See the world in a different light

OEM Module Guide

Dialight
Lumidrives

Front cover photos

A selection of products

from our broad range

including power drivers,

single and full colour

lighting arrays and optics.

Contents

OEM Module Guide Issue 3. 2006

This guide is intended to give an overview of Dialight Lumidrives technology for Original Equipment Manufacturers (OEMs). With LED technology developing at a rapid pace, we recommend you visit our websites www.lumidrives.com and www.l2opics.com to check the latest developments.

Both websites contain expanded, concise data on all the products highlighted in the guide. There is also an online store where you can purchase all the products featured in this brochure.

If you have a requirement not contained within this guide, please do not hesitate to contact us, as a large part of our business is built around getting companies to market with innovative leading-edge ideas. Please contact us at sales@lumidrives.com or via your local Dialight Lumidrives distributor.

Dialight
Lumidrives

Symbols and Definitions

Boxed Symbol	Explanation of the symbol
350 mA 1-9	The minimum and maximum number of 1 Watt LEDs that can be run at 350 mA
700 mA 1-4	The minimum and maximum number of 3 Watt LEDS that can be run at 700 mA
RGB **DMX**	Dimming (0-100%) is achieved via an on board DMX512 interface combined with PWM power control
RGB REMOTE	The driver is designed for use with RGB LEDs which can be controlled via a remote control
DIM 1-10V	The driver has a 1-10V dimming facility
PHASE	Dimmable on Phase Cut Dimming
DIM	The LEDs can be dimmed via an external potentiometer
✓	The Lifesaver™ is a unique thermal feedback circuit which constantly monitors LED temperature ensuring reliability and protection.
85-265	Input voltage range measured in V AC
12-24	Input voltage range measured in V DC
t_a	The operating ambient temperature measured in degrees Celsius
t_c	The maximum permitted case temperature of the driver measured in degrees Celsius

Photo courtesy of Lux Lumen - Arch Esther Gutmer for Mer du Nord

Useful Information

In January 2006 Lumidrives was acquired by Dialight PLC the world leader in applied LED technology. Moving forward the combined strengths of Dialight Lumidrives mean we are well positioned to drive the advancement of solid state lighting on a global basis, through product innovation, manufacturing excellence and dedicated customer support at a local level.

Dialight Lumidrives is a vertically integrated supplier providing system level modules in all technology areas required to create reliable LED lighting solutions.

Dialight Lumidrives has been providing leading-edge technology for illumination applications since 2001. Our technology is working reliably in 1000s of applications and products worldwide.

Photo courtesy of Lux Lumen - Embrio Design

Technology Trends

Dialight Lumidrives is committed to supplying customers with the best possible LED technology and associated value adding products. The technology driving our business is moving fast with month by month improvements in efficiency and power density. In the catalogue we only present products which are available to ship now, but in our development program we have many new products and concepts. To keep fully up to date with what innovation we can offer please visit our web site www.lumidrives.com

Dialight Lumidrives use LEDs only from quality LED manufacturers who provide accurate data and reliability criteria. Currently we use products from Lumileds, CREE, Nichia and OSRAM. We select the LED on the basis of performance in a particular application e.g. flux, colour performance, uniformity, thermal characteristics and cost. The types of LED used in a product may change to reflect the best total performance offered in the LED market.

Product Labelling and Binning

When LEDs are manufactured they are grouped or "binned" according to luminous flux, colour (nm or CCT) and voltage. This means that when viewing LEDs from different bins they look a different colour or shade. This affects LEDs from all manufacturers and industry is continuously researching and improving production methods to reduce variability.

During our normal production we select LEDs to minimise the effects of binning for our customers. Products produced by Lumidrives are uniquely labelled to identify the type and bin of LED used, should a replacement be required in the future.

The human eye is very susceptible to variations in white light, we recommend new users of white LEDs and users with large projects contact us to discuss the details of the application. Dialight Lumidrives has extensive application expertise in projects with 100,000s of individual LEDs and has successfully managed LED selection in very demanding applications.
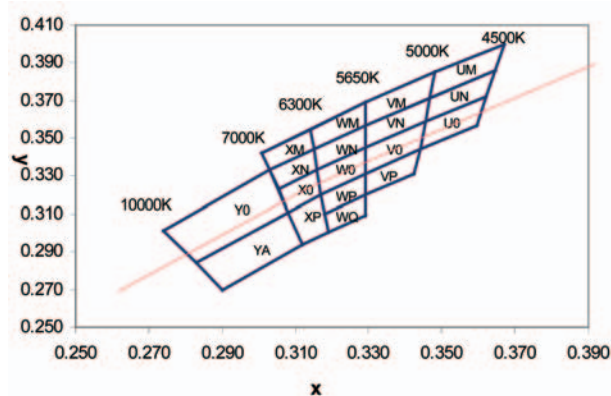

New white Luxeon binning and labeling structure

Photometrics

Dialight Lumidrives offers full photometric performance data for all standard light engines. Copies of this data are available upon request together with IES files for integration within lighting design programs.

Part:	blue	no lens	15 deg	Date:	21/3/06 By:rh
VAC:		mA:		Distance:	26.8 718.24

Chromaticity		Dom wav	Peak wav	CCT	Flux
x	y	(nm)	(nm)	(K)	lm
0.1471	0.0326	459.5	455.6	0	100.9
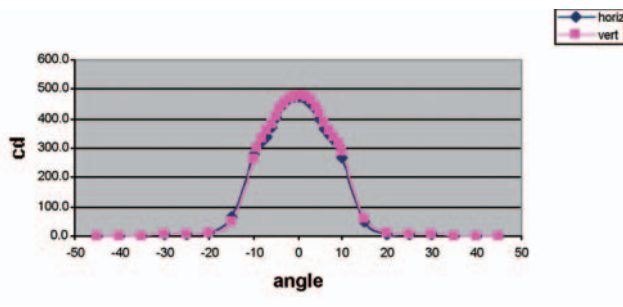
Data quoted for light output in our data sheets is based upon typical operating temperatures and conditions rather than manufacturer's junction temperature test conditions.

BLUE			
V Angle	cd	H Angle	cd
45	1.9	45	1.6
40	2.0	40	1.7
35	2.5	35	2.2
30	3.2	30	2.8
25	4.7	25	4.3
20	9.7	20	8.0
15	62.5	15	51.4
10	286.9	10	267.9
9	317.6	9	307.5
8	340.4	8	327.6
7	357.7	7	345.0
6	387.1	6	365.4
5	420.5	5	398.0
4	439.1	4	430.0
3	461.3	3	447.1
2	472.0	2	466.4
1	480.1	1	473.8
0	478.5	0	476.9
-1	475.4	-1	476.6
-2	467.8	-2	470.6
-3	452.6	-3	455.4
-4	437.5	-4	436.2
-5	407.9	-5	402.4
-6	384.3	-6	369.2
-7	361.1	-7	339.8
-8	331.6	-8	320.1
-9	298.0	-9	303.4
-10	263.9	-10	276.6
-15	48.3	-15	64.2
-20	9.0	-20	10.4
-25	4.6	-25	4.7
-30	2.8	-30	2.8
-35	2.2	-35	2.1
-40	2.0	-40	1.7
-45	1.8	-45	1.6
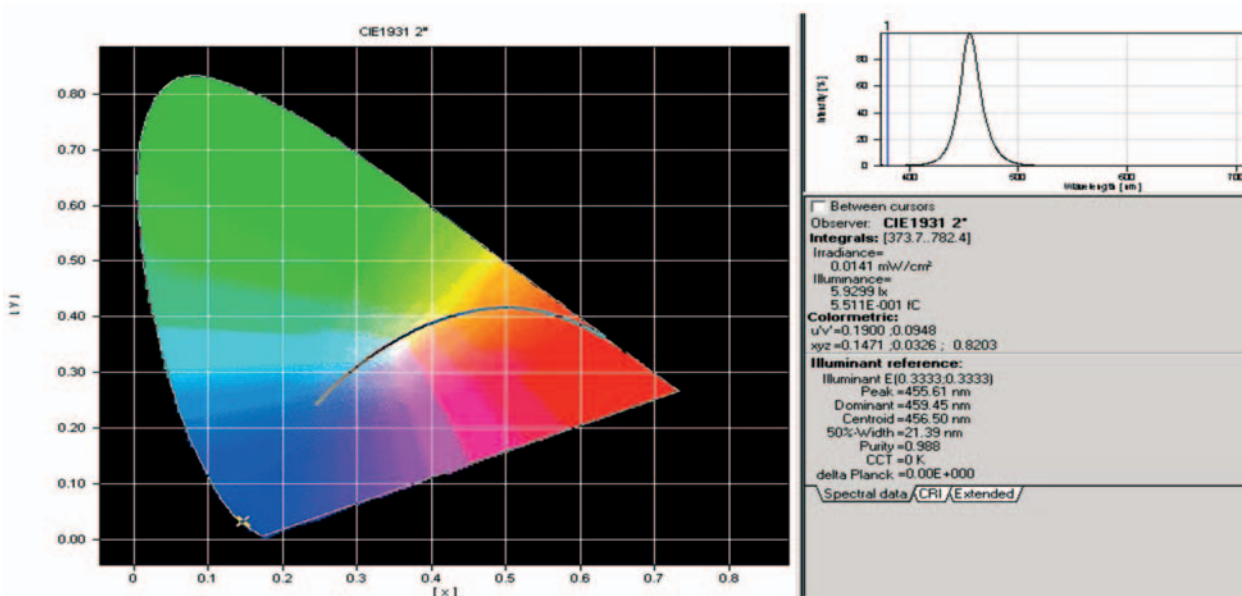
Thermal Management

Thermal management of LED products is critical to short term performance and longer term reliability. Generally most LED light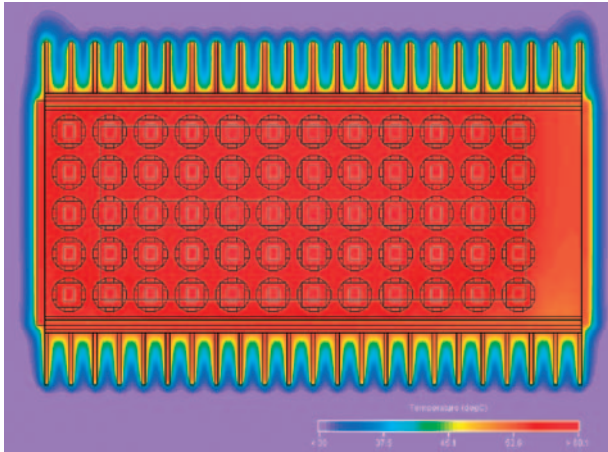 engines contained in the catalogue require additional heat sink components; the heat-sink ultimately is the lighting fixture in which they are fitted.

Dialight Lumidrives has experience in both retrofitting components to existing fixture designs, where possible, and advising customers on the optimum way to design new fixtures.
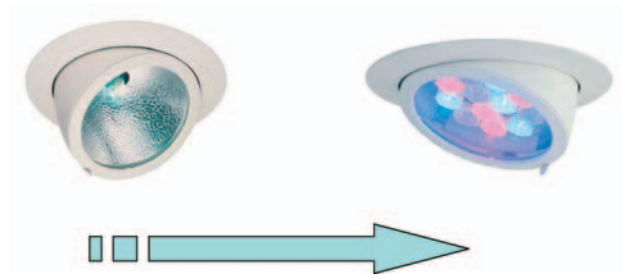
Retro fit example

CAD Thermal Analysis of design prior to manufacture

Thermal analysis of assembled Light Engine

We select thermal management materials to achieve the best performance in the final application and combine this in many products with our unique lifesaver thermal protection and feedback.

Design and Integration

Dialight Lumidrives can support customers from the specification of an individual optic, driver or light engine through to integration of components into existing product lines or the design of new ranges to maximise the benefits of LED technology.

Where our range of standard solutions don't match the product requirements we can offer custom designed solutions or derivatives in optics, drivers, light engines and heat-sinks.

New Designs

Exterior fixture using Lumidrives Colourengine 36
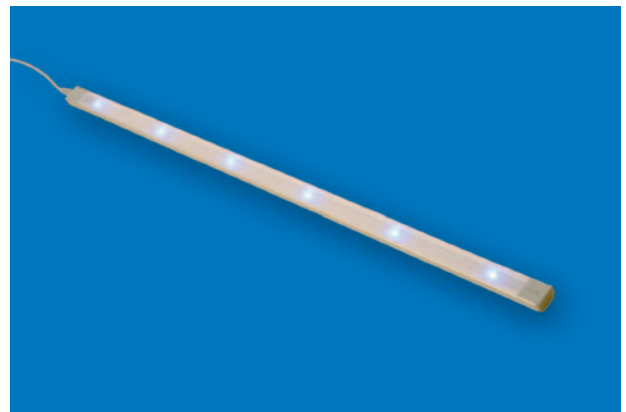
Custom linear lighting solution

RF-Remote
CDURF-TX

RF-Master
CDURF-3-35

RF-Slave
CDUSL-3-35

Wall Mounted Control Unit
CDUSL-CU

Colourdriver™ RF

Connection Conditions

|	
1W LEDs per Master Unit	18
1W LEDs per Slave Unit	18
No. of Slaves per Master Unit	100
Max. Cable Length to LEDs	10m
Max. Cable Length between Drive Units	30m
Total Circuit Cable Length	1km

Colourdriver™ RF Remote Control

Specification

Battery Voltage/Type	AAA alkaline cell
Battery Life	>30,000 keypresses
RF Frequency	433.92MHz
Modulation	FM
Dimensions	L96.0mm x W47.0mm x H24.0mm

Operating Modes

Colour Cycle
Fixed colour
On/Off
Two Selectable memories

179mm

Master

32mm

53mm
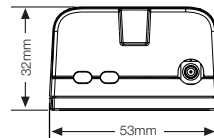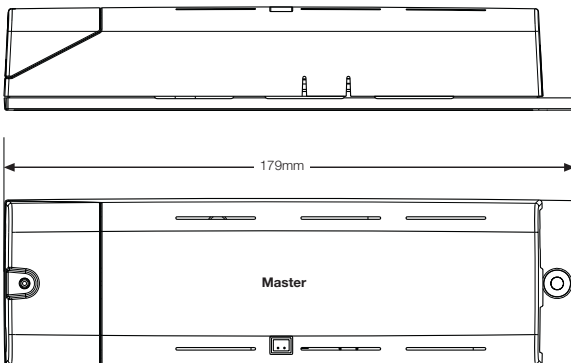
The Colourdriver™ RF is a three channel RGB LED driver, which combines an intelligent power driver with an intuitive RF remote control.

