



## **kisslite** ® System ~ User Manual

September 2012

The **kisslite** ® is the perfect tool for handheld, documentary, location and studio camera work, providing a lightweight beauty light source/mattebox system, and is also ideal for steadicam, dolly and crane shots where a lightweight fill is required without compromising the quality of the ambient light source.

The **kisslite** ® full kit comes cased complete with everything needed; ringlight system, power supply, collimating lens front, diffusion filter front, colour correction filters, filter trays for 4" x 4" and 4" x 5.65" filters. Most kits also include two battery belts and a universal auto-sensing battery charger.

### **Attaching the system**

The **kisslite** ® ring light/mattebox system unit clamps onto the barrel of most popular fixed barrel zoom and prime lenses using a range of step down rings. Select the correct step down ring and insert from the back of the unit, lip to the inside, and fit into the lens clamp ring. Offer the lamp system up to the lens and slide on squarely until the stop lip on the step down ring restricts the lamp housing moving further down the barrel. Tighten the lens clamp but do not over tighten. Step down rings are available for most lenses from 112mm Panavision Primo Primes series down to 80mm for Zeiss Primes. An optional adaptor clamp for standard Arri 19mm bars, 15mm lightweight ARRI and Chrosziel bars, 15mm ARRI offset bars and Panavision ® PV bars is available as well as a mounting sled for PD150/170 DV cameras, to enable use with external focus lenses or for lenses with a larger diameter front element.

**IMPORTANT ~ It is essential to use the step down ring with exactly the right internal diameter matched to the external diameter of the lens you are using. Cheating by using a ring with even a 2mm differential will cause unsafe mounting and could cause the lamp housing to fall from the lens.**

Connect the regulator loom to the back of the lamp housing and the power supply unit, aligning the red dots on the Lemo connectors. The standard loom length is 4'. Steadicam ® operators may find the 2' L002 option more user friendly. 10' and 30' options are also available. (1/3 stop loss may be noted with L030)

### **Power supply**

The power supply unit, (or flicker free ballast\*), will accept power from any 12 volt or 24 volt film and video battery, utilising standard configuration XLR 4 pin, pin 4 +ve, pin 1 -ve. The control box provides flicker free power and allows individual switching of four-quarter sectors, top, bottom, left and right, and dimming from 100% down to 5% without altering colour temperature. The power supply features instant start, at pre-set dim level, at full colour temperature. There are two LED indicators on the power supply; green on pilot, and red low battery warning light. When the battery voltage drops below a preset level, (11.9volts), the red low-battery warning light comes on and at 10.9 volts the low-battery protection cut-out circuitry will turn off the supply. It is advisable to change the battery as soon as the red light is lit. Please note the low-battery protection is only effective with **Gekko Technology** battery belts or 12 volt and 24 volt battery packs. The power regulator has an additional Lemo port next to the XLR power in which is to provide control from an external wired dimmer or wireless dimmer receiver.

## \* **Flicker free**

'Flicker free' is a film and video industry term which does not literally mean 'flicker free'.

All lights except those driven by pure DC are flickering/pulsing, and may cause problems in some filming conditions.

HMI bulbs present an inherent problem of possibly producing light on film or video with a noticeable pulse or flicker. This is caused by the method by which the unit produces light. An HMI, like a tungsten-based lighting unit, runs on 50 Hz 240 V (in the United Kingdom). Although not always visible to the human eye, a film or video camera must be properly synchronized to this cycle, or else each frame recorded will show different light output.

LED lights powered with PWM or PAM are pulsing or flickering even if they do not appear so to eye, (which is irrelevant to image capture). Apply the same degree of caution you would using any non-continuous source of illumination such as HMI, florescent and AC driven tungsten lamps and if in doubt test.

## **Powering from a camera, accessory bar or Steadicam ® sled**

Due to its extremely light weight and slim profile, **kisslite** is uniquely useful for using in conjunction with Steadicam ®. No other source has same the benefits of light output, weight and low power draw.

**kisslite** can be powered from the camera D.C. output, accessory bar or Steadicam ® sled, providing the manufacturers' maximum current draw recommendations are adhered to. **kisslite** requires around 30Watts of power at full output or 2.4Amps at 14VDC/1.0Amps at 28.8VDC. It is therefore advisable to use the 24 Volt output if available on the Steadicam sled or Panavision ® accessory bar for instance.

As **kisslite** warms up, or under heavy duty cycle it becomes less efficient, and therefore requires more power. At least a 15% power headroom is advised when calculating power drawer and source capacity.

