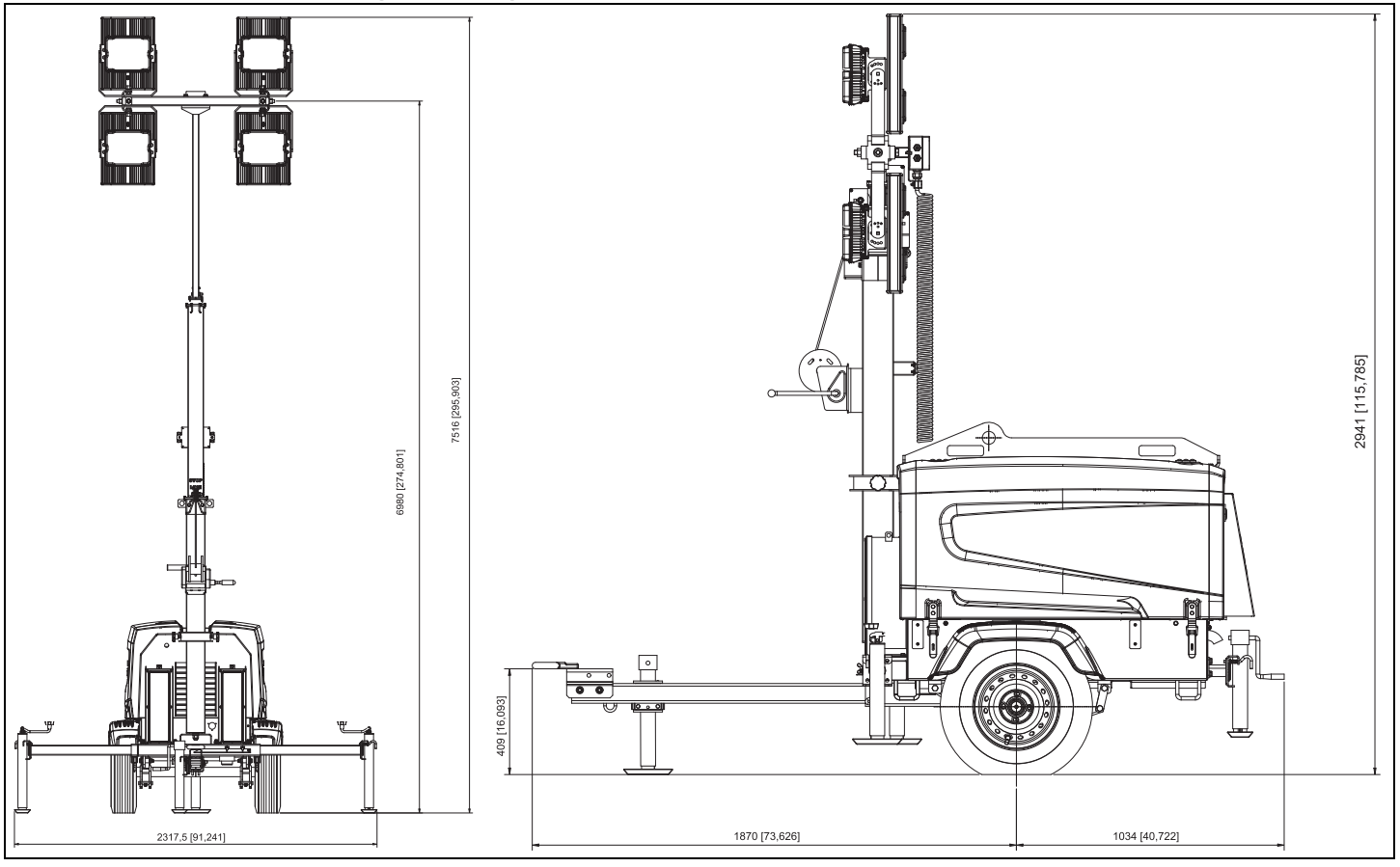
A - DC E-Winch

Adjustable towing support

