

# VPL-Series

Video Pixel Linear LED

The high output pixel strip



IP66



CE



RoHS

# VPL Series

Linears made powerful, flexible, easy

Our versatile and cost-effective Video Pixel Linears are designed to create powerful pixel mapping and media effects. The series include multiple fixture lengths, and different front lenses are also available.

The VPLs are based on an extremely easy, flexible, and reliable system that consists of low-profile fixtures in multi-core single-cable installations, with no external power supplies involved.

These weatherproof linears are designed to avoid pixel hotspots while delivering maximum output, and have consistent thermal management to ensure superior reliability.

The fixtures have full calibrated In-Cluster color mixing technology to enhance the color homogeneity for each pixel, achieving multiple color variations with optimized dynamic control. They offer a large Full Color Quad-Pixel imaging area to achieve superior output, high visibility, and smooth color transitions.



- Power and data in one cable with no need for external power supplies.
- Minimal inrush current (up to 65 units in one automatic breaker).
- 19.05 mm pixel pitch and custom viewing angles via “snap-on” lenses.
- 16 bit control, real time remote monitoring, auto addressing.
- 6x6mm Quad Full-Color LED pixel clusters.
- Available in 1, 2 or 4 feet (305mm, 610mm, 1220mm).
- Up to 79 meters or 260 feet of VPL on a single circuit.
- IP66-rated, IK09-rated, C-5M (marine grade), UV, sand, and corrosion resistant.

The VPLs are perfect for radial installations where high visibility and a very flexible setup are essential. This easily integrated fixture with full pixel mapping control is suitable for a wide range of applications, including media façades, touring concerts, stadiums, theme parks or just about any fixed or temporary tight space installation, where you want a direct view illumination.



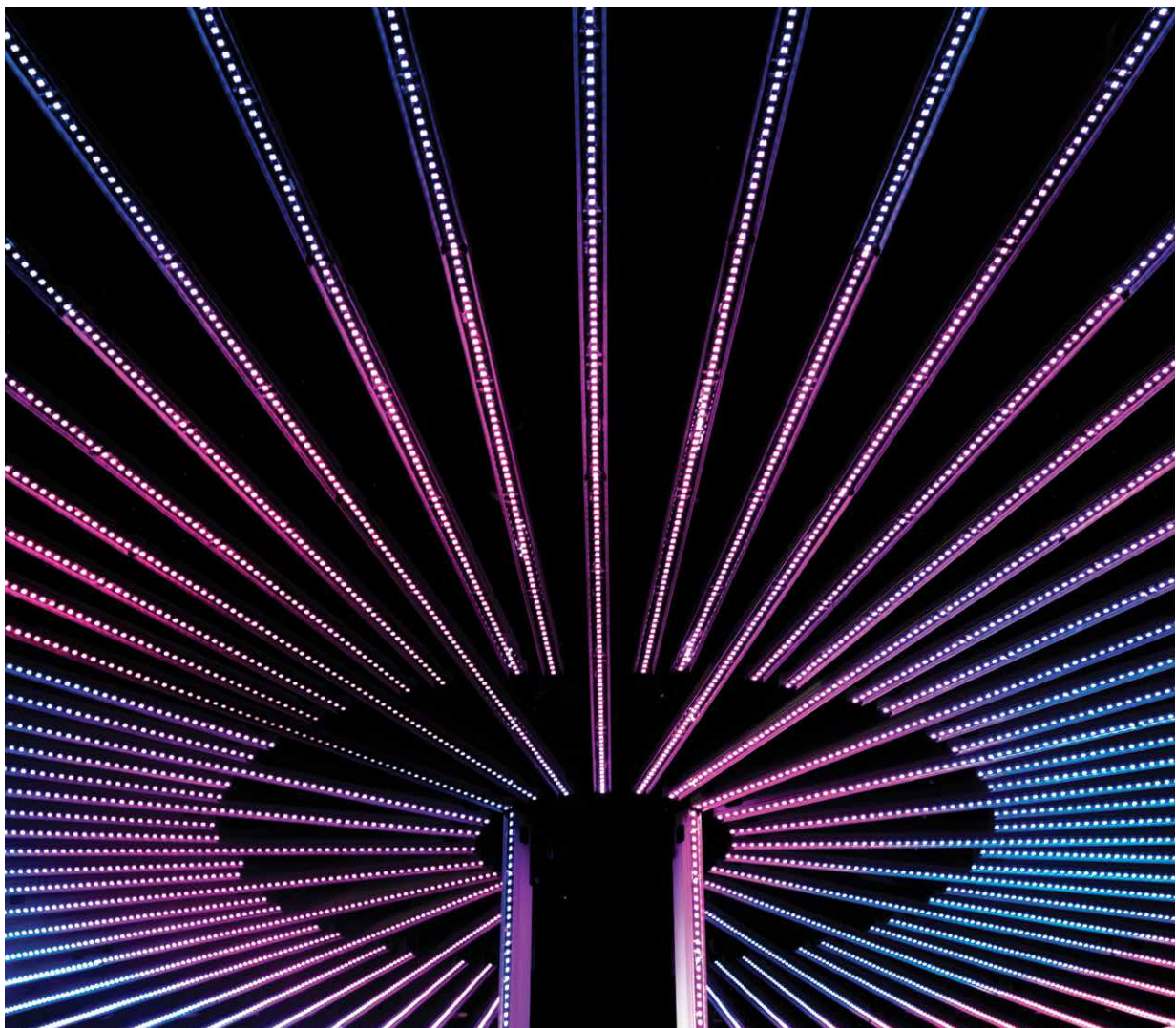
AluGrey (AG)