Wall Mounted Control Unit

The control unit plugs directly into a slave module giving the same functions as a wireless remote. Additionally it can accept an input from a DMX control system. In DMX mode the front plate functions are disabled.

Order codes:
Colourdriver™ RF Master: **CDURF-3-35**
Colourdriver™ RF Slave: **CDUSL-3-35**
Colourdriver™ RF Remote: **CDURF-TX**
Colourdriver™ SL Control: **CDUSL-CU**

Dimensions: **L179mm x W53mm x H32mm**

Weight: **163g**

350 mA
1-6

RGB
REMOTE

Lifesaver™

85-265

t_a
40°C

t_c
+80°C

RGB
DMX
Option with CDUSL-CU control

CDU-L-3-35-DMX

Colourdriver™ 36

LED Output

DMX 1 x Input

DMX 1 x Ouput

Colourdriver™ 36

55.0mm

45.0mm

DMX Address

285.0mm

310.0mm

12.5mm
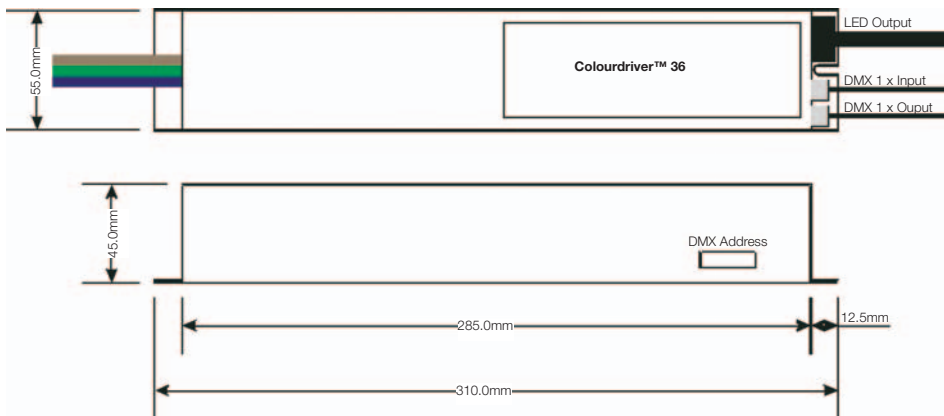
The Colourdriver™ 36 is a three channel RGB LED capable of driving up to 12 leds per channel. The unit is fully addressable via an on board DMX interface.

All connections to the driver are plug and socket for rapid installation.

Order codes: **CDU-L-3-35-DMX**

Dimensions: **L310mm x W55 mm x H45mm**

Weight: **1020g**

350 mA
4-12

RGB
DMX

Lifesaver™

95-265

ta

tc
+65°C

Dialight
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MDE16-C-VRL

MicroDriver™ 16 VariLED
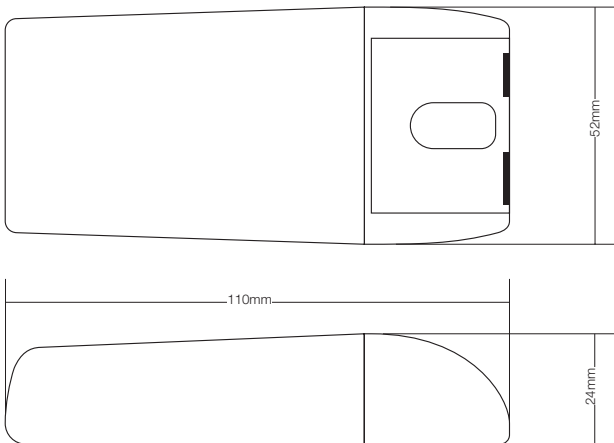
The Microdriver™ VariLED 16 is designed for driving 16 x 1W LEDs in two banks of 8 at 350mA or one bank of 8 x 3W LEDs at 700mA from a 230V AC supply.

Order codes: **MDE16-C-VRL**

Dimensions: **L110mm x W52mm x H24 mm**

Weight: **105g**

MLD8-C-35/70

Multidriver 8
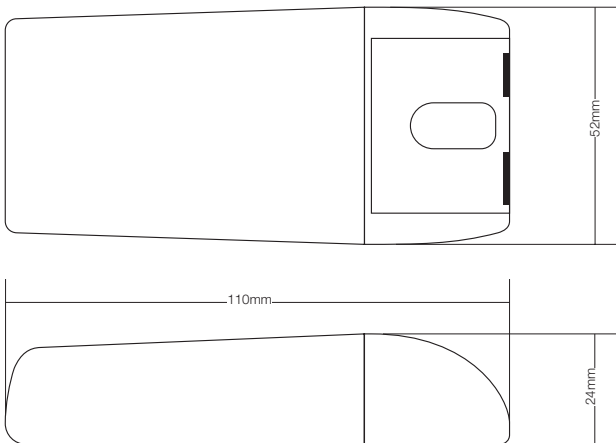
The Microdriver 8 is designed for driving up to 8 x 1W LEDs at 350mA or 6 x 3W LEDs at 700mA. The single driver can also deliver 7 different output voltages.

Order codes:	**MLD8-C-35/70**
Dimensions:	**L110mm x W52mm x H24.0 mm**
Weight:	**102g**

MDU4-SC-35

Microdriver™ 4
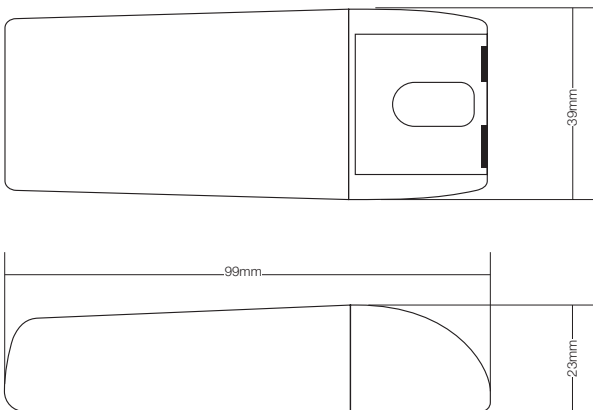
The Microdriver™ 4 is designed to drive up to 4 x 1 W high powered LEDs at 350 mA from a 110 - 240V AC power supply.

Order codes:	**MDU4-SC-35**
Dimensions:	**L99mm x W39mm x H23mm**
Weight:	**70g**

MDU9-SC-35/70

Microdriver™ 9
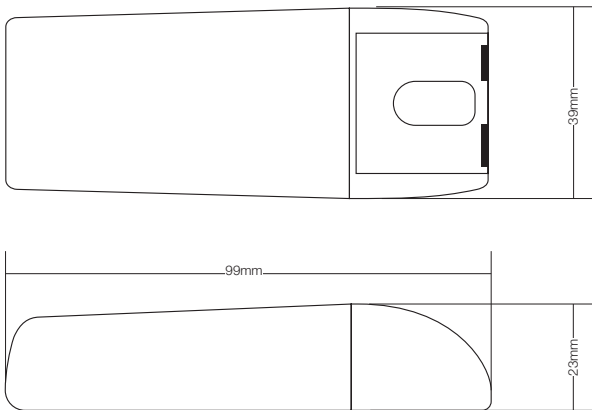
The Microdriver™ 9 is designed for driving 9 x 1W LEDs at 350mA or 4 x 3W LEDs at 700mA from a 110V-240V AC supply.

Order codes:	**MDU9-SC-35/70**
Dimensions:	**L99mm x W39mm x H23mm**
Weight:	**70 g**

MDE3-C-35

MDE3-C-70

Microdriver™ 3

Mains Input

LED Output

53mm

19mm
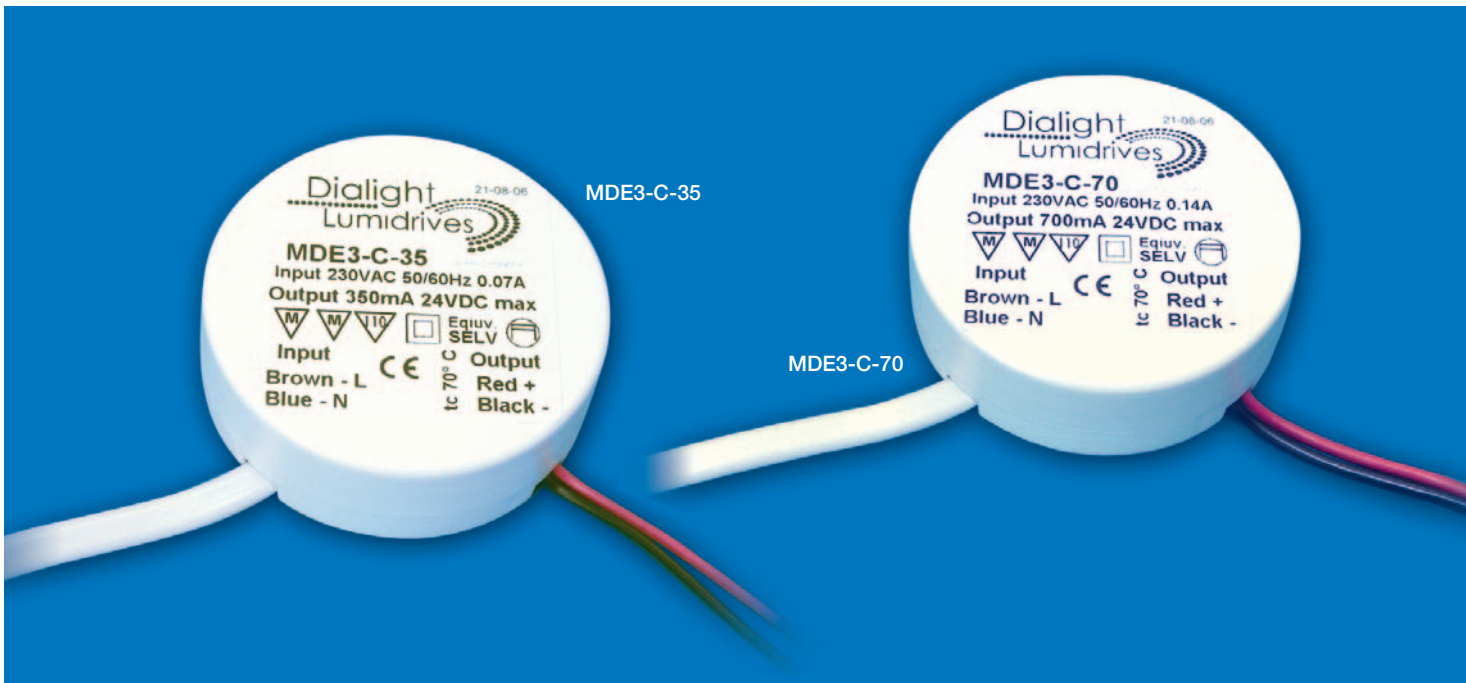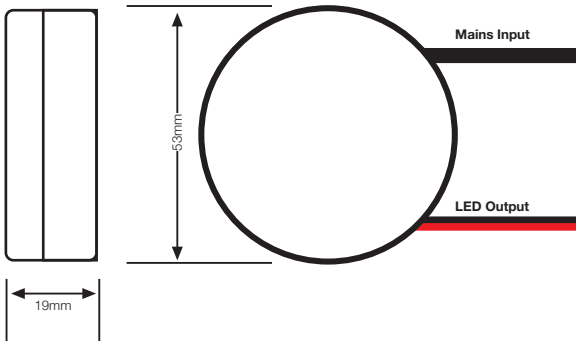
The Lumidrives Microdriver™ 3 is designed to drive high power LEDs from a 230 Vac mains supply. The driver will power 1 to 3 individual LEDs run at either 350 mA or 700 mA

Order codes: **MDE3-C-35**
MDE3-C-70

Diameter: **53mm**

Weight: **44g**

350 mA
1-3

700 mA
3

tc
+70°C

195-265

ta
+40°C

MLV9-C-70

MLV9-C-35
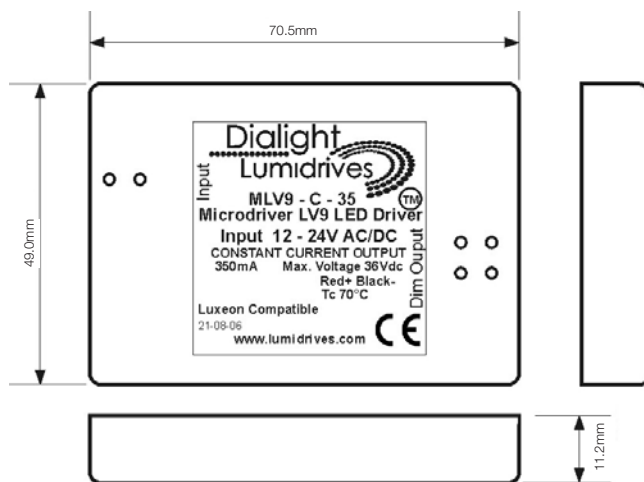
Microdriver™ LV9

The Microdriver™ LV9 is ideal for driving high power LEDs from a range of low voltage power supplies of between 12 to 24 volts. It will drive up to 9 x 1 W LEDs at 350mA or 4 x 3W LEDs at 700mA.