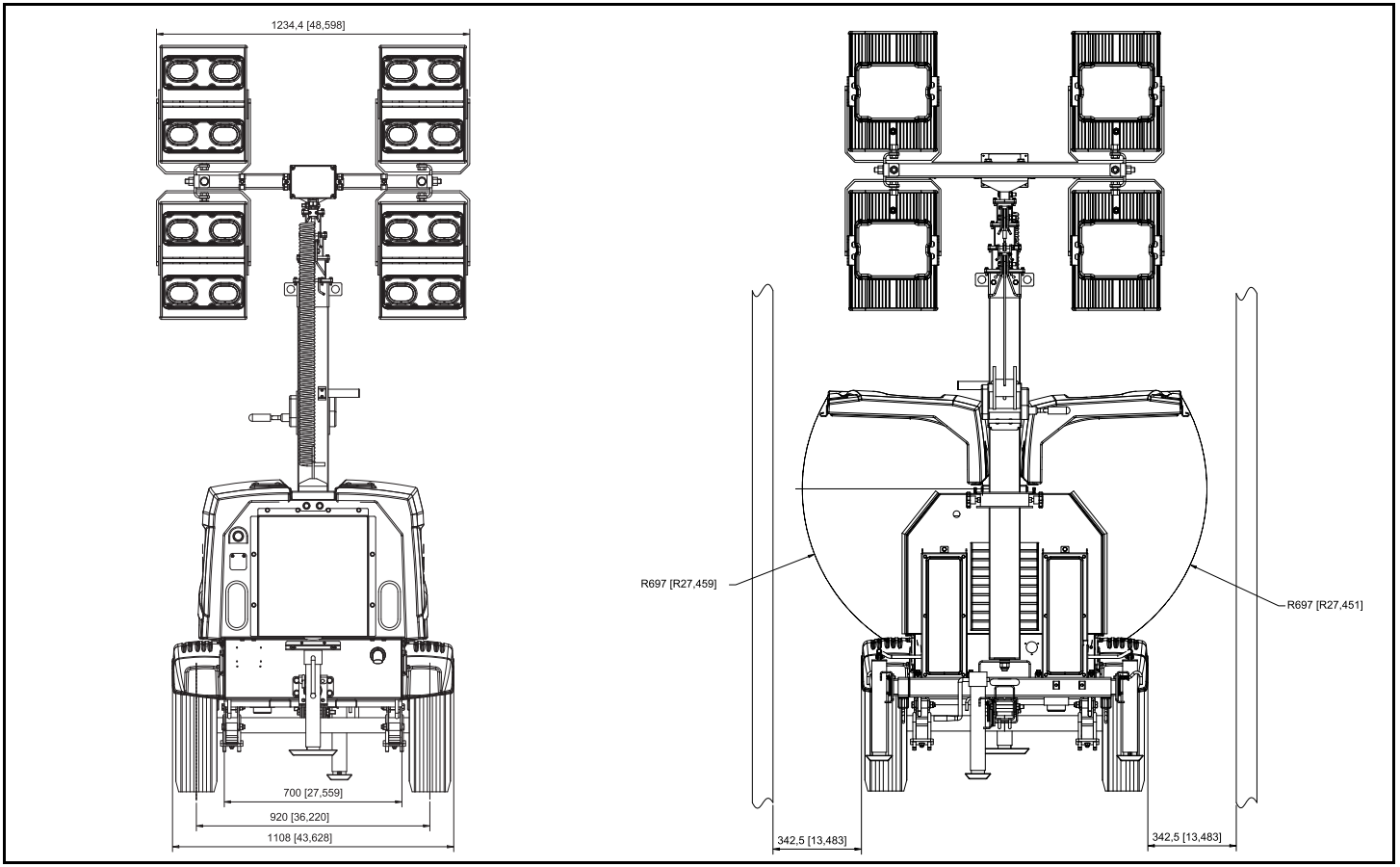


A - Adjustable Towing Support

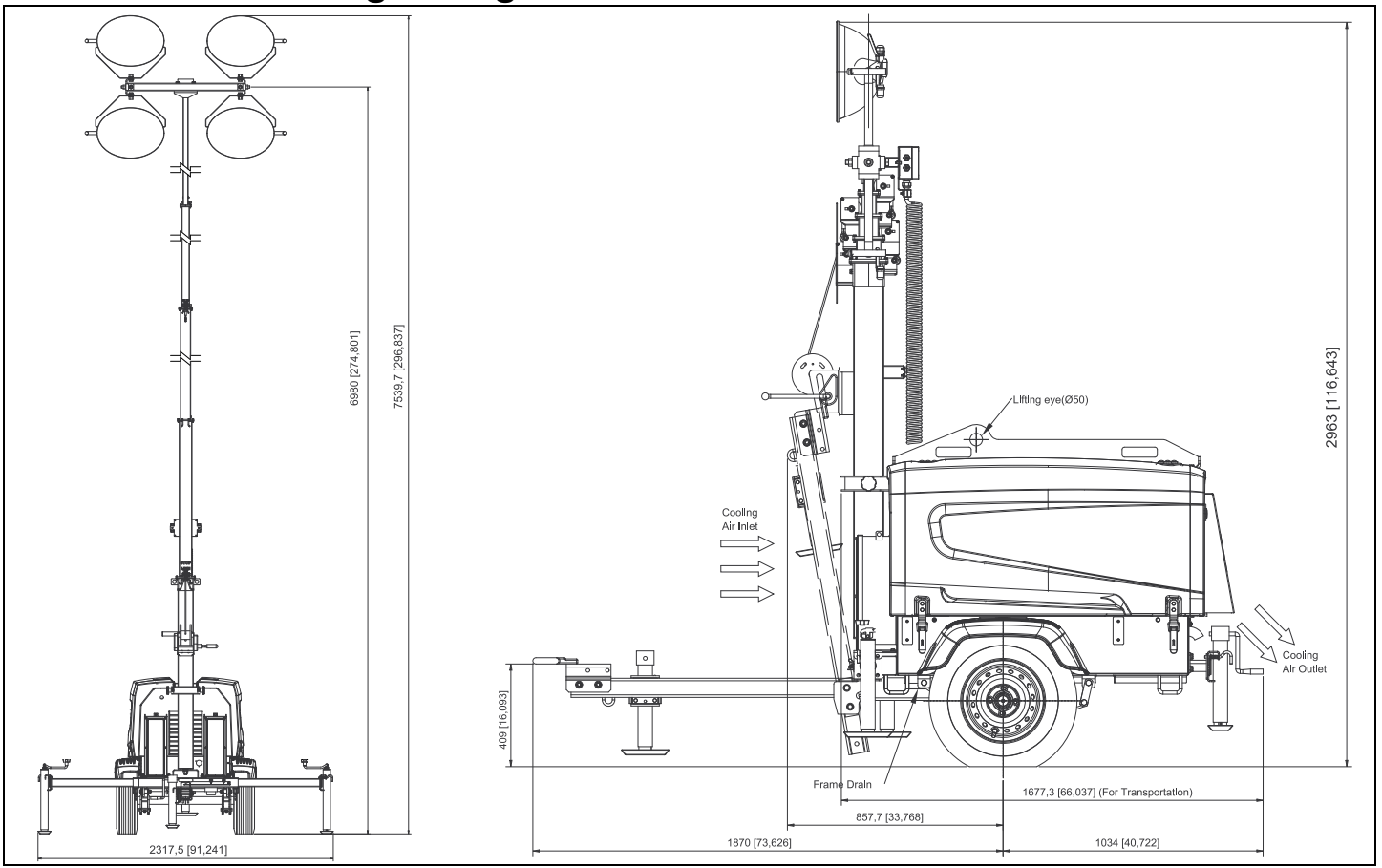
