



AcuityBrands.
Expanding the boundaries of lighting™



V·M·A·X™

**ULTIMATE
FLEXIBILITY**

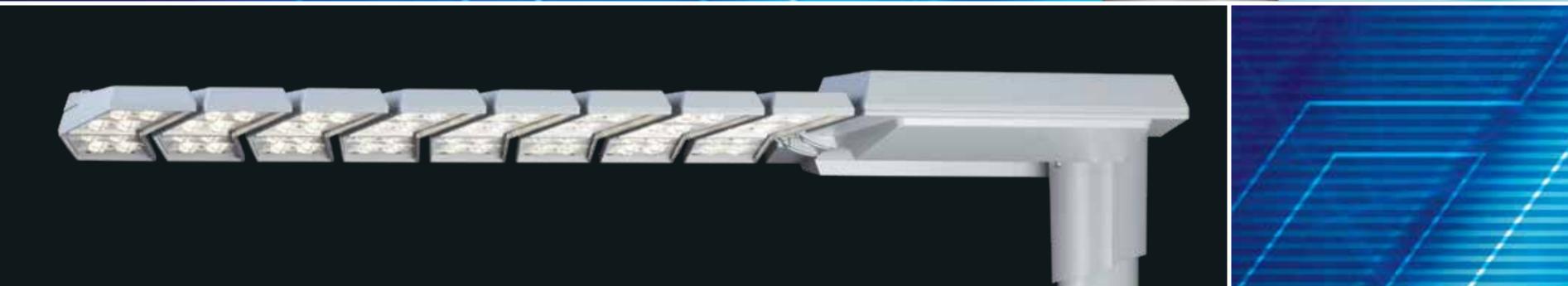
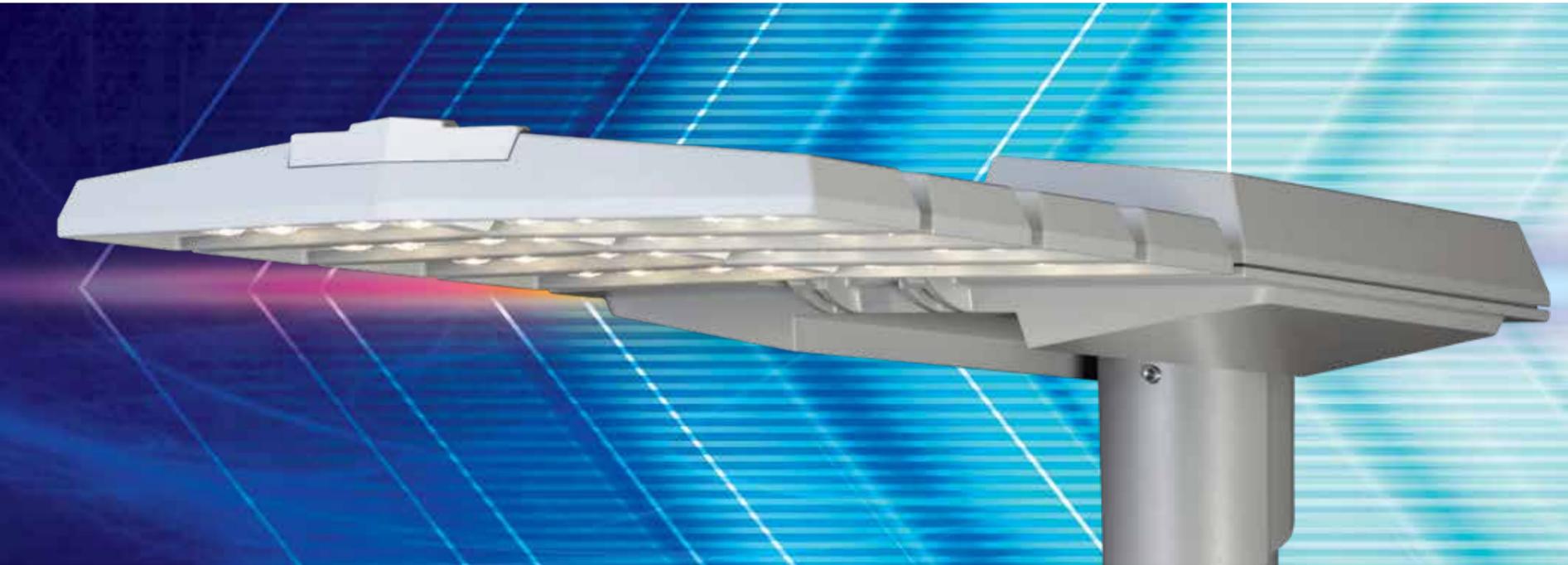
LED



