VDO Atomic Bold

User Guide
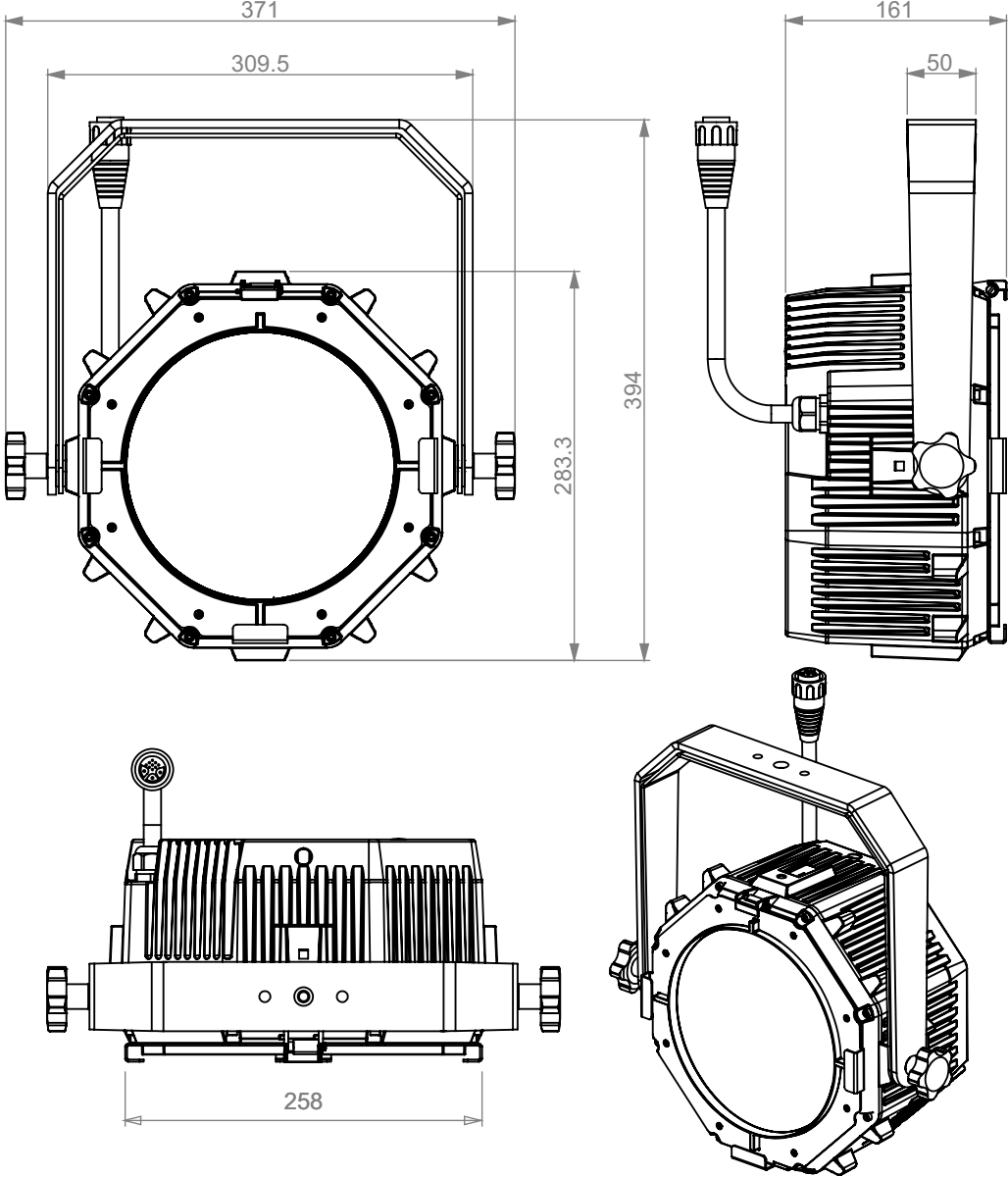
Martin® by HARMAN

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All dimensions are given in millimeters.

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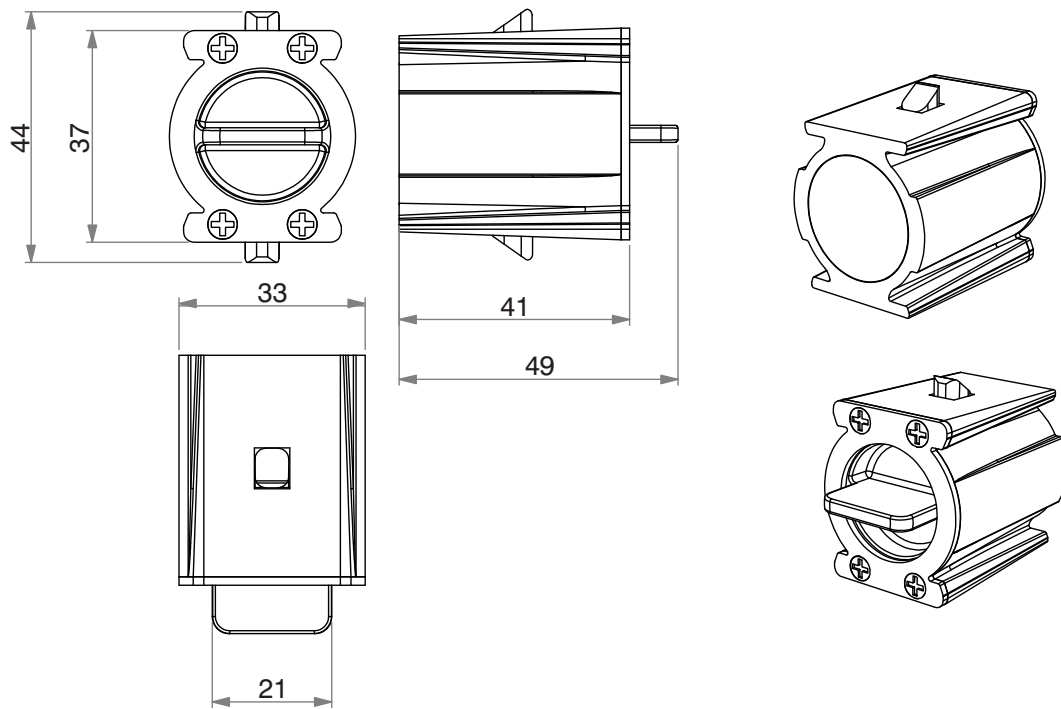
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90

