

















PRODUCT SPECIFICATION

Size H1.3/W10/L125-7000mm (H0.05/W0.39/L4.92-275.59in) (IP20)

H5.5/W14/L127-7002mm (H0.22/W0.55/L5.00-275.67in) (IP65)

PCB increment Power connection possible at 125mm (4.92in),

cut point every 62.5mm (2.46in)

LED pitch 12.5mm - 80LED/m (0.49in - 24.4LED/ft)

ChipToyoda GoseiBeam angleDiffused: 105°

Colours White: 2700K/3000K

Bin/Step 3 Step MacAdam ellipse

CRI 90

Lifetime 30,000 hours @ 25°C (30,000 hours @ 77°F)

Operating temp IP20: $T_a = -25 \text{ to } 50^{\circ}\text{C} \text{ (}T_c \text{ max} = 65^{\circ}\text{C)} \text{ } T_a = -13 \text{ to } 122^{\circ}\text{F} \text{ (}T_c \text{ max} = 149^{\circ}\text{F)}$

IP65: $T_a = -25$ to 50°C (T_c max = 65°C) $T_a = -13$ to 122°F (T_c max = 149°F)

IP rating IP20/IP65

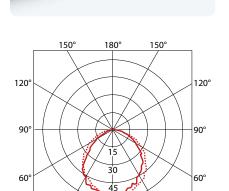
Finish Silicone cover for IP65

Cover/lens IP65 version with silicone sheathed cover

Mounting 3M double sided tape (IP20), surface mounting clips (IP65)

Minimum bend radius 20mmØ (0.79inØ) (IP20)/35mmØ (1.34inØ) (IP65)

ConnectionHardwire tails or male/female connectorsControl0-10V/1-10V/DMX/DALI (see visDIM range)



candela (cd)

·····C90/C270

-C0/C180

PERFORMANCE DATA for 3000K

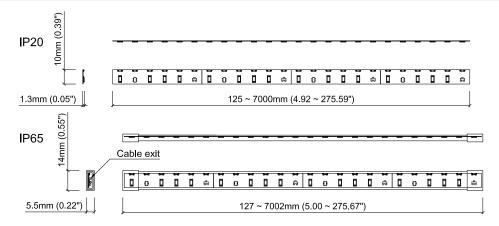
Power consumption 6.5W/m (1.98W/ft)

Supply voltage 24V DC

 Supply current
 0.27A/m (0.082A/ft)

 Luminous flux
 390lm/m (119lm/ft)

TECHNICAL DRAWING



Data derived from independent UKAS / IESNA LM-79-08 accredited testing of production samples.







PRODUCT DETAILS

KKFS (HCRI) Product name: Stated output: 390lm per metre

Description: Flexible side emitting LED tape, 3000K, 24V, 6.15W per metre

Quantity/length of product tested: 1 x 125mm

Bin tolerance/#. MacAdams ellipse of chip: 3 Step MacAdam ellipse (+/- 150K)

ELECTRICAL CHARACTERISTICS

Input Voltage (V DC): 24.00 Input power (W DC): 0.82 Input Current (mA DC): 34

LIGHT OUTPUT

Total light output (Lumens): 52 Luminaire efficacy (lm/W): 63 52 Beam angle: n/a

COLOUR CHARACTERISTICS

Correlated colour temperature (CCT): 2927K Colour rendering index (CRI, Ra):

Chromaticity coordinates 0.4397, 0.4010

(CIE 1931 - x,y):

0.0019 Duv:

TEST DETAILS

Test Standards: Data from independent

UKAS/IESNA LM-79-08 accredited testing of production samples.