Order codes: MLV9-C-35
  MLV9-C-70

Dimensions: L70.5 mm x W49mm
  x H11.2 mm

Weight: 65g
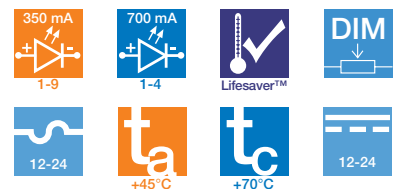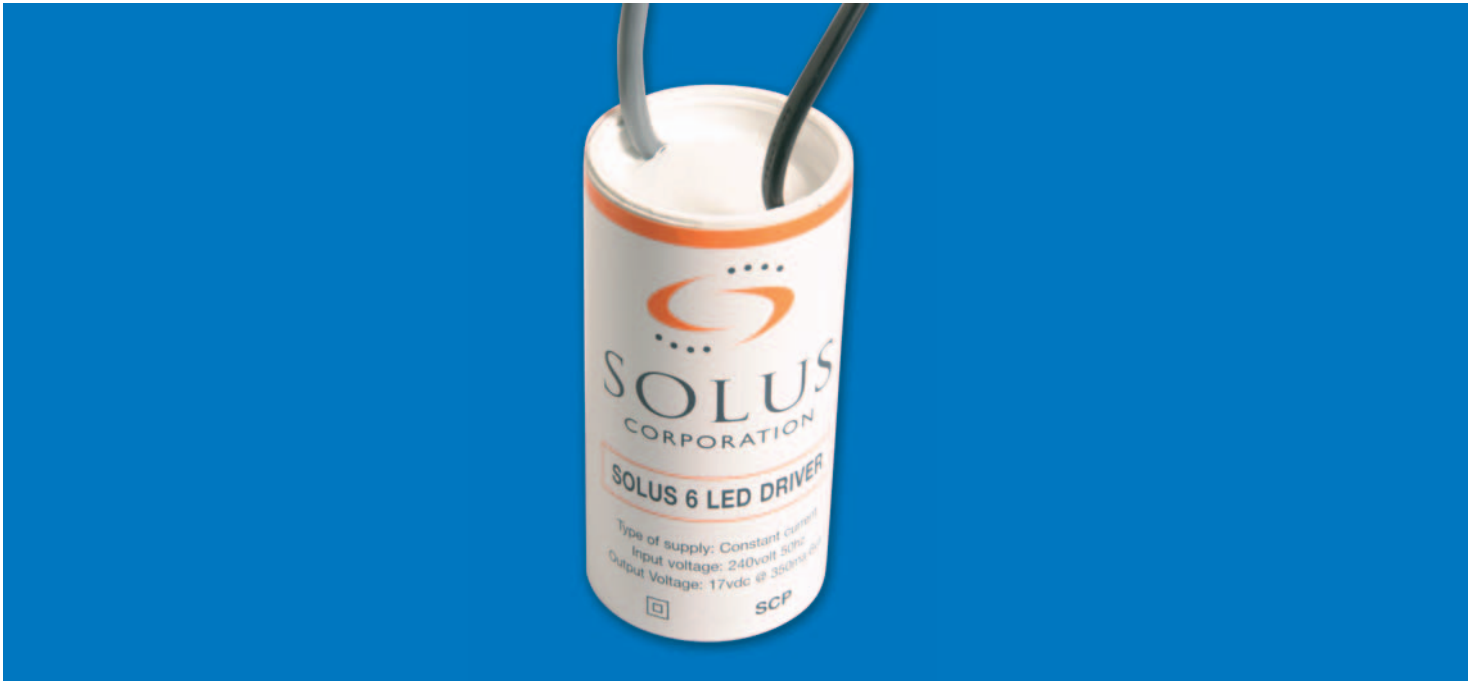
Solus 6

The Solus 6 driver is designed for driving up to 6 x 1W LEDs at 350mA from a 230V AC supply. It is mains dimmable.

Order codes:	**SL6-C-35**
Dimensions:	**56mm x 112mm**
Weight:	**600g**

350 mA 3-6   tc +85°C   PHASE   230-240

ta +60°C

Colour Engine 36C

Colour Engine 3C

Colour Engine 12C

Colour Engines

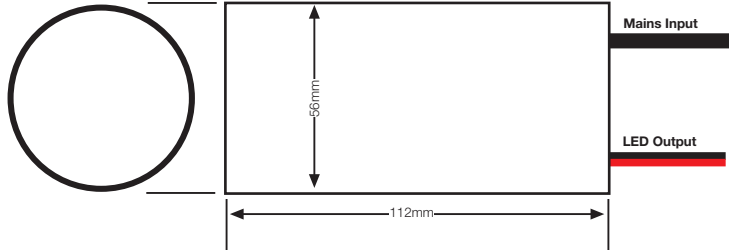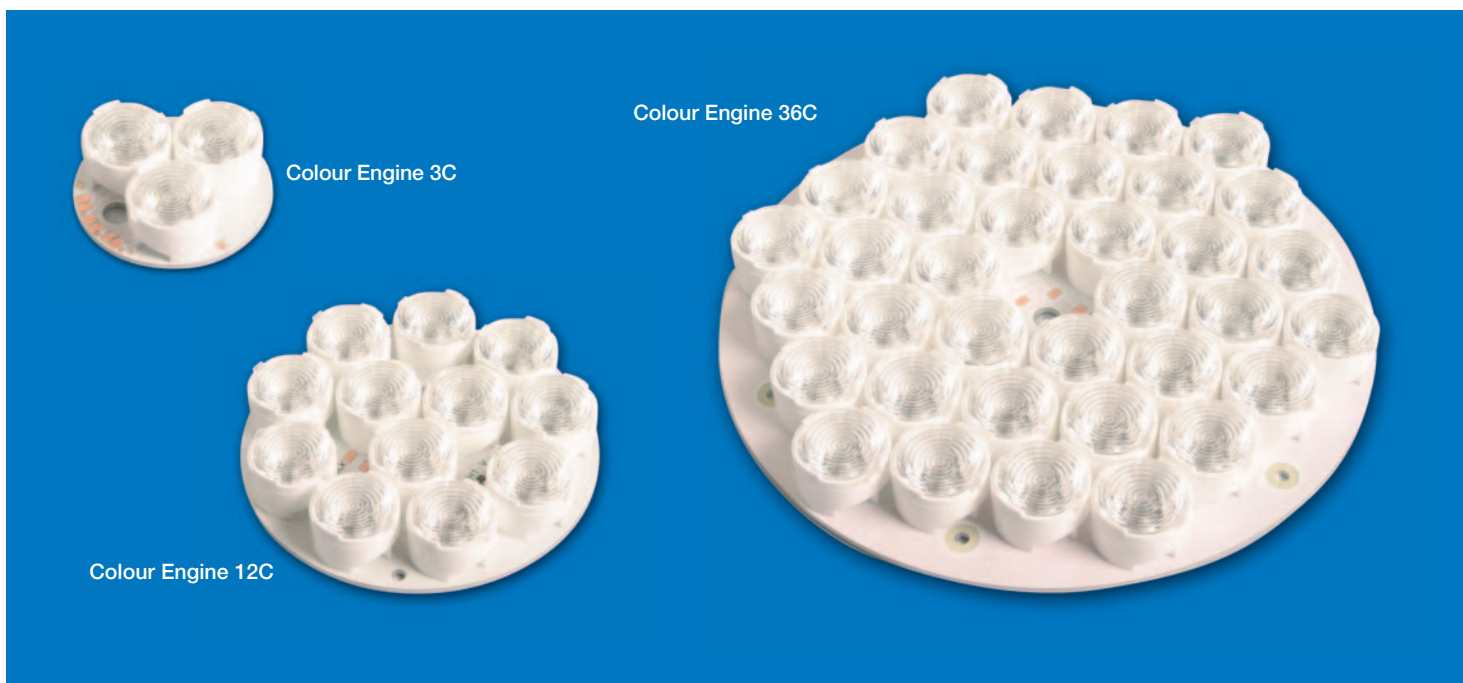| Code		Colour		Optic options		Lumens/mW
CE	3C	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	105 126 528 mW
CE	6C	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	210 252 1056 mW
CE	12C	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	420 504 2112 mW
CE	18C	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	630 756 3168 mW
CE	36C	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	1260 1512 6336 mW
CE	12L	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	420 504 2112 mW
CE	18L	R G B	Red Green Blue	005 015 025 520	5° 15° 25° 5°x 520°	630 756 3168 mW

Lifesaver™

CE - 3C - RGB - 005 *(example only)*

Create your order code by using the above table

The Colour Engine is an integrated red, green and blue light engine, which enables the creation of dynamic colour changing applications using LED technology. It is available in a choice of five circular and two linear modules and is complete with optics and optic holders. There are also four different beam angle options for the optics.

Colour Engine 3C
A circular Colour Engine complete with 3 x 1W RGB LEDs.

Dimensions: 48mm diameter
                   x H15.5mm

Colour Engine 6C
A circular Colour Engine complete with 6 x 1W RGB LEDs.

Dimensions: 69mm diameter
                   x H15.5mm

Colour Engine 12C
A circular Colour Engine complete with 12 x 1W RGB LEDs.

Dimensions: 90mm diameter
                   x H15.5mm

Dialight Lumidrives
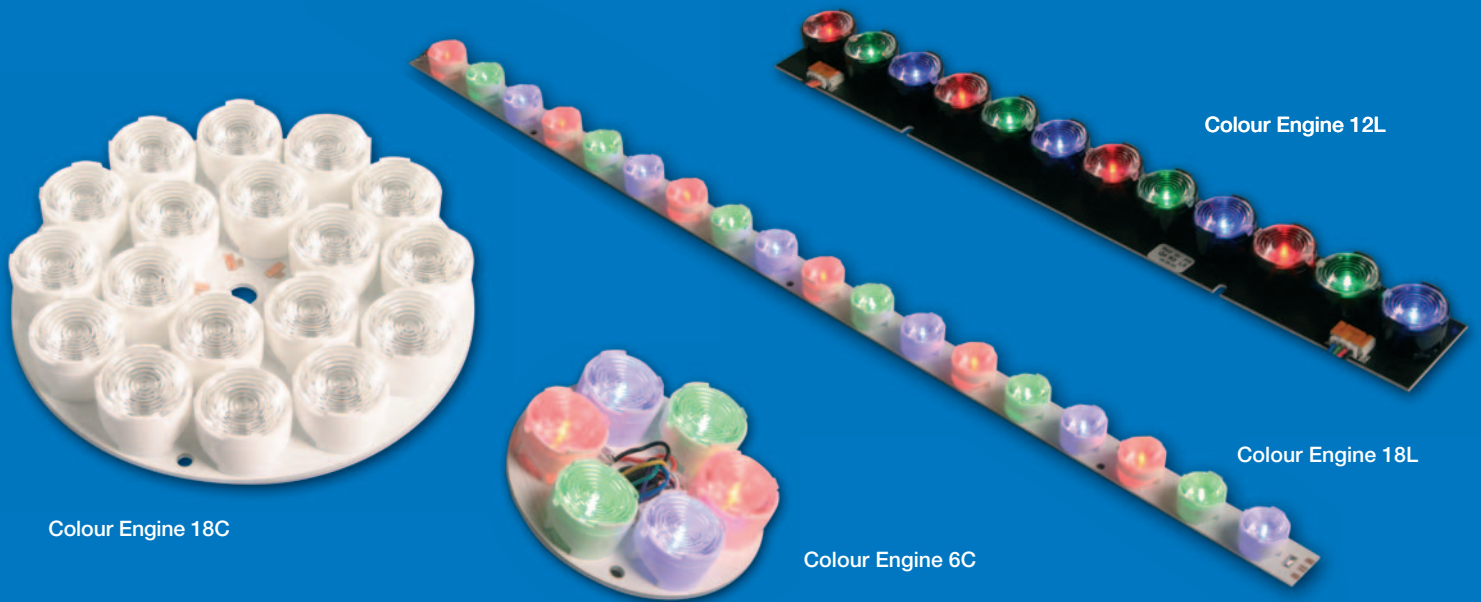
Colour Engine 12L

Colour Engine 18C

Colour Engine 6C

Colour Engine 18L

Colour Engine 18C

A circular Colour Engine complete with 18 x 1W RGB LEDs.

Dimensions: **L110mm diameter x H15.5mm**

Colour Engine 36C

A circular Colour Engine complete with 36 x 1W RGB LEDs.

Dimensions: **120mm diameter x H15.5 mm**

Colour Engine 12L

A linear Colour Engine complete with 12 x 1W RGB LEDs.

Dimensions: **L290mm x W35mm x H15.5 mm**

Colour Engine 18L

A linear Colour Engine complete with 18 x 1W RGB LEDs.

Dimensions: **L590mm x W22.5mm x H15.5mm**

For further information please consult the data sheets available on our website. Photometric data available upon request.

Lumispot™

Lumispot™

Lumispot™

Lumispot™

Lumispot™ Light Engines

Code		Colour		Optics		Lumens/mW
LSP	1	R	Red	005	5°	35
LSP	1	G	Green	015	15°	42
LSP	1	B	Blue	025	25°	176 mW
LSP	1	W	White	520	5°x 520°	36
LSP	1	A	Amber			34
LSP	1	WW	Warm white			16
LSP	3	R	Red	005	5°	105
LSP	3	G	Green	015	15°	126
LSP	3	B	Blue	025	25°	528 mW
LSP	3	W	White	520	5°x 520°	108
LSP	3	A	Amber			102
LSP	3	WW	Warm white			48
LSP	6	R	Red	005	5°	210
LSP	6	G	Green	015	15°	252
LSP	6	B	Blue	025	25°	1056 mW
LSP	6	W	White	520	5°x 520°	216
LSP	6	A	Amber			204
LSP	6	WW	Warm white			96
LSP	9	R	Red	005	5°	315
LSP	9	G	Green	015	15°	378
LSP	9	B	Blue	025	25°	1584 mW
LSP	9	W	White	520	5°x 520°	324
LSP	9	A	Amber			306
LSP	9	WW	Warm white			144

LSP - 9 - R - 005 *(example only)*

Create your order code by using the above table

The Lumispot™ Light Engines are available in a range of circular LED arrays complete with optics and white optic holders. They come in a choice of six different single colour LEDs and four different beam angles.

