



K21 GANTRY LIGHT

Rapid Deployment Lightweight Mobile Lighting System

Operator's Manual



**This manual covers the K21 with the following product code:
K21-110VDC | K21-110VS10 | K21-220VDC | K21-220VS10**

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IMPORTANT INFORMATION ABOUT YOUR K21

Use this page to record important information about your K21.

UNIT PRODUCT REFERENCE	
UNIT SERIAL NUMBER	

This information can be found on your K21's product label on the light head.

You will be required to supply the products serial number when contacting Ritelite (Systems) Ltd or one of Ritelite's approved dealers about parts and service.

IMPORTANT SAFETY INSTRUCTIONS

Some versions of this product are fitted with a polarized plug (one pin is wider than the other) as a feature to reduce the risk of electric shock. This plug type will fit in a polarized outlet only in the correct orientation. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not alter the plug. This product must be earthed.

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Section 1: INTRODUCTION & APPLICATIONS FOR USE

The K21 is designed as a simple to use but powerful portable LED lighting system. It should only be used as a device to provide light as designed and for no other purpose.

All users must read, understand and obey these safety rules and operating instructions before operating the K21 lighting system. Only trained operators or competent personnel should operate the K21.

This manual should stay with the K21 at all times.

APPLICATIONS FOR USE

The K21 mobile lighting system is designed for use in the following applications only. It should not be used for any other purpose. If in any doubt about applications for use please contact either Ritelite (Systems) Ltd or Ritelite (Systems) Ltd's distributor for more information.

- Rail lighting
- Indoor area lighting
- Area lighting for construction site /scene lighting
- Area lighting for events applications
- Maintenance work
- Rescue operations



WARNING



Failure to follow the instructions and safety rules in this manual may result in death or serious injury.

Section 2: SAFETY RULES

It is important that every user understands and observes the safety rules before setting up or using the K21 lighting system.

The Manufacturer, Ritelite (Systems) Ltd cannot anticipate every possible circumstance that might involve a hazard. The warnings in this manual and on labels affixed to the K21 will therefore not cover every eventuality. If using a procedure or operating method not specifically recommended by the manufacturer then the user must verify that it is safe for others and that it does not make the equipment unsafe.

Throughout this manual and on labels on the K21, DANGER, WARNING and CAUTION blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

 DANGER	 WARNING	 CAUTION
Indicates a hazardous situation which, if not avoided, will result in death or serious injury.	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the instructions within this manual are essential to preventing accidents.

WARNING

When using outdoor use portable luminaires, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury including the following:

- a) **Use only three-wire outdoor extension cables that have three-prong earthing plugs and earthing receptacles that accept the appliance's plug.**
- b) **Residual Current Breaker with Over Current (RCBO) protection is to be provided on the circuit (s) or outlet (s) to be used for the wet location of the portable luminaire. Receptacles are available having built-in RCD / RCBO protection and are best used for this measure of safety.**
- c) **Use only with a relevant IP rated extension cable for outdoor use.**

GENERAL SAFETY RULES & POTENTIAL HAZARDS WHEN SETTING UP AND USING THE K21 LIGHTING SYSTEM

FALL HAZARDS

- Do not stand on any part of the mast or light head brackets.
- Do not cling to or pull on the mast.
- Do not climb on or use any part of the K21 as a platform or step.

TIP OVER HAZARDS IF USING A MAST, TRIPOD, OR ANY DEVICE TO SUPPORT THE K21 AT HEIGHT

- Do not raise the mast until the K21 system is positioned level on a firm, flat, horizontal surface with all support legs correctly deployed and locked.
- Do not place the K21 system on a smooth low friction surface even if firm and level. e.g. snow/ice. The unit could be prone to sliding sideways in these circumstances.
- Do not set up the K21 system in windy conditions where wind speed and gusts could exceed the wind rating of the product.
- Check area where the product has been set up on a regular basis to ensure stability has not been compromised through changing conditions, e.g. through wind or water logged ground.
- See operating manual for relevant supporting system before using with the K21 for safe deployment.
- Prior to setting up check the area for any possible hazardous conditions.

- Do not place ladders or scaffolding against any part of the K21 system.
- Do not use the K21 system on a moving or mobile surface or vehicle.
- Do not use the K21 system for any purpose other than that for which it is designed.