Number of hours operated prior to

test measurement:

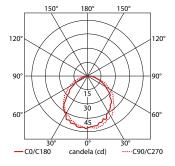
Stabilisation time (minutes): 60 Test orientation: Base Up Ambient test temperature: 24.5°C

Data measured at luminaire: V,W,mA,lm/W

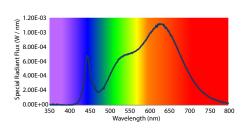
COLOUR RENDERING INDEX (CRI)

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
97.9	96.6	91.8	96.0	96.0	94.0	96.7	94.3	84.9	88.8	94.9	75.8	97.8	94.1

POLAR CURVE



SPECTRAL RADIANT FLUX VERSUS WAVELENGTH



TEST SPECIFICATIONS

Test Lab: LUX-TSI Ltd, Pencoed Technology Park, CF35 5HZ, UK

Test equipment: 40-inch (1metre) Integrating Sphere Spectroradiometer System. Fluke 289 True RMS Multimeter. Yokogawa TY720 Digital Multimeter.

Total Luminous Flux +/-5.6%, CCT +/-100K, CRI +/-2

Measurement uncertainty:







PRODUCT CARE AND HANDLING

- KKDC products are delivered in appropriate packaging. Any handling instructions on the packaging must be observed. Products should remain in packaging 'as delivered' until installation or for ongoing transportation and storage.
- Inspect products carefully before installation. Do not proceed to install any product that may have been damaged in transportation, storage or handling.
- Handle with care. Many KKDC products contain precision electrical components and are not designed to withstand excessive stresses from tension or compression.
- · Please follow standard ESD (Electrostatic discharge) protection measures when handling and installing KKDC LED products.

SAFETY AND WARRANTY

- Installation is only to be carried out by suitably qualified persons in accordance with installation instructions and all applicable regulations or standards. (Improper installation can create an electrical hazard with risk of electric shock, fire or injury).
- KKDC will not be held responsible for any consequences arising from improper product handling, storage or installation.
- KKDC products must be installed as supplied. Disassembly, modification or attempted repair will invalidate warranty and may create an electrical hazard.
- The KKDC product warranty is available with this document or in the following link: http://www.kkdc.lighting/warranty-information.php on our website – www.kkdc.lighting.

PREPARATION

- Install KKDC products in accordance with the Wiring and Mounting instructions supplied with the product, using the recommended accessories, tools and fixings where specified.
- · Product specification and installation information is also available from the KKDC website www.kkdc.lighting.
- Products should only be installed in areas appropriate to their IP rating, operable temperature and humidity range.
- Carefully plan and check the physical layout and circuit structure of the installation before starting work. Note wiring methods, cable type and connection points along with positioning and rating of power supplies and any control gear. Refer to all product information including that for power supplies/control gear and confirm choice of power supply, control gear, cable thickness and cable length.
- For safe and reliable operation KKDC LED products must only be used with suitable KKDC supplied or recommended power supplies and control gear. Contact KKDC for further information.

 (North America Use only UL listed Class 2 power supplies with KKDC products See also Installation Guide Wiring)
- The KKDC LED products in this guide require 12V DC or 24V DC 'constant voltage' power supplies as indicated in product specifications.

AFTER INSTALLATION

- KKDC products are designed to be maintenance free however accumulated dust may be removed from the emitting surface of luminaires with careful use of a soft dry cloth.
- Ensure that paints, organic solvents and caustic or corrosive cleaning chemicals do not come into contact with KKDC products. For example **DO NOT USE** –
- Benzene, Toluene, Xylene, Acetone, Carbon tetrachloride, Gasoline, Ether,
- Sodium/Calcium hydroxide, Sodium Carbonate.
- For cleaning or sanitization products in sealed IP rated housings may be wiped with a soft cloth dampened with an alcohol cleaner or with cool, soft water diluted (5% or less) bleach (Sodium Hypochlorite) solution.
- Please retain this information and pass to those responsible for installation/site maintenance.