HEA
Highway Electrical Association
Award Winner 2014

PATENTED DESIGN
REGISTERED EUROPEAN DESIGN

V·MAX™



Ultimate flexibility

V-MAX™ is a landmark LED luminaire characterised by its efficiency and revolutionary form.

With a pioneering modular design the luminaire has been engineered with an approach that subdivides the luminaire system creating a fully scalable, maintainable and upgradeable luminaire that can be used for a range of street lighting applications.

The product design process at Holophane focuses on making the most efficient and modular technology a reality. This aspiration has resulted in developments with a lasting impact. In other words, our work ensures that we are delivering the latest technologies with class leading quality. V-MAX™ is one such development - with its low profile styling, revolutionary modular LED chevron design and customised optics that allow for maximum column spacing, lighting and uniformity.

optics / light source

- > Available with a variety of optical packages for various street lighting standards
- > Lumen packages ranging from 1,000 to 37,000
- > 3000°K, 4000°K and amber colour temperature
- > 100,000 hours life (L90B10) at 15°C to
- > -10° to +20° tilting*
- > 70 CRI

TM66 CEAM-Make Rating

Preliminary Rating: 2.6 (Excellent circularity)

approvals



IP 66 light engines (IEC60529)
IP 66 gear compartment (IEC60529)

Ta -40°C to +50°C

IK07 - Standard product. IK10 available.

*Maximum values and restrictions apply on mounting option selected

For further information please visit the Holophane website
www.holophane.co.uk



PATENTED DESIGN
REGISTERED EUROPEAN DESIGN

V·MAX

modular design
optical performance
thermal excellence

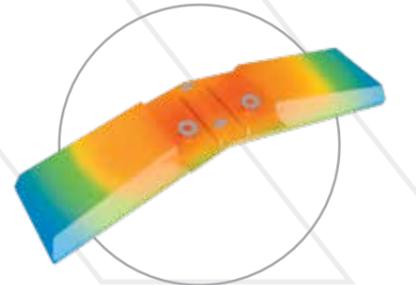


performance

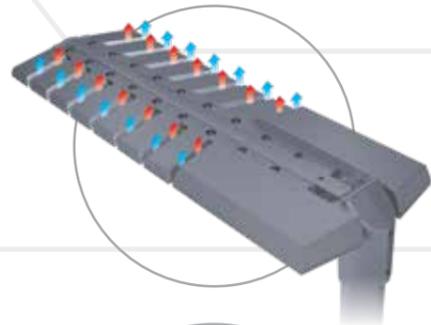
Thermal management

The revolutionary modular design of V-MAX™ has been created to maximise heat dissipation from the critical electronic components and extends the complete life of the luminaire. Heat generated by the LED Chevron causes air to pass between the V-MAX™ air channel. This rising ambient air draws in more cooler and denser air from under the luminaire and draws away the heat created by the LEDs thus using natural convection.

V-MAX™ utilises all three heat transfer principles of conduction, convection and radiation to ensure that the high powered LEDs mounted to the aluminium backed PCB and electronic drivers are thermally managed well within their limit to maximise system life. This provides market leading light output whilst maintaining a high product life.



CONDUCTION
FROM THE LEDS AND DRIVER ONTO THE LED CHEVRON AND RIBBED GEAR HOUSING RESPECTIVELY.