The kisslite power regulator is auto-ranging, and there are no switch positions to alter for 12 or 24 Volt input. **IMPORTANT ~ Ensure the input polarity is correct when using adaptor cables. For instance Steadicam ports or Technovision Crane D.C. out ports are not consistent polarity.**

## **Power supply Efficiency**

The ballast is most efficient when powered using a 24Volt supply.

### **kisslite power efficiency table**

<u>Volts DC In</u>	<u>Amps</u>	<u>Watts</u>	<u>Efficiency</u>
12	3.05	36.6	66%
14.4	2.4	34.6	69%
20	1.63	32.6	74%
24	1.29	30.96	78%
30	1.04	31.29	77%
35	0.93	32.55	74%

### **Powering from a camera, ARRI 435**

The best place to take power from the ARRI 435 is the RS 102 Fisher plug. This is rated output 3.5A, more than enough for kisslite. It is fuse protected.

Pin 1      0 Volts  
Pin 2      + 24 Volts

If in any doubt, consult an ARRI technician or manual.

### **Powering from a camera, Sony professional broadcast**

The Sony power output at the Anton Bauer D-tap connector is regulated to 12V and therefore no benefit is gained in efficiency when the battery supply is higher, i.e. at a nominal 14,4V.

**kiss**lite powered at 12V at full output requires a supply of at least 37W depending on ambient temperature and diode temperature. Therefore a camera that only provides 35W at the Anton Bauer D-tap connector is not suitable for powering kisslite.

A camera with a 50W rated output will be adequate.

The low battery protection cut out on the kisslite ballast negates the ability to use the Auto facility, powering the lamp with the record button.

## Battery belts

**Gekko Technology** battery belts are 14.4volt 9Ah NiMh battery packs, which provide around 2 hours running time in optimum conditions. NiMh offer high energy density power source with up to 100% higher capacity than equivalent sized Nickel Cadmium batteries. Unlike NiCads, NiMh batteries don't suffer from memory syndrome. Other benefits include long service life, environmental acceptability and excellent shock resistance. The battery belts should only be charged with the charger supplied with the kit or available from **Gekko Technology**, which is a constant current charger,  $-\Delta V$  (minus delta V) type charger. The NiMH battery belts will not be damaged during extended periods of storage in a discharged state. NiMH batteries are not suitable for trickle charging.

### kisslite® battery belt- KILBB01

#### Charging and Maintenance

##### Temperature

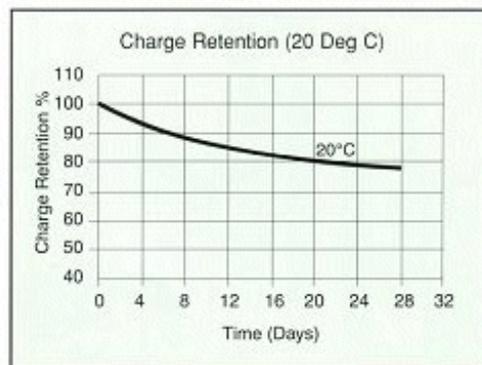
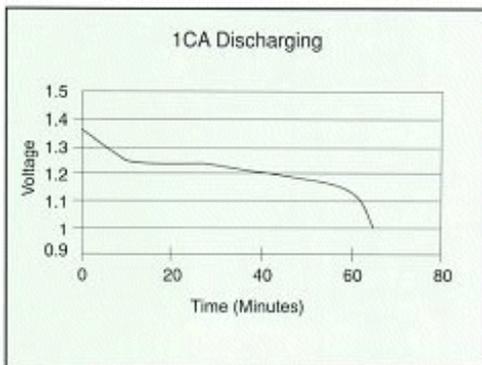
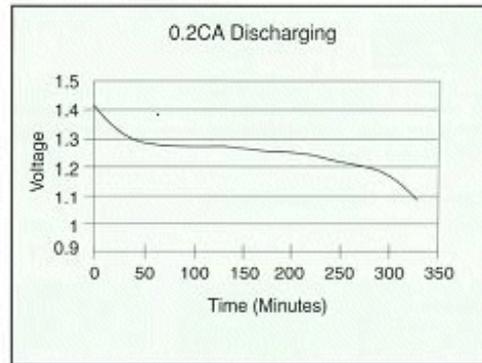
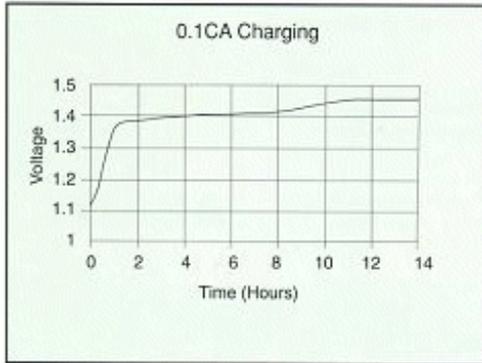
<b>Standard Nickel Metal Hydride cells</b>	
Standard Charging	0 to +45°C
Quick Charging	+10 to +45°C
Fast Charging	+10 to +45°C
Discharging	-30 to +60°C
Storage (Possible)	-30 to +65°C
Storage (Recommended)	-20 to +30°C

