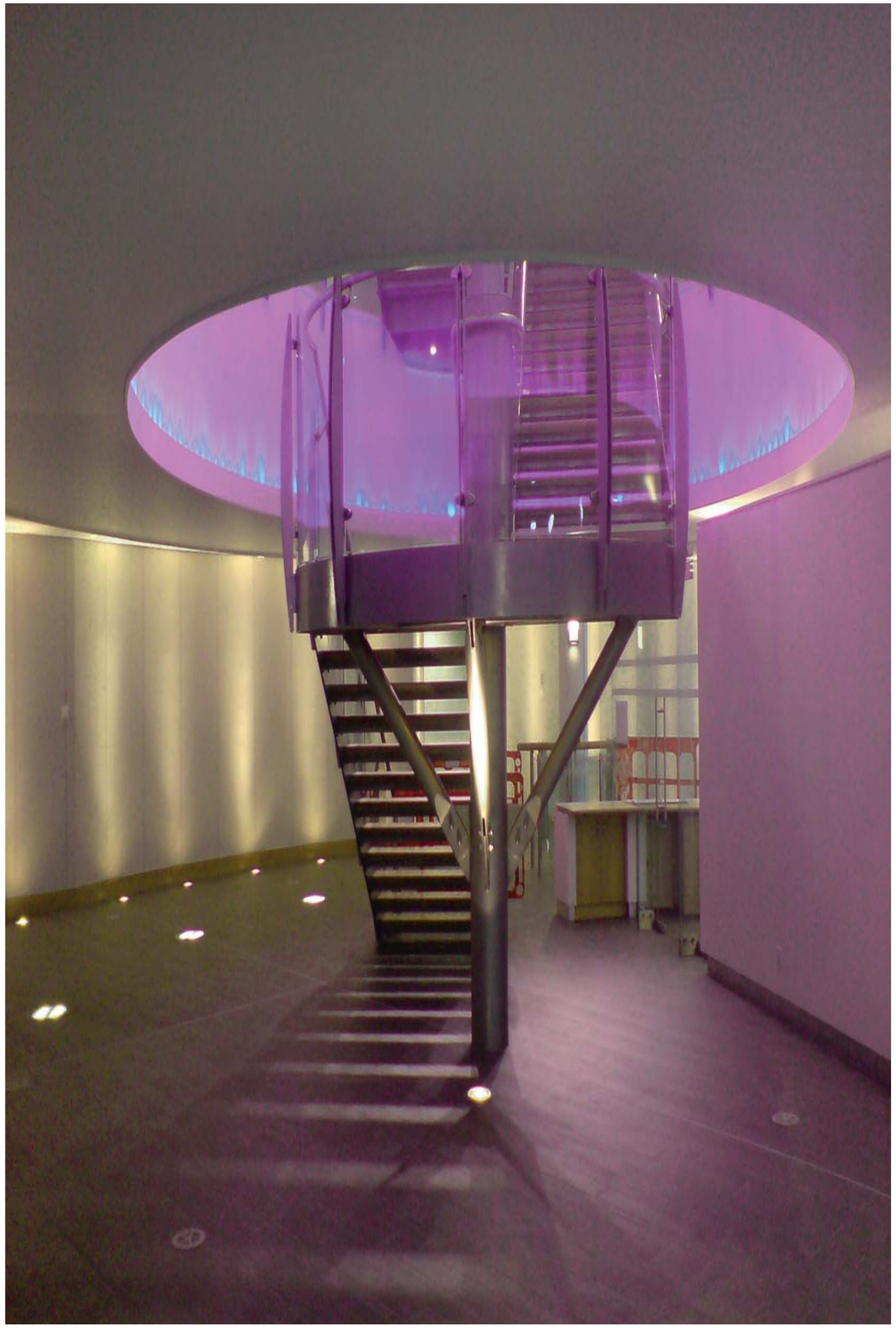
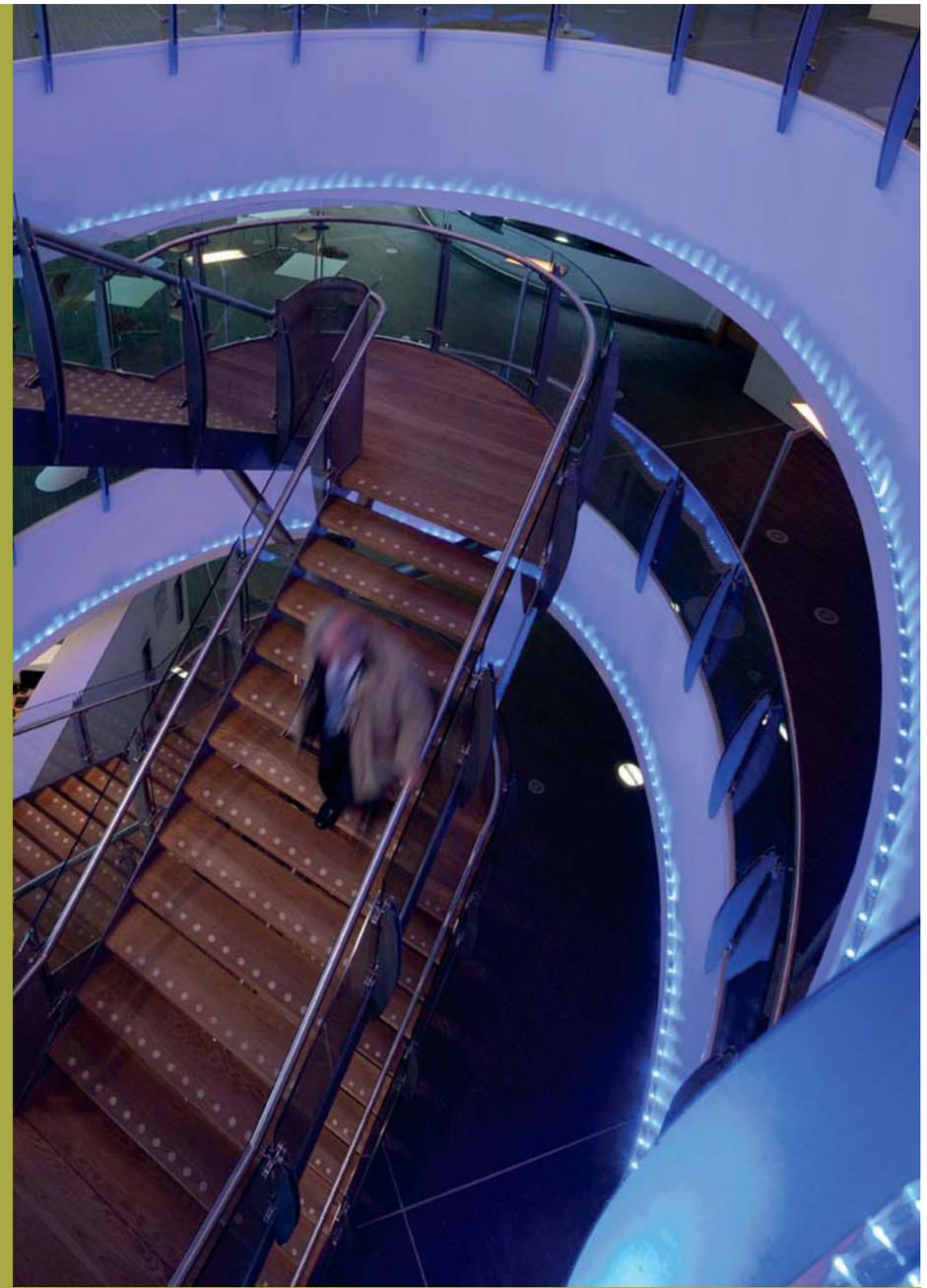