CONVECTION
FROM LED CHEVRON AND THE AIR CHANNEL BETWEEN EACH CHEVRON.



RADIATION
HEAT ENERGY FROM THE DRIVER AND LED CHEVRON IS EMITTED FROM THE CASTING IN ALL DIRECTIONS.

THERMAL EXCELLENCE

specification

The luminaire consists of a die cast LM6 aluminium housing ((EN AC-44100) (AL.Si12)) which is sealed to IP66 with a close cell gasket and M5 stainless steel fastener that also allows access to the gear cover for electrical termination. Metal core LED boards are mounted directly to the die cast LM6 aluminium ((EN AC-44100)(AL.Si12)) chevron to aid heat dissipation. Each IP66 LED chevron is connected to the main housing via gasketed (co-molded to PMMA 825T with TPE Versaflex OM 9-802CL) plug and play connectors and extruded aluminium alloy 6063 (AlMg0.5Si-T6) spine which will vary in length based on the number of LED chevrons. The 2x2 array of PMMA LED lenses are fused to a PMMA 825T overmold to ensure an IP66 seal is maintained. The luminaire is suitable for post mounting (60/76mm) and side entry (34/42/60mm) with the ability to adjust onsite by -10° to +20° tilt*.

*Restrictions apply on selected mounting options



V-MAX™ Dual cable entry to controls and power - with protective cover (not shown). Note: suitable for cable diameters from 6-10mm.

features and benefits

Revolutionary Design

- > Unique ultra slim design which allows 1 to 8 LED chevrons to be assembled to the gear chamber dependent on the required lighting performance thus ensuring visual and performance consistency for a variety of street lighting schemes.
- > Plug and play LED chevrons that can be upgraded easily in situ, as LED efficiency improves.
- > Suitable for post top or side entry mounting without the requirement for an additional bracket.

Enhanced Thermal Management

- > Designed to ensure that the LED chevrons are mounted to the aluminium spine with an air channel between each chevron to allow convection.
- > Each LED chevron has been designed to act as its own independent heatsink - thus conducting and radiating heat away from the critical LED components.



V-MAX™ Hinged gear housing access.

High Efficiency LED Technology

- > High quality, highly efficient, LEDs used in conjunction with the latest LED drivers ensures that superior lumen per watts and a long system life are achieved.

Fully Controllable Luminaire

- > Developed to offer standalone flexibility for constant lumen output, variable lighting levels and part time regimes.
- > Available with DALI and SR controls options.



axora



V-MAX™ LED Chevron.

modularity

scaleable
maintainable
upgradeable

The V-MAX™ has a modular design that has been developed with an approach that subdivides the luminaire system into individual modules (LED Chevrons) that are fully scalable, maintainable and upgradeable.

Scaleable

V-MAX™ is a fully scaleable luminaire that has been developed around one gear capsule that has the capability to be used with 1 to 8 LED chevrons. This creates a luminaire that ensures visual and performance consistency with a lumen package from 1,000 to 37,000 thus enabling it to be used for all types of residential roads, pedestrian areas, main roads and trunk roads.

Maintainable

Maintainability is the ease with which a product can be maintained in order to isolate defects, correct defects and replace faulty components without having to replace components that are not affected. V-MAX™ has been designed to deliver all of these benefits to the end user - throughout the lifecycle of the product. With its 'plug and play' LED chevrons which can be replaced in-situ V-MAX™ is the complete maintainable LED streetlighting solution.



MODULAR DESIGN

modularity

Upgradeable

The modularity of V-MAX™ makes this LED luminaire future proof. The LED Chevrons can be upgraded easily in situ - not only making the luminaire fully maintainable but completely upgradeable - as LED efficiency improves so can your luminaire.