NB: Use and/or storage at high temperatures will reduce cell/battery belt life. Nominal ambient temperature is +20°C. Battery performance may be derated at High or Low Temperatures.

##### Charging Times

<b>Nickel Metal Hydride</b>		
Standard	0.1CA	14 - 16 hours
Quick	0.3CA	4 hours
Fast	0.5CA	2.5 hours
<b>Important Notes:</b> Use Gekko Technology battery charger KIL-UC01 for constant current charging. Cell voltage must not rise above 1.70 volts. Standard, Quick and Fast charge must be terminated when cells are fully charged. Trickle charging is not recommended. Use of timer alone to control charging is not permitted. Use $-\Delta V$ termination at 6mV/cell and/or dT/dt termination at 0.6°C/minute.		

## GENERAL CHARACTERISTIC GRAPHS



## Battery charger

The **Gekko Technology** battery charger will charge one battery at a time. The universal auto-sensing battery charger, which operates on worldwide AC supplies from 90volts – 260volts and 50Hz and 60Hz supply, will also operate from a 12 volt DC supply from a negative earth vehicle with the cigar lighter adaptor supplied.

To operate, connect the charger to the input supply and connect the battery.

The battery charger is fully automated. Push the green button to charge. The red button to start discharge, followed by charge cycle. The black button to stop charge or discharge cycle. A full charge will take about two hour thirty minutes per battery belt. A complete discharge will take about six hours per battery belt.

The dedicated battery charger is a constant current charger,  $-\Delta V$  (minus delta V) type charger. To protect both the charger and the battery belts, the maximum charge and discharge currents are automatically limited. In discharge mode, the discharge cut off voltage level is set at 0.9 volts per cell to avoid damage to the battery belt. Zero Current Voltage Check prevents incorrect delta peak auto cut-off caused by high connection resistance or high resistance present in old or faulty battery packs. Low and over voltage input battery warning function-input voltages outside the range 9.5 to 15.5 volts causes a warning message 'Input Power' to be shown on the display, together with an audible alarm. Automatic initial charge stage checks the condition of the battery belt being charged. If the belt is not in a condition suitable for charging, the display shows a warning message 'Output Battery Connector Error' together with an audible alarm. In the event of the battery belt being charged becoming disconnected from the charger, the display shows a warning message 'Output Battery Connection Error' together with an audible alarm. Reverse polarity protection is provided. The display will show 'Output Battery Reverse Polarity' if the battery belt being charged is connected in reverse along with an audible alarm.

## **EXTREMELY IMPORTANT – READ BEFORE USING THE BATTERY CHARGER –**

### **SAFETY PRECAUTIONS**

- Place the charger on a firm level surface for charging. DO NOT cover charger.
- Only charge batteries in a well ventilated cool area.
- **DO NOT** charge the battery belts immediately after use while they are still warm, allow to cool to ambient temperature before charging.
- NiMH batteries become **WARM** to the touch when charged. If the pack feels **HOT** to the touch, disconnect at once.
- **ALWAYS** disconnect the battery belts when **NOT** charging, as they may discharge themselves if left connected.
- If the battery belts are severely overcharged they may become very hot. For this reason it is always advisable to place the pack on an insulated heat resistant surface for charging.
- The charger must **ONLY** be used in completely dry conditions.
- **DO NOT** disassemble the charger.
- **NEVER** leave the charger unattended whilst charging.

### **Filter holders and lamp attachments**

The **kiss**lite matte box system holds two filter trays, a 4" x 4" rotating filter tray and a 4" x 5.65" filter tray. To remove, unlock the two retaining clamps on the back and camera left side of the matte box system and remove the filter tray from the top.