LED LINEAR & SYSTEMS
LUMINAIRES



advanced systems

STRATEGIC LIGHTING GROUP
LIGHTING WITH PURPOSE

ARCHILED RGB
TECHNICAL SPECIFICATION DATA

Strategic Lighting Group | Strategic Lighting (Europe) Limited | Narrow Lane End Works, 64 Worple Road, Epsom, Surrey KT18 7AG | England UK
Tel. +44 (0)845 241 4631 | Fax. +44 (0)845 241 4632 | Email. info@strategiclighting.com | www.strategiclighting.com

ARCHILED LINKS RGB

colour change - circuit controlled

CV CONSTANT VOLTAGE

Energy Saving Technology

Green Energy Technology

LED Lamp Type Technology

5.3W Wattage - Unit RGB colour change

24V Voltage dc - direct current only

Gear PSU Remote

105 Lumens / Watt value - based on RGB full white

nm CRI - Index see RGB nm values

IP20 IP Rating Interior Only

Insulation Class 3 - SELV

77g Product Weight grams/unit

ENEC compliance

CE mark

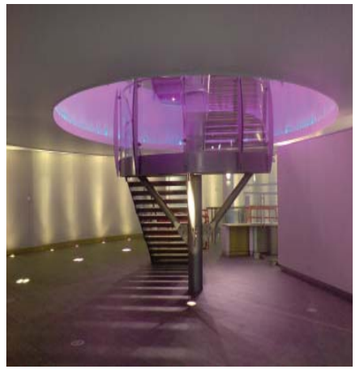
F - mark fire safe rating

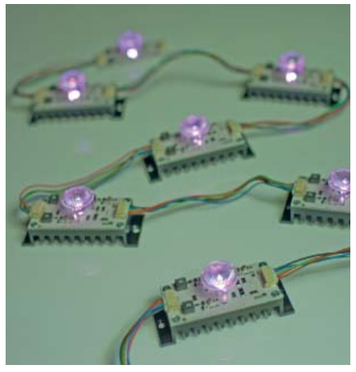
Environmental Technology

LIGHTING DESIGNERS TOOL OF CHOICE

IP20

Image Project : Acergy Project - Stairwell Atrium -
Lighting Design : KJ Tait - Edinburgh