ELECTROCUTION HAZARDS

- Maintain safe distances away from electrical power lines in accordance with applicable governmental regulations.
- Keep away from the K21 system if it contacts energized power lines. No-one must touch or operate the K21 system until power lines are shut off.
- When setting a K21 system up in an area which does have electrical power lines in the vicinity allow enough distance for mast movement and electrical line sway or sag and be aware of strong or gusty winds which might cause the K21 to make contact.
- Ensure product is not being set up in a potentially explosive environment – the K21 is not an ATEX approved product.
- Ensure the product will be powered by an RCD / RCBO or suitably protected supply to prevent risk to operators or damage to the K21 system.
- The K21 is not designed to be submersed under water.

BODILY INJURY HAZARDS

- It is recommended that the user wears gloves whilst operating or setting up the K21.
- In slippery or uneven terrain it is recommended that two people carry separate parts of the K21 system.
- The K21 system is designed to be simple to setup and operate by one person however there may be situations where it is recommended that two people setup the product.
- Do not carry the K21 system sections for long distances in extreme temperatures.
- Do not switch on until the K21 is setup correctly - to avoid close eye contact with the light.
- Do not stare directly into the lights to prevent damage to eyes.
- Set the K21 system up so light spill cannot form a nuisance or danger to others, especially those using machinery.
- Where possible the K21 system should be set up away from personnel or moving vehicles.
- Do not grasp or move the light heads after use until they have cooled down for at least 10 minutes.

CRUSHING HAZARDS

- Ensure the K21 system is set up on a firm and horizontal flat surface.
- Do not raise the mast until the K21 system is positioned level on a firm horizontal flat surface with all support legs correctly deployed and locked.
- Do not allow personnel under the K21 system when the mast is raised or lowered.
- Keep hands and fingers away from any potential pinch points.

COLLISION HAZARDS

- Ensure the area around the product and above the product is clear of any possible obstructions before starting to set the K21 up.
- Use common sense and planning when transporting the K21 on any incline or slope.
- On slippery or uneven terrain it is recommended that two people setup the product at all times.
- Make sure when loading the K21 into a vehicle or trolley that it is securely mounted / retained so it cannot fall off or move in such a way that it could harm other items or personnel.

DAMAGED MACHINE HAZARDS

- Do not use a damaged K21 or one that is not working properly.
- Conduct a thorough pre-operation inspection prior to each use.
- Be sure that all labels are in place and legible.
- Do not use if there are any visible damaged parts. Contact your dealer to arrange for spares or repair options.
- Do not use any type of abrasive or strong chemicals to clean the K21.
- Do not attempt to defeat / modify any of the locks or catches.

IMPROPER USE HAZARD

- Never leave a K21 unattended unless a full risk assessment for the application they are being used for has been undertaken by a competent person. Unauthorized personnel may attempt to operate the K21 without proper instruction potentially causing injury to themselves or others.
- The device is to be used only for its prescribed purpose. Any use other than that mentioned is considered to be a case of misuse.
- The user/operator, and not the manufacturer shall be liable for any damage or injury resulting from such cases of misuse.
- It is imperative to observe the local accident prevention regulations.
- The same applies for the general rules of occupational health and safety.
- The manufacturer is not liable for indirect consequential damage and financial loss.
- The manufacturer shall not be liable for any changes made to the device nor for any damage resulting from such changes.
- The K21 is not designed to be setup / used on a live public highway.

Section 3: TECHNICAL SPECIFICATIONS

K21 WEIGHTS / DIMENSIONS	
WEIGHT	5.3Kg
DIMENSIONS (W x H x D)	320mm x 220mm x 310mm (with mount)

ELECTRICAL

Input 90-305V AC 50/60Hz 2.5A max

LED LIGHT HEAD

IP65 Integral electronic driver 90-305V Input
6000K daylight white
max 32,000 lumens

Mains input via 110V/240V 16A plug as per customer requirements.

Section 4: SETTING UP THE K21

Inspect the proposed area for use.

An inspection of the proposed area in which to set up the K21 system is necessary to ensure it is suitable for safe operation. This inspection should be performed by the operator prior to moving the K21 system into position.

If using a tripod or other supporting system, the area should be firm, horizontal, level and free from obstructions and potential hazards.

WARNING

Operators should be aware of the following possible hazardous situations. The operator should also remember these hazards, watch and avoid them while moving, setting up and operating the K21 system.

- **Uneven terrain, drop-offs or holes**
- **Bumps and floor obstructions**
- **Debris either on proposed site or on route to site**
- **Overhead obstructions and high voltage conductors**
- **Inadequate surface support to withstand the K21 weight**
- **Wind and weather conditions – ice, snow, gusty or strong winds being particularly hazardous to the safe use of the K21 at height**
- **All other possible unsafe conditions**

Arrange the angle of the light heads as far as possible to ensure that the light heads are not likely to dazzle people in the near vicinity.