There are two alternative lens frames containing an array of lenses with 6 degree and 15 degree lenses providing a tighter beam angles for longer throws. To remove the standard lens frame, gently prise away from the lamp unit keeping as square and as evenly as possible. Attach the alternative lens frame with the captive fixing pegs.

The full kit also contains a diffusion frame, which will attach over the lens frames.

The full kit also contains two of the reusable colour correction filter frames series, ¼ C.T.O and C.T.B the XR and XRS kit additionally contain ½ C.T.O. and C.T.B.. These attach either directly onto the lens frame mounted under the diffusion frame or the clear frame.

½ C.T.O. and C.T.B. ¼ C.T.O. and C.T.B. and and ⅛ C.T.O. and C.T.B. are available as optional extras.

For more unusual colour correction or cosmetic gels, a clear gel frame is supplied with the kit along with a gel-cutting template. Cut the filter using the gel-cutting template and tape the filter to the clear gel frame and then attach the frame to the lamp housing using the pegs. This may be attached directly to the lamp housing or over the diffusion frame.

### **Transmission losses**

The clear gel holder has a tau figure of 95% and the Diffusion Version II a tau figure of around 51%.

tau = light transmission, i.e. transmittance  $t_{D65}$  in percent according to DIN 5036

### **Daylight lamp head**

The **kiss**lite ® kit is also available with a daylight 5600K head, which is interchangeable in a matter of minutes. The heads are interchangeable with the filter holder and lens clamp assembly. Disconnect the battery supply. Disconnect the power supply loom from the lamp head. Remove the lamp head from the matte box system using the two captive screws on the front of the lamp head housing.

## **Adjustable French Flag**

An adjustable French flag is available for the ringlight system, which attaches to the front of the lamp housing using captive thumbscrews. The flag angle can be adjusted accurately to block flare incident on the lens with an adjuster screw while looking through the viewfinder. The French flag can be used in top or bottom position or both.

## **MAINS SUPPLY UNIT – Optional Extra**

The **kisslite**® Power Supply unit can be powered with the optional mains supply unit. The mains supply unit is auto-ranging and accepts input voltages from 90VAC to 264 VAC and frequencies from 47 – 63 Hz. Input connection is IEC AC mains and is suitable for use with any of the battery charger mains leads supplied with the **kisslite**® Full kit. The output connection is XLR4 in standard film and video camera configuration, pin 4 +ve, pin 1 –ve. Output voltage 24 volts. To avoid the lamp head becoming unnecessarily hot, and to obtain maximum life from the components, switch off when not in use.

## **IMPORTANT**

To comply with the safety standards the following must be observed when using this power supply unit.

- Maximum ambient temperature around the power supply unit must not exceed 40 deg C.
- The unit is designed for use with the **kisslite Power Supply unit** only and is rated accordingly. Power demands of other equipment from other manufacturers may exceed the rated output power of this unit, which should not be exceeded.
- The power supply unit is not designed to be repaired by service personnel and in case of failure or component defect and contains no serviceable components.
- The power supply is approved and certified for the rated voltage range 100 – 240 V.
- To disconnect from line voltage, pull mains plug.
- For safe operation, the unit must be protected by a fuse in the installation system.

## INPUT SPECIFICATIONS

<b>Input range</b>	90 VAC to 264 VAC (wide range, suitable for all mains voltages around the world).
<b>Frequency</b>	47 – 63 Hz
<b>Input current</b>	1A rms @ 90 VAC 0.5 A rms @ 264 rms
<b>Efficiency</b>	80% typical at full load
<b>EMI filter</b>	Meets FCC 20780 Part 15, Class B, EN55022 class B and VDE 0878 PT3 class B
<b>Electromagnetic Compatibility</b>	Complies with EN50081-1 and EN50082-1

## Environmental

<b>Operating temp</b>	0' C – 40' C ambient
<b>Storage temp</b>	-10' C to 70' C
<b>Thermal reg</b>	+/- 0.02%/°C
<b>MTBF</b>	>100,000 hours at full load and 25' C  Ambient conditions to MIL 217E

## Connections

AC input IEC 3 pin AC mains receptacle  
Suitable moulded leads with IEC socket and following plugs  
as supplied with full kit

UK 3 pin mains plug  
EU schuko plug  
USA 3 pin mains plug

DC output XLR 4F pin 4 +ve, pin 1 –ve as supplied with mains adaptor

## Output specifications

<b>Maximum voltage</b>	45W convection cooled wattage
Voltage regulation	+/- 5%
Hold-up time	10ms maximum at full load, 115 VAC
Short circuit protection	Auto reset with no damage
Overvoltage protection	trip point 115 – 150% of output voltage; Recycle AC to reset