Product Purpose & Meaning

- The Archiled *Links series* concept is founded on its ability to offer PowerLED boards with pitch flexibility, interchangeable optics and the ability to resolve curved and straight line architecture alike.
- The name "Archiled" is derived from the products ability to follow and delineate interior architectural structure.

Product Summary

- An RGB colour change 'daisy chain' link plug & lead light system for fast, easy quick connections of 'strings' of professional power LED boards.
- Full Colour DMX 512.
- For use with or without optics..
- Especially ideal for curved architecture.
- For CV constant voltage - 24Vdc remote bulk PSU's.
- Suitable for connections in series of 10 boards at a time before a new parallel feed is required.

Applications

- Especially Curved Architectural Details.
- Coving, Recesses, Ceiling Pelmets & Soffits.
- Window Reveals & Frames / Ground Troughs & Channels.
- Backlighting.
- Curved Furniture Recesses, Reception Desks.
- Ballustrading.
- Signage.

Performance

Lamp Type	5.3W PowerLED.
LED Qty	1 per board unit.
Lamp Source	P5 II Chip Seoul Semi Conductors.
Lumen Output	105lms - White 5500K.
Lamp CRI	see nm range for colours.
LED Life	50.000hrs [CIE electronic parts default].
Optic Beams	Med Wide 40º, Wide c.130º [No Optic]. Others on application - see codes opposite.
LED Colours	RGB - Full Colour Change -DMX 512.

Electrical Data

Voltage	24Vdc input.
Load Watt	5.3W.
Load Current	700mA.
Remote Gear	24Vdc Power Supply Unit [PSU].
Configuration	CV [Constant Voltage]. PCB on board CC [current controller].
Control	Via 3 signal cables to R.G.B current controllers [Interface required].
Data Protocol(s)	DMX 512.

Description

A lighting designers professional tool with the latest RGB full colour 5.3W powerLED's for true 50,000hr long-life. Made for quick & easy plug & socket link-chain mounting in linear arrays with direct easy 24Vdc SELV [Safe Extra Low Voltage] powering. Ideal for internal applications of ceiling pelmets, alcoves, architectural soffits, floor troughs and internal architectural fabric. Wide-flood of 120º or medium-wide 40º. [Single colour change with narrow 10º, 25º or Elliptical optics - blending restricted - apply for full information from sales/technical dept.] Variable cable connectors and spacing centres allows true infinite flexibility. Bulk PSU (Power Supply Units) for easy remote gear installation. Full photometrics available.

Construction & Finishes

- Printed Circuit Board - finished white.
- Extruded aluminium heat sink - anodised black finish.
- Clear optical lenses - Acrylic pmma.

Main Features

- Benefits multiples of 10 unit chains linked in series.
[for connection chains from typical 1 to 2 metres]
[thereafter new parallel power joint connection]
[signal RGB control cables may pass through all boards]
- Bulk 30 metre remote 24Vdc PSU transforming.
- Easy quick Install - with Plug & Play connectivity.
- RGB colour via any protocol language - benefits only one interface required.
- High output / high bin quality Power LED.
- Curved & irregular shaped installations possible.

Mounting

- M3 holes for screw fixing or flat resin bonding or for attachment to flexible PVC mounting channel accessory - see page overleaf.
- Core Connectors Live [Red] & Neutral [Black] power feeds. 1 White Signal feed. 3 integrated RGB signal cables [signal only] & associated circuitary exist

Connection Diagrams 4.1 & 5.1

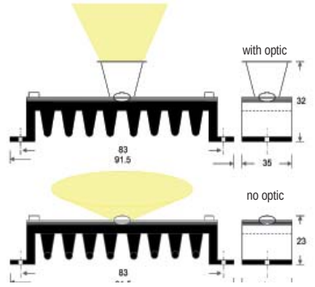
- Connection is for CV - Constant Voltage for use with remote 24Vdc PSU [Power Supply Unit] from 15 to 30 metres distance.
- See Connection Diagrams over pages

Standard Colours

LED DEDICATION CONSTANT VOLTAGE

ARCHILED LINKS RGB

colour change - circuit controlled



Product Order Codes

Wide 130º — Archiled RGB full colour link-board unit with - No Optic - Wide Open - 130º.