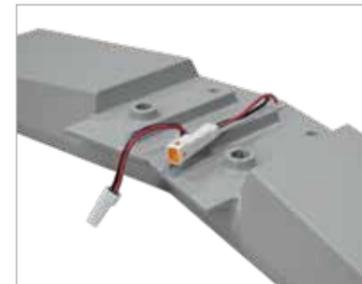
Step 1
Undo the LED chevron from the luminaire spine



Step 2
Disconnect the old LED chevron using the 'plug & play' connectors



Step 3
Remove the old LED chevron



Step 4
Detached LED chevron



Step 5
Plug in new LED chevron using existing 'plug and play' connectors on the luminaire spine



Step 6
Mount new LED chevron to the luminaire spine



optical performance

The unique design of the V-MAX™ LED chevrons utilises efficient LEDs with a 2x2 optical system which works seamlessly to deliver the desired street lighting performance for all types of environments from pedestrian areas to trunk roads.

This high performance 2x2 optical system can be optimised for all lighting classes and geometries. This lens system delivers many distributions and is recessed within the LED chevron which aids in the prevention of light pollution.



OPTICAL PERFORMANCE



typical spacings

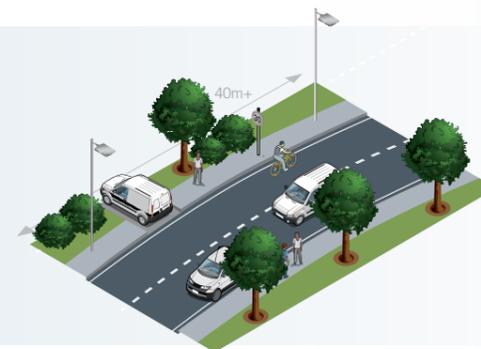
pedestrian area P4

- > Luminaire on a 6m column with 0.5m outreach.
- > Column mounted 2m from the edge of the road.
- > Total road width of 10m.
- > Footpath of 2m each side.



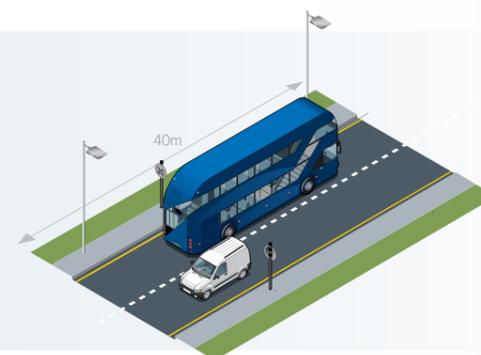
residential road P2

- > Luminaire on a 8m column with 0.5m outreach.
- > Column mounted 3.5m from the edge of the road.
- > Total road width of 12m.
- > Footpath of 3.5m each side.



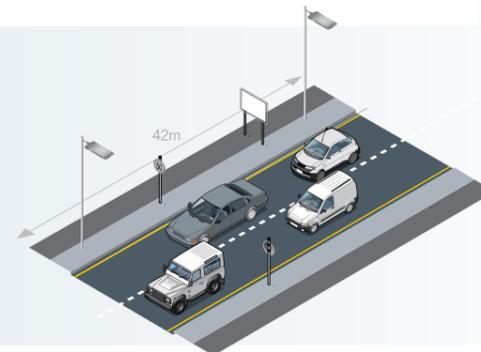
main roads M4

- > Luminaire on a 8m column with 0.5m outreach.
- > Column mounted 1.50m from the edge of the road.
- > Road width of 7.5m (two lanes 3.75m each).



trunk roads M2

- > Luminaire on a 12m column with 0.5m outreach
- > Column mounted 1.5m from the edge of the road.
- > Road width of 7.5m (two lanes 3.75m each).