Lumispot™ 1

A single high power LED with optic and optic holder on a 21.5mm PCB, which has 4 notches cut out of the profile to allow for rear cable entry without encroaching on the circumference of the PCB.

Dimensions: **L21.5mm diameter x H15.5mm**

Lumispot™ 3

A group of 3x 1W single colour LEDs with optics and optic holders on a 48 mm diameter PCB.

Dimensions: **L48mm diameter x H15.5mm**

Lumispot™ 6

A group of 6x 1W single colour LEDS with optics and optic holders on PCB with an inner diameter of 23 mm and outer diameter of 69 mm
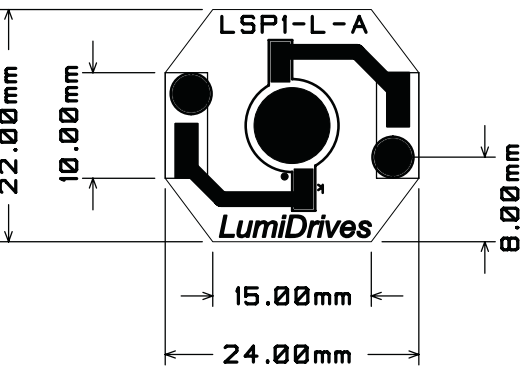
Dimensions: **L69mm diameter x H15.5mm**

Lumispot™ 9

A group of 9x 1W single colour LEDS with optics and optic holders on PCB with a diameter of 90 mm.

Dimensions: **L90mm diameter x H15.5mm**

350 mA

Lumispot™ OP

The Lumispot™ OP Light Engine incorporates one of five leading high power LEDs along with the unique OPT spot base lens module. An interchangeable choice of clip-on sub lenses can be ordered separately providing three beam angle variations.

Cree XLamp 7090 LED	LED types	Colour options	
LSP1X	Cree XLamp 7090	R	Red
LSP1G	Osram Golden Dragon	G	Green
LSP1L1	Luxeon 1 Watt	B	Blue
LSP1K2	Luxeon K2	W	White
LSP1J	Nichia Jupiter	A	Amber
		WW	Warm white

LSP1X - R *(example only)*

Create your order code by using the above table

Lumispot™ OP – LSP1X

A single high power Cree XLamp LED complete with spot base lens module and connecting cable.

PCB Dimensions: 24 x 22mm

Lumispot™ OP – LSP1G

A single high power Osram Golden Dragon LED complete with spot base lens module and connecting cable.

PCB Dimensions: 24 x 22mm

Lumispot™ OP – LSP1L1

A single high power Luxeon 1 Watt LED complete with spot base lens module and connecting cable.

PCB Dimensions: 24 x 22mm

Lumispot™ OP – LSP1K2

A single high power Luxeon K2 LED complete with spot base lens module and connecting cable.

PCB Dimensions: 24 x 22mm

Lumispot™ OP – LSP1J

A single high power Nichia Jupiter LED complete with spot base lens module and connecting cable.
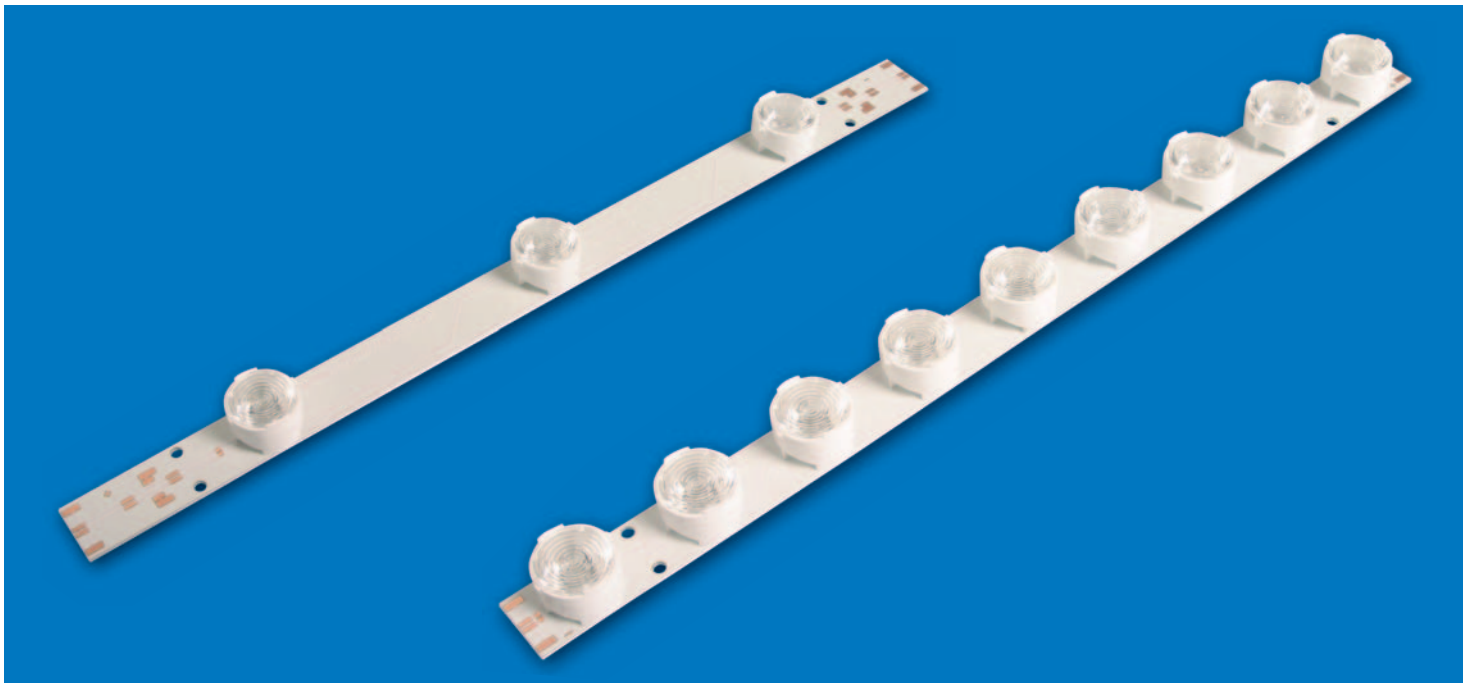
PCB Dimensions: 24 x 22mm

For LSP1K2 only

Lumiline Light Engines

Code	No. of LEDs	LED Colour		Optics		Lumens/mW
LLN	3	R	Red	005	5°	105
LLN	3	G	Green	015	15°	126
LLN	3	B	Blue	025	25°	528m W
LLN	3	W	White	520	5°x 520°	108
LLN	3	A	Amber			102
LLN	3	WW	Warm White			48
LLN	9	R	Red	005	5°	315
LLN	9	G	Green	015	15°	378
LLN	9	B	Blue	025	25°	1584m W
LLN	9	W	White	520	5°x 520°	324
LLN	9	A	Amber			306
LLN	9	WW	Warm White			144

LLN9 - R - 005 *(example only)*

Create your order code by using the above table

The Lumiline Light Engines are available in two linear module types complete with optics and white holders to match the white surface of the pcb. They come in a choice of six different single colour LEDs and four different beam angles.
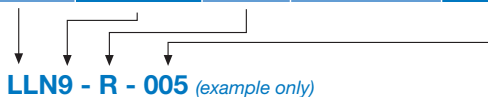
Lumiline 3
A linear array of three single colour LEDs.
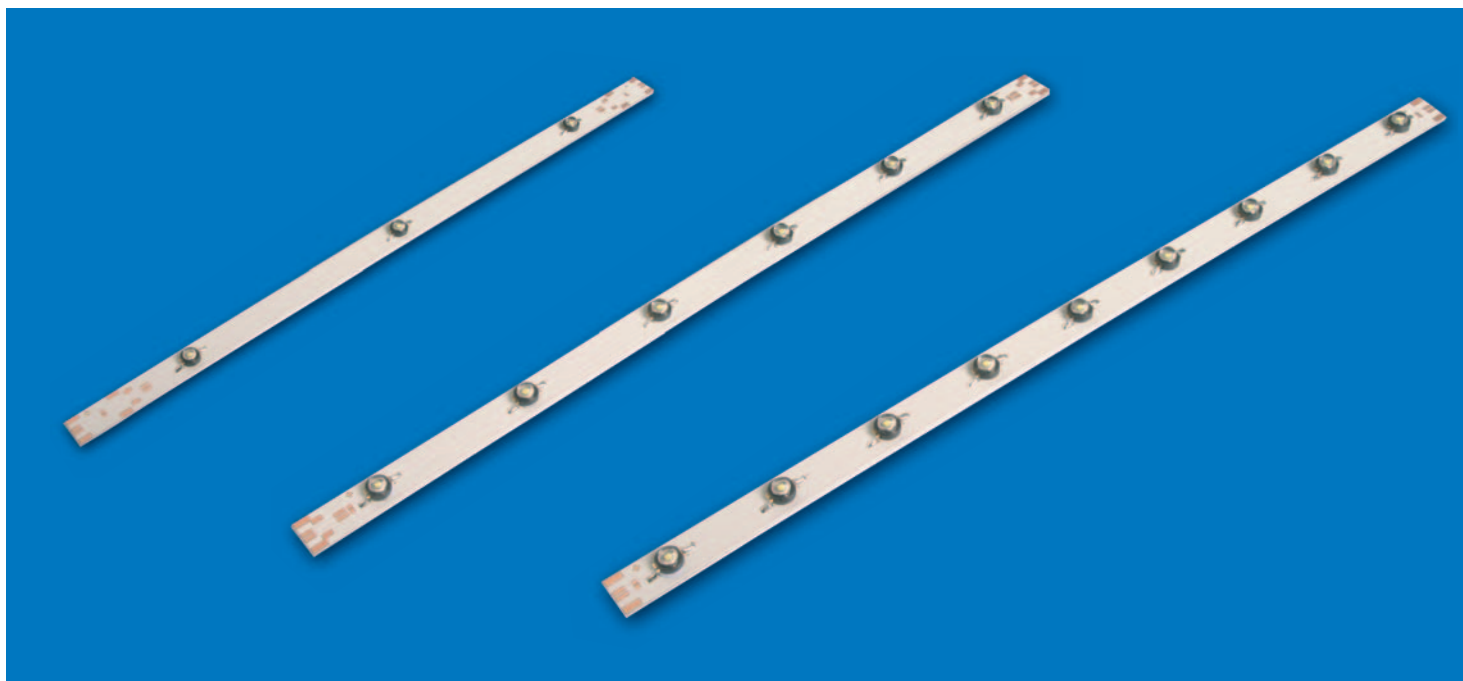
Dimensions: **324mm x 20.5mm x 15.5mm**

Lumiline 9
A linear array of nine single colour LEDS.

Dimensions: **324mm x 20.5mm x 15.5mm**

350 mA

Lumilight Light Engines

Code	No. of LEDs	LED Colour		Lumens/mW
LLT	3	R	Red	105
LLT	3	G	Green	126
LLT	3	B	Blue	528m W
LLT	3	W	White	108
LLT	3	A	Amber	102
LLT	3	WW	Warm White	48
LLT	6	R	Red	210
LLT	6	G	Green	252
LLT	6	B	Blue	1056m W
LLT	6	W	White	216
LLT	6	A	Amber	204
LLT	6	WW	Warm White	96
LLT	9	R	Red	315
LLT	9	G	Green	378
LLT	9	B	Blue	1584m W
LLT	9	W	White	324
LLT	9	A	Amber	306
LLT	9	WW	Warm White	144

LLT3 - R *(example only)*

Create your order code by using the above table

The Lumilight Light Engines are available in a range of three linear modules and come in a choice of six different single colour LEDs. Each LED linear array will fit into a standard 15mm wide aluminium "U" channel and is designed to be attached to a heatsink structure with thermal adhesive or double-sided thermal tape.