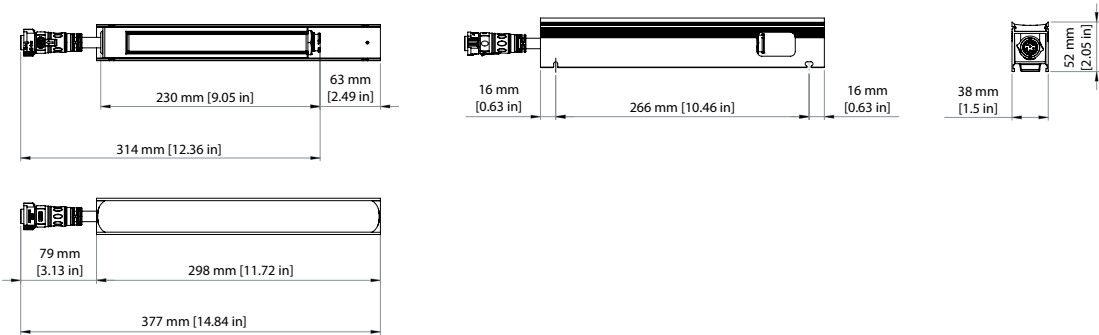
Black (BL)

LED expected lifetime	50,000 hours
Front / Lenses	Clear front / Snap-on lenses
Viewing angle	120°
Lightsource	Built-in Full Color LEDs
Addressable pixels	16 (1 ft.), 32 (2 ft.), 64 (4 ft.)
Pixel per meter/foot	52 px/m or 16 px/ft
Pixel pitch	19.05 mm
Pixel size	6 x 6 mm Quad LED Pixel Cluster
Color temperature range	2,000K - 10,000K (lineal CTC)
Luminance	8,400 nits (modular spacing 38 mm)
Available colors	Anodized Grey, Anodized Black
Corrosion class	C5-M (ISO 12944)
IP / IK rating	IP66 / IK09
Housing material	Aluminium
Front material	UV and sand-proof silicone
Fixture length	305mm, 610mm, 1,220mm (1, 2, 4 ft.)
Maximum units per circuit	65 units with 1,220mm (230v)

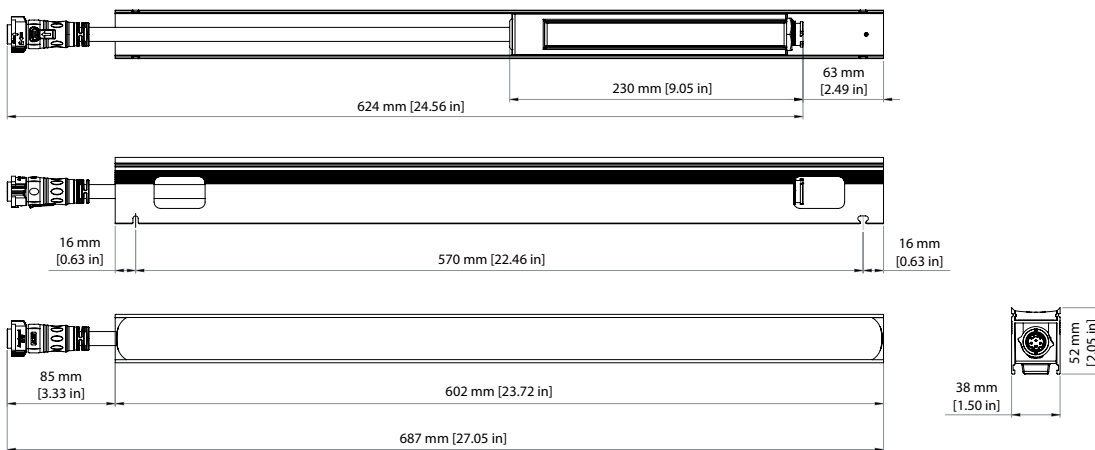
Testing features	Live remote monitoring, On-fixture test
AC Power, nominal	200 - 240V 50/60Hz
Electrical protection	Overload protection automatic recover
Power per meter	29 W/m
Typical power consumption	9W (1 ft.), 18W (2 ft.), 35W (4 ft.)
DMX channels per fixture	3, 6, 192 or 384 with 1,220mm length
DMX modes	4 (8 bit and 16 bit)
Protocol	ArtNet / sACN / VP-Net
Data refresh rate	Up to 120Hz
LED frequency	1Khz, 4Khz, 16Khz, 32Khz
Setting and addressing	SGM Network Admin
Data/Power in and out	IP Multi-core 8 pin cable with VP-conn.
Temp. range, Operating	-20°C to 60°C
Temp. range, Start-up	-20°C to 60°C
Temp. range, Storage	-40°C to 80°C
Thermal protection	Automatic overtemperature protection
Installation	Multi-positional