- The mounting surface to which any KKDC product is attached must not carry any electrical potential and metallic surfaces must be earthed. Avoid physical contact between adjacent LED products.
- Prepare, measure and mark the installation location and mounting surfaces before fixing.
- Any machining or drilling etc. should be completed before mounting. KKDC products and their immediate installation area should be kept clean and dry and free of paints and solvents.
- Mount products so that cables and connectors will not come under excessive stress and position accessories, wiring and connectors where they will not cast shadows.
- Flexible strip products are supplied on reels. Unwind fully before installation and avoid folding, excessive twisting (>180 degrees over 250mm/9.84") or external impact during handling or installation.
- Mounting on curved surfaces:
 - Minimum bend radius for IP20 flexible strip (IP20) 20mm (0.79")
 - Minimum bend radius for silicone sheathed IP65 flexible strip (IP65) 35mm (1.38")
 - Installing flexible strip with a 90° bend will invalidate warranty
- Removal of adhesive tape mounted IP20 strips or cutting of IP65 silicone sheathing will invalidate warranty.
- Always take care with mounting position to ensure light is projected in intended direction.
- North America UL certification advice:
 - Caution To reduce risk of fire, do not install in any sealed compartment smaller than: 300mm (12 inches) x Length of FX/P-FX/KKFS.
 - Caution Do not install input cord into/through any building structure or exposed to exterior.

CUTTING/CONNECTION OF IP20 STRIP

(Warning - Cutting, soldering or modification without prior written consent from KKDC will invalidate warranty.)



Handle strip with care. Cut with sharp scissors or snips on the dotted lines only.



Carefully solder prepared cable to marked solder pads. Minimise contact time to avoid excessive heating of the strip.



Check polarity and test prior to mounting (see also relevant Wiring Guide).

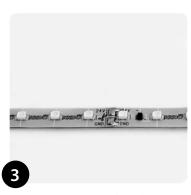
MOUNTING - SELF ADHESIVE



Ensure mounting surface is clean and dry.



Remove backing from adhesive tape.



Press in position, avoiding direct pressure on LED's.

Note: This guide is produced from testing under 'average' conditions and does not represent all possible applications or installation circumstances. Please contact KKDC for further information.

KKDC may change product specifications and installation guidance without prior notice.

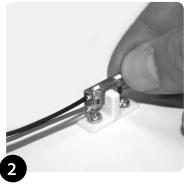




MOUNTING - SIDE CLIPS FOR IP20 STRIP (not for inverted use)



Fix clips with 1 suitable screws (min. 5 clips per metre or every 250mm/9.84").



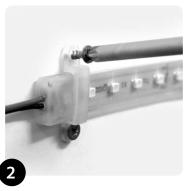
Position strip in clips.



MOUNTING - SILICONE BRACKETS FOR IP65 SHEATHED STRIP



Mark and drill (if required) for screws. Fix clips with 1 suitable screw (min. 5 clips per metre or every 250mm/9.84").



Place strip in clips and fix remaining screw. Do not over tighten.



MOUNTING - CLIP FOR IP65 SHEATHED STRIP



Mark and drill (if required) for screws (min. 5 clips per metre or every 250mm/9.84").



Fix clips with suitable screws.



Position strip in clips.

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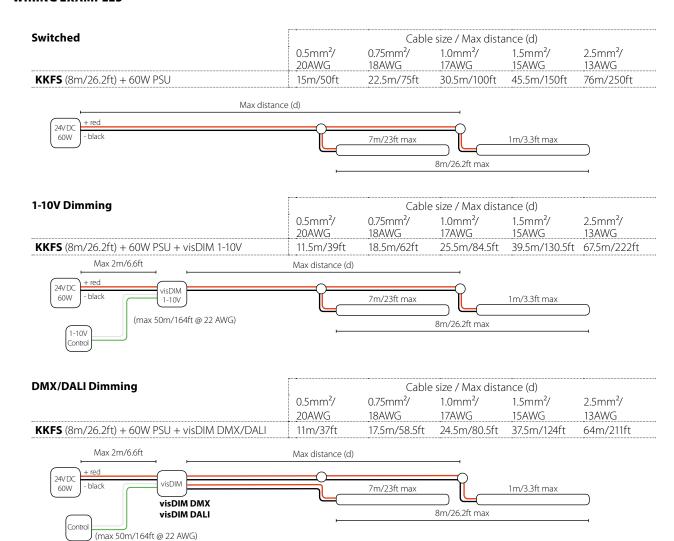
KKDC may change product specifications and installation guidance without prior notice.