**Safety**    **UL**    **UL 1950**  
              **CSA**    **CSA22.2-234**  
              **VDE**    **0805 (EN60950)**

**CE**            **This product is CE marked following the provisions of the Low Voltage directive 73/23/EEC and the EMC Directive 89/336/EEC**

**This is a constant voltage adaptor power supply specifically for use with Gekko Technology Power Supply Unit, KIL-PSU01 and is not suitable for charging batteries. This power supply may not be suitable for use with other products.**

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## Technical details

<b>kisslite ® technical specification</b>		
Input Voltage range	12 VDC <b>(Min)</b>	40 VDC <b>(Max)</b>
Optimum Voltage input	24 VDC	
Voltage Low light warning	12.1V	23.5V
Voltage battery protect cut-out	11.4V	21.8V
Input connection	XLR 4 pin 1 -ve	pin 4+ve
Power requirement at full output @ VIN 14.4	34.6 Watts	
Power requirement at full output @ VIN 24.0	30.9 Watts	
Power requirement at full output @ VIN 28.8	31.3 Watts	
Flicker frequency (factory default set LOW)	38Khz	76khz
Dimming increments	128	64
Maximum lens size		126mm
Minimum lens size (with step down ring)	77mm	
lamp head weight	508g	
ballast	462g	
diffusion filter	53g	

## kisslite step down ring sizes

### Part No. Diameter Detail

SR-KIL-077	77mm	fits Fujinon A16 x 9
SR-KIL-080	80mm	fits Zeiss Super Speed Lenses, Canon 16X Mechanical Zoom fits Zeiss T1.3 Prime lenses 9.5mm - 85mm fits Zeiss T2.1 Primes 24mm - 135mm fits Arri macros 16mm - 200mm
SR-KIL-083	83mm	fits Cooke 10.4 - 52 T2.8
SR-KIL-084	84mm	fits Panavision Digital Primes
SR-KIL-085	85mm	fits Angenieux 15 x 8.3 fits many Canon fits Fujinon zooms; A20 x 8.6, S20 x 6.4, A13 x 4.5, A18 x 7.6, A22 x 7 fits Nikon S9 x 5.5
SR-KIL-086	86mm	fits Canon YJ12x, YH12x
SR-KIL-087	87mm	fits Zeiss T3 10:1 zoom fits Zeiss T2 11-110 & 12-120 zoom fits all swing and shift lenses
SR-KIL-089	89mm	fits Canon XL1, 16X Auto Zoom , 3X Auto Zoom
SR-KIL-090	90mm	fits Optex T2 Primes 5.5mm and 8mm
SR-KIL-092	92mm	fits Angenieux 12 x 5.3
SR-KIL-093	93mm	fits PD150/170 with Sony W/A converter
SR-KIL-094	94mm	fits Nikon S20 x 8, S19 x 8
SR-KIL-095	95mm	fits Zeiss T1.9 LDS Ultra Primes 16mm - 135mm fits Fujinon HD Cine prime lenses Hae F5, 8, 12, 16, 20, 34, 40, 54 fits Canon Zooms 7-56, 8-64, 11-165, 10.3-216
SR-KIL-096	96mm	fits Fujinon HA 14x8
SR-KIL-098	98mm	fits Canon HJ15 x 8B, HJ20 x 8
SR-KIL-100	100mm	fits Fujinon A22 x 7.8mm zoom fits Fujinon 17 (8-160mm Zoom) fits Angenieux 7 - 81 HR T2.4, 11 x 5.3 Cine HD
SR-KIL-102	102mm	fits Panavision Digital Zooms, 25 -112mm SDZT, 6-27mm SDZW
SR-KIL-104	104mm	fits Arri Digital Primes
SR-KIL-105	105mm	
SR-KIL-110	110mm	fits Cooke T2 S4 Primes 14mm - 135mm fits Fujinon HD Super Cine Compact Zoom
SR-KIL-112	112mm	fits Panavision Primo Primes
SR-KIL-114	114mm	fits Arri Master Primes
SR-KIL-117	117mm	fits Canon 21:1 HD zoom lens
SR-KIL-125	125mm	
SR-KIL-126	126mm	
KIL-2SE		short set, 80, 85, 90, 95, 100mm
KIL-2LS		large set, 80, 84, 85, 87, 90, 95, 100, 102, 104, 110mm
KIL-2CS		Complete set 80mm – 126mm