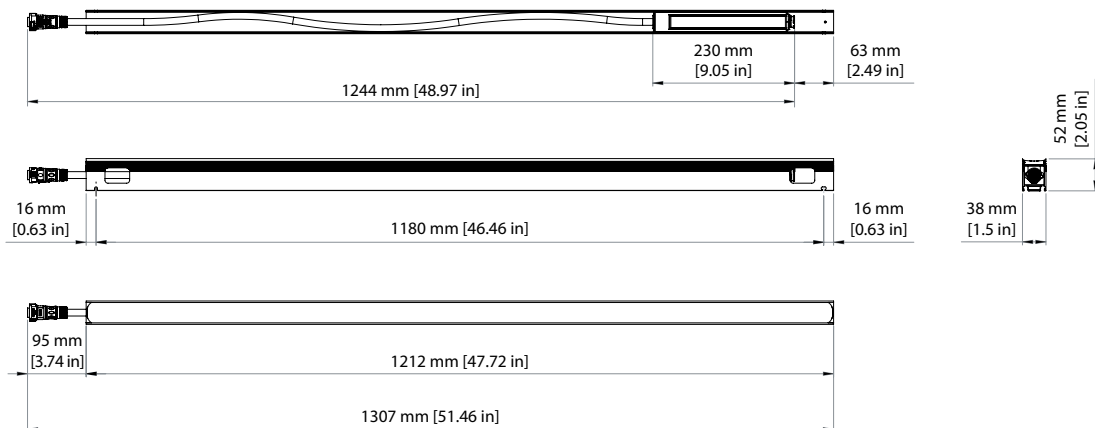
VPL 305-20



VPL 610-20



VPL 1220-20

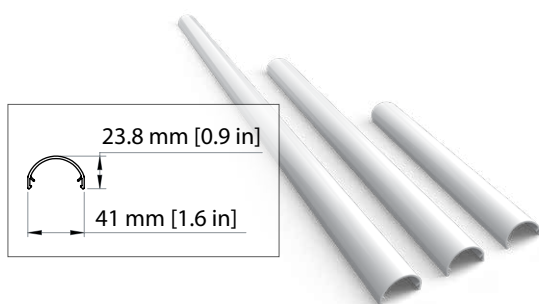


## VPL Lenses

All VPL snap-on lenses are available in four lengths: 305.2mm [1ft] (for VPL 305-20), 609.2mm [2ft] (for VPL 610-20), 1219.2mm [4ft] (for VPL 1220-20), and 1330mm [4.3ft] for users that need to cut the lenses themselves to match a specific distance.

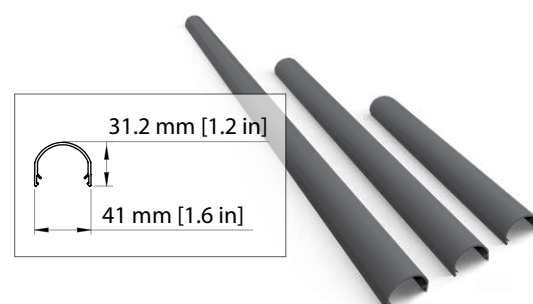
### Opal lenses

Snap-on lenses with rounded shape and opal finish. Using this accessory, the direct view perception of pixels can be altered creating softer textures.



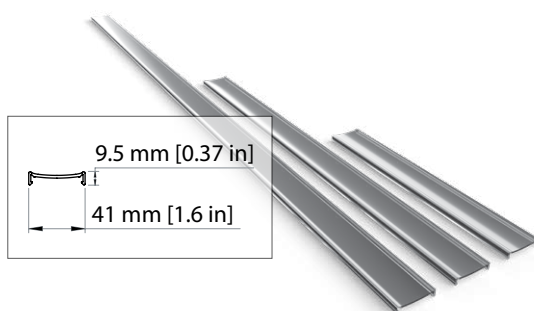
### Rounded smoked frosted opal

Snap-on lenses with rounded shape and smoked frosted finish. Using this accessory, the LEDs will be hidden from direct view when switched off.