Lumilight 3
A linear array with three single colour LEDs.
Dimensions: **324mm x 13.5mm**

Lumilight 6
A linear array with six single colour LEDS.
Dimensions: **324mm x 13.5mm**

Lumilight 9
A linear array with nine single colour LEDS.
Dimensions: **324mm x 13.5mm**

HL16 Range

HLD16 Single Colour Selection Guide
HL16 with or without on board driver

Order Code	With built in driver	Colour options		Optic options	Lumens/mW
HL16	D	R	Red	SPOT	96
HL16	D	G	Green	WIDE	126
HL16	D	B	Blue	MICRO (RGB MIX)	612 mW
HL16	D	W	White		126
HL16	D	A	Amber		102
HL16	D	WW	Warm white		72

HL16-D-R *(example only)*

Create your order code by using the above table

HL16-R *code without on board driver*

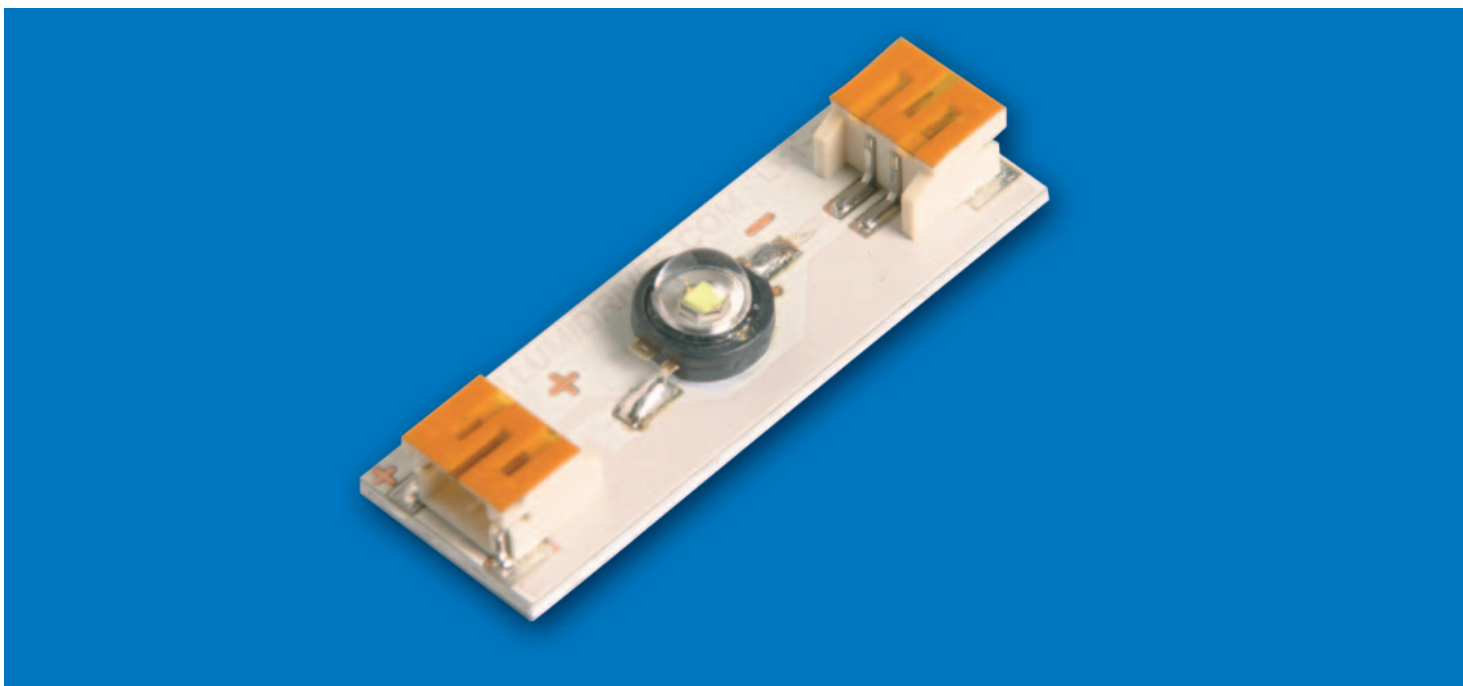**HL16-RGB** *colour change option*

A new and innovative range of compact single colour and colour change lighting modules designed to retrofit to existing MR16 based products. The HL16s incorporate a newly developed triple lens which is available in a choice of beam angles by means of an interchangeable sub-lens system.

HL16D and HL16

The HL16 is availabe to use with our standard range of mains powered drivers or available with a low voltage driver on board HL16D. The HL16D and HL16 are supplied with an optional wide angled sub-lens.

Dimensions:
Height: 35.5mm
Diameter of body: 46.5mm
Diameter of lens: 50mm

HL16 RGB

A compact light fitting equipped with RGB LEDs to provide a full colour change facility. The HL16RGB is supplied with an optional micro sub-lens.

Dimensions:
Height: 35.5mm
Diameter of body: 46.5mm
Diameter of lens: 50mm

RGB 3LED

350 mA

Lifesaver™
HL16D only

HL11 Range

HaloLED HL-11 Colour Selection Guide

Code	Colour		Lumens/mW	
			350 mA	700 mA
HL11	R	Red	36	60
HL11	G	Green	36	60
HL11	B	Blue	176 mW	264 mW
HL11	W	White	36	60
HL11	A	Amber	36	60
HL11	WW	Warm white	32	-

HL11 - R *(example only)*

Create your order code by using the above table

A new and innovative range of compact single colour lighting modules designed to retrofit to existing MR11 based products.

The HL11 incorporates a newly developed spot base module lens and is supplied with the following interchangeable sub-lenses: diffuser, wide and ovals.

Dimensions:
Height: 31mm
Diameter of body: 34.7mm
Diameter of lens: 26mm

350 mA	700 mA
Warm White Only	*All others*

Single Colour LinkLED™

42.0 mm

14.0 mm

WWW.LUMIDRIVES.COM

+ −

7.5 mm

6.85 mm
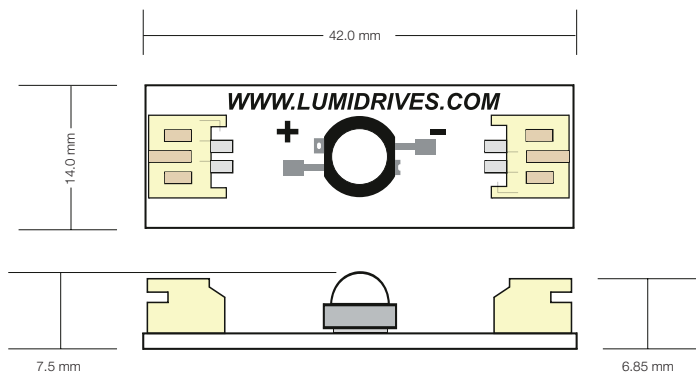
The LinkLED™ high powered LED forms the basis of an interlinking single colour system which is compact and easy to install. The LinkLED is equipped with a thermal adhesive backed PCB for direct assembly to metal surfaces and pre-assembled CT2 series connecting leads. It offers a wide beam angle of 120°.

Dimensions: **L42mm x W14mm x H7.5mm**

350 mA

Code		Colour		Lumens/mW
LK1	1	R	Red	35
LK1	1	G	Green	42
LK1	1	B	Blue	176 mW
LK1	1	W	White	36
LK1	1	A	Amber	34
LK1	1	WW	Warm White	16

LK1 - 1 - R *(example only)*

Create your order code by using the above table

RGB LinkLED™

RGB LinkLED™ Optic

RGB LinkLED™/RGB LinkLED™ Optic
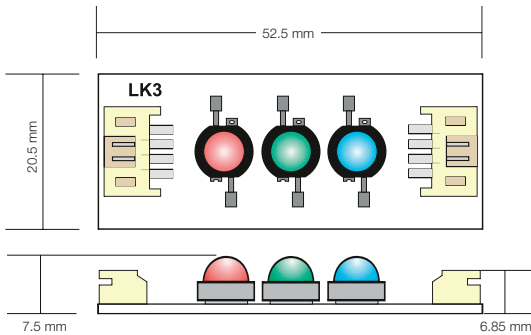
RGB LinkLED™

The RGB LinkLED™ high powered LED forms the basis of an interlinking red, green, blue colour system which is compact and easy to install. The LinkLED is equipped with a thermal adhesive backed PCB for direct assembly to metal surfaces and pre-assembled CT4 series connecting leads. It offers a wide beam angle of 120°.

The LinkLED RGB Optic is available in a choice of four beam angles: spot, medium, wide and oval.

RGB LinkLED™

Dimensions: **L52.5mm x W20.5mm x H7.5mm**

RGB	350 mA	tc
3LED		+65°C

Order code: **LK-3-RGB**

RGB LinkLED™ Optic

RGB	350 mA	tc
3LED		+65°C

Dimensions: **L94mm x W22.5mm x H15.5mm**
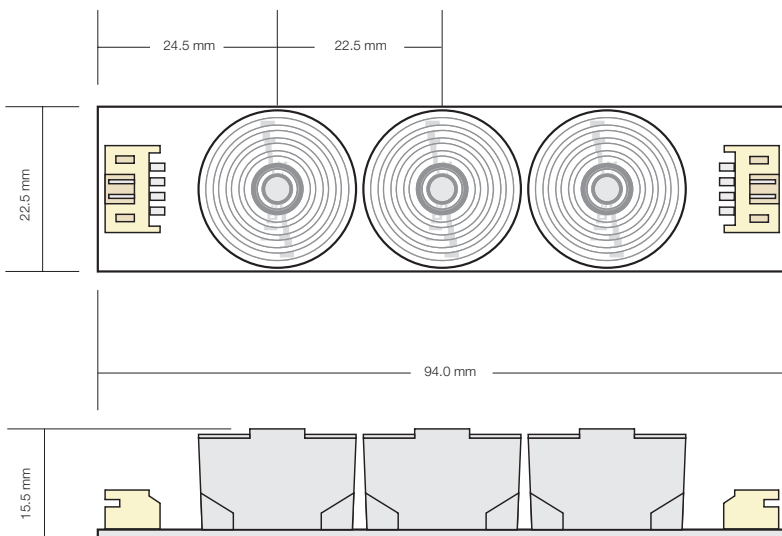
RGB LinkLED™ Optic

Code	Colour	Optics options		Lumens/mW	
LKOP	RGB	005	5°	Red	35
LKOP	RGB	015	15°	Green	42
LKOP	RGB	025	25°	Blue	176 mW
LKOP	RGB	520	5x 20°		

LKOP - RGB - 005 *(example only)*

Create your order code by using the above table
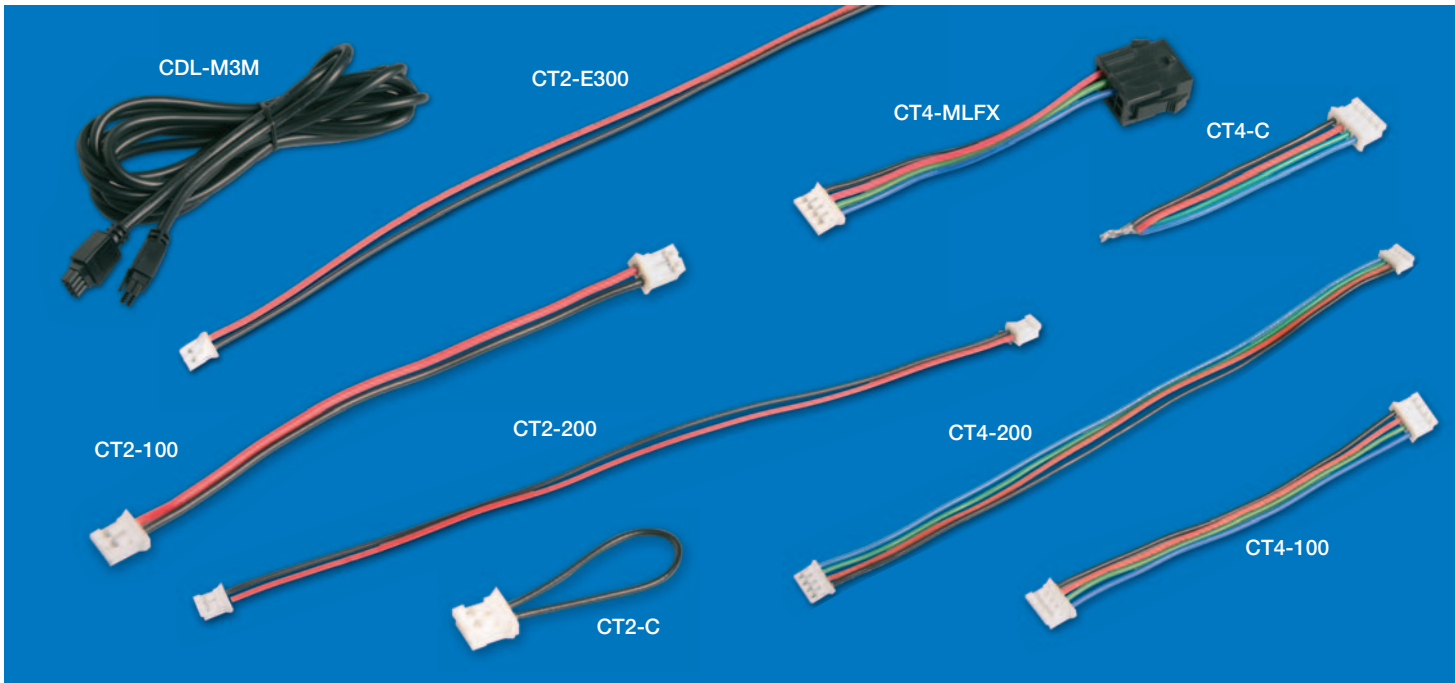
Associated Linking Cables

CT2 Linking Cables

The CT2 linking cables are the interlink connection cables for the Lumidrives LinkLED™ range of LED lighting products. These cables are pre-connected with a 2 way plug to match the socket used on the LinkLED™. The range Includes both interconnecting cables and end connector.

CT2-E300	2-way input lead
CT2-100	2-way link lead 100 mm
CT2-200	2-way link lead 200 mm
CT2-C	2-way common connector

CT4 Linking Cables

The CT4 linking cables are the interlink connection cables for the Lumidrives RGB LinkLED™ range of LED lighting products. These cables are pre-connected with the 4 way plug to match the socket used on the LinkLED™. The range includes both interconnecting cables and end connector.