## Accessories

Lamp housing system Tungsten, no lens frame, filter housing, PSU and pouch	<b>SYS-KIL-KEST</b>
Lamp housing system Daylight, no lens frame, filter housing, PSU and pouch	<b>SYS-KIL-KESD</b>
lens frame 12 x 50 degrees	<b>LF-KIL-125</b>
lens frame 6 degrees	<b>LF-KIL-06</b>
lens frame 15 degrees	<b>LF-KIL-15</b>
lens frame 50 degrees frost	<b>LF-KIL-50F</b>
Daylight lamp head, no lens frame, no filter tray housing	<b>LH-KIL-WHD</b>
Tungsten lamp head, no lens frame, no filter tray housing	<b>LH-KIL-WHT</b>
Battery belt NiMh 9Ah	<b>BB-NM12</b>
Battery charger	<b>BB-CH-U01</b>
Step down rings	
Step down ring short set 80, 85, 90, 95, 100mm	<b>SR-KIL-2SE</b>
Large set 80, 84, 85, 87, 90, 95, 100, 102, 104, 110mm	<b>SR-KIL-2LS</b>
Complete set 23 rings	<b>SR-KIL-2CS</b>
Eyebrow shade - adjustable French flag	<b>FF01-KIL</b>
clear gel holder	<b>CFG-KIL-01</b>
diffusion grating - version II	<b>CFD-KIL-02</b>
gel cutting template	<b>CFT-KIL-01</b>
Lamp head cover plate	<b>CFT-KIL-TP</b>
30' regulator loom	<b>SCHE-730</b>
20' regulator loom	<b>SCHE-720</b>
10' regulator loom	<b>SCHE-710</b>
4' regulator loom	<b>SCHE-704</b>
2' regulator loom	<b>SCHE-702</b>
1 x 4" x 4" filter tray	<b>FH-KIL-44</b>
1 x 4" x 5.65" filter tray	<b>FH-KIL-45</b>
1 X 5" X 5.65" filter tray	<b>FH-KIL-55</b>
Standard filter housing assembly without trays	<b>FH-KIL-A</b>
Filter housing assembly without trays, (130mm clamp ring)	<b>FH-KIL-A130</b>
Filter housing assembly without trays, kisslite 2 x 565 slots (130mm clamp ring)	<b>FH-KIL-A2X5</b>
Filter housing assembly without trays, kisslite 2 x 565 slots, 1 x 4x4 slot (130mm clamp ring)	<b>FH-KIL-A1R2X5s</b>
19mm bars mounting bracket	<b>BA-KIL-19</b>
15mm bars adaptor - Chrosziel/Aaton/Arri lightweight	<b>BA-KIL-15AB</b>
15mm bars adaptor - Arri offset	<b>BA-KIL-15MB</b>
19mm x 75mm bars (pair)	<b>BA-COM-1910</b>
19mm x 75mm bars (pair)	<b>BA-COM-1920</b>
Flag stand adaptor	<b>BA-KIL-FS</b>
Panavision PV bars adaptor	<b>BA-KIL-PV1</b>
<b>colour correction filters</b>	
1/8 C.T.O.	<b>CFC-KIL-80</b>
1/4 C.T.O.	<b>CFC-KIL-40</b>
1/2 C.T.O.	<b>CFC-KIL-20</b>
1/8 C.T.B.	<b>CFC-KIL-80</b>
1/4 C.T.B.	<b>CFC-KIL-40</b>
1/2 C.T.B.	<b>CFC-KIL-20</b>
Encapsulated ten gel set	<b>CFC-KIL-ESE</b>
Cigar plug and 1.5m power cord	<b>SCA-COM-X</b>
power supply unit	<b>PS-KIL-U02</b>
Power supply unit (flying)	<b>PS-KIL-U03</b>
Mains supply unit	<b>TR-COM-2A</b>
carrying case original format	<b>CAS-KIL</b>
Carrying case large format	<b>CAS-KIL-XR</b>
Wireless dimming kit and case	<b>KIL-WD01</b>
Dimmer with remote cable	<b>R-COM-CD01</b>

**Contact –**

**Sales Gekko Technology**

**+44 1926-340500**

**[sales@gekkotechnology.com](mailto:sales@gekkotechnology.com)**

**[www.gekkotechnology.com](http://www.gekkotechnology.com)**