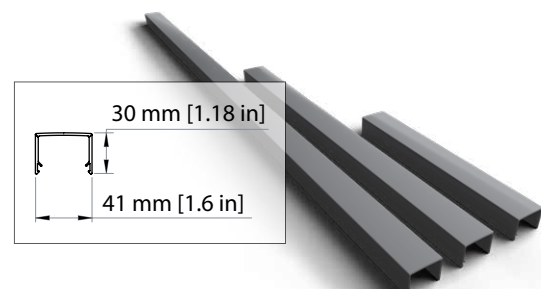
### Smoked clear lenses

Snap-on lenses with flat shape and smoked black finish. Using this accessory, the LEDs will be hidden from direct view when switched off.



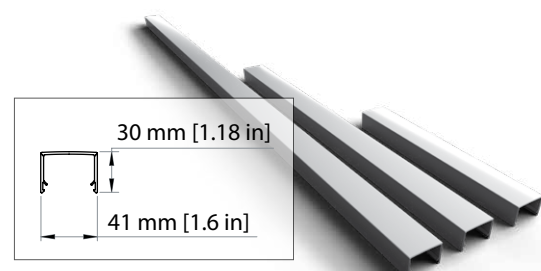
### Smoked frosted lenses

Snap-on lenses with flat shape and smoked opal finish. Using this accessory, the LEDs will be hidden from direct view when switched off. The sides of this lens are black to avoid reflections and hotspots.



### Opal / Black lenses

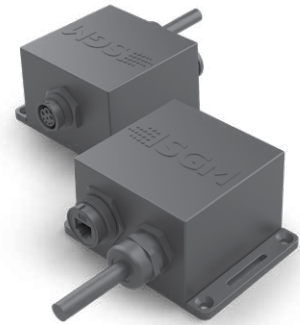
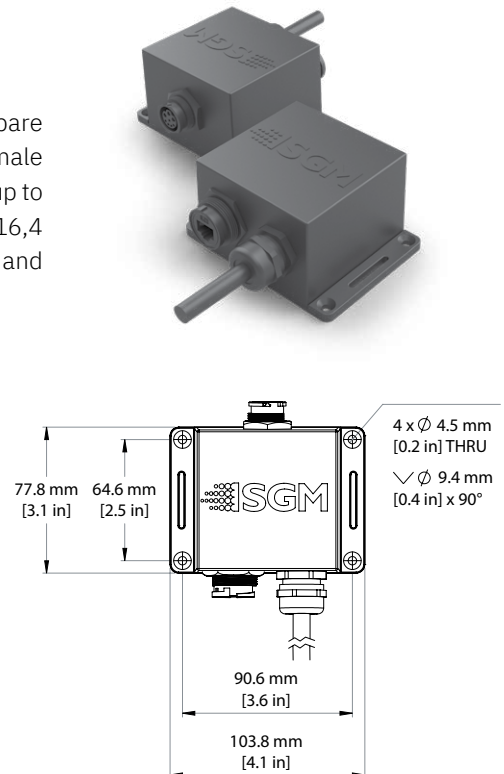
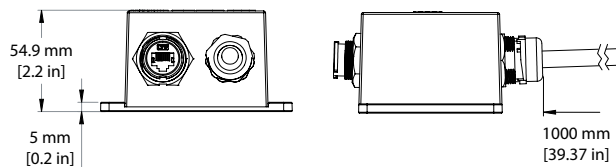
Snap-on lenses with flat shape and opal finish. Using this accessory, the direct view perception of pixels can be altered creating softer textures, with a flat look. The sides of this lens are black to avoid reflections and hotspots.



### VP Power + Data Joiner

Water and dustproof box including 1 meter [3.2 ft] power cable with bare ends, VP cable female chassis connector, and waterproof RJ45 female chassis connector. Designed to join power and data for a daisy chain up to 65 (230 V) or 45 (200 V) VPL 1220-20 units and an initial 5 meter [16,4 ft] VP cable to connect the luminaires to 200 – 240v mains power and Artnet / sACN.

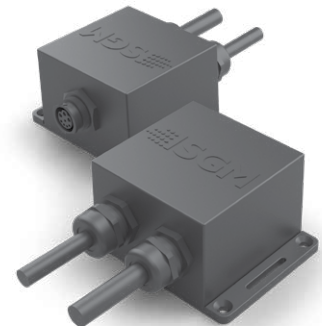
NOTE: for mains power, this item should be installed after a 10AB circuit breaker and before each cabled string of VPL fixtures in any length. For data signal, this item must be installed after optional switcher or Artnet / sACN source and before each cabled string of VPL fixtures in any length.



### VP Power Inserter

Water and dustproof box including 1m [3.2 ft.] power cable with bare ends, a VP female chassis connector and a 1m [3.3 ft.] VP cable ending in a VP male connector. Designed to insert power (200–240v) to an additional daisy chain of VPL units, when long extension cables or extra fixtures are needed.

NOTE: this item must be installed after the last VPL fixture in the cabled string and before a new cabled string of VPL fixtures in any length.  
Same dimensions as VP Power + Data Joiner



### VP Touring Power + Data Joiner

Touring connection box including 2 IP-rated power chassis connectors (Power In / Power Out) for power, VP cable female chassis connector, and a professional touring RJ45 female chassis connector. Designed to join power and data for a daisy chain up to 65 (230 V) or 45 (200 V) VPL 1220-20 units and an initial 5 meter [16.4 ft] VP cable, in order to connect the luminaires to 200 – 240v mains power and Artnet / sACN. It can be mounted using a universal clamp or straps.

