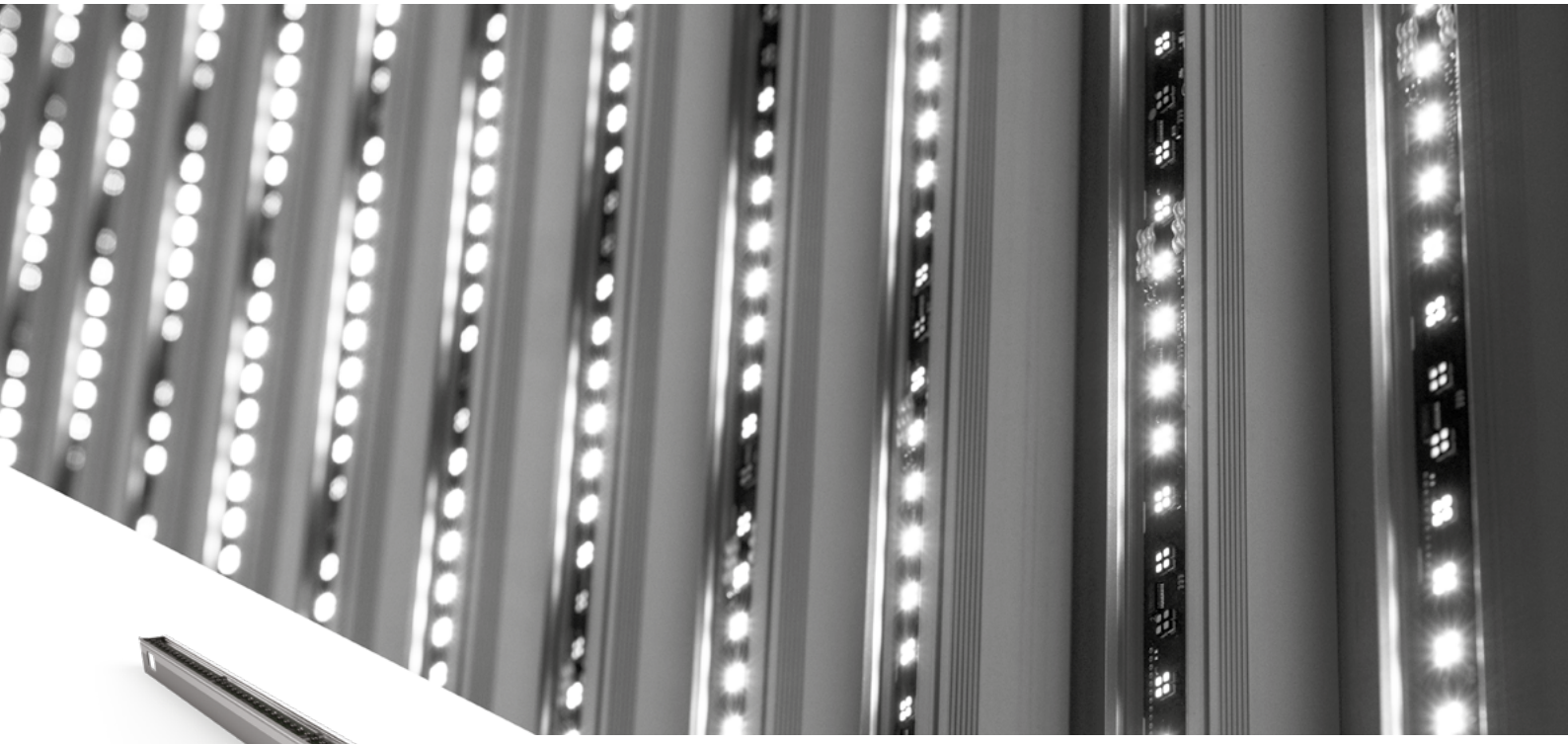
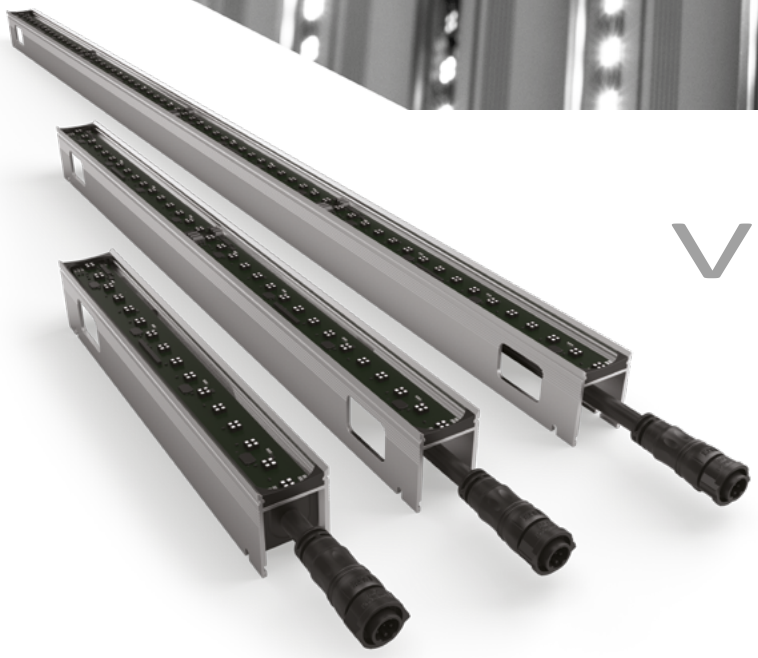
SGM®