V-MAX™ 0° tilt



V-MAX™ 5° tilt

applications

BS 5489:2012
BSEN13201

- Residential lighting
- Pedestrian areas
- Main roads
- Trunk roads
- Dual carriageways
- Car parks

weight (with control gear)

VMX V1 version	6kg
VMX V2 version	8kg
VMX V3 version	9kg
VMX V4 version	10kg
VMX V5 version	12kg
VMX V6 version	14kg
VMX V7 version	15kg
VMX V8 version	17kg

TA

-40°C to 50°C

windage (effective projected area)

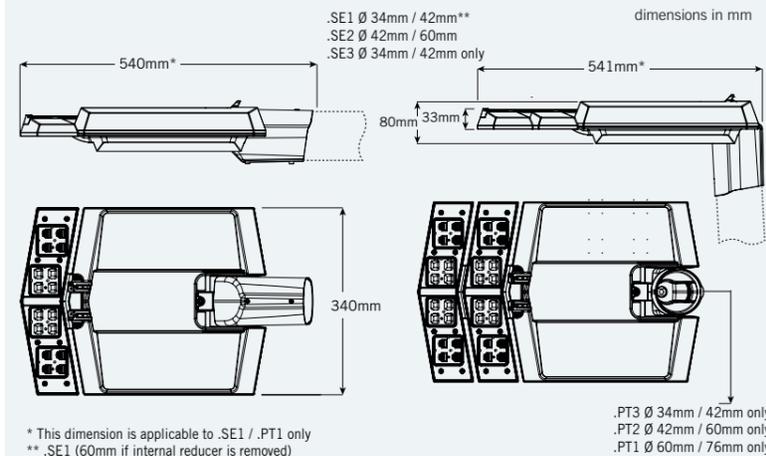
VMX V1 version	0.034m ²
VMX V2 version	0.037m ²
VMX V3 version	0.039m ²
VMX V4 version	0.042m ²
VMX V5 version	0.044m ²
VMX V6 version	0.046m ²
VMX V7 version	0.049m ²
VMX V8 version	0.051m ²

Side Mounting

V1 version

Post Mounting

V2 version



* This dimension is applicable to .SE1 / .PT1 only
** .SE1 (60mm if internal reducer is removed)

tilting range (Please refer to installation sheet for details of tilting range)

PT1 (76mm / 60mm spigot)

Standard Tilt	Additional Tilt**	Combined tilts	
Position A: 0°	Maximum (1): +10°	Position A: 0°	Position B: +5°
Position B: +5°	Minimum (2): -7.5°	Position A1: +10°	Position B1: +15°
		Position A2: -7.5°	Position B2: -2.5°

PT2 (60mm / 42mm spigot)

Standard Tilt	Additional Tilt †	Combined tilts	
Position A: 0°	Maximum (1): +15°	Position A: 0°	Position B: +5°
Position B: +5°	Minimum (2): -7.5°	Position A1: +15°	Position B1: +20°
		Position A2: -7.5°	Position B2: -2.5°

SE1 (60mm spigot)

Standard Tilt	Additional Tilt**	Combined tilts		
Position A: 0°	Maximum (1): +10°	Position A: 0°	Position B: +2.5°	Position C: -2.5°
Position B: +2.5°	Minimum (2): -7.5°	Position A1: +10°	Position B1: +12.5°	Position C1: +7.5°
Position C: -2.5°		Position A2: -7.5°	Position B2: -5°	Position C2: -10°

SE2 (60mm / 42mm spigot)