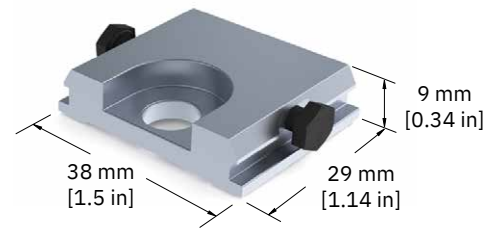
NOTE: for data signal, it must be installed after optional switcher or Artnet/sACN source and before each cabled string of VPL fixtures in any length.  
Same dimensions as VP Power + Data Joiner



## VPL Single installation bracket

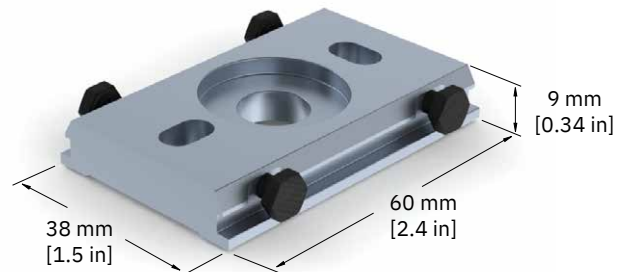
Snap-on, flat-shaped, sliding installation mounting bracket in anodized grey finish designed as a wall-mount for a single VPL fixture, keeping the same length of the unit. It includes holes for wall-mount and 2 sided holes with 2 screws to fix the bracket in the aluminium profile of the fixture.

NOTE: if no Dual installation brackets are used to mount the fixture together with other fixtures, two Single installation brackets are recommended for mounting one fixture.



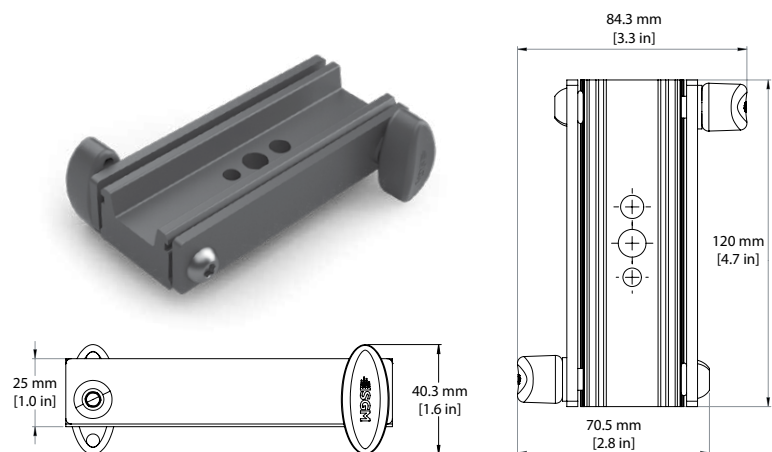
## VPL Dual installation bracket

Snap-on, flat-shaped, sliding installation mounting bracket in anodized grey finish designed as a physical bridge between two VPL fixtures, suitable for wall-mount. It includes 3 central holes for wall-mount and 4 sided holes with 4 screws to fix the bracket in the aluminum profile of the fixture. By using them, it is possible to ensure a correct pixel pitch in a long string of VPL fixtures.



## VPL Touring bracket

Snap-on, quick-release, sliding installation mounting bracket with M12, M10 and M8 threaded holes in black finish, designed as a versatile bracket to attach any universal clamp and rig VPL fixtures in any position. One, two, or more Touring brackets can be used to mount VPL fixtures of any length.



## VP Connector End cap

Small waterproof end cap to protect the VP female chassis connector in the last VPL fixture on a cabled string of VPL units in any length, ensuring IP66 rating.



### GND wire, 1m

1 meter Ground/Earth cable to connect the chassis of VPL fixtures to the available GND/Earth in the building or installation. This item improves lightning protection. Please install according to national or local building regulations.



### VP Extension cables

Available in 1m [3.2 ft], 2.5m [8.2 ft] and 5m [16 ft] with black finish, these waterproof VP Extension cables allow the user to wire VPL fixtures according to the desired design. It includes a multi-core cable with molded male and female VP connectors.



### VP Custom Extension cable Kits

Available in 1m [3.2 ft] or 10m [32 ft] with black finish, these waterproof kits allow the user to wire VPL fixtures in customized lengths. The kit includes a multi-core cable with one molded female VP connector in one side, and bare ends in the other side, plus a separate male VP connector.

### Crimping tool for VP connector

Intended for building VP cables with customized length. A VP Custom Extension Cable Kit is needed. The tool allows the user to crimp VP connectors while keeping their IP68 rating.