VPL · Series

Video Pixel Linear LED

COMPLEXITY
MADE
SIMPLE

VPL Series

Linears made powerful, flexible, easy

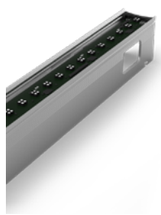
Our versatile and cost-effective Video Pixel Linears are designed to create powerful pixel mapping and media effects. The series include multiple fixture lengths, and an optional rounded opal diffusion front lens is also available.

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)
- 6x6mm Quad Full-Color LED Pixel Clusters
- 19.05 mm pixel pitch and custom viewing angles via “click-on” lenses
- Available in 1, 2 or 4 feet (305mm, 610mm, 1220mm)
- Up to 79 meters or 260 feet of VPL light on a single circuit
- IP66-rated, IK05-rated, C-5M (marine), UV, sand, and corrosion resistant
- 16 bit control, Real time remote monitoring, Auto addressing

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)

Specifications

SPECIFICATIONS

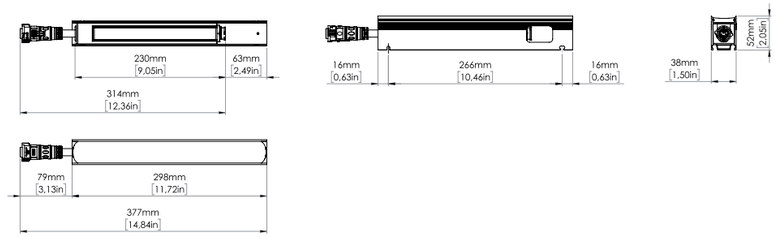
LED expected lifetime	50,000 hours
Front / Lenses	Clear front / Snap-on Opal lenses
Viewing angle	120º
Lightsource	Built-in Full Color LEDs
Addressable pixels	16 (1 ft.), 32 (2 ft.), 64 (4 ft.)
Pixel per meter/Pixel per foot	52 px/m or 16 px/ft
Pixel Pitch	19.05 mm
Pixel size	6 x 6 mm Quad LED Pixel Cluster
Color temperature range	2000K - 10000K (lineal CTC)
Luminance	8400 nits (modular spacing 38mm)
Available colors	Grey, Black
Corrosion class	C5-M (ISO 12944)
IP / IK rating	IP66 / IK05
Housing material	Aluminium
Front material	UV and sand-proof silicone
Fixture length	305mm, 610mm, 1220mm (1,2, 4 ft.)
Maximum units per circuit	65 units with 1220mm (230v)
Testing features	Live remote monitoring, On-fixture test

AC Power, nominal	200 - 240V 50/60Hz
Electrical Protection	Overload protection automatic recove
Power per meter	29 W/m
Typical power consumption	9W (1 ft.), 18W (2 ft.), 35 W (4 ft.)
Data communication	100 Mb (Gbit via SGM VP Processor)
DMX channels per fixture	3, 6, 192 or 384 with 1220mm 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 VP Administrator software
Data/Power in- and output	IP Multi-core 8 pin cable with VP-conr
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 protectio
Installation	Multi-positional