Set the K21 system up in such a way that it cannot obstruct walkways or areas that form emergency exit routes.

WARNING

The K21 system can be used indoors or outdoors. Note recommended maximum wind speed on any supporting system.

Wherever there is any doubt over the wind speed/conditions the K21 system should be lowered for safety.

If using the K21 system for extended periods, a daily check of the unit is required to prevent against misuse or tampering whilst unattended, and to ensure that the surface is still firm, level and stability is not compromised in any way e.g. waterlogged ground.

Section 5: OPERATING INSTRUCTIONS

Do not use the K21 for any purpose other than that for which it is designed – as a mobile floodlighting system.

If more than one operator is expected to set up or use a K21 lighting system at different times, each operator is required to follow all safety rules and instructions in the operators manual. That means every new operator should perform a pre-operation inspection and function tests before using the K21.

5a) PRE-OPERATION INSPECTION

Always perform a pre-operation inspection.

The pre-operation inspection is a visual inspection performed by the operator prior to each use of the K21. This inspection is designed to discover if anything is obviously wrong with a unit before the operator tests it prior to use.

A damaged or modified K21 must never be used. If any damage is discovered the K21 must be removed from service until it has been repaired.

Maintenance and repairs can be executed only by authorised personnel. If any person maintaining or repairing the device is in any doubt, they should contact their dealer or Ritelite (Systems) Ltd.

PRE-OPERATION INSPECTION

Check the following parts or areas for any signs of damage or missing parts.

- Cables (for kinks, frays, abrasions, bare conductors showing)
- Plugs and sockets
- Handles / knobs / adjustment points
- Nuts, bolts and other fasteners

- Check to make sure that there are not dents, weld cracks in the product or signs of significant rust / corrosion.
- Make sure the light head lenses are free from cracks or areas of damage where water would enter.
- Make sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.

Make sure all labels and warnings are present and readable on the product as detailed on page 16 of this manual.

5b) UNIT STABILITY DEPLOYMENT PROCESS



1. Place light heads on top of spigot.



2. Adjust the light head to point in the required direction by slackening knob, then re-tightening once the desired angle is set to prevent it from rotating. If necessary raise light head to required working height.



3. Connect the mains input lead to the K21. Observe the local voltage is correct to match the input range of the LED driver (100-277V AC) and switch on / connect power.

OPTIMISED LIGHT ANGLE



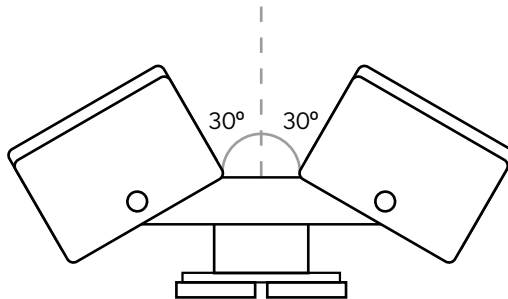
Please note that the marked grub screw (left) restricts the K21 light head to the optimised vertical angle (base of saddle bracket, parallel to the ground).

Note the 'Beam Control' lenses on the K21 are designed such that the asymmetric light output from each lens interlocks the photometric footprints to maximise the lux level achieved at operating level.

This optimisation works best for heads mounted at 3-8m high.

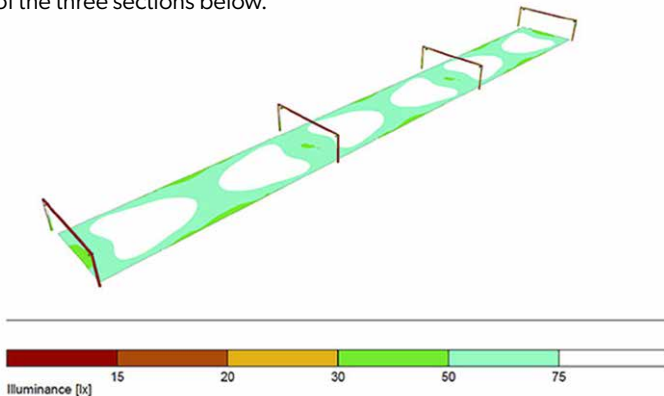
Should the application need increased downwards or upward bias the grub screw can be removed to allow the main head to pivot on the saddle bracket.