∅50.8

85

140

33

41

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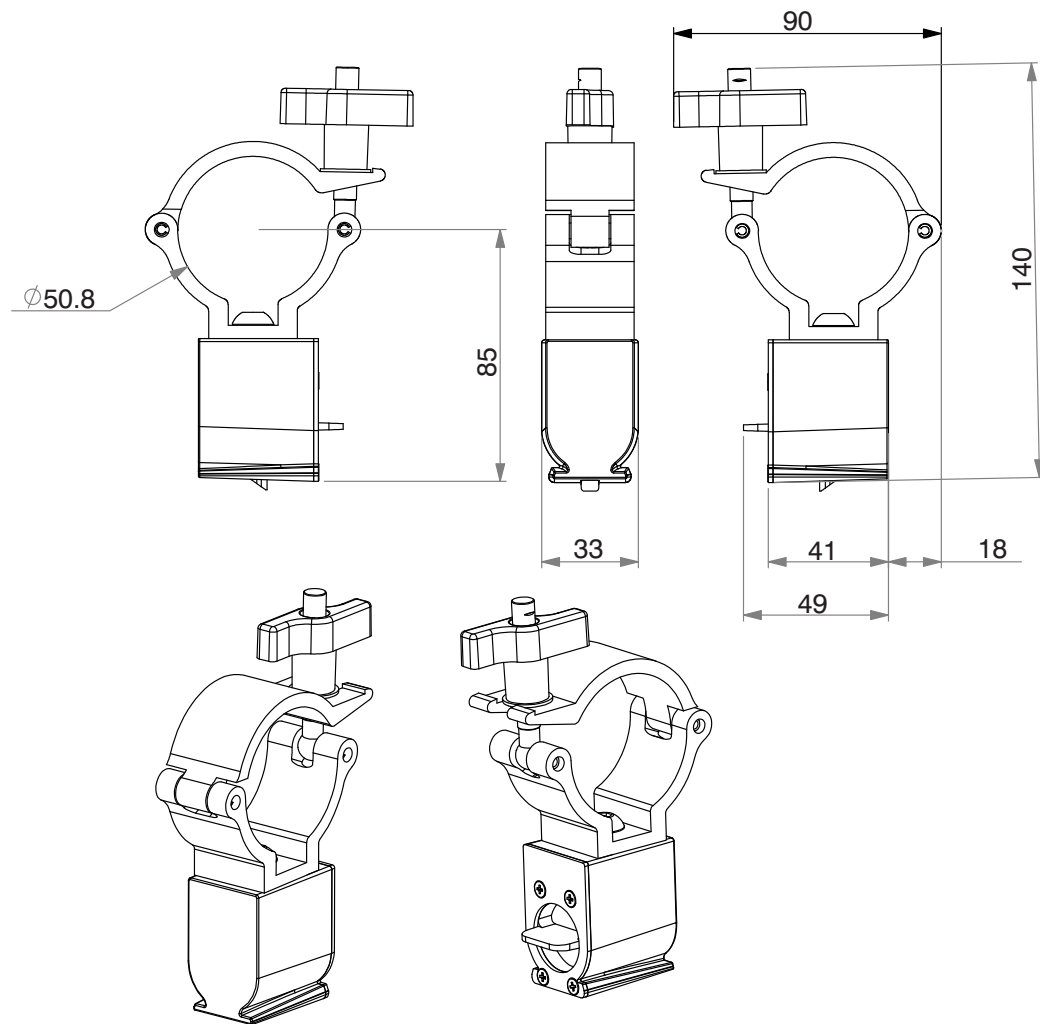
All dimensions are given in millimeters.

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41

33

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M8x1.25-6H⫟15.0

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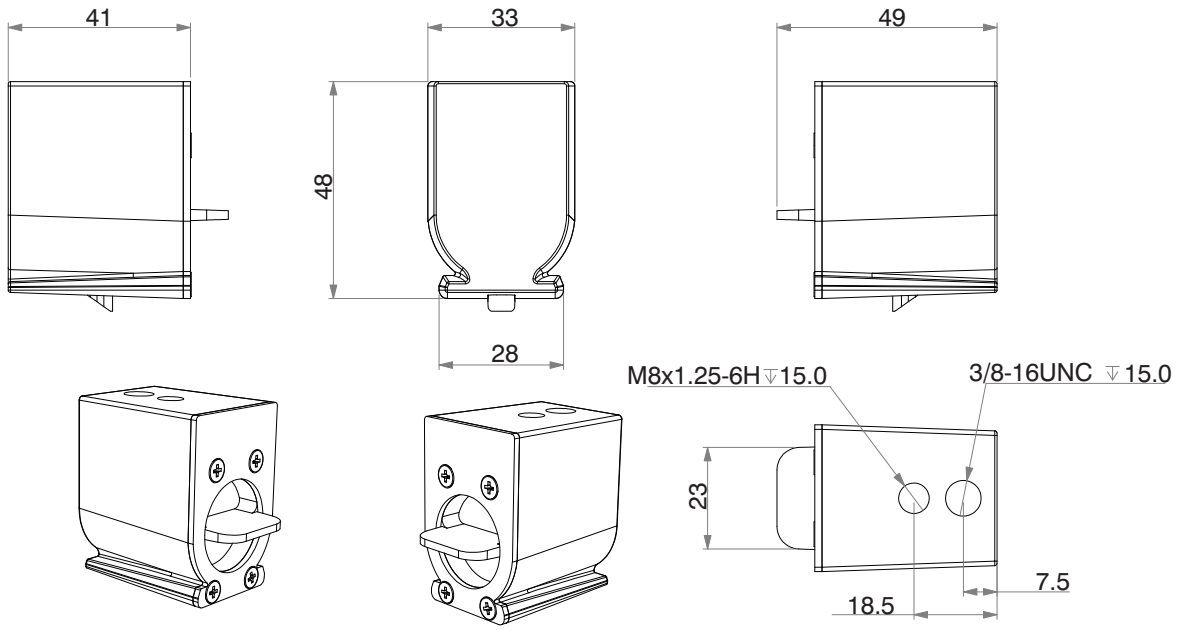
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44