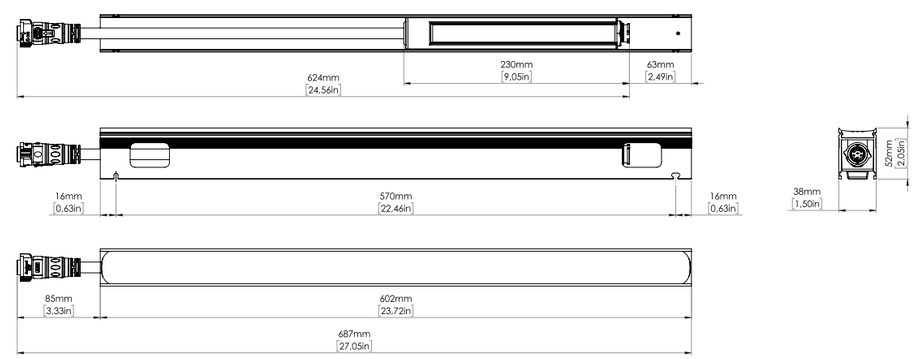
VPL Series Versions

Product name	Item number	Dimensions	Housing color
SGM VPL 305-20, AG	Item no. 80080052	298 x 52 x 38 mm	Anodized Grey
SGM VPL 305-20, BL	Item no. 80080056	298 x 52 x 38 mm	Anodized Black
SGM VPL 610-20, AG	Item no. 80080055	602 x 52 x 38 mm	Anodized Grey
SGM VPL 610-20, BL	Item no. 80080057	602 x 52 x 38 mm	Anodized Black
SGM VPL 1220-20, AG	Item no. 80080053	1212 x 52 x 38 mm	Anodized Grey
SGM VPL 1220-20, BL	Item no. 80080058	1212 x 52 x 38 mm	Anodized Black