Dimensional drawing - HiLight V5+



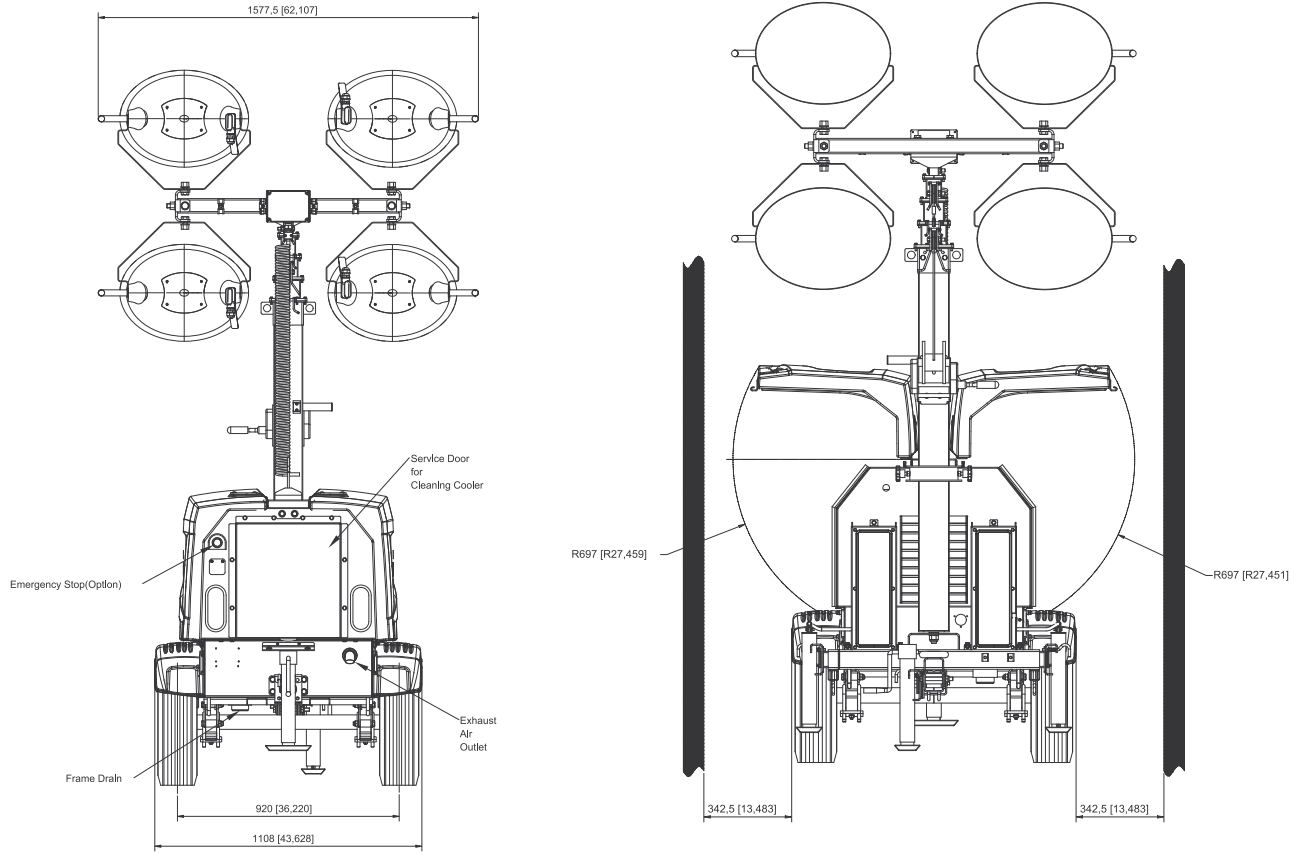
Dimensional drawing - HiLight V5+



Dimensional drawing - HiLight V4



Dimensional drawing - HiLight V4



www.atlascopco.com