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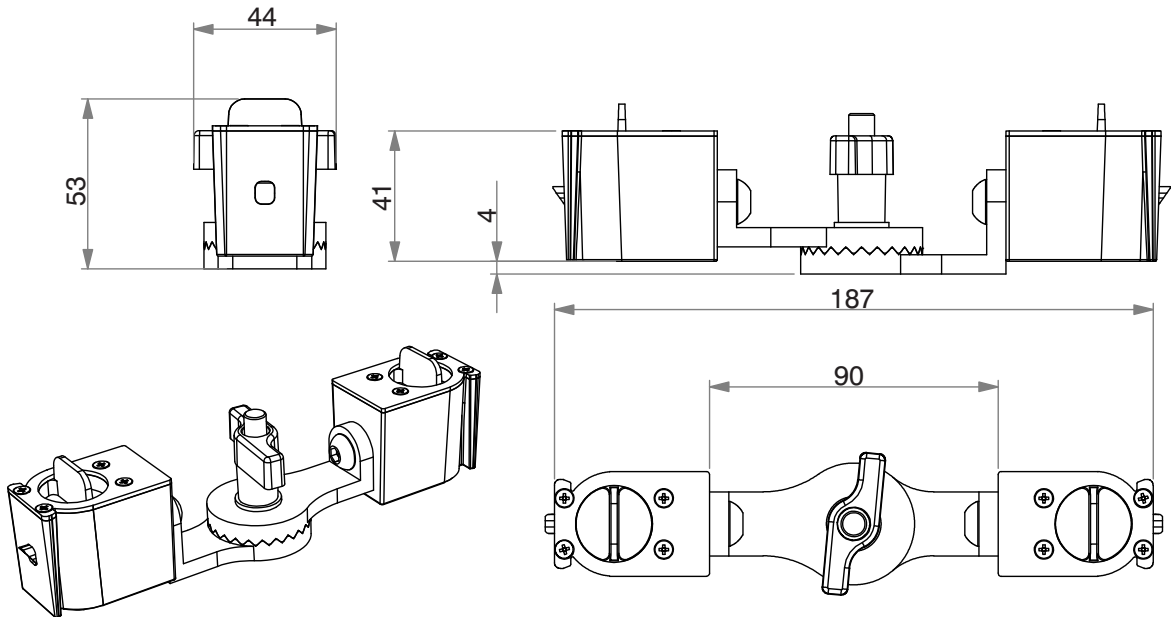
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587

273

Ø8.5

252

50

611

56

4x Ø8

2x Ø13.5

300
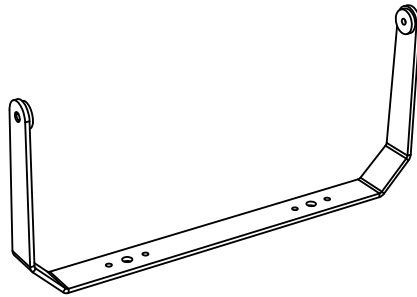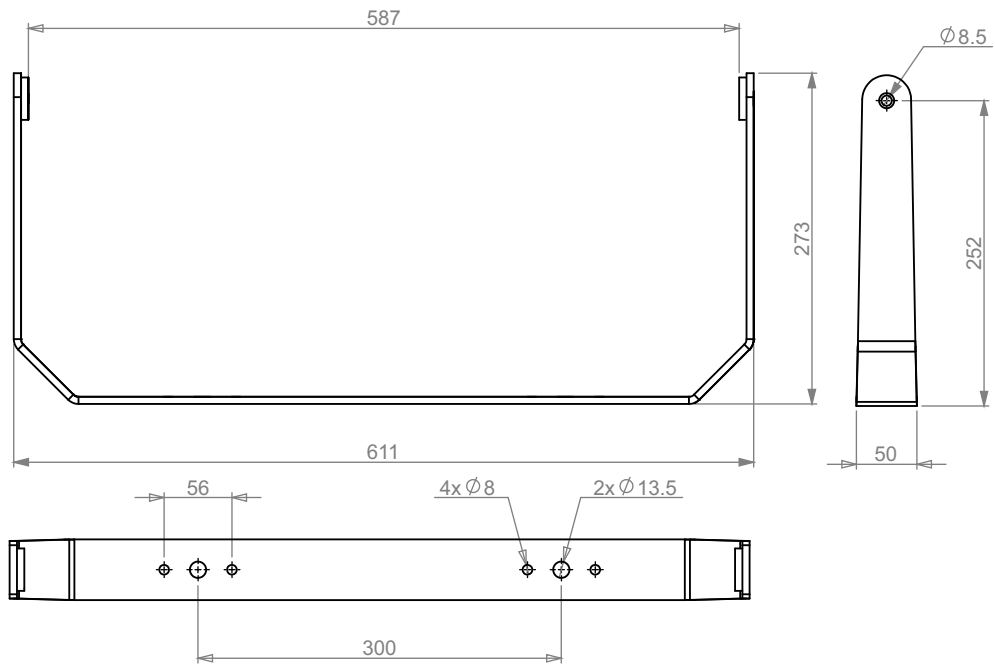
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36.9

M6

153.5

9

190

44.5
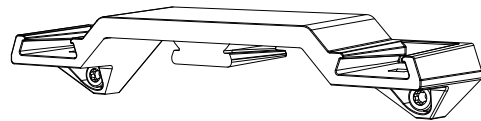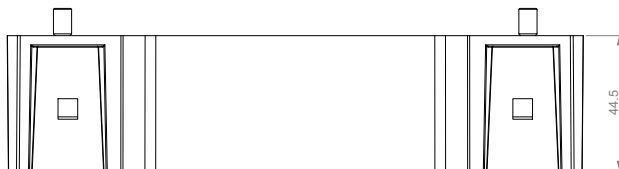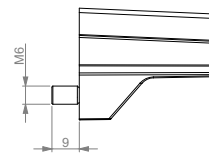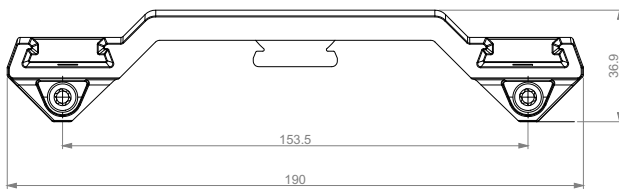
Spigot Adapter (for mounting on standard spigot accessories)

All dimensions are given in millimeters.