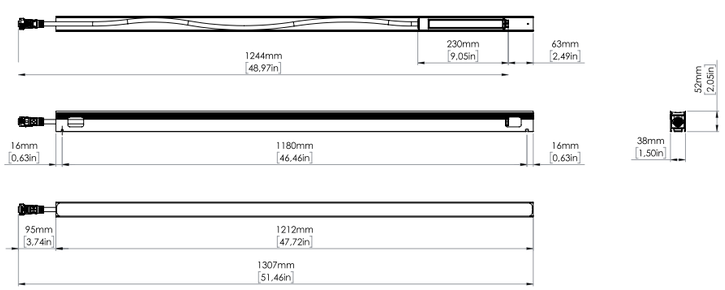
VPL 305-20

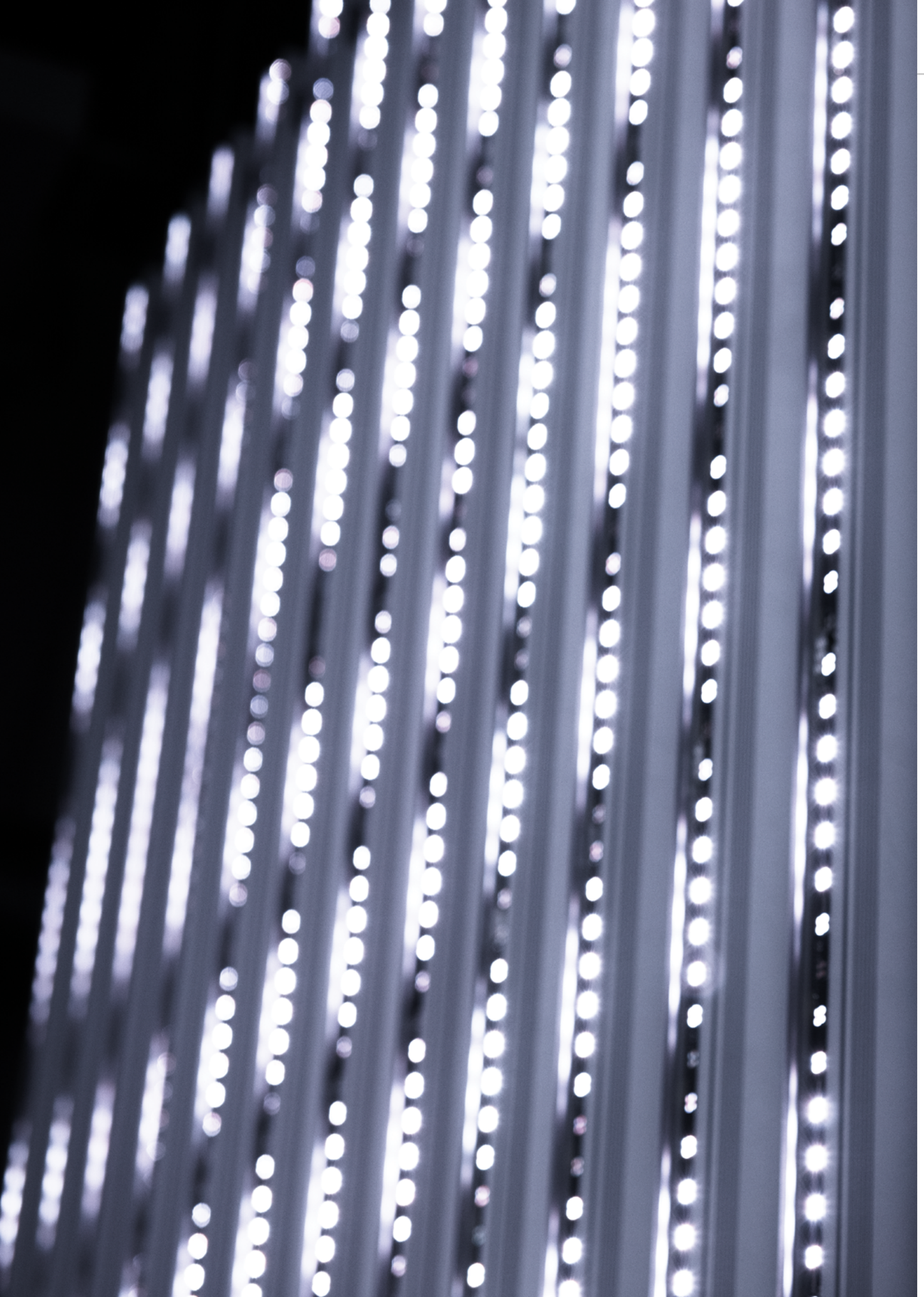


VPL 610-20



VPL 1220-20

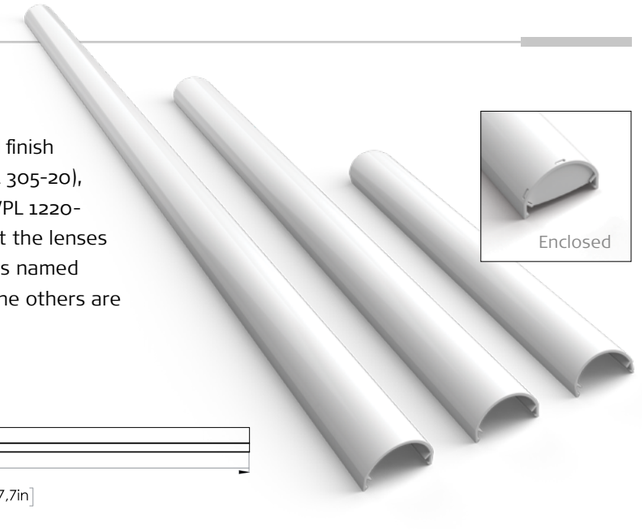




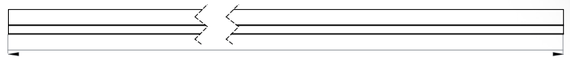
Accessories

VPL Opal lenses

The snap-on lenses with rounded shape and opal finish are available in four lengths: 305mm [1ft] (for VPL 305-20), 610mm [2ft] (for VPL 610-20), 1220mm [4ft] (for VPL 1220-20), and 1330mm [4.3ft] for users that need to cut the lenses themselves to match a specific distance. The items named "enclosed" have end gables in both sides, while the others are open for a more uniform look.