130º

ARC.RGB.NO	RGB	DMX 512	5.3W	- 105lm	No Optic - 120º	

130º No Optic

Medium-Wide 40º — Archiled RGB full colour link-board unit with - Medium-Wide - 40º.

40º

ARC.RGB.40	RGB	DMX 512	5.3W	- 105lm	Med-Wide - 40º	

40º

10º

Archiled RGB full colour link-board unit with - Narrow 10º - restricted use

ARC.RGB.10	RGB	DMX 512	**5.3W**	**- 105lm**	Narrow - 10º	

Important Note : Due to Tri-Chip LED - colours are offset from centre beam causing displacement on some optics. Single colour change to Red, Green or Blue possible. Blended colours not possible. Apply for details

10º

25º

Archiled RGB full colour link-board unit with - Medium 25º - restricted use

ARC.RGB.25	RGB	DMX 512	5.3W	- 105lm	Medium - 25º	

Important Note : Due to Tri-Chip LED - colours are offset from centre beam causing displacement on some optics. Single colour change to Red, Green or Blue possible. Blended colours restricted. Apply for details

25º

15x60º

Archiled RGB full colour link-board unit with - Elliptical º - restricted use

ARC.RGB.EL	RGB	DMX 512	5.3W	- 105lm	Elliptical - 15ºx60º	

Important Note : Due to Tri-Chip LED - colours are offset from centre beam causing displacement on some optics. Single colour change to Red, Green or Blue possible. Partial blending - colour dependent. Apply for details

Elliptical º

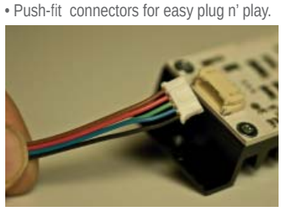
OPTIONAL EXTRA CODES

Liase with our sales department for detailing accessories and power supplies or refer to accessory page overleaf.

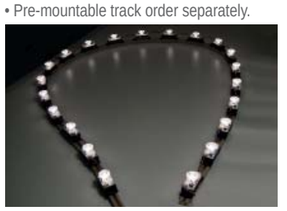
Plug Connectors :	1. Select spacing and Link Plug Cable Connectors on Page 115.
Powering	2. Select Power Supply Units required with 10% spare capacity on full load on Page 115.
Control Signal	3. For dimming monochromatic refer to Control Interfaces on Page 115.

Due to LED technology advances increased lumen packages can be readily anticipated.

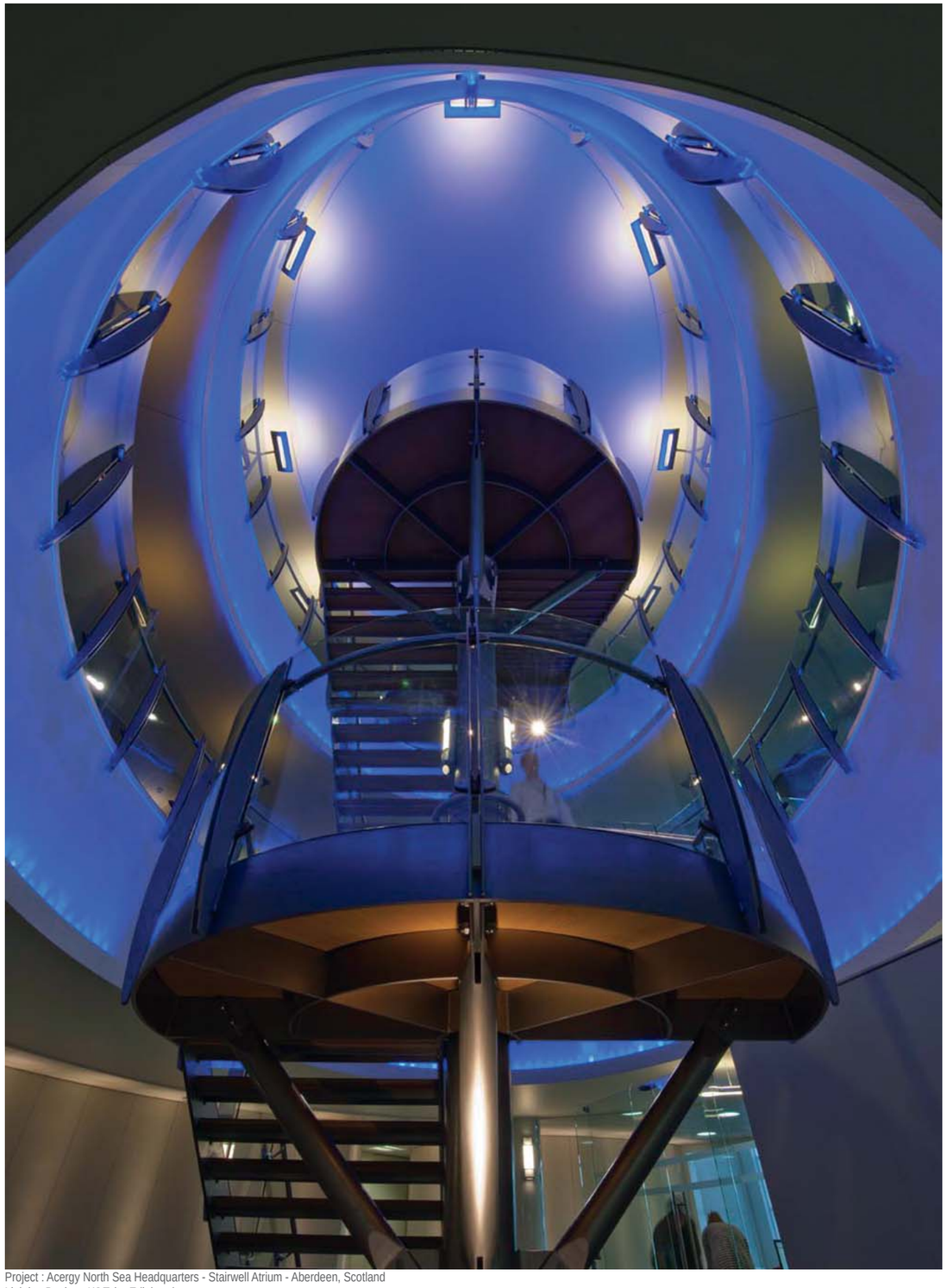
- Push-fit connectors for easy plug n' play.