Safety information

WARNING!
Read the safety precautions in this manual before installing, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this manual:

Warning!	**Warning!**	**Warning!**	**Warning!**	**Warning!**	**Warning!**
Safety hazard. Risk of severe injury or death.	*Powerful light emission. Risk of eye injury.*	*See user manual for important safety information.*	*Hazardous voltage. Risk of lethal or severe electric shock.*	*Fire hazard.*	*Hot surfaces.*

Warning! Risk Group 2 product according to EN 62471 and IEC/TR 62778. Possibly hazardous radiation emitted from this product. May be harmful to the eyes. Do not stare at operating lamp and do not view the light output with optical instruments or any device that may concentrate the beam.

This lighting fixture is for professional use only and must be installed by a qualified technician. It is not for household use. It presents risks of severe injury or death due to fire hazards, electric shock and falls. It can create a fire hazard or a risk of eye injury if the safety precautions below are not followed.

Install, operate and service Martin® products only as directed in their user manuals, or you may create a safety hazard or cause damage that is not covered by product warranties. Follow the safety precautions listed below and observe all warnings in this manual and printed on the product. Keep this user manual for future use.

For the latest user documentation and other information about this and all Martin® products, please visit the Martin® website at http://www.martin.com

If you have any questions about how to install, operate or service the fixture safely, please contact your Martin® distributor (see www.martin.com/distributors for details) or in the USA on 1-844-776-4899.

Respect all locally applicable laws, codes and regulations when installing, operating or servicing the fixture.

Protection from electric shock

Ensure that the fixture is electrically connected to ground (earth).

Disconnect the fixture from AC power when not in use.

Do not open the fixture or remove any cover. Refer any service operation not described in this manual to an authorized Martin Service partner.

Shut down power to the entire installation at the main power distribution board and lock out power before carrying out any installation or maintenance work.

Use only a source of AC power that complies with local building and electrical

codes and has both overload and ground-fault (earth-fault) protection.

Isolate the fixture from power immediately if any seal, cover, cable, or other component is damaged, defective, deformed or showing signs of overheating. Do not reapply power until repairs have been completed

Before using the fixture, check that all power distribution equipment and cables are in perfect condition and are of suitable type for the location (including water, pollution, temperature and UV resistance).

Do not immerse the fixture in water or any other fluid, or install it in a location where flooding may occur.

The light source contained in this luminaire shall only be replaced by the manufacturer or their service agent or a similar qualified person.

When connecting multiple fixtures in a daisy chain, observe the safety limits in section "Safety limits for connecting devices" on page 24.

Protection from burns and fire

Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

The surface of the fixture can reach up to 55° C (131° F) if the fixture is operated at the maximum permitted ambient temperature. Allow the fixture to cool for at least 5 minutes before handling.

Install the fixture on a non-combustible surface (brick, concrete, plaster etc.) only.

Do not aim the fixture towards combustible materials (fabric, wood, paper etc.) that are within 50 cm (19 in.) of the fixture.

Keep the fixture well away from flammable materials (volatile liquids etc.).

Ensure that there is free and unobstructed airflow around the fixture.

Allow at least 0.1 m (4 in.) free space around the fixture.

Do not attempt to bypass thermostatic switches or fuses.

Do not modify the fixture in any way not described in this manual or install other than genuine Martin® parts. Do not stick filters, masks or other materials onto any lens or other optical component. Use only accessories approved by Martin® to modify the light beam.

Protection from eye injury

Warning! Risk Group 2 product according to EN 62471 and IEC/TR 62778.

Do not look directly into the product's light output.

Do not look at operating lamp. Eye injury may result.

Do not look at the light output with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light output.

Ensure that persons are not looking directly into the front of the fixture when the product lights up suddenly. This can happen when power is applied, when the product receives a DMX signal, or when certain control menu items are selected.

To minimize the risk of eye irritation or injury, disconnect the fixture from power at all times when the fixture is not in use and provide well-lit conditions to reduce the pupil diameter of anyone working on or near the fixture.

The VDO Atomic Bold fixture falls into the following risk groups according to EN 62471 and IEC/TR 62778 at the distances indicated below.

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        0.2 m              12.0 m
       (7.9 in.)          (39.2 ft.)              ∞
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| | DO NOT USE | RISK GROUP 2 | RISK GROUP 1 | |
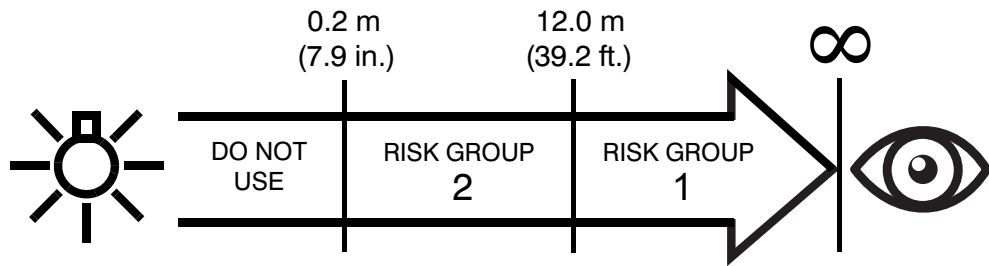
The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 12.0 m is not expected.

Protection from injury

Fasten the fixture securely to a fixed surface or structure when in use. The fixture is not portable when installed.

Ensure that all supporting structures, surfaces, fasteners and lifting equipment can bear the weight of all the devices they are intended to support plus an adequate safety margin, and that they conform to local building and safety regulations.

Ensure that any accessory such as gel frames, gobo holders are securely fastened.

Block access below the work area and work from a stable platform whenever installing, setting, adjusting, or cleaning the fixture.

Do not operate the fixture with missing or damaged covers, shields or any optical component.

If an operating problem occurs, stop using the fixture immediately and disconnect it from power. Do not attempt to use a fixture that is obviously damaged.