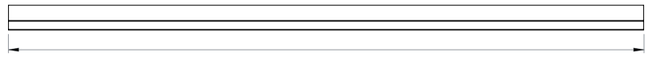


VPL Opal lens 1220-20



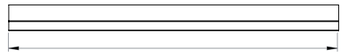
1219,2mm 48,0in Enclosed: 1212mm [47,7in]

VPL Opal lens 610-20



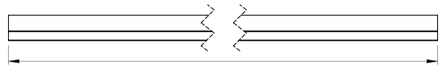
609,2mm [24,0in] Enclosed: 602mm [23,7in]

VPL Opal lens 305-20

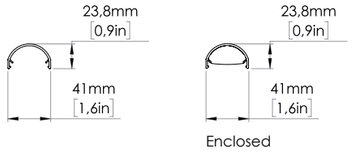


305,2mm [12,0in] Enclosed: 298mm [11,7in]

VPL Opal lens 1330-20



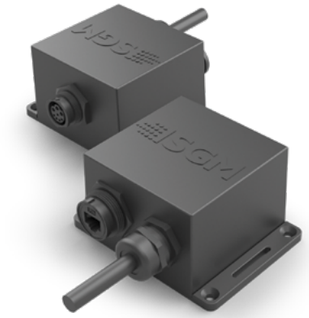
1330mm [52,3in] To cut for specific length

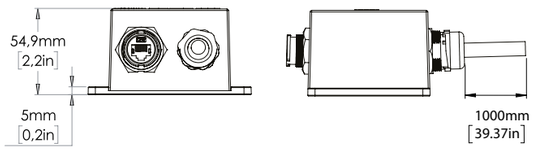


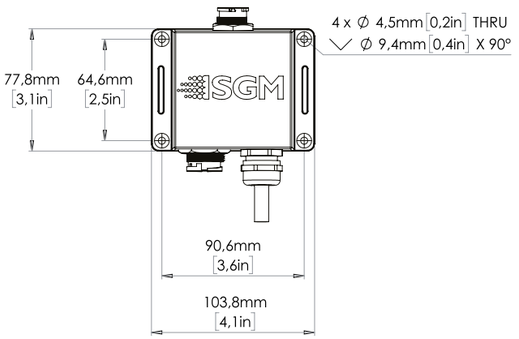
VP Power + Data Joiner

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 (208 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 VP Processor or Artnet / sACN source and before each cabled string of VPL fixtures in any length.



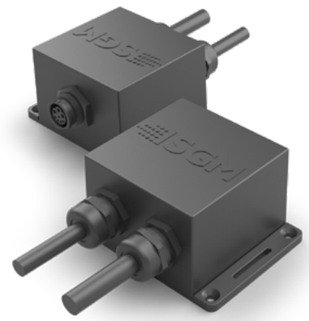




VP Power Inserter

Water and dustproof box including 1 meter [3.2 ft]power cable with bare ends, a VP female chassis connector and a 1 meter [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.

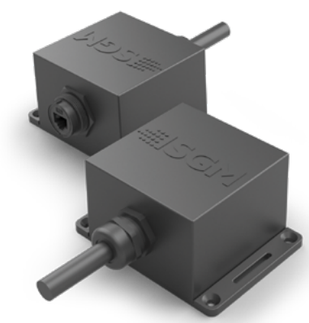
NOTE: This item must be installed after the last VPL fixture in the cabled string and before a new cabled string of VPL fixtures in any length.
Same dimensions as VP Power + Data Joiner



VP Data Redundancy Interface

Water and dustproof box including a 1 meter [3.2 ft] VP cable with a VP male connector and a waterproof RJ45 female chassis connector. Designed to send data from a daisy chain of VPL units to the SGM Processor, to benefit from redundant data control.