- Pre-mountable track order separately.



RGB full colour change



Project : Acergy North Sea Headquarters - Stairwell Atrium - Aberdeen, Scotland
Lighting Design : KJ Tait - Edinburgh

CV CONSTANT VOLTAGE

ARCHILED LINKS RGB

colour change - circuit controlled

Accessories

RGB Link Plug Cable Connectors

Connector plugs to join Archiled boards in series. [Max 10pcs RGB]. Select Pitch for design.

CON.RGB100	for 100mm LED Pitch	Circuit Controlled	Connector L = 40mm
CON.RGB150	for 150mm LED Pitch	Circuit Controlled	Connector L = 90mm
CON.RGB200	for 200mm LED Pitch	Circuit Controlled	Connector L = 140mm
CON.RGB250	for 250mm LED Pitch	Circuit Controlled	Connector L = 190mm

Connector & Pitch Notes: Default Pitch / spacing = 100m
Plug connectors are used to join Archiled boards in series. [Max 10pcs for RGB type] Select Pitch for design & specify correct plug connector. Uniformity is typically maintained at Pitch 100mm. Greater spacing reduces the number of units and achieves capital savings. Reduced spacing increases light intensity.

PSU - 24Vdc Power Supply Units

Standard Power Supply Units in 24Vdc enable bulk powering. Match to 110% of load or VA rating shown.

PLC30.24S	30W	max 27Va Load	Dims:L230xW30xH25
PLC60.24M	60W	max 54Va Load	Dims:L159xW97xH38
PLC100.24M	100W	max 90Va Load	Dims:L199xW99xH45
SP150.24M	150W	max 135Va Load	Dims:L199xW110xH50
SP200.24X	200W	max 180Va Load	Dims:L199xW110xH50
SP240.24X	240W	max 216Va Load	Dims:L199xW110xH50
SP320.24X	320W	max 288Va Load	Dims:L215xW115xH50
SP500.24X	500W	max 450Va Load	Dims:L170xW120xH93
SP750.24X	750W	max 675Va Load	Dims:L278xW127xH64

Power Supply Notes:
Archiled boards are powered by 24Vdc Power Supplies. Being "Constant Voltage" a "mini-driver" is integrated on the circuitary. Archiled has integral relay circuitary to feed on 24V power for ease of wiring using the plug connectors above. This is done in a "series-link" type connection - up to a maximum of 10 units, after which the amperage is limited/insufficient and a new parallel feed is required. Each unit is rated at 5.3W and the load can be deciphered by the number of units per metre. Power supplies should be no further than 30 metres away on 2.5mm² core cables. Greater distances can be achieved but please consult design team or volt drop guide on page 323.

Control Interfaces

Control Interfaces with PWM enable Archileds 3 RGB cables to receive signalling for dimming %'s.

INT.TLQ.CVDMX	for control via	DMX */ DALI signal	Circuit Dimmable

Interface Notes for dimming:
Archiled's RGB have separated RGB signal cable commands only 1 signal interface is required for each colour scene. This leads to a reduction in the number of interfaces required and cost. A separate interface is required for each circuit /scene.