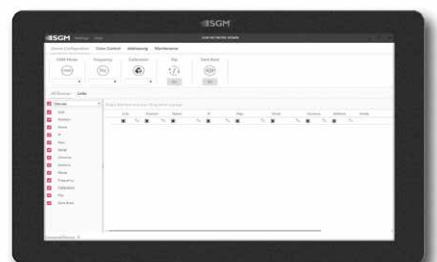
### Waterproof RJ-45 Kit

Kit based on a RJ-45 male connector with a waterproof protective threaded cap to ensure IP-rated data cable connection for wiring VP Power+Data Joiner units.

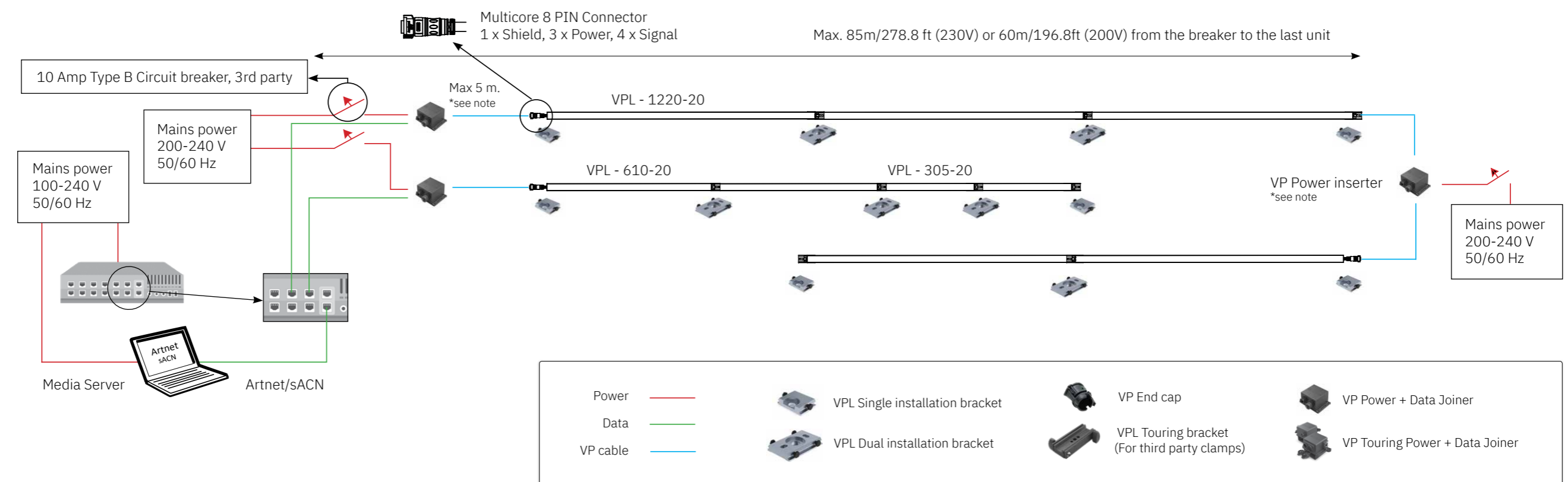
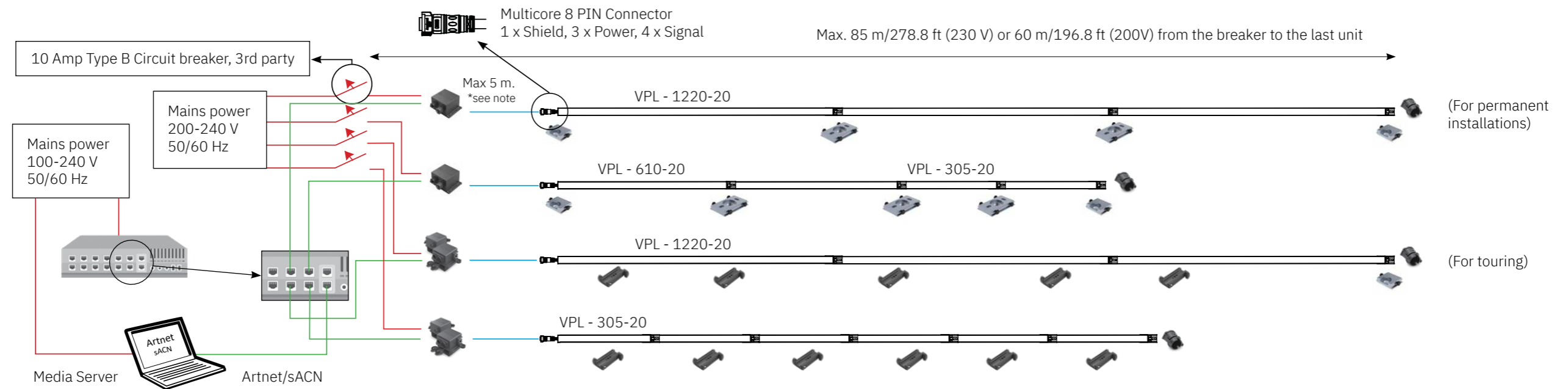


### SGM Network Admin

Software for Windows platforms to set up VPL systems from SGM, available for free download. The software is intended for setting up a VPL installation via laptop.