CT4-MLXF	4-way Connection to 8-way molex
CT4-100	4-way link lead 100 mm
CT4-200	4-way link lead 200 mm
CT4-C	4-way common connector
CDL-M3M	8-way Molex – male to male

Other lengths available to special order
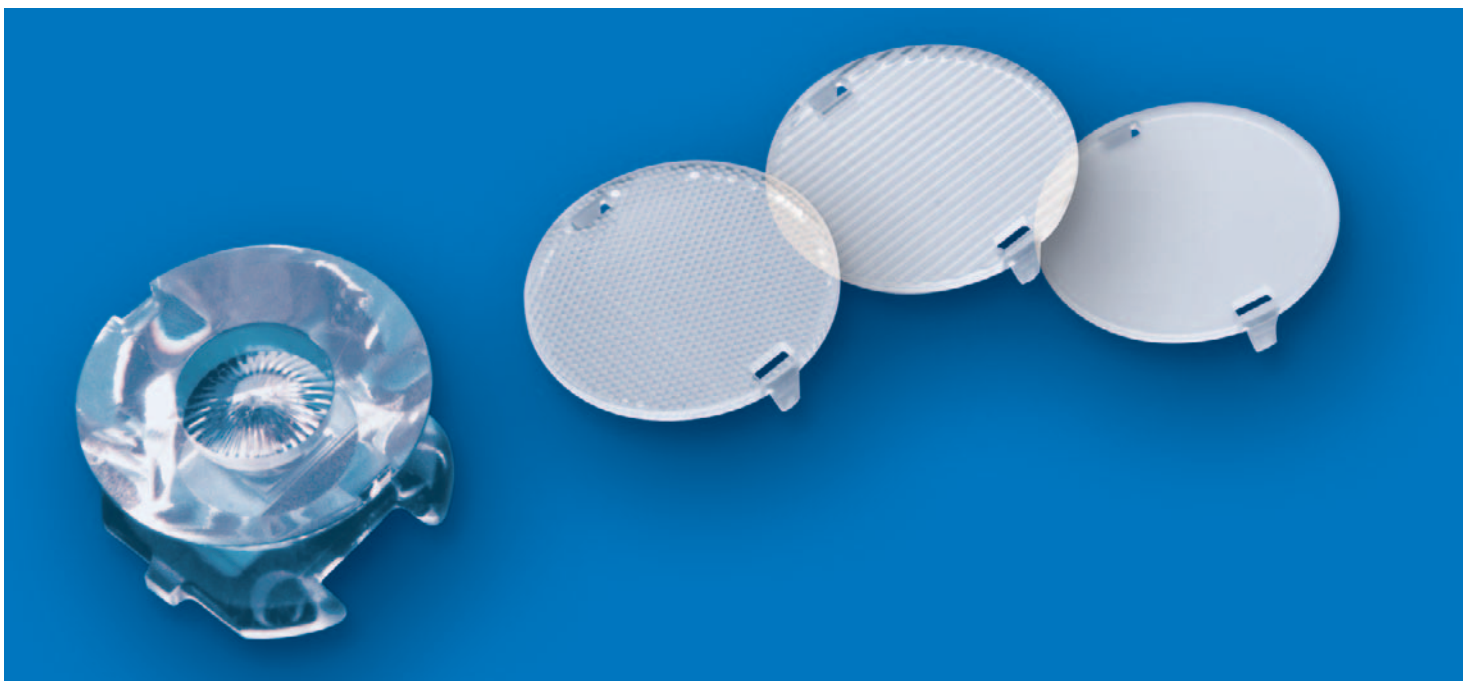
The L$_2$ Optics Range

Contents

Dialight Lumidrives offers a comprehensive range of lenses which have been tailored to suit individual high powered LED families and common lighting applications used across the globe. All the L$_2$Optics lenses are made from optical grade PMMA (acrylics) to ensure excellent optical properties, as well as long-term material stability and durability. Two distinctive lens ranges have been developed: the F'Form and OPT series.

F'Form Range

The F'Form range consists of 20 mm lenses and holders that have been specifically designed for use with:

• Luxeon star 1W, 3W, 5W and K2
• Golden Dragon

The holders position themselves easily and accurately on top of the LED and can be simply fastened onto the PCB by using an appropriate adhesive.

OPT Range

The OPT range consists of a unique spot base module onto which clip a selection of sub-lenses providing different beam angles. The series is available not only in a single but also a triple lens module complete with a choice of two sub-lenses. The optics are tailor-made for specific use with the following LED families:

• Cree XLamp 7090
• Luxeon K2
• Nichia Jupiter
• Osram Golden Dragon

As well as our standard range, L$_2$Optics are always looking to work with companies ready to develop unique optical solutions. Please contact sales@l2optics.com providing details of your specialist applications and we will be happy to advise you.
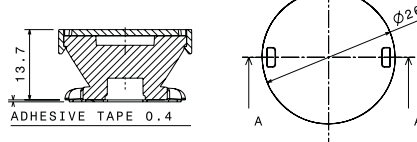
Visit the dedicated optics website at
www.l2optics.com

L$_2$ Optics OPT Series 1

Base Spot Lens + Sub Lens Options

12.5
ADHESIVE TAPE 0.4

$\phi 26$
A-A
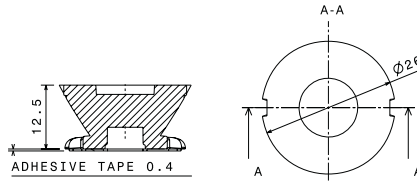
Base Spot Lens
(Cree, Golden Dragon, Luxeon K2)

13.7
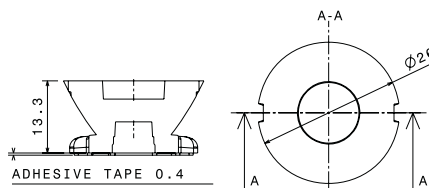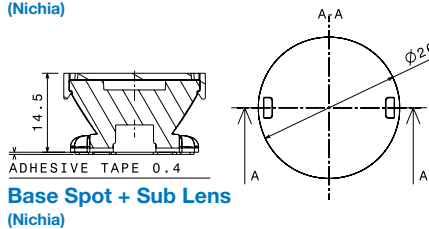ADHESIVE TAPE 0.4

$\phi 26$
A-A

Base Spot + Sub Lens

L$_2$Optics OPT Series 1 base lenses position easily and accurately over the LED. They are easy to fix onto the PCB using the integral self-adhesive pad.

The snap-lock-sub-lenses attach easily, are very secure and do not move or drop out, once in place.

There are three different sub-lens illumination patterns available: spot, wide and oval.

Diffuser Sub Lens

Wide Sub Lens

Oval Sub Lens

13.3
ADHESIVE TAPE 0.4

$\phi 26$
A-A

Base Spot Lens
(Nichia)

14.5
ADHESIVE TAPE 0.4

$\phi 26$
A-A

Base Spot + Sub Lens
(Nichia)

L$_2$ Optics OPT Series 3

Base Spot Lens

Micro Sub Lens

Wide Sub-Lens

L$_2$Optics OPT Series 3 spot triple is fixed over the LEDs on the PCB using locating pegs.

The snap-lock medium sub-lenses attach easily, using locating pegs into the base lens.

Base Spot Lens

18.6
2.5
A-A

$\phi 50$
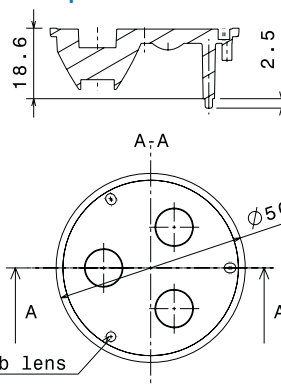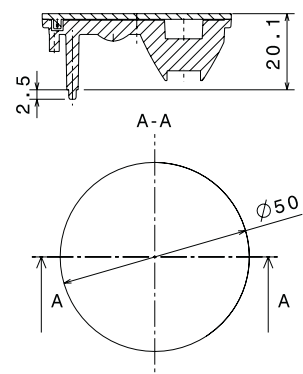
Fixing holes for additional sub lens

Base Spot + Sub Lens

20.1
2.5
A-A

$\phi 50$

Dialight Lumidrives

Optic Series Lens Systems for Cree XLamp 7090 LEDs

Base Lenses

OPTX-1-006	OPTX Series Spot Base Module	6°
OPTX-3-008	OPTX Triple Spot Base Module	8°

Sub-Lenses

OPAA-1-DFL	Spot Diffuser Sub-Lens	8°
OPAA-1-WSL	Wide Sub-Lens	16°
OPAA-1-OSL	Oval Sub-Lens	8° x 25°
OPAA-3-WSL	Triple Wide Sub-Lens	14°
OPAA-3-MICRO	Triple Micro Sub-Lens	Micro

■ Series 1
■ Series 3

Optic Series Lens Systems for Osram Golden Dragon LEDs

Base Lenses

OPGD-1-002	OPGD Series Spot Base Module	2°
OPGD-3-006	OPGD Triple Spot Base Module	6°

Sub-Lenses

OPAA-1-DFL	Spot Diffuser Sub-Lens	5°
OPAA-1-WSL	Wide Sub-Lens	15°
OPAA-1-OSL	Oval Sub-Lens	4° x 27°
OPAA-3-WSL	Wide Sub-Lens	15°
OPAA-3-MICRO	Micro Sub-Lens	Micro

■ Series 1
■ Series 3

Optic Series Lens Systems for Nichia Jupiter LEDs

Base Lenses

OPIO-1-011	OPIO Series Spot Base Module	11°
OPIO-3-011	OPIO Triple Spot Base Module	11°

Sub-Lenses

OPAA-1-DFL	Spot Diffuser Sub-Lens	13°
OPAA-1-WSL	Wide Sub-Lens	18°
OPAA-1-OSL	Oval Sub-Lens	12° x 24°
OPAA-3-WSL	Wide Sub-Lens	18°
OPAA-3-MICRO	Micro Sub-Lens	Micro

■ Series 1
■ Series 3

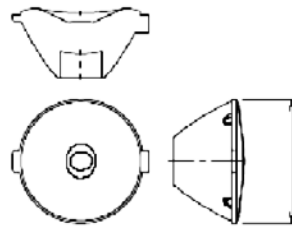# Optic Series Lens Systems for Luxeon K2 LEDs

Base Lenses

OPK2-1-003	OPK2 Series Spot Base Module	3°
OPK2-3-006	OPK2 Series Triple Spot Base Module	6°

Sub-Lenses

OPAA-1-DFL	Spot Diffuser Sub-Lens	6°
OPAA-1-WSL	Wide Sub-Lens	12°
OPAA-1-OSL	Oval Sub-Lens	4° x 27°
OPAA-3-WSL	Wide Sub-Lens	8°
OPAA-3-MICRO	Micro Sub-Kens	Micro

■ Series 1
■ Series 3

F-Form Lenses

Spot 5°

Medium 15°

Oval 5° x 20°

Wide 25°

L₂Optics 20mm F-Form Series lenses are made from optical grade PMMA (acrylics) with an optical efficiency of 85% minimum. When used with the appropriate lens holders (below) these are suitable for Luxeon 1W, 3W, 5W and K2 as well as the Osram Golden Dragon range of LEDs.
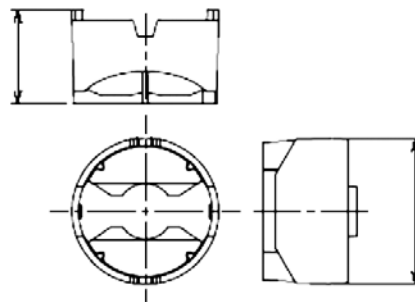
Lens - Part Numbers

OP-005	20mm Series Spot Optic	5°
OP-015	20mm Series Medium Optic	15°
OP-025	20mm Series Wide Optic	25°
OP-520	20mm Series Oval Optic	5 x 20°

Lens Holders

White

Black

Clear

There are currently 4 different holders for: Luxeon 1W Emitters / Star 1W, Star 3/5W, Luxeon K2 and Osram Golden Dragon. Each of these optic holders is available in clear, white or black.

Optic Holders - Part Numbers

OH-ES1-CL	Optic Holder - Luxeon Emitter, Star 1W	Clear
OH-ES1-WH	Optic Holder - Luxeon Emitter, Star 1W	White
OH-ES1-BK	Optic Holder - Luxeon Emitter, Star 1W	Black
OH-S35-CL	Optic Holder - Luxeon Star 3W or 5W	Clear
OH-S35-WH	Optic Holder - Luxeon Star 3W or 5W	White
OH-S35-BK	Optic Holder - Luxeon Star 3W or 5W	Black
OH-K2-CL	Optic Holder - Luxeon K2 Emitter	Clear
OH-K2-WH	Optic Holder - Luxeon K2 Emitter	White
OH-K2-BK	Optic Holder - Luxeon K2 Emitter	Black
OH-GD-CL	Optic Holder - Golden Dragon	Clear
OH-GD-WH	Optic Holder - Golden Dragon	White
OH-GD-BK	Optic Holder - Golden Dragon	Black

Special Lenses from L2Optics

Flare Lens

OP-FL	Flare lens for Luxeon	10º x 80º

L$_2$Optics are happy to design special customized lenses to meet your specific needs. Please ask L$_2$Optics for a quotation.