Flexible PVC Mounting Channel

A light-weight flexible PVC channel with bend radi to 1.0metre allows bulk loading of Archiled units.

ARC.MC1.B	1 Metre Profile	Flexible Radi - 1.0metre	Finish Black
ARC.MC2.B	2 Metre Profile	Flexible Radi - 1.0metre	Finish Black

POST-FIX CODES : FINISHES - To change finish "-B" [Black] substitute for : Clear "-C", for White "-W", for Aluminium "-A".

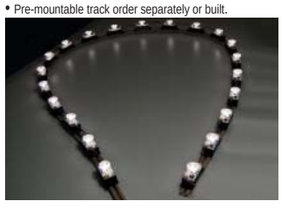
Flexible PVC Mounting Channel: Default finish - Black
Archiled can as standard be flexibly positioned and be individually screw mounted or bonded to a surface. [The installer making up a standard spacing block for ease]. For greater ease, the specifier can specify a standard mounting channel in 1 of 4 finishes. Supplied in 1 or 2 metre lengths the boards can be pre-mounted & spaced by the installer & screw fixed in just 2 positions or bonded. Alternatively these can be factory prepared and fitted at extra cost..

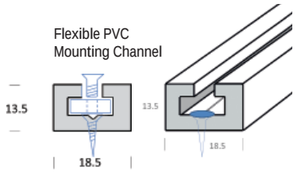
Factory Fitted Mounting Channel - Cost Per Metre

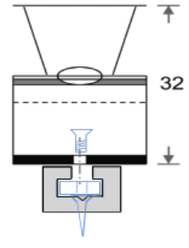
Factory loading of Archlied boards at extra cost on to 1.0metre flexible channel above.

ARC.MC1.FF	1 Metre Profile	Factory fitted	Cost Per Metre

• Pre-mountable track order separately or built.