NOTE: This item must be installed after the last VPL fixture in the cabled string and before the SGM VP Processor input / output.
Same dimensions as VP Power + Data Joiner



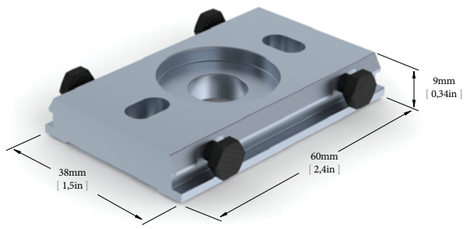
VP Touring Power + Data Joiner

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 (208 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, this item must be installed after VP Processor or Artnet / sACN source and before each cabled string of VPL fixtures in any length.
Same dimensions as VP Power + Data Joiner

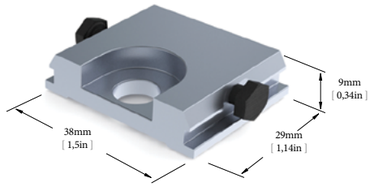
VPL Dual installation bracket

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 Dual installation brackets, it is possible to ensure a correct pixel pitch in a long string of VPL fixtures.



VPL Single installation bracket

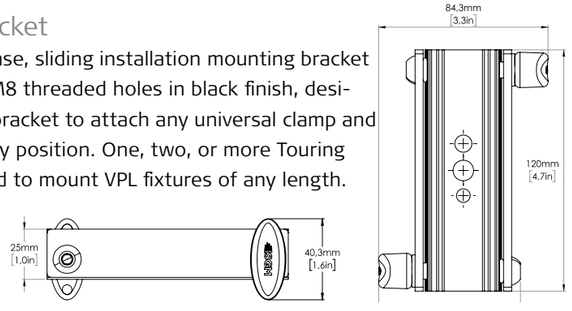
Snap-on, flat-shaped, sliding installation mounting bracket in anodized grey finish designed as a wall-mount for a single VPL fixture, keeping the same length of the unit. It includes holes for wall-mount and 2 sided holes with 2 screws to fix the bracket in the aluminium profile of the fixture.



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 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.



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.

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.

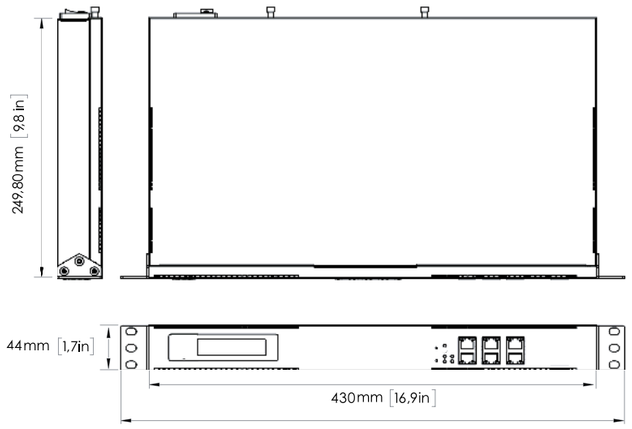
Waterproof RJ-45 Kit

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 or VP Data Redundancy Interface units.

VP Processor

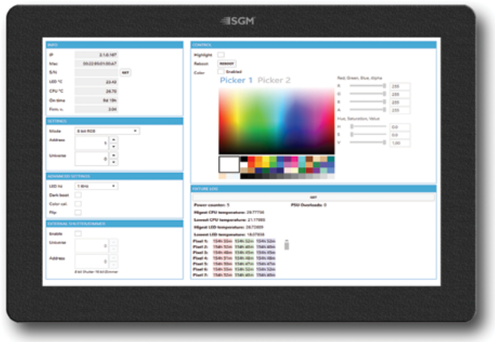
Gigabit to 100 Megabit data processor for Artnet / sACN / VP Net protocols, designed and optimized for up to 4 cabled strings of VPL fixtures in any length. It includes two general Gigabit input / outputs for the external network, plus four input / outputs running VP-Net with 100 Mbit data communication, a 1.5m [49 ft] power cable (100-240v 50/60Hz), and display. The VP Processor has the VP Administrator software embedded and it is conceived for setting up VPL installations, adjusting user parameters, and allowing redundant control of VPL cabled strings.

NOTE: This item must be installed before (as an output) or after (as a redundant input) any VP Power+Data Joiners or VP Touring Power+Data Joiners.



VP Administrator

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. It includes the same software embedded on SGM VP Processor, but the hardware is needed to use Gigabit communication or to benefit from the redundant-control feature.