Introduction

Thank you for selecting the Martin VDO Atomic Bold product. This versatile product can be used for a wide variety of effects:

- Full color strobe fixture
- Full color blinder fixture
- Full color washlight
- Eye-candy effect featuring 72 pixels of Aura

The VDO Atomic Bold features a high power RGBW (Red/Green/Blue/White) LED which provides the main beam output, and an array of 72 RGB LEDs which provide the Aura effect.

As the fixture is fully IP65-rated, it is suitable for both indoor and temporary outdoor applications.

Multiple VDO Atomic Bold fixtures can be combined together into battens and arrays to create large visual effects, by using the integrated interconnecting mechanics. It is also possible to combine VDO Atomic Bold fixtures with VDO Atomic Dot fixtures in mixed arrays.

The VDO Atomic Bold is compatible with a large variety of lighting and video control protocols, allowing the fixture to be controlled in the most suitable way:

- DMX/RDM
- Art-Net
- sACN
- P3

Power and data is supplied to the fixture via a hybrid cable with hybrid connector that carries power, DMX and Ethernet. This allows many fixtures to be daisy-chained very easily, without requiring multiple cables between them.

The start of a daisy-chain is made at:

- A passive Junction Box that takes standard Power, DMX and Ethernet inputs and merges them into the PDE hybrid connector.
- An active Junction Box which features the same functionality as the passive Junction Box; plus Power, DMX and Ethernet thru connections to relay power and data to another junction box or fixture, including galvanic isolated interfaces to avoid ground loops on system level.
- A Break-In cable which provides the same functionality as the passive Junction Box, but in a more compact cable assembly.

Consult the PDE Junction Box User Manual for more information on these different PDE solutions.

The front of the VDO Atomic Bold features an industry-standard PAR64-sized holder, allowing installation of standard accessories such as diffusers, color filters and barndoors.

Before using the product for the first time

1. Read 'Safety information' on page 8 before installing, operating or servicing the fixture.
2. Unpack and ensure that there is no transportation damage before using the fixture. Do not attempt to operate a damaged fixture.
3. Before operating, ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
4. Obtain a Junction Box or Break-In Cable (see Accessories list on page 56).
5. Check the support pages on the Martin® website at www.martin.com for the most recent user documentation and technical information about the fixture. Martin® user manual revisions are identified by the revision letter at the bottom of the inside cover.

Fixture overview
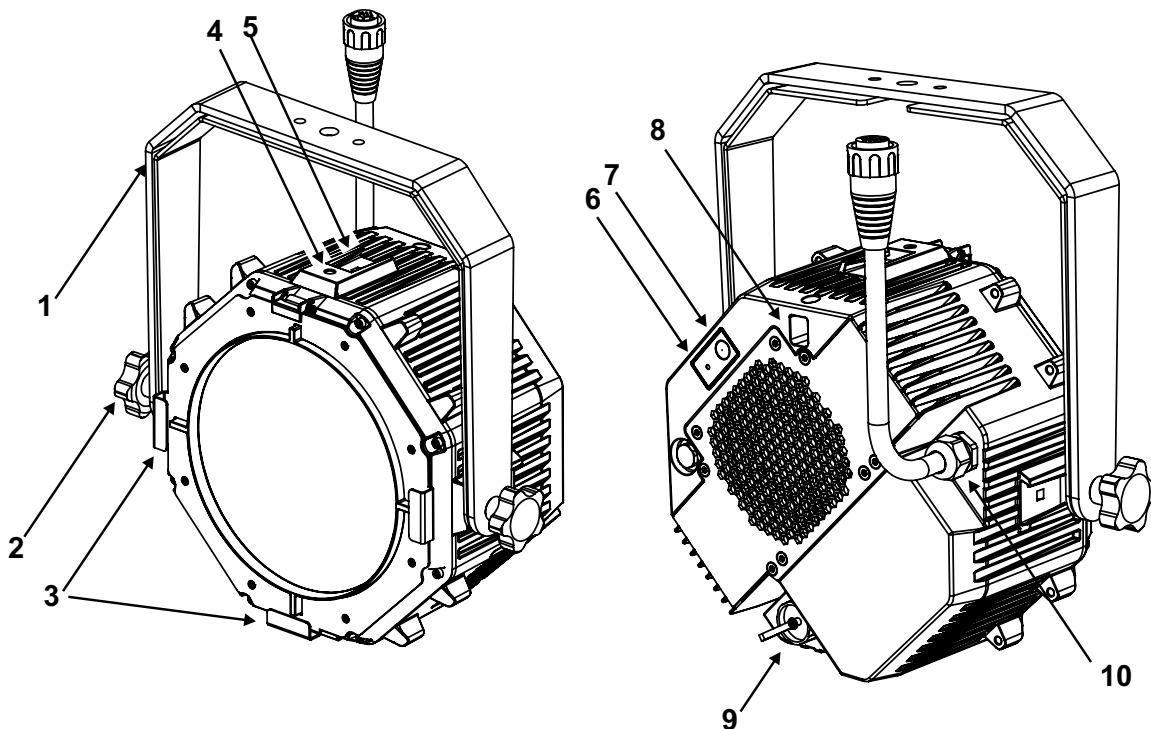
1 – Double bracket for hanging or floor standing (can be taken off)

2 – Bracket clamping knob

3 – PAR64 sized holder for diffuser or barndoors

4 – M8 holes for hanging bracket attachment, maximum bolt length 15 mm (4 holes, one on each side of fixture). May also be used for mounting fixture if standard interlock accessories are not suitable.

5 – Interlock slots for interlock accessories (4 slots, one on each side of fixture)

6 – Status LED

7 – Test / Reset button

8 – Safety cable attachment point

9 – Thru connector (chassis mount, with sealing cap)

10 – Input cable with connector

Physical installation

Warning! Read 'Safety information' on page 8 before installing the fixture.

Warning! The safety and suitability of lifting equipment, installation location, anchoring method, mounting hardware and electrical installation are the responsibility of the installer. All local safety regulations and legal requirements must be observed when installing and connecting the VDO Atomic Bold fixture. Installation must be carried out by qualified professionals only.

Contact your Martin supplier for assistance if you have any questions about how to install this product safely.