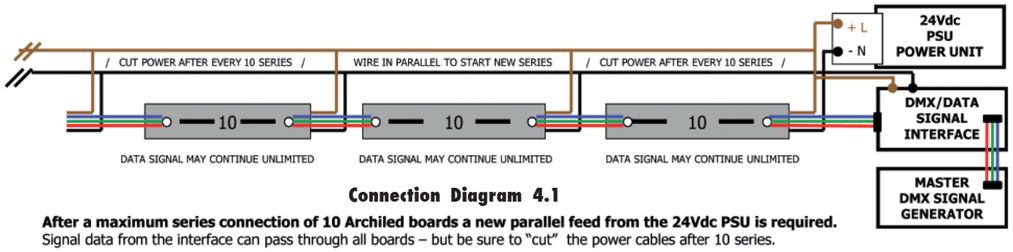






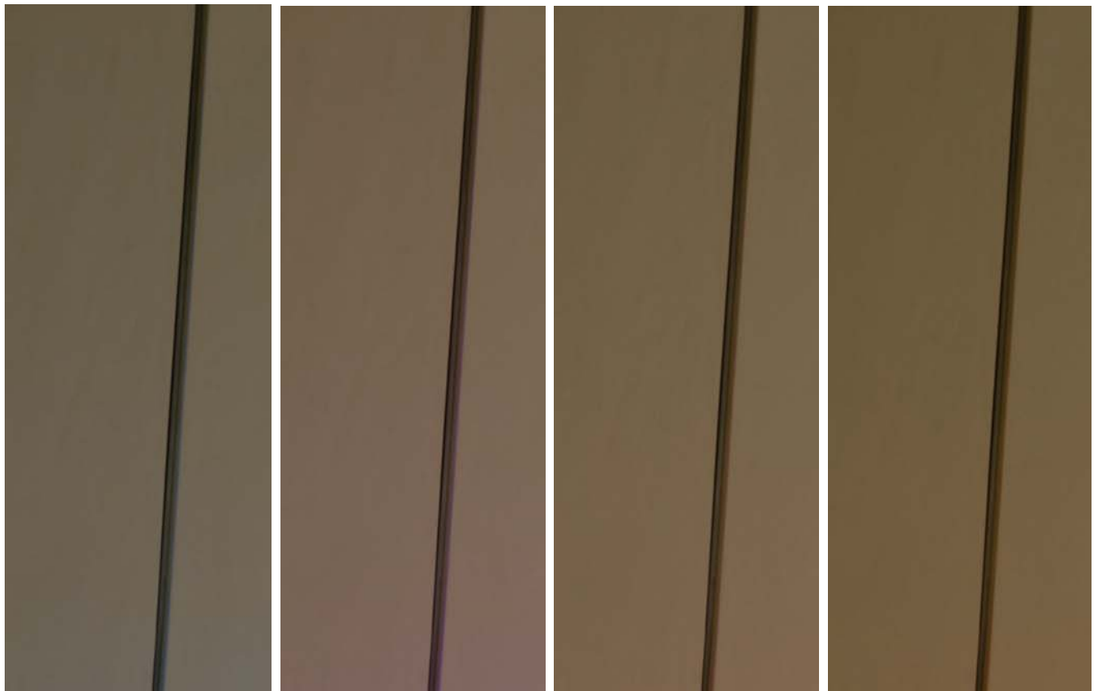
Connection Diagram 4.1

The diagram below shows how RGB-boards are typically wired / cabled from the PSU & any RGB Control interface.
Archiled in RGB boards, given their load, current rating and amperage are able to plug connect 10pcs at time in "series-type"connections. This is shown in the diagram as the symbol below o - 10 - o, after which a new parallel feed is required for the power. At 10pcs at a time on typical spacing of 100mm this means a new parallel feed every 1.0 metres. The RGB signal via the RGB cables may continue indefinately, unlimited in distance & number through the boards, although for wiring purposes the installer may find it easier to use multi-5-core cable and combine power and data, picking up new feeds together.
Note 4.2 Where multiple PSU's are used their respective -VE negative Neutral terminals must be "bridged" (ie. connected across each other).



Connection Diagram 4.1

After a maximum series connection of 10 Archiled boards a new parallel feed from the 24Vdc PSU is required.
Signal data from the interface can pass through all boards – but be sure to "cut" the power cables after 10 series.



Project : Natural History Museum - Darwin Centre - Cocoon Building - Exterior Facade
Lighting Design : Sutton Vane Associates - London

CV CONSTANT VOLTAGE

ARCHILED LINKS RGB

colour change - circuit controlled

Mounting, Design & Layout Guide

1) Uniformity
Uniformity and pitch is design led. Uniformity holds until spacing max 150 - 250mm on RGB LED's without optics, much less for LED's with narrower beams.

2) Pitch & Board Spacing
Common Pitch spacing is shown in Table 6.1 below.
The default pitch is 100mm and respective plug connectors supplied being 40mm in length.

3) Planning Layout
In setting and laying out the boards it is recommended that the installer uses for ease a spacing block. The gaps between the link boards is as shown in Table 6.1. This table also shows the max. nos of boards per metre and the load per metre.

4) Nos of boards in series.
A maximum of 10 RGB Archiled link boards can be used in series, after which the boards must not be linked and a new parallel power feed attached. See Diagrams 4.1 & 5.1.

5) Power Connection
The boards are powered by Constant Voltage meaning the current controllers are already mounted on the PCB's.
The PSU & direct 24V power feed can be attached straight to the boards. See Diagram 5.1 below.

6) RGB DMX Signal Control
Colour change is via DMX protocol direct to the current controllers on the PCB boards. Since the boards and plug cable connectors have an integrated RGB circuitary the signal cable can be left between all boards on a circuit. See Diagram 5.1.
Control is achieved via an interface unit.
A master controller or signal generator can be supplied on request - its signal commands go to the interface shown.

7) Voltage Drop
Volt drop issues are always of concern with LED installa tions. A guide is shown in Table 6.2 below.
The lighting designer must not rely on this information but leave the remit of volt drop calculations with the qualified electrical installer.

8) Mounting
The boards should be screw fixed or securely bonded depending on the surface to fixed.
A flexible PVC tray which can curve can be pre-loaded at the correct pitch for ease of installation.
Other pre-mounted custom profiles and trays can be made and assembled to architectural needs for larger projects.
Enquire on application.

Table 6.3
Maximum RGB In-Series Lengths

Table 2.3 shows based on the RGB pitch [and Watts per metre] what the maximum length of run is through the boards is possible before a new parallel power feed is required. Pitch is expressed as LED to LED or board centre to centre.
For example:
LED's pitched spacing every 100mm will be able to achive a maximum run length of 1.0 metres before a new parallel feed will be required and will consume 53W / per metre.

LED PITCH SPACING	Max. Run Length (metres)	Load Watts/metre
100mm	1	53W
150mm	1.5	36W
200mm	2	27W
250mm	2.5	22W