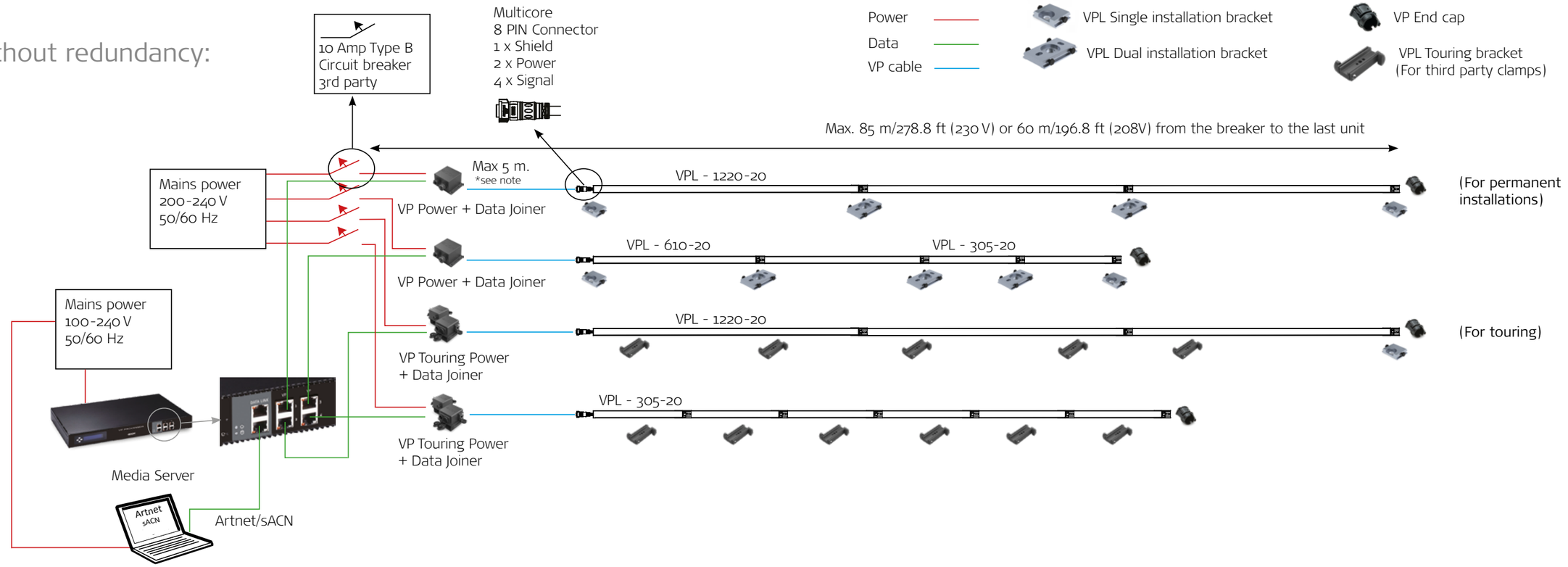


Accessories Versions

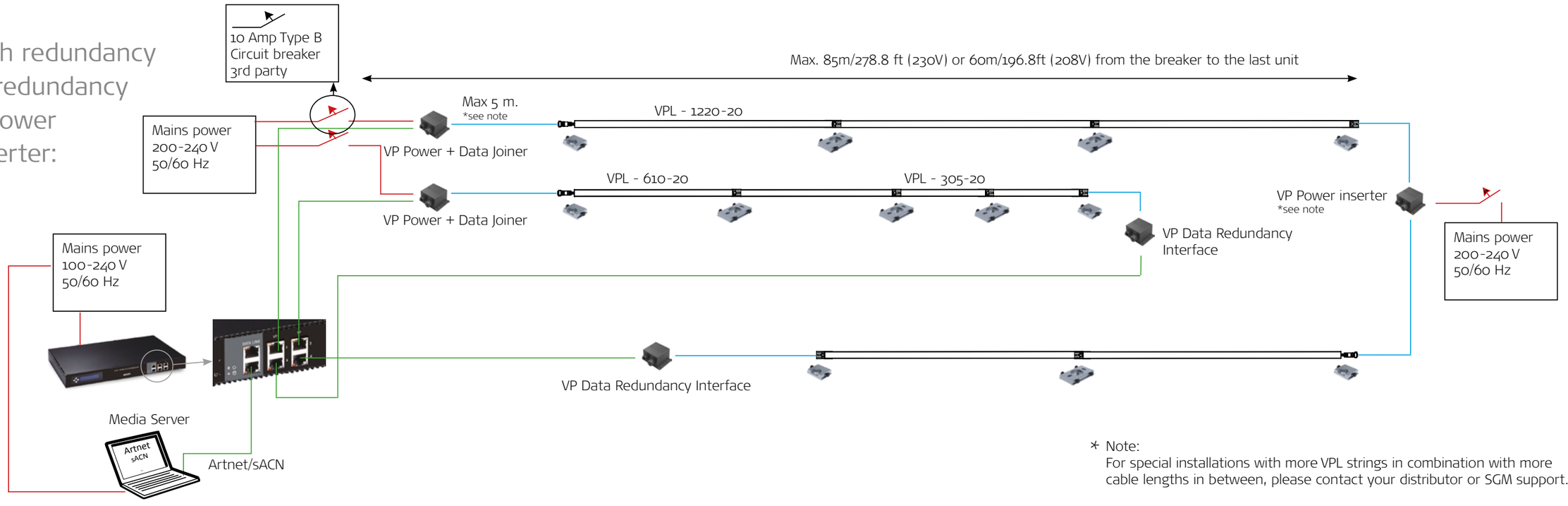
Product name	Item number	Dimensions	Housing color
VPL Opal lens, 305	83061070	305.2mm (length)	Diffused White
VPL Opal lens, 305, enclosed	83061071	298mm (length)	Diffused White
VPL Opal lens, 610	83061072	609.2mm (length)	Diffused White
VPL Opal lens, 610, enclosed	83061073	602mm (length)	Diffused White
VPL Opal lens, 1220	83061074	1219.2mm (length)	Diffused White
VPL Opal lens, 1220, enclosed	83061075	1212mm (length)	Diffused White
VPL Opal lens, 1330mm	83061076	1330mm (length)	Diffused White
VP Power + Data Joiner	83062046	104 x 77 x 54 mm	Black
VP Power Inserter	83062047	104 x 77 x 54 mm	Black
VP Data Redundancy Interface	83062048	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	1000mm (length)	Yellow / Green
VP Extension cable, 1m	83062051	1000mm (length)	Black
VP Extension cable, 2.5m	83062052	2500mm (length)	Black
VP Extension cable, 5m	83062053	5000mm (length)	Black
VP Connector End cap	83062056	Not specified	Black
VP Custom Extension cable Kit, 1m	83062054	1000mm (length)	Black
VP Custom Extension cable Kit, 10m	83062055	10000mm (length)	Black
Waterproof RJ-45 Kit	83062057	Not specified	Black
VP Processor	80070238	430 x 249 x 44 mm	Black
VP Administrator (software)	N/A	N/A	N/A

Connection diagram

Without redundancy:



With redundancy or redundancy + power inserter:



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

Installation guide

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 any technical doubts concerning specific projects, please contact your local SGM distributor or support@sgmlight.com.

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 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.

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.

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 (208v) 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 VP Processor, or data source. Use VP Administrator software to set-up the installation according to the requirements.

Data Redundancy connections

The VP Processor and the VP Data Redundancy Interface are designed with 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 the VP Processor and keep sending data to connected fixtures. Run a VP Extension Cable from the last fixture in the string to the VP Data Redundancy Interface's female VP connector. Run a crossover network cable with RJ45 connectors from the VP Data Redundancy Interface's female RJ45 chassis connector to one of the four VP I/O networks in the VP Processor. Use VP Administrator software in the VP Processor to activate the Data Redundancy feature.

What is in the box

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 208v. This distance includes wires and fixtures. The maximum number of VPL 1220-20 fixtures in one single cabled string is 65 (230v) or 45 (208v). VP Power Inserter units can be used to extend the cabled string with more fixtures and extension cables.
- VP Processor is recommended for any VPL setup, especially for installations involving Gigabit data communication.

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

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www.sgmlight.com