- Cables used for connecting KKDC products must be of a suitable type and recommended gauge. Cable insulation must remain undamaged and conductors free from dirt and corrosion.
- Control cables should be of a suitable shielded type and not fixed in proximity to high voltage power cables or other sources of electromagnetic interference.
- When connecting KKDC products always observe the correct polarity (+/-). Failure to do so may destroy the product.
- Electrical circuits should be wired with power off and all wiring and connections should be complete and checked thoroughly before power is switched on. Take particular care not to confuse any control and power wiring. Do not remove any supplied product cable labels.
- Power supplies should not be made 'live' without the correct load attached and the low voltage output must not be switched. Do not exceed the recommended load.
- Remove only the minimum of cable insulation necessary to make wiring connections to eliminate the possibility of short circuit.
- Cables should be joined with terminal blocks and adequately protected against water immersion or moisture ingress with suitable tapes and sealants, potting compounds and IP rated junction boxes as appropriate to the installation and operating environment.
- The LED products in this guide require 24V DC (constant voltage) Class 2 power supplies (UL listed for North America).
- When connecting KKFS products end to end Do not exceed 7m/23ft (from any one parallel power feed see wiring examples).

WIRING EXAMPLES



Note: This guide is produced from testing with KKDC approved power supplies or control gear.

Performance with other power or control products cannot be guaranteed. Contact KKDC for further information.

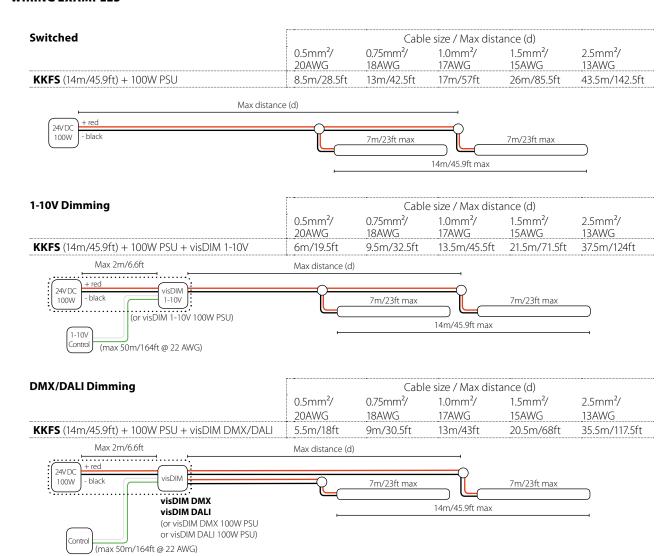
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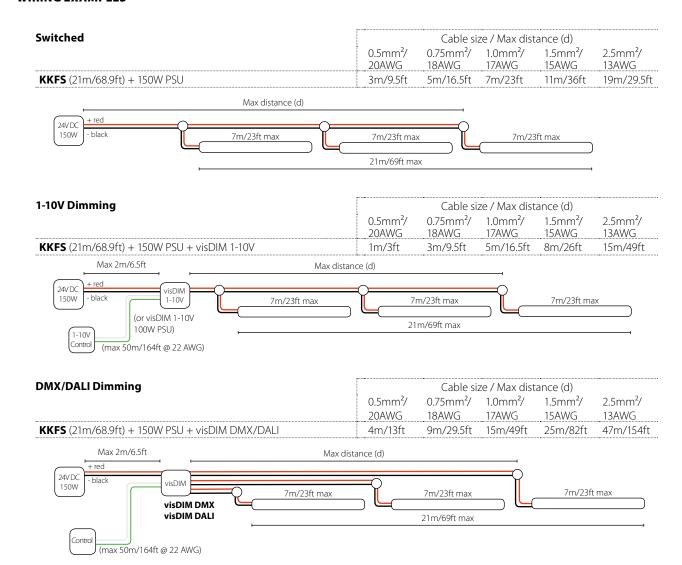
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WIRING EXAMPLES



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Product Warranty



In the unlikely event that purchasers should experience a product failure, this should in the first instance be dealt with by contacting the supplier or local authorised KKDC representative.