L$_2$Optics flare lens has been designed for use with all Luxeon Emitters. The illumination pattern is horizontally very wide, but vertically extremely narrow - ±10º x 80º
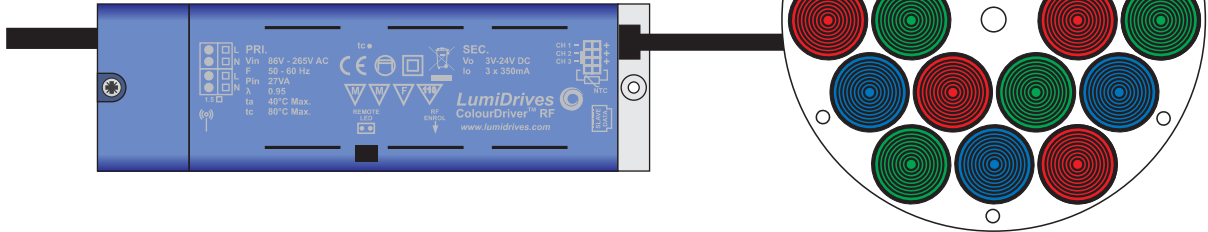

Examples of other Special Lenses

K2 3-Cell Optic

K2 Side Emitting Lens

K2 7-Cell Optic

K2 Side Emitting Lens
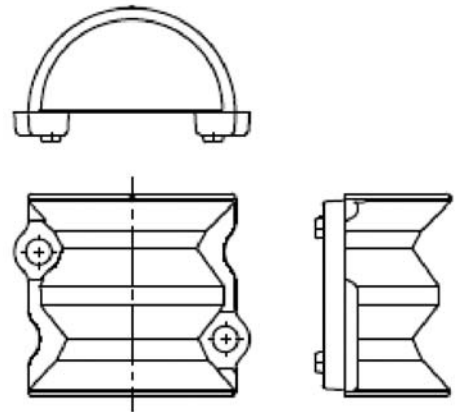
Wiring Diagrams

Contents

Colourdriver™ RF with Colour Engine CE18c

Typical Connection - With Colour Engine 18

Typical Connection - With Colour Engine 12
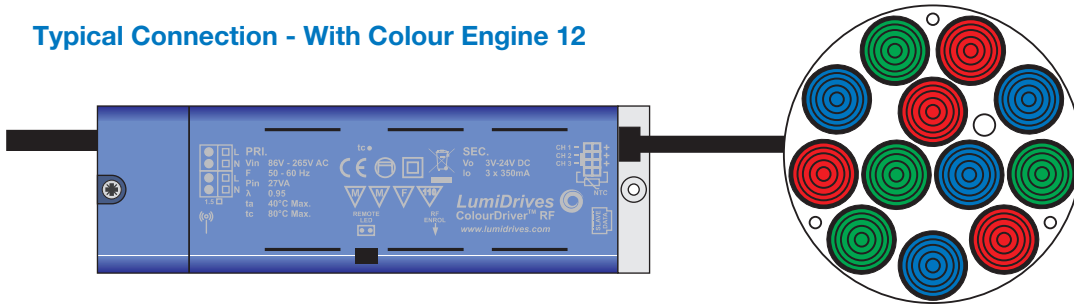
Typical Connection Master/Slave - With Colour Engine 18 & 6 x HL16u RGB
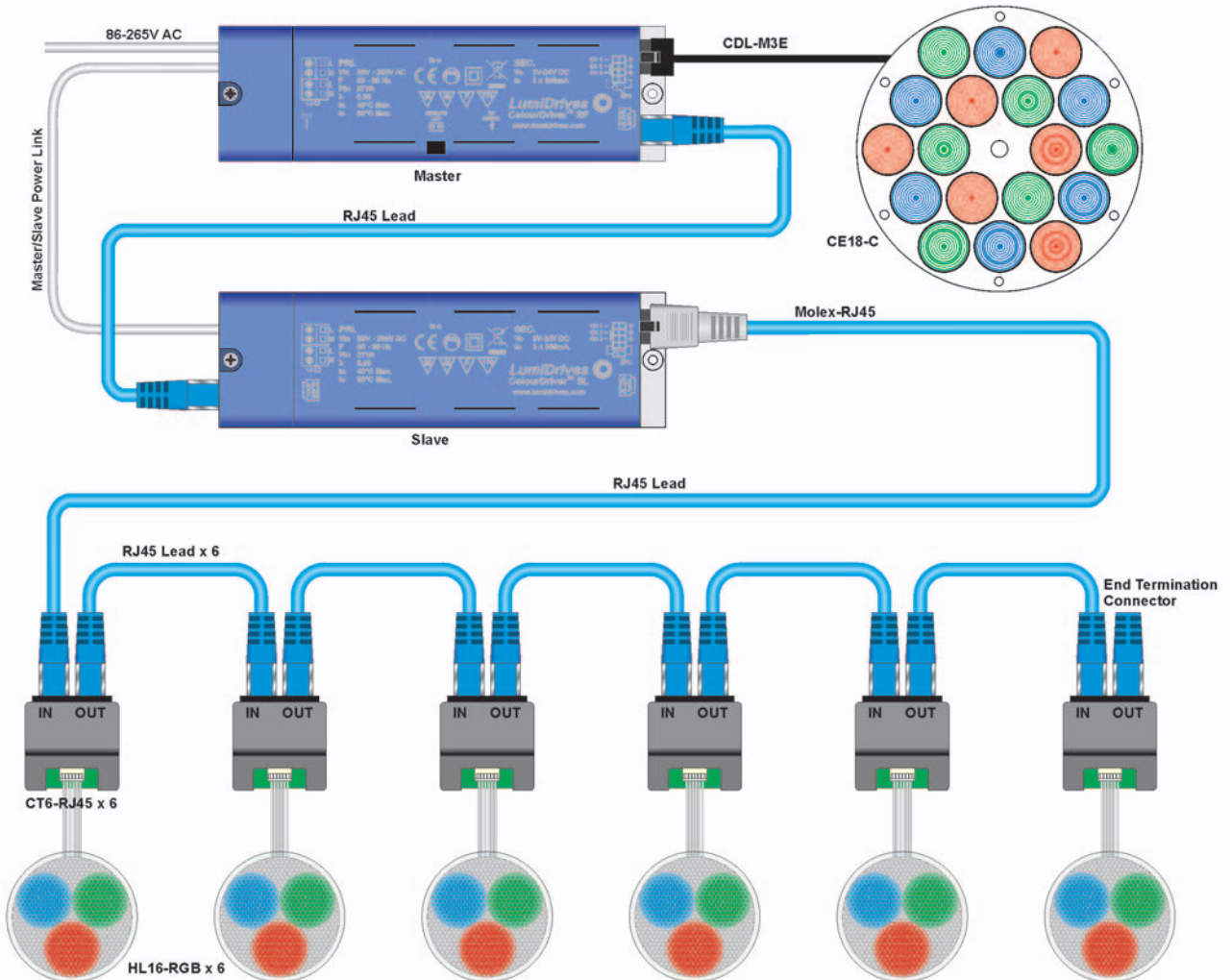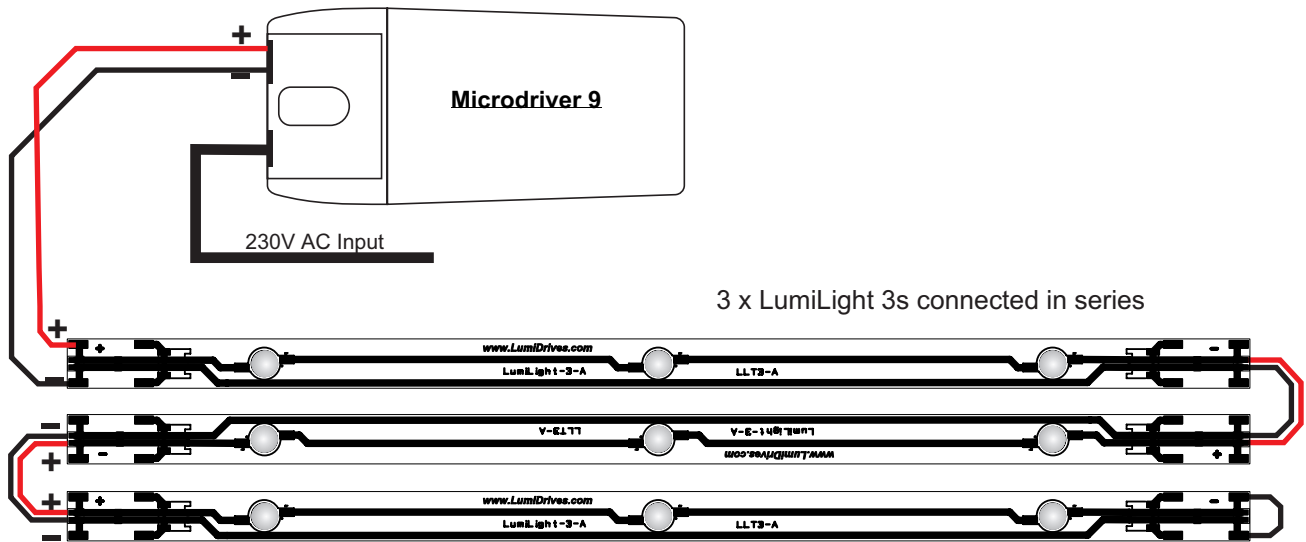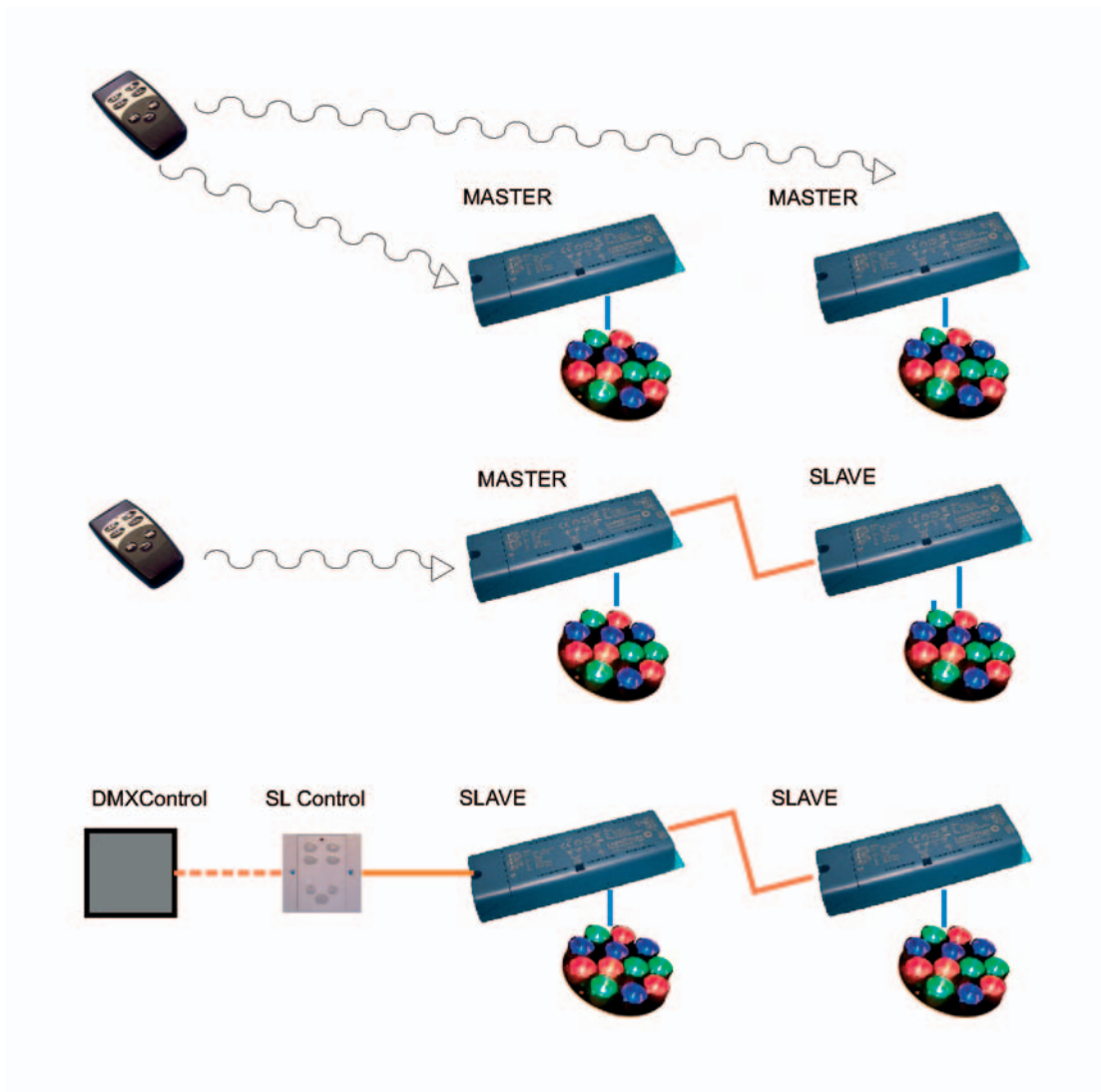
Colourdriver™ 36 with RGB LinkLEDs

LinkLED-RGB Typical connection
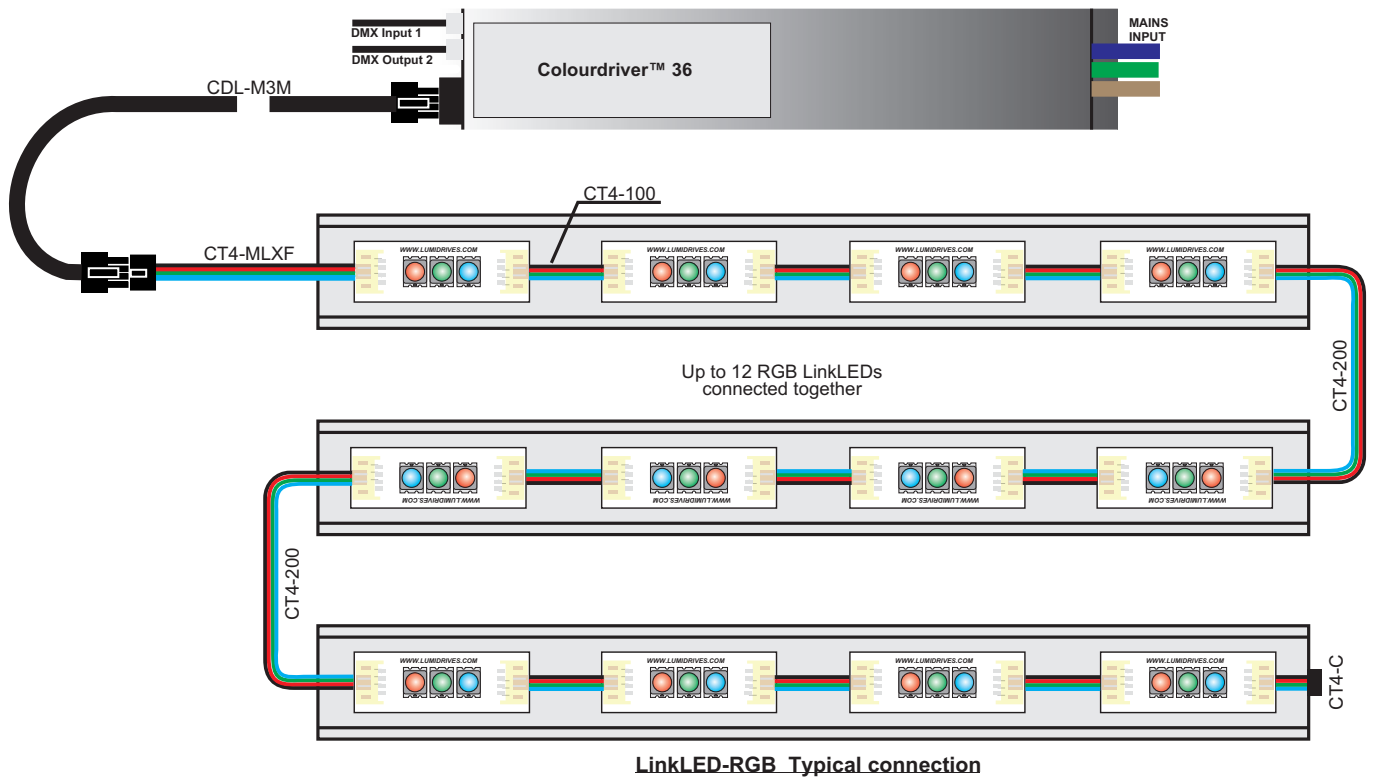
Variled 16 Driver with LinkLEDs