Fixture location

The VDO Atomic Bold Fixture is fully IP65 rated and may be used indoors or in a temporary outdoor location.

Observe the following limitations in selecting a location:
- Respect the limitations listed under Safety information' on page 8.
- Certified for damp locations in US/Canada.
- Do not locate the fixture in an unventilated space.

Ways of mounting the fixture

Warning! All fasteners used to mount VDO Atomic Bold fixtures or arrays of fixtures must be strong enough to hold the fixtures safely. Install a washer directly under the head of each fastener when anchoring the mounting bracket to the installation surface.

The fixture has a number of mounting options:
- Via the hanging bracket to a truss or surface
- Floor mount using the integrated floor mounting bracket
- A VDO Atomic Half Coupler may be attached directly to one of the interlock slots on the fixture (without the hanging bracket)
- Multiple fixtures may be interlocked together using the slide-in Interlock Coupler. A maximum of 4 fixtures may be interlocked in a column. When interlocking fixtures horizontally, a rigging clamp must be used for every fixture or every column to support the array.
- A Pivot Interlock Coupler is available which couples fixtures at any multiple of 15 degrees. This allows circles or other shapes of fixtures to be created.
- An Interlock Adaptor is available which attaches to one of the interlock slots enabling you to mount a single VDO Atomic Bold on a suitable stand with standard 5/8 in. or M8 thread.
- A Double Width Bracket is available to join 2 fixtures in a 2-lite which can then be attached to a truss or surface.
- A Spigot Adapter is available to attach a fixture to standard spigot-compatible accessories such as floorplates and stands.
- VDO Atomic Bold fixtures can also be combined with VDO Atomic Dot fixtures in a mixed array. In such case a VDO Atomic Bold Interlock Doubler is used to connect two VDO Atomic Dot fixtures above, below, left or right of a VDO Atomic Bold fixture.
- Safety bonds must be fitted to each fixture, even when fixtures are interlocked, using the safety bond attachment point on the rear.

⚠ **Warning!** The VDO Atomic Dot Half Coupler, Pivot Interlock Coupler, Interlock Adapter, Spigot Adapter and Hybrid Cable (Power+Data Cable Rental) are not suitable for permanent outdoor usage. Long term exposure to UV, water, humidity and pollution can affect the correct and safe functioning of these mechanisms and cable jackets.

Wind force precautions

Wind can create a risk of serious or lethal injury and damage due to falling fixtures. If fixtures are to be installed in a location where multiple fixtures can be exposed to wind force, take these precautions:

- Observe all locally applicable laws, regulations and codes regarding safety of structures and installations.
- Suspend fixtures from a structure that is capable of holding the fixtures securely without any safety risk when multiple fixtures are exposed to wind pressure.
- If a vertical column, array or shape consisting of multiple fixtures can be exposed to wind force, the arrangement must also be fastened to a secure and stable structure at lowest anchoring point using the half coupler, interlock adapter or a safety cable to secure the structure against any lateral movement.

Mounting the fixture on a truss using the integrated bracket

The fixture or array of fixtures can be clamped to a truss or similar rigging structure using the hanging bracket which allows adjustment of the fixture angle. Use a suitable rigging clamp such as a G-clamp or a half-coupler clamp fastened to the hanging bracket.
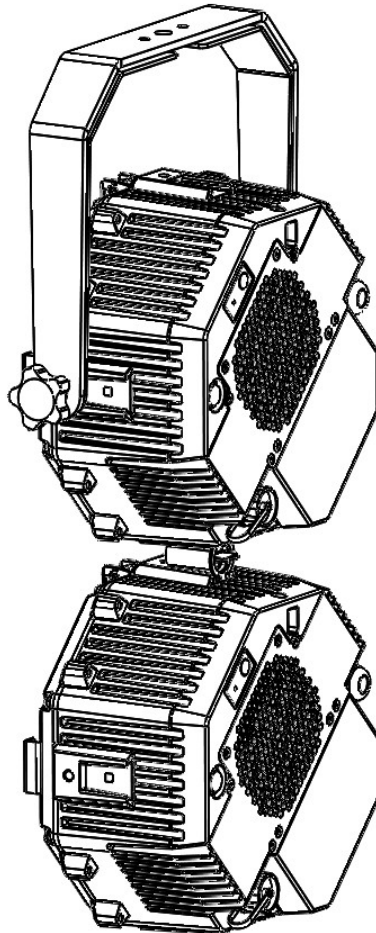
To clamp the fixture or array to a truss:

1. Check that the rigging structure can support at least 6 times the weight of all fixtures and equipment to be installed on it.
2. Block access under the work area.
3. Bolt a rigging clamp securely to the hanging bracket. The bolts used must be M12, grade 8.8 steel minimum, and fastened with a self-locking nut.
4. Working from a stable platform, mount the fixture on the truss and fasten the rigging clamp onto the truss.
5. Attach a safety bond to the fixture and loop around a fixed point.

Floor mounting the fixture using the integrated bracket
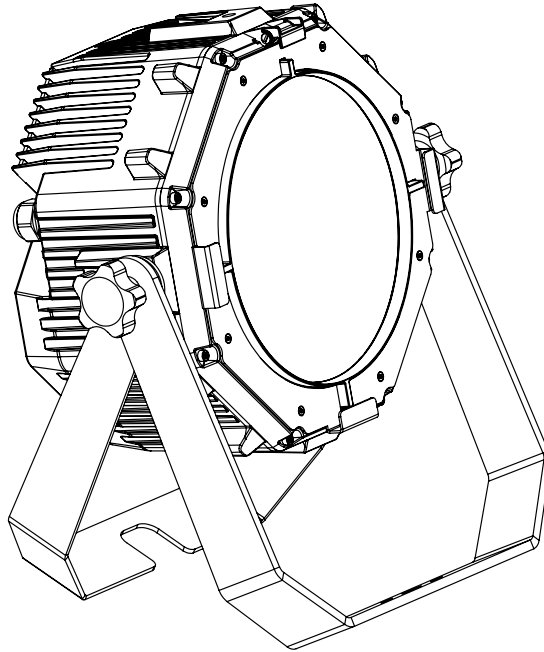
The fixture can be used on the floor using the integrated bracket:
1. Slacken the clamping bolts either side of the hanging bracket.
2. Separate the two parts of the bracket as shown in the picture above.
3. Set the fixture at a suitable angle and tighten the clamping bolts.