Our warranty is provided in addition to any statutory legal rights and details the terms under which claims can be made.

1. Duration of Warranty

This warranty applies to all KKDC manufactured products for 3 years from the date of installation (or date of manufacture if the installation date is not known or verifiable) An extended 5 year warranty may be offered at the discretion of KKDC if appropriate project registration criteria are met.

2. Repair or Replacement

Should a KKDC product fail to function within the warranty period, KKDC will on its sole discretion provide a replacement free of charge or repair defective components in accordance with the terms set out below. Purchasers shall bear the cost of removal and return of any product subject to a warranty claim and that of installing a replacement. Any other costs, including but not limited to replacement costs upon installation; costs caused from failures of the installation or other damages and/or consequential damages are not covered by this warranty.

Replacement products shall as far as possible match the specification of the original but may have superior performance characteristics in line with ongoing product development.

3. Return of a Defective Product

The purchaser making a warranty claim shall contact KKDC (or their authorised representative) at the earliest opportunity to be provided with an address for return of the product. On receipt of returned product/s the validity of the claim will be checked. Proof of purchase may be required. KKDC reserve the right to conduct diagnostic examination of any defective or failed product to determine patterns of usage and cause of failure and reserve the right to be the sole judge as to whether a returned product is defective within the terms of this warranty.

4. Notes / Conditions of Warranty

This warranty applies only to defects in materials and workmanship and only where KKDC Products are properly handled, stored, installed, wired and maintained in accordance with the most recent published KKDC product usage guides, installation instructions, specification sheets, and any applicable local electrical safety standards and wiring regulations.

(The most recent versions of KKDC product documentation are available from the website www.kkdc.co.uk)

This warranty does not constitute any inference as to the suitability of any product for any purpose. In no event shall KKDC be liable for any other costs or damages including lost profits, incidental, special or consequential damages.

Warranty claims will be invalid in the event of:

 $Product\ damage\ due\ to\ abuse, unauthorised\ alteration\ or\ modification, accident, fire, flood, lightning, rodents, insects, negligence\ or\ acts\ of\ God.$

Product installation by unqualified persons.

Product modification, disassembly or attempted repair by non KKDC staff.

Product installation or storage in 'abnormal' conditions or locations, including but not limited to those where:

Ambient Temperatures are in excess of 60 Deg C.

Installation in areas of excessive humidity.

Any product subjected to excessive mechanical stress, or physical damage.

Inadequate heat sinking provision for any unhoused 'bare PCB' type LED product.

IP67 class luminaires installed without adequate local drainage, or becoming immersed in water.

Chemical contamination or damage from salt laden air.

Damage from use of pressure washers or other mechanical cleaners.

 $Improper\ use\ of\ 's an itizing\ products'\ and\ maintenance\ using\ improper\ or\ unapproved\ chemical\ compounds/solvents.$

Unauthorised use of parts or accessories not manufactured by KKDC in conjunction with KKDC Products.

'Constant Voltage' (CV) KKDC LED Products supplied with incorrect voltage.

'Constant Current' (CC) KKDC LED products supplied with incorrect current.

 $Incorrect\ layout, cutting\ and\ connection\ of\ wiring; intermittent\ or\ improper\ mains\ electrical\ supply.$

Product/s having damaged serial number, cable or Certificate labels.

 $Product/s \ which \ have \ been \ installed \ more \ than \ once \ or \ have \ not \ been \ returned \ promptly \ and \ directly \ to \ KKDC \ for \ fault \ diagnosis \ and \ testing.$

5. Warranty contacts

Warranty claims can be made only by the original purchaser by contacting KKDC or local KKDC authorised representative details of which can be found via the supplier or on the website – **www.kkdc.lighting**.