\* Note: for special installations with more VPL strings in combination with more cable lengths in between, please contact your distributor or SGM support.

### Before installing

The VPL is a flexible plug and play system for direct view illumination, both indoors and outdoors. Its integrated power management and single multi-core cable eases installation by eliminating the need for external power supplies or complicated devices. VPL fixtures can be installed in series. The maximum number of luminaires each circuit can support depends on luminaire type, spacing between fixtures, circuit size, voltage and leader cable length. For further assistance regarding specific projects, please contact your local SGM distributor or [support@sgmlight.com](mailto:support@sgmlight.com).

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### Mounting the luminaires

There are different click-on brackets available for attaching VPL fixtures to surfaces. When using Dual or Single Installation brackets, make sure you mount each bracket to the surface by using any of the three available holes, according to the positions stated in the lighting plot. Click-on the fixture's back into the bracket, and slide in the unit so the extrusion holes in the profile meet the sided holes in the bracket. Insert the screws included with the bracket, so the luminaire is locked. Dual brackets allow installers to link two fixtures together maintaining the same pixel pitch. Single brackets can be used to attach one fixture only. When using VPL Touring brackets, first attach the desired clamp to the bracket via any of the three available holes. Click-on the bracket into the fixture's profile, and slide it in until the desired position is reached. Use the manual knobs to lock it. Add more brackets if necessary.

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### VP Cable connections

Since VPL fixtures have a male VP connector in one end and a female VP connector on the other end, the fixtures are directional, and must all be oriented in the same direction. Make sure power is OFF before mounting and connecting the units. When installing a linear series of VPL fixtures, run a VP Extension Cable from the connection box to the first fixture in the string. Connect the fixtures together or run VP Extension Cables between the units depending on the lighting plot. Push the male VP X-lock connectors into female VP connectors to lock them into place (remember to twist the safety push lock before pulling the cable to disconnect them). Insert a VP Connector End cap in the female VP connector of the last cabled fixture, to maintain IP rating.

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### Power and Data connections

The VPL fixtures and VP Extension Cables run power and data in the same connection. The VP Power + Data Joiner and the VP Touring Power + Data Joiner are connection boxes intended to join power and data signals. Connect the leader VP Extension Cable to the female VP connector in the VP Power + Data Joiner (includes a power cable with bare ends and a RJ45 female chassis connector) or the VP Touring Power + Data Joiner (includes one Power In and one Power Out chassis connectors, plus a waterproof RJ45 female chassis connector). For power, run a cable from any of these connection boxes to a 200-240V mains power source protected with an appropriate circuit breaker by a method that meets all national, regional, and local regulations. If more than 65 VPL 1220-20 units (230v) or 45 VPL 1220-20 units (200v) are needed in one single cabled VP string, use the VP Power Inserter and connect it to a different circuit protected with an appropriate circuit breaker. For data, run a crossover network cable with RJ45 connectors from any of these connection boxes to a data source. Use SGM Network Admin to set-up the installation according to the requirements.

### Networking procedures

The VPL fixtures can work properly in a wide array of network setups, using sACN and ArtNet protocols. When using sACN, we highly recommend all users to prepare their systems according to ANSI E1.31 standard, installing switches with IGMP v3 enabled. Ensure your network is never flooded due to excess of traffic. VPLs are designed to work with a maximum of 100Mb data communication per string of VPL fixtures. To calculate the bandwidth for the network, divide the provided 100Mb data communication by the number of universes implemented on each string of VPLs. SGM does not specify a preferred topology for the setup. The VPL system is designed for easy installation and patching, with IP addresses assigned automatically in the 2.x.x.x range. The user only needs to specify the DMX Universe and DMX starting address for each VPL, via the SGM Network Admin software

### Data Redundancy

The VPL system includes a very powerful tool: The Data Redundancy feature. If one of the first luminaires loses data signal in a cabled VP string, the last unit in the string can receive data from a third-party switch. In order to benefit from Data Redundancy, the VPLs must be connected as described in the connection diagram to a switch with redundancy capabilities, such as the Luminex Gigacore 26i or the Cisco Systems SG350. The VP Data Redundancy Interface accessory is also needed. Ensure the switch is RSTP compatible. The reaction time for the network to become functional after a data loss, depends entirely on the switch used. Run a VP Extension Cable from the last fixture in the string to the VP Data Redundancy Interface's female VP connector. Also, run a crossover network cable with RJ45 connectors from the VP Data Redundancy Interface's female RJ45 chassis connector to the switch. SGM recommends all installers to test their entire system before installing the products on location.