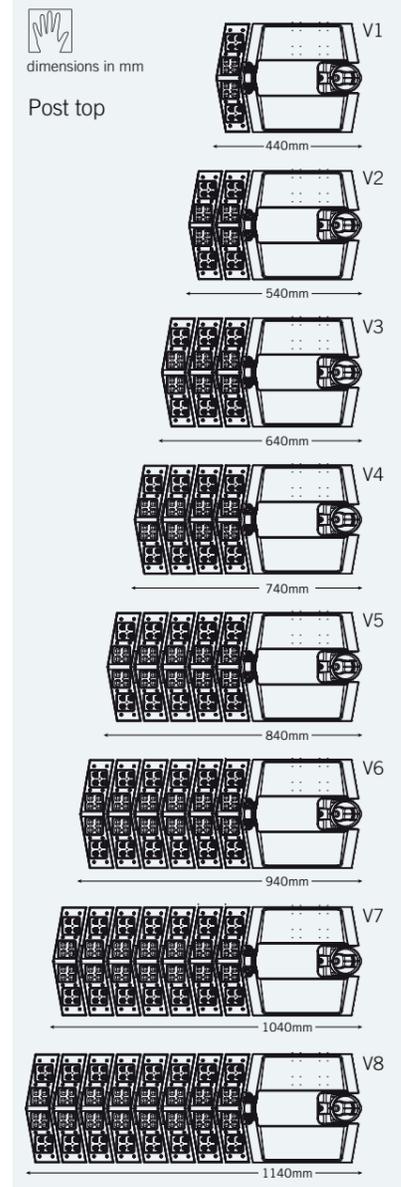
Standard Tilt	Additional Tilt †	Combined tilts		
Position A: 0°	Maximum (1): +15°	Position A: 0°	Position B: +2.5°	Position C: -2.5°
Position B: +2.5°	Minimum (2): -7.5°	Position A1: +15°	Position B1: +17.5°	Position C1: +12.5°
Position C: -2.5°		Position A2: -7.5°	Position B2: -5°	Position C2: -10°

SE3 (42mm / 34mm spigot)

Standard Tilt	Additional Tilt ‡	Combined tilts		
Position A: 0°	Maximum (1): +9°	Position A: 0°	Position B: +2.5°	Position C: -2.5°
Position B: +2.5°	Minimum (2): -3°	Position A1: +9°	Position B1: +11.5°	Position C1: +6.5°
Position C: -2.5°		Position A2: -3°	Position B2: -0.5°	Position C2: -5.5°

*** Spigot must be 60mm Ø and at least 130mm in length
† Spigot must be 42mm Ø and at least 130mm in length
‡ Spigot must be 34mm Ø and at least 130mm in length

The V-Max luminaire is designed when post top mounted (.PT1) to be suitable for a column main shaft diameter of no greater than 89mm. The column mounting spigot should be no greater than 76mm diameter with a spigot length of 135mm minimum. All other configurations please refer to Holophane representative for advice.



Note: The specifications of the Holophane luminaire represents typical values. All descriptions, illustrations, drawings and specifications in the Holophane catalogue and website represent only general particulars of the goods to which they apply and shall not form part of any contract. The company reserves the right to change specifications at its discretion without prior notification or public announcement.