Table 6.1 Common RGB Pitch Spacings & Wattages

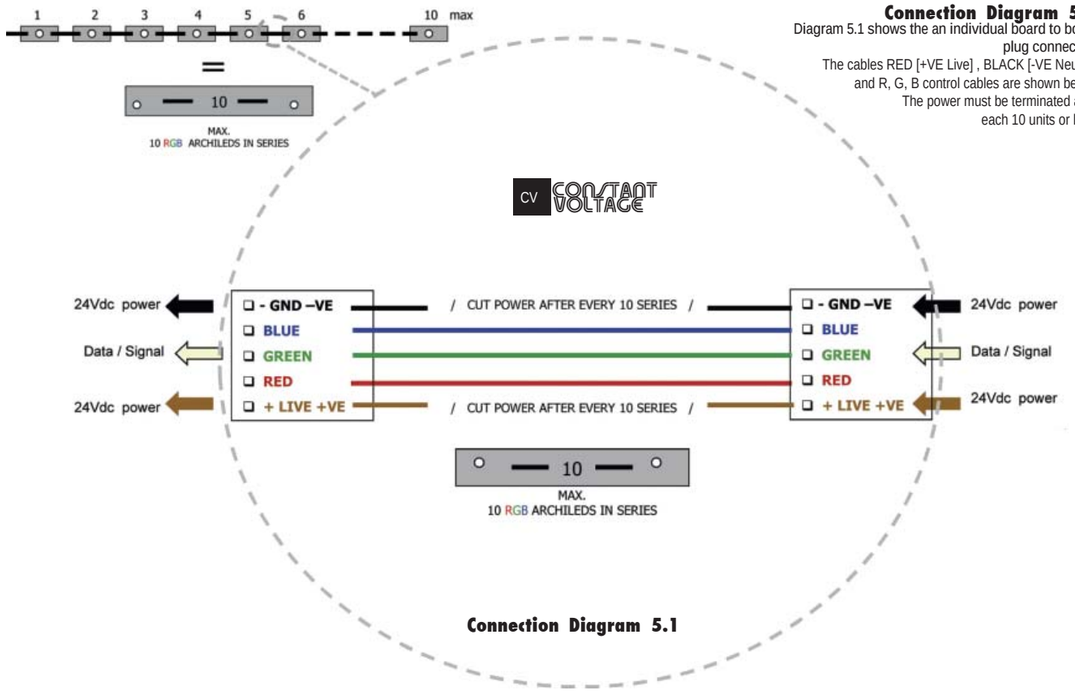
Table 6.1 shows the nominal standard pitch spacings, together with supplied connector length and how many unit boards this pitch equates to. It further explains the gap between boards and the relative load per metre in watts of power used.
For example : LED's pitched at 100mm require an accessory connector length of 40mm, have 10 Archileds per metre [need a board spacing gap of 8.5mm] and consume 53W / per metre.

LED PITCH SPACING	Connector Length	RGB Boards per / metre	RGB Board Spacing Gap	Load Watts/metre
100mm	40mm	10	8.5mm	53W
150mm	90mm	6.7	58.5mm	36W
200mm	140mm	5	108.5mm	27W
250mm	190mm	4	158.5mm	22W

Table 6.2 Maximum Volt Drop Lengths

Table 6.2 shows the designer a guide max. distance length for sole cable loads based on the maximum volt drop / amperage for typical cable core sizes. This table is a approximate and for design learning. All volt drops should be verified by others. For example : LED's pitched at 100mm on 2.5mm core cables can have its PSU set back 14metres .

Cable Core Size [mm²]	Volt Drop Distance Max [mono boards] [Metres] Pitch 100	Pitch 125	Pitch 150	Pitch 200
1mm²	8	10	11	13
2.5mm²	14	16	18	21
4mm²	18	21	23	26



Connection Diagram 5.1

Diagram 5.1 shows the an individual board to board plug connection
The cables RED [+VE Live] , BLACK [-VE Neutral] and R, G, B control cables are shown below.
The power must be terminated after each 10 units or less.

Connection Diagram 5.1

LED LINEAR SYSTEMS

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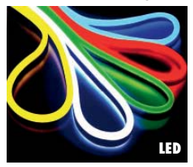
retail & leisure

NEON TYPE

MONO - 5W Page 133

NEON LEDLINE - **mono**

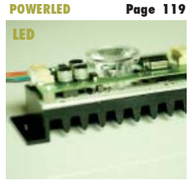
RGB - 5W-11W Page 133



NEONLEDLINE - RGB

LINKS & CHAINS

POWERLED Page 119



ARCHILED LINKS - Chaser

RGB - 5.3W Page 113

ARCHILED LINKS - RGB

MONO - 3W Page 107

ARCHILED LINKS - mono

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MUSEUMS

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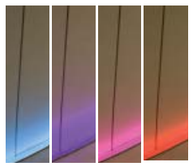

GROUND RECESSES

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ATRIA & STAIRWELLS

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LED LINEAR SYSTEMS

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TUBULAR

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FLEXIBLE CONTINUOUS

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STRIPLED FLEXI - mono

Page 123 6W - RGB

STRIPLED FLEXI - RGB

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SIDELED mono & RGB

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GLASS SHELVING

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BAR

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LANDSCAPE

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CEILING ALCOVES

Page 123

RGB COLOUR CHANGE

IN-GROUND MARKER

Page 139 3.5W MONO

XACOTO

Page 141 6W - RGB

AIRPORT FLOORING