## Ordering information

Product name	Item number	Dimensions	Housing color
SGM VPL 305-20, AG	80080052	298 x 52 x 38 mm	Anodized Grey
SGM VPL 305-20, BL	80080056	298 x 52 x 38 mm	Anodized Black
SGM VPL 610-20, AG	80080055	602 x 52 x 38 mm	Anodized Grey
SGM VPL 610-20, BL	80080057	602 x 52 x 38 mm	Anodized Black
SGM VPL 1220-20, AG	80080053	1,212 x 52 x 38 mm	Anodized Grey
SGM VPL 1220-20, BL	80080058	1,212 x 52 x 38 mm	Anodized Black
VPL Opal lens, 305	83061070	305.2 mm (length)	Diffused White
VPL Opal lens, 610	83061072	609.2 mm (length)	Diffused White
VPL Opal lens, 1220	83061074	1,219.2 mm (length)	Diffused White
VPL Opal lens, 1330	83061076	1,330 mm (length)	Diffused White
VPL Rounded smoked frosted opal lens, 305	83061089	298 mm (length)	Diffused Smoked Black
VPL Rounded smoked frosted opal lens, 610	83061090	602 mm (length)	Diffused Smoked Black
VPL Rounded smoked frosted opal lens, 1220	83061091	1,212 mm (length)	Diffused Smoked Black
VPL Rounded smoked frosted opal lens, 1330	83061092	1,330 mm (length)	Diffused Smoked Black
VPL Smoked clear lens, 305	83061077	305.2 mm (length)	Smoked Black
VPL Smoked clear lens, 610	83061078	609.2 mm (length)	Smoked Black
VPL Smoked clear lens, 1220	83061079	1,219.2 mm (length)	Smoked Black
VPL Smoked clear lens, 1330	83061080	1,330 mm (length)	Smoked Black
VPL Smoked frosted lens, 305	83061085	298 mm (length)	Diffused Smoked Black - Black sides
VPL Smoked frosted lens, 610	83061086	602 mm (length)	Diffused Smoked Black - Black sides
VPL Smoked frosted lens, 1220	83061087	1,212 mm (length)	Diffused Smoked Black - Black sides
VPL Smoked frosted lens, 1330	83061088	1,330 mm (length)	Diffused Smoked Black - Black sides
VPL Opal/Black, 305	83061077	305.2 mm (length)	Diffused White - Black sides
VPL Opal/Black, 610	83061078	609.2 mm (length)	Diffused White - Black sides
VPL Opal/Black, 1220	83061079	1,219.2 mm (length)	Diffused White - Black sides
VPL Opal/Black, 1330	83061080	1,330 mm (length)	Diffused White - Black sides
VP Power + Data Joiner	83062046	104 x 77 x 54 mm	Black
VP Power Inserter	83062047	104 x 77 x 54 mm	Black
VP Touring Power + Data Joiner	83062049	104 x 77 x 54 mm	Black
VPL Dual installation bracket	83060635	60 x 38 x 9 mm	Anodized Grey
VPL Single installation bracket	83060634	38 x 29 x 9 mm	Anodized Grey
VPL Touring bracket	83060633	120 x 84.3 x 25 mm	Black
GND/Earth wire, 1m	83062050	1,000 mm (length)	Yellow / Green
VP Extension cable, 1m	83062051	1,000 mm (length)	Black
VP Extension cable, 2.5m	83062052	2,500 mm (length)	Black
VP Extension cable, 5m	83062053	5,000 mm (length)	Black
VP Connector End cap	83062056	Not specified	Black
Crimping tool for VP connector	83062301	N/A	N/A
VP Custom Extension cable Kit, 1m	83062054	1,000 mm (length)	Black
VP Custom Extension cable Kit, 10m	83062055	10,000 mm (length)	Black
Waterproof RJ-45 Kit	83062057	Not specified	Black
SGM Network Admin (software)	N/A	N/A	N/A

### What is in the box\*

- VPL fixture(s). Each package has space for up to 16 VPL 1220-20, 32 VPL 610-20, or 64 VPL 305-20
- Printed leaflet with safety instructions

\*Please note the packaging for the fixtures does not include any accessories like brackets, extension cables, lenses or connection boxes. All these items are sold separately.

### Important notes

- It is the responsibility of the installer / user to install and operate the VPL series in a way that complies with all applicable codes and local laws.
- A 10 Amp Type B circuit breaker should be installed before each VP Power+Data Joiner or VP Power Inserter.
- When installing the products with (230v) mains power, the maximum distance between the 10 Amp (B) circuit breaker and the last VPL unit should not exceed 85 meters [278 ft.] or 60 meters [196 ft.] if the mains power of the product is 200v. This distance includes wires and fixtures. The maximum number of VPL 1220-20 fixtures in one single cabled string is 65 (230v) or 45 (200v). VP Power Inserter units can be used to extend the cabled string with more fixtures and extension cables.

All the specifications and texts are preliminary.  
Information may change without notice.



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