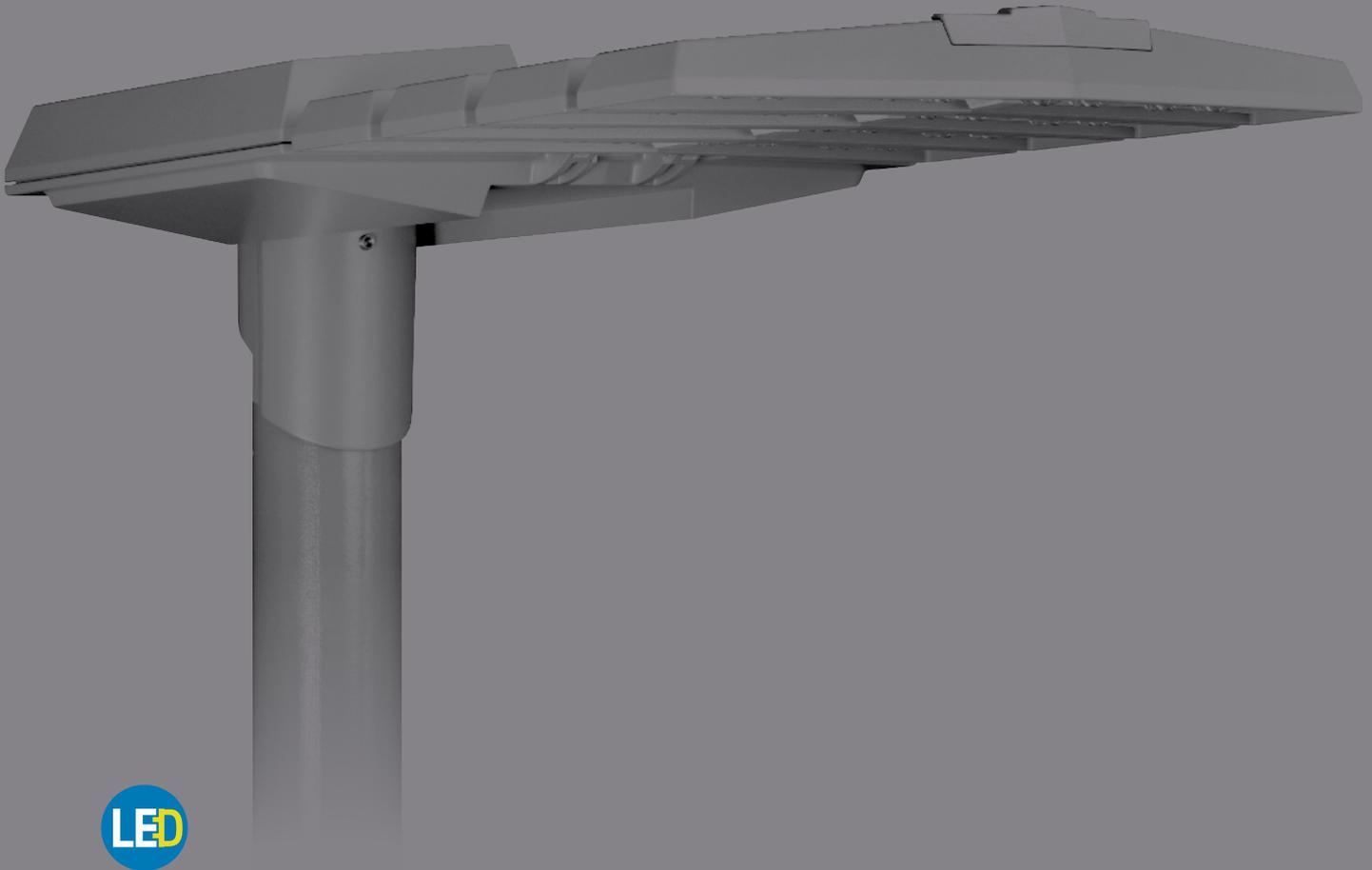


ordering details - luminaire

Code VMX	V-Max Luminaire	
Code 2	Series (required) Series 2	
Code .LR1X .LR2X .LR3X .LA02X to .LA37X	Lamp Type (required) LED light engine producing c.1000 lm with a nominal 3000K or 4000K colour temperature LED light engine producing c.2000 lm with a nominal 3000K or 4000K colour temperature LED light engine producing c.3000 lm with a nominal 3000K or 4000K colour temperature LED light engine producing c.2000 lm with a nominal 3000K, 4000K or amber colour temperature Options between 2,000 and 37,000 lmns are available in 1000 lumen increments LED light engine producing c.37000 lm with a nominal 3000K, 4000K or amber colour temperature	Replace X with 3 for 3000K; 4 for 4000K or A for Amber (amber only available up to 24,000 lumens)
Code .V1 .V2 .V3 .V4 .V5 .V6 .V7 .V8	Operating package (required) 1 LED chevron 2 LED chevrons 3 LED chevrons 4 LED chevrons 5 LED chevrons 6 LED chevrons 7 LED chevrons 8 LED chevrons	
Code .X2L2 .X2L3 .L2Q1 .L3Q1 .F4L2 .F4L4 .L2L3 .L2L4 .F4Q1 .D4D4	Optic (required) X2L2 optical setting** X2L3 optical setting** L2Q1 optical setting L3Q1 optical setting F4L2 optical setting** F4L4 optical setting** L2L3 optical setting L2L4 optical setting F4Q1 optical setting** D4D4 optical setting	
Code .PT1 .PT2 .PT3 .SE1 .SE2 .SE3	Fixing method (required) Post top 76/60mm only Post top 42/60mm only Post top 34/42mm only 34/42mm side entry (with internal reducer) - 60mm side entry when internal reducer is removed 42/60mm side entry only 34/42mm side entry only	
Code .C3 .C4 .C6 .C7 .C9 .RAL****	Colour (required) Green (RAL6013) Graphite (RAL7011) Smooth Grey (RAL7035) Black (RAL 9005) Metallic Silver (RAL9006) RAL Colour (Customer choice)	
Code .CII	Electrical Class (option) Class II*	
Code .T5*** .T5T*** .T7*** .T7T*** .T1 .TSZ+ .TSZA+ .TSZB+ .TZ01 .TZ02	Photocell† (option) Complete with 5-pin dimming NEMA ANSI C136.41 socket without locking top Complete with 5-pin dimming NEMA ANSI C136.41 socket with weather proof locking top Complete with 7-pin dimming NEMA ANSI C136.41 socket without locking top Complete with 7-pin dimming NEMA ANSI C136.41 socket with weather proof locking top Complete with NEMA socket (to accept standard NEMA photocell) Complete with miniature 70 lux factory fitted photocell (Zodion SS12) Complete with miniature 55 lux factory fitted photocell (Zodion SS12) Complete with miniature 35 lux factory fitted photocell (Zodion SS12) Complete with 4-Pin Zhaga Socket - Top (suitable photocell/node supplied by others) with weather proof locking top.† Complete with 4-Pin Zhaga Socket - Bottom (suitable node/presence detector supplied by others) with weather proof locking top.†	suitable photocell/node supplied by others