MicroDriverTM 16 VariLED - Typical connection
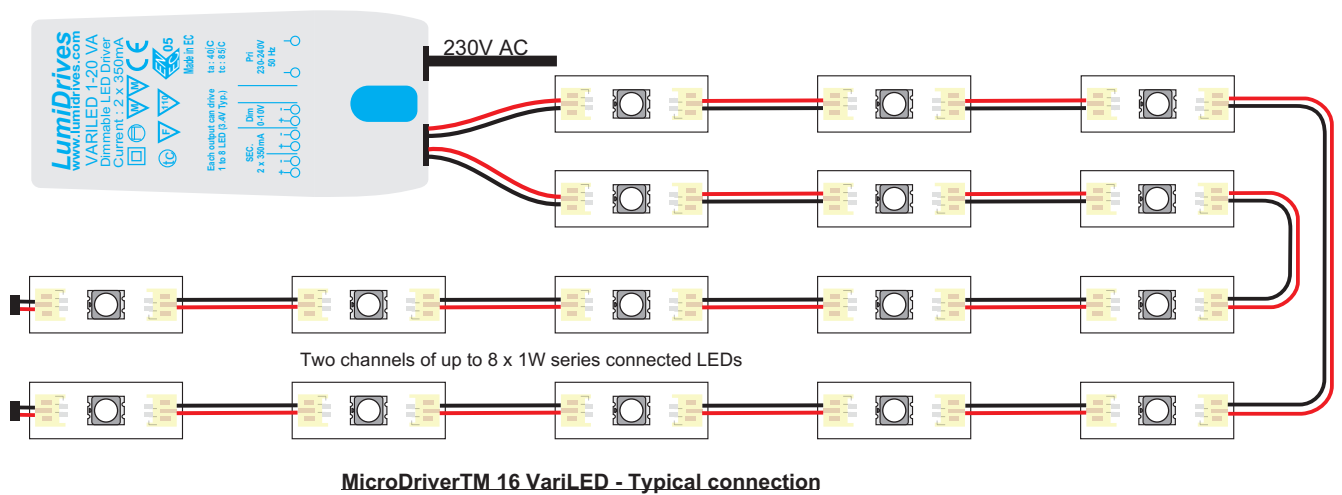
Microdriver 9SC with Lumilights

LumiLight 3 - Typical Connection

Microdriver 9

230V AC Input

3 x LumiLight 3s connected in series

Colourdriver™ RF Installation Diagrams

Microdriver 9SC with Lumilines

LumiLine 3 - Typical Connection

Microdriver 9

230V AC Input

3 x LumiLine 3s connected in series
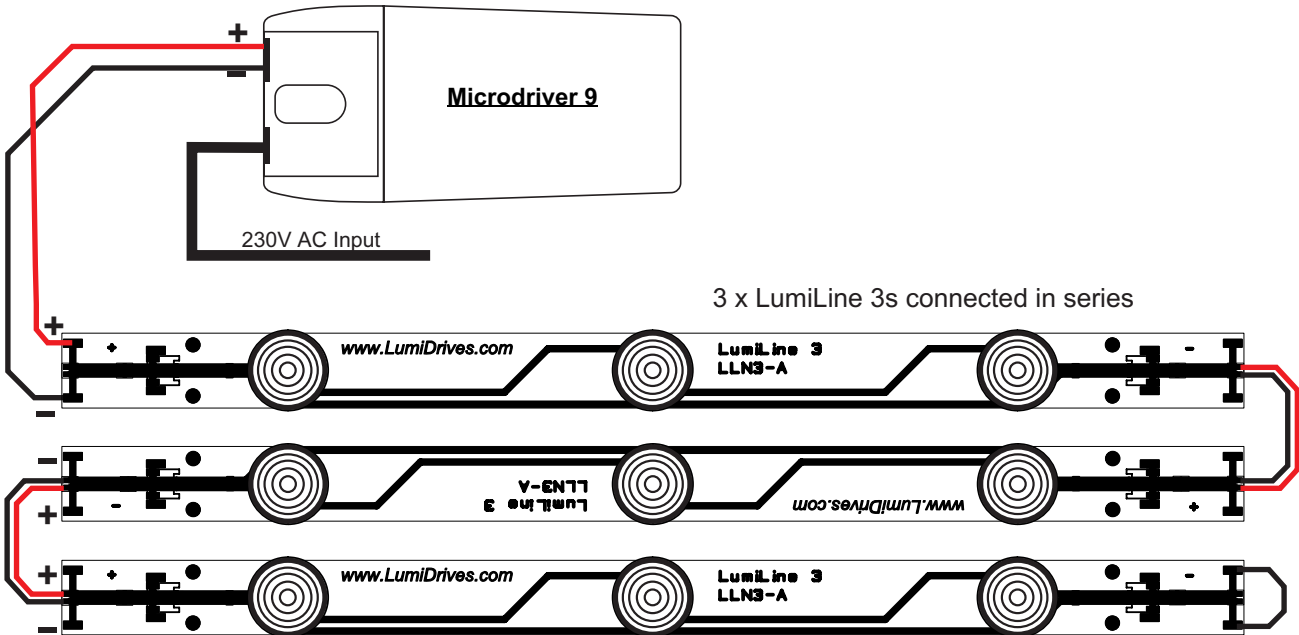
LumiLine 9 - Typical Connection

Microdriver 9

230V AC Input
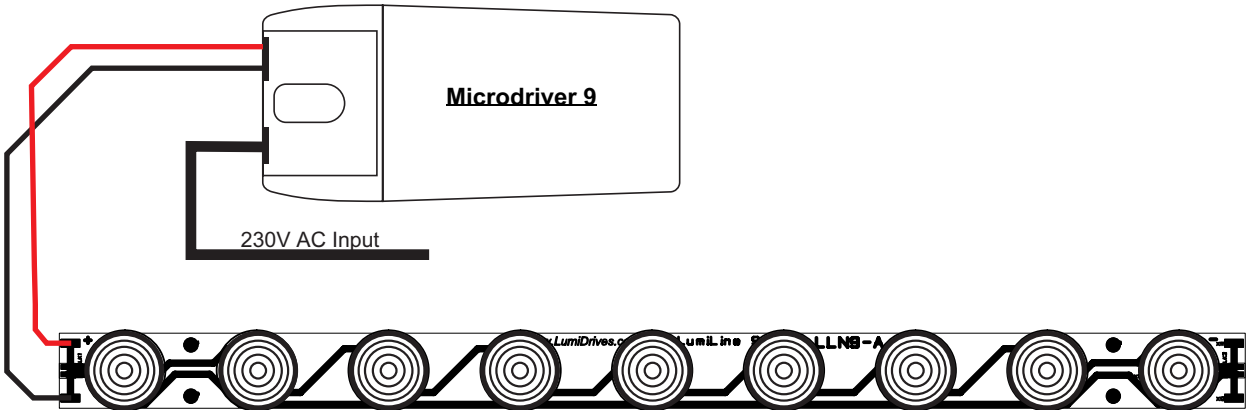
Microdriver 9SC with Lumilines

Lumispot™ 3 - Typical Connection

230V AC Input

Microdriver 9

4 to 9 Lumispot™ 1s
connected in series

− + − + − + − + − +

Lumispot™ 3 - Typical Connection

230V AC Input

Microdriver 9

3 x Lumispot™ 3s connected in series

− + − + − +

LS3-A LS3-A LS3-A
LumiDrives LumiDrives LumiDrives
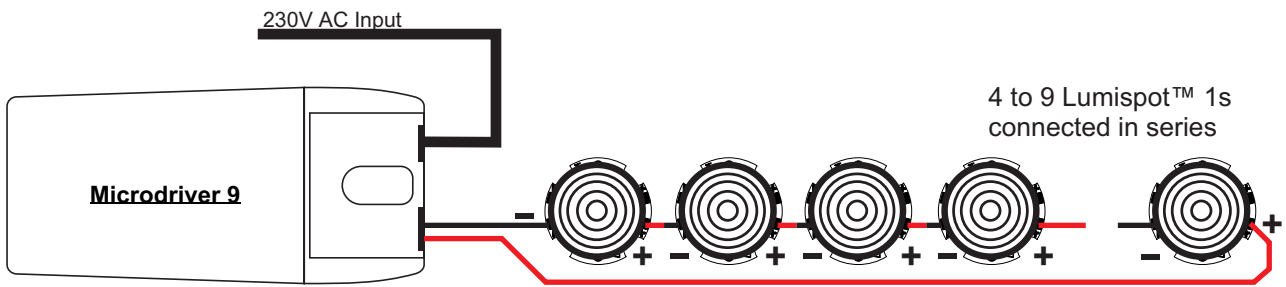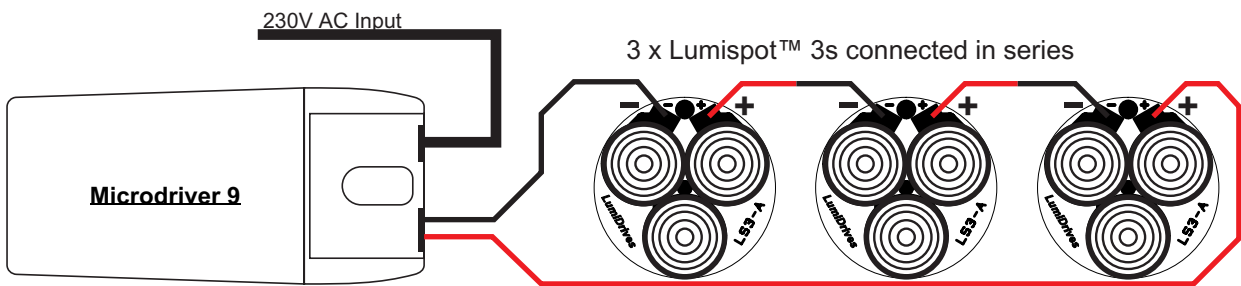
Lumispot™ 6 - Typical Connection

230V AC Input

Microdriver 9

+

−
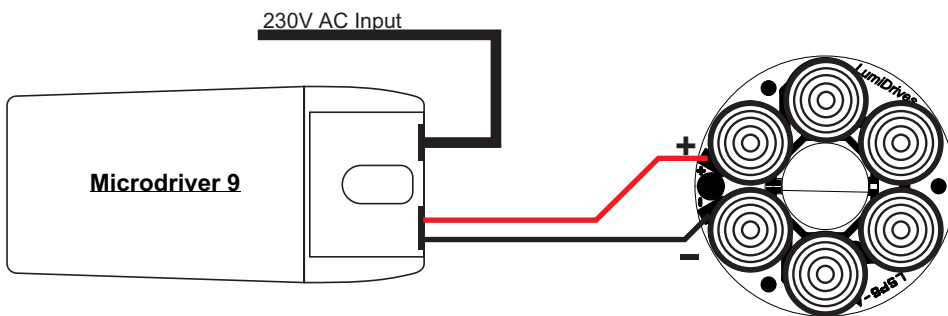
LumiDrives
LSP6-A

Lumispot™ 9 - Typical Connection
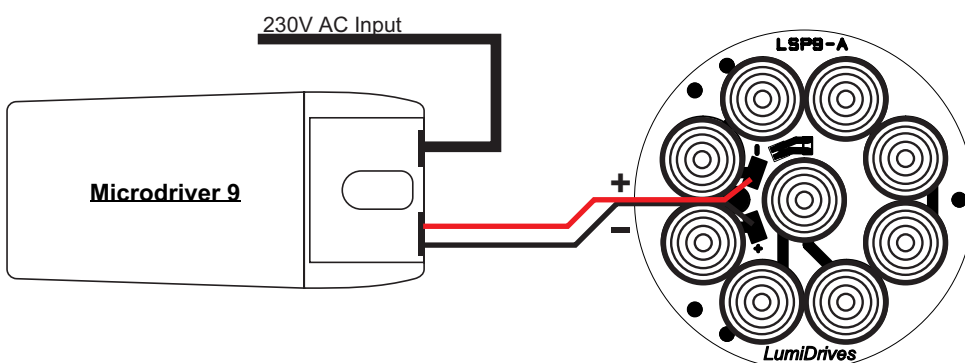
230V AC Input

Microdriver 9

+

−

LSP9-A
LumiDrives

Dialight
Lumidrives

Lumidrives' products are distributed on a worldwide basis