For optimum light distribution for linear lighting applications e.g. rail the K21 units should be set up angled at 30 degrees in either direction.



View from above mounted to twin head bracket

This light plot shows a typical application. The rail site is 150m long by 16m wide. 4 x K21 units are used per each of the three sections below.



5c) BREAKING DOWN OPERATION

Breaking down the K21 to put it away is a reverse of the setting up operation.



1. Switch off power to the K21 and disconnect the power cable.



2. Slacken off knob of the K21 where it attaches to the corresponding mount.



3. Lift the light head off the unit and place on the ground.

5d) PACKING AWAY & TRANSPORT



In slippery or uneven terrain it is recommended that two people manoeuvre the product at all times.

Take extra care handling light heads when packing the K21 system away for transport in case housings are still hot.

TRANSPORT AND LIFTING INSTRUCTIONS

- The transport vehicle/trolley must be parked on a level surface.
- The transport vehicle/trolley must be secured to prevent rolling while the K21 is being loaded.
- Be sure the vehicle/trolley capacity, loading surfaces/storage area and chains or straps are sufficient to withstand the K21 weight. See the serial plate on the K21 components for their exact weight.
- The K21 must be secured to the transport vehicles with chains or straps of ample load capacity.

Section 6: MAINTENANCE

- It is recommended that all K21 products are PAT tested at least on an annual basis. Owner / manager to assess and decide frequency of PAT testing required depending on regularity or type of use.
- It is recommended that a regular inspection of the complete product is carried out to look for signs of wear and tear and identify possible maintenance required. This should be done by a competent person on at least an annual basis depending on severity and types of use.
- It is recommended that gloves are worn during operation/setting up, breaking down, cleaning and maintenance to protect the user.
- All fasteners, locking mechanisms and latches to be checked for correct operation prior to use.
- Any damaged parts that could pose a risk to the user/personnel must be replaced.
- All sliding and rotating mechanisms must be kept clean and lubricated where applicable.
- The K21 must be taken out of service if, during use, or repair and maintenance serious damage is discovered.
- The K21 can only be put back into use after it has been properly repaired and examined and signed off by authorised personnel.

- The use of spares other than original parts from Ritelite (Systems) Ltd will invalidate any warranty.

ADVICE ON DISPOSAL OF RITELITE PRODUCTS AT END OF LIFE


For our latest advice on the disposal of Ritelite products at end of life please visit the link below.
<https://www.ritelite.co.uk/disposal-advice>

DISCLAIMER OF WARRANTY

For details about the warranty offered on Ritelite products please visit the link below.
<https://www.ritelite.co.uk/warranty-information>

SAFETY AND OPERATING LABELS






1

K21 BEAM CONTROL		ADVANCED OPTICS AREA LIGHTING	
220W	PRODUCT CODE	SERIAL NO.	Manufactured by Ritelite (Systems) Ltd Tel. 01780 758585 E-mail. sales@ritelite.co.uk www.ritelite.co.uk
	K21-110VDC		
		220W 110V 50/60HZ 6000K Unity Power Factor 1.0	 








2




	Wear Gloves
	To be used by trained and authorised personnel only

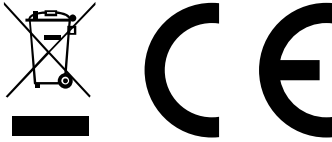
Section 7: OPTIONAL EXTRAS

PRODUCT CODE	DESCRIPTION	PREVIEW
K20-T4M	All terrain tripod	
K20-MB	K21 magnetic bracket	
K20-MBQ	K21 heavy duty magnetic bracket	
K20-TAB	K20 twin head adaptor	
K20-SB	K21 scaffold bracket	

Section 8: SPARE PARTS

PRODUCT CODE	DESCRIPTION	PREVIEW
SLK21-SP01	Spot beam lens array	
SLK21-SP02	Wide beam lens array	
SLK21-SP03	LED Module (Spot) complete without lens	
SLK21-SP04	220W LED Driver With Loom For LED Modules	
SLK21-SP05	Mounting stirrup yellow c/w locking knob	
SLK21-SP06	110V plug / coupler with wiring assembly	
SLK21-SP07	Main chassis bracket - yellow c/w handle	

PRODUCT CODE	DESCRIPTION	PREVIEW
SLK21-SP08	Locking knob for mount	
SLK21-SP09	240V plug / coupler with wiring assembly	
SLK21-SP10	LED Module (Wide Beam) Complete Without Lens	



The contents of this manual are subject to change without prior notice. We take no responsibility for errors or admissions.

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