6. Implied Terms

- 6.1 Subject to sub-clause 6.2, any condition or warranty which would otherwise be implied is excluded.
- 6.2 Where legislation implies any condition or warranty, and that legislation avoids or prohibits provisions in a contract excluding or modifying the application of or exercise of or liability under such condition or warranty, the condition or warranty shall be deemed to be included in this warranty. However the liability of KKDC for any breach of such condition or warranty shall be limited, at the option of KKDC, to the following: If the breach relates to any KKDC Product:
 - (i) the replacement or the supply of equivalent KKDC Product;
 - (ii) repair of product (excluding costs of removal and installation);
 - (iii) payment of the cost of replacement or of acquiring equivalent product; or
 - (iv) payment of the cost of repair of product (excluding costs of removal and installation).

Note: KKDC reserves the right to make changes to product specifications and installation guidance without prior notice.





Housing	ing LED Type		Colou	r (CCT)	Le	ength .	Availability	IP Rating		IP Rating/Connection Type		Voltage		
KKFS FS	s-	KKFS	s113	2700K	27K	KKFS IP20	Μ	125-7000mm 62.5mm increments	IP20	20	50mm Single tail	a1	24V DC	g
				3000K	30K	KKFS IP65	Μ	127-7002mm 62.5mm increments	IP651	65	50mm Double tail	a2		
											50mm Single IP20 connector ²	a3		
											50mm Double IP20 connector ²	a4		
											300mm Single tail	c1		
											300mm Double tail	c2		
											300mm Single IP20 connector ²	c3		
											300mm Double IP20 connector ²	c4		

External dimensions of IP65 version increase slightly due to silicone sleeve cover IP65 variant only available with tail options

Code Example:

FS	-	s113	-	30K	-	M	502	-	65	-	c4	-	g	
KKFS		s-line KKFS		3000K		502mm			IP65		300mm Double IP20 connector		24V DC	

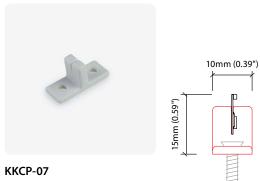
IP65 requires silicone mounting solutions, please see accessories

Not available for IP65

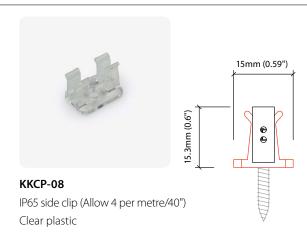




MOUNTING OPTIONS

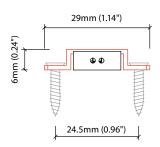


Side clip (Allow 4 per metre/40") White plastic





KKBK-14 IP65 silicone bracket (Allow 4 per metre/40") Translucent silicone



CONNECTORS



KKCN-01 50mm (1.97") pair KKCN-03 300mm (11.81") pair 2 PIN male + female connector set



KKCN-06 2 PIN 300mm (11.81") extension lead





KKDC CONTROL



IP67 100W 24V Aluminium housing L248/W73/H48mm (L9.76/W2.87/H1.89in)

KKPS-01 1-10V PSU* visDIM dimmable power supply (See Control Gear) * Not suitable for use with RGB/LEDmix



IP67 100W 24V Aluminium housing L248/W73/H48mm (L9.76/W2.87/H1.89in)

KKPS-03 DALI PSU visDIM dimmable power supply (See Control Gear)



IP20 Black plastic housing L164/W64/H34mm (L6.46/W2.52/H1.34in)

KKSC-03A DMX (Screw terminal) visDIM dimmable sub-controllers (See Control Gear)



IP20 Black plastic housing L164/W64/H34mm (L6.46/W2.52/H1.34in)

KKDL-01 DALI visDIM dimmable sub-controllers (See Control Gear)



IP67 100W 24V Aluminium housing L248/W73/H48mm (L9.76/W2.87/H1.89in)

KKPS-02 DMX PSU visDIM dimmable power supply (See Control Gear)



IP20 Black plastic housing L164/W64/H34mm (L6.46/W2.52/H1.34in)

KKDM-05 1-10V visDIM dimmable sub-controllers (See Control Gear)



IP20 Black plastic housing L164/W64/H34mm (L6.46/W2.52/H1.34in)

KKSC-03B DMX (RJ45) visDIM dimmable sub-controllers (See Control Gear)