Code .C	Paint finish (option) Enhanced paint finish	
Code .LRD .LRT750006 .LRT502206 .LRT502006 .LRT502207 .LRT500006 .LRT*****	Dimming Outputs (option) DALI electronic control gear pre-set to dim to 75% between 12am to 6am pre-set to dim to 50% between 10pm to 6am pre-set to dim to 50% between 8pm to 6am pre-set to dim to 50% between 10pm to 7am pre-set to dim to 50% between 12am to 6am Customer specified pre-set dimming	
Code .CL7 .CL8 .CL9	Control Gear (option) Over the life of the luminaire Programmed to deliver 70% Programmed to deliver 80% Programmed to deliver 90%	
Code .CPROTEC	Auxiliary Circuits (option) With 10kV/10kA surge protection	
Code .FL431 to .FL1431 .FL432 to .FL1432 .FL451 to .FL1451 .FL4312 to .FL14312 .FL4322 to .FL14322	Cable Entry (option) (max length catered for) 4 metres of 1.5mm ² 3 core single cable "flex" 14 metres of 1.5mm ² 3 core single cable "flex" 4 metres of 1.5mm ² 3 core double cable "flex" 14 metres of 1.5mm ² 3 core double cable "flex" 4 metres of 1.5mm ² 5 core single cable "flex" 14 metres of 1.5mm ² 5 core single cable "flex" 4 metres of 2.5mm ² 3 core single cable "flex" 14 metres of 2.5mm ² 3 core single cable "flex" 4 metres of 2.5mm ² 3 core double cable "flex" 14 metres of 2.5mm ² 3 core double cable "flex"	
Code .PC	IK Rating (option) Polycarbonate Lens	

Example VMX 2 .LA234 .V5 .L2Q1 .PT1 .C9

† Not available in Class II. *Not available with CPROTEC. **Restrictions apply on lumen packages. ***Must be configured with .LRD. +Not suitable for CII. † Not available with .LRD
Lumen data is considered to be representative of the configuration shown, and may vary, with a tolerance on flux of +/- 7% (typical of LED manufacturer's data) and luminaire power of +/- 5%.
Where the V-Max luminaire is installed in a situation subject to updraft/vibration caused by high speed HGV traffic, then a safety tether accessory (available from Holophane separately and at extra cost) should be specified and deployed.
To find out more please visit www.holophane.co.uk



V·M·A·X™

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