Mounting 2 fixtures on a truss using the double width hanging bracket
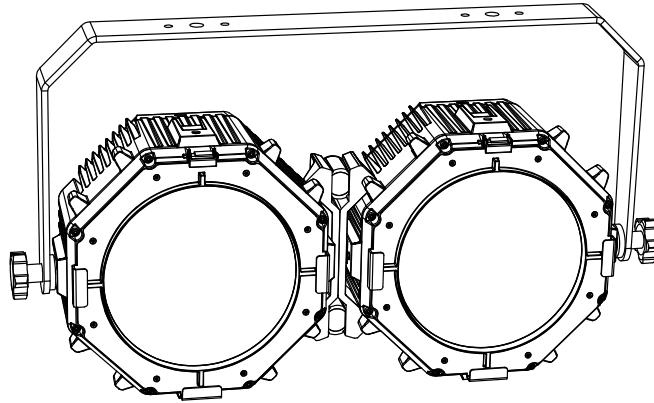
Two fixtures can be joined together using the double width bracket to create a 2-lite fixture. The double width bracket allows adjustment of the fixture angle when clamped to a truss or similar rigging structure. Use two suitable rigging clamps such as G-clamps or half-couplers fastened to the hanging bracket.

To create a 2-lite:

1. Attach two VDO Atomic Bold fixtures side-by-side using 2x VDO Atomic Bold Interlock Doubler (P/N MAR-91616122) and 2x VDO Atomic Coupler (P/N 91610003)..
2. Attach the double-width bracket to the joined fixtures using the supplied knobs.
3. Check that the rigging structure can support at least 6 times the weight of all fixtures and equipment to be installed on it.
4. Block access under the work area.
5. Bolt two rigging clamps securely to the double width hanging bracket. The bolts used must be M12, grade 8.8 steel minimum, and fastened with a self-locking nut.
6. Working from a stable platform, mount the fixture-assembly on the truss and fasten the rigging clamp onto the truss.
7. Attach a safety bond to both fixtures and loop around a fixed point.

Mounting the fixture on a truss using direct clamp

The VDO Atomic Half Coupler may be directly mounted to the fixture or array of fixtures using one of the interlock slots on any side.
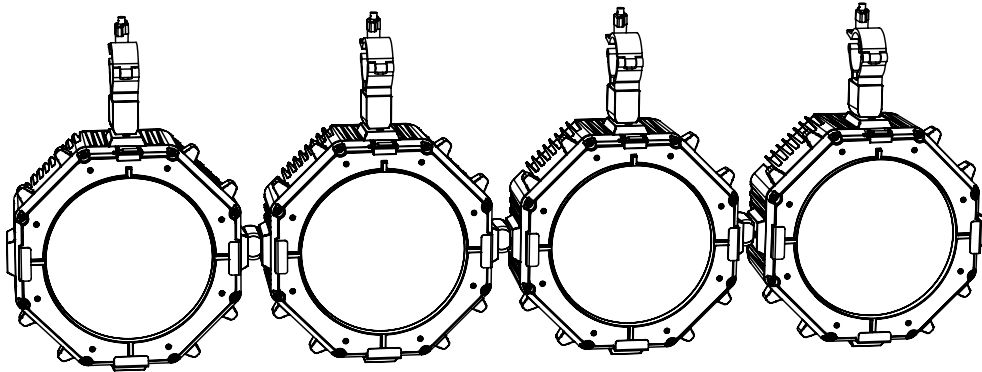
To rig using a directly attached clamp:

1. Check that the rigging structure can support at least 6 times the weight of all fixtures and equipment to be installed on it.
2. Block access under the work area.
3. Slide VDO Atomic Half Couplers into the fixture interlock slot on each fixture.
4. Working from a stable platform, lift the fixture(s) to the truss and fasten the half coupler clamps onto the truss.
5. Attach a safety bond to the fixture and loop around a fixed point. Each fixture must have an individual safety bond even when interlocked into an array.

Interlocking multiple fixtures

Multiple fixtures may be interlocked on any side using the slide-in interlock coupler to form arrays of any shape. You can also make arrays by combining the smaller VDO Atomic Dot fixture – one or two Atomic Dot fixtures can be attached to each side of the Atomic Bold fixture (see next section for details of the double attachment).

To install the Interlock Coupler, locate two fixtures side by side and slide in the coupler (1) from the rear. The coupler has two retention clips which lock into each fixture. Ensure the release key (2) is oriented as shown so that the clips are secured in place.
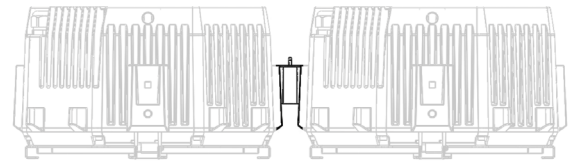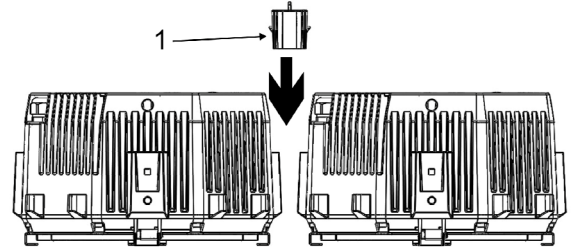
Note:

- A maximum of 4 VDO Atomic Bold fixtures may be interlocked in a column.
- When interlocking fixtures horizontally, a rigging clamp must be used on every fixture to support the array.
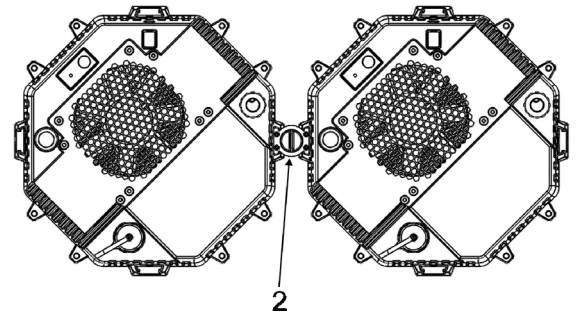
When fixtures are interlocked, the spacing is 300mm.
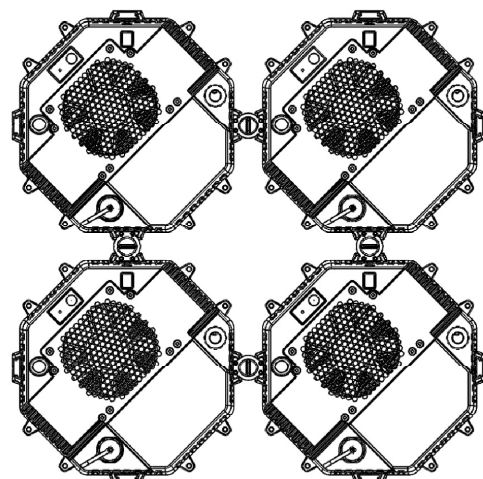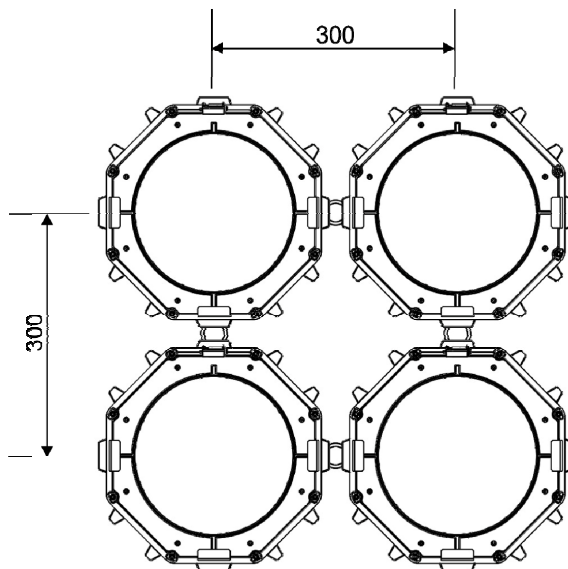
To remove the coupler, twist the release key to retract the clips. The coupler can then be slid out towards the rear of the fixtures.
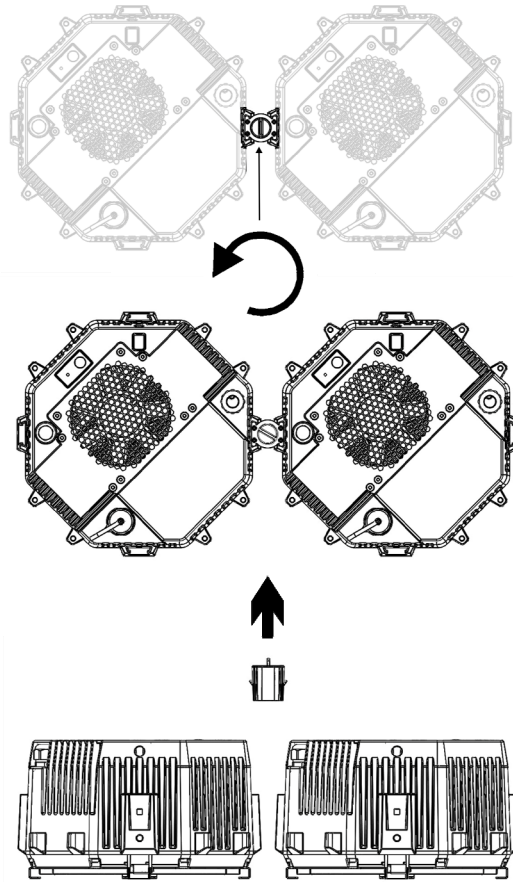
The Pivot Coupler, Half Coupler, Interlock Adapter and Spigot Adapter use the same locking mechanism.

Interlocking with double VDO Atomic Dot fixtures

Using the VDO Atomic Bold Interlock Doubler adaptor, you can attach two VDO Atomic Dot fixtures to each side of the VDO Atomic Bold fixture, giving different possibilities for fixture arrays.

Notes when creating a mixed array:

- Every vertical column needs to have its own support at the top. It is not allowed to "side-hang" fixtures, with the exception of a single column of VDO Atomic Dots (as described in the VDO Atomic Dot user manual).
- Vertical column height is limited to 4x VDO Atomic Bold, in which a cluster of 4x VDO Atomic Dots counts as 1x VDO Atomic Dot.
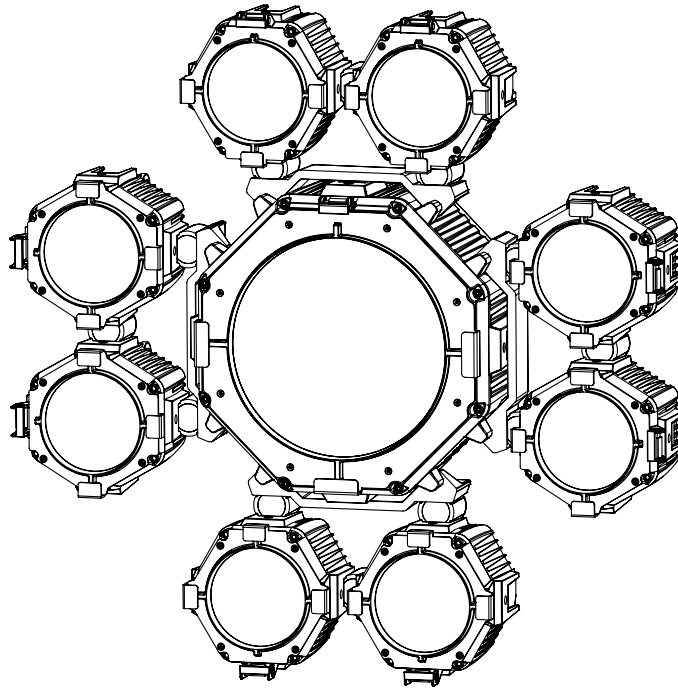
On each side of the VDO Atomic Bold fixture, slide the Interlock Doubler into the mounting slot from the rear of the fixture. Tighten the two captive screws in the Interlock Doubler which lock it onto the fixture.

Attach an Interlock Coupler into each of the two mounting slots on the Interlock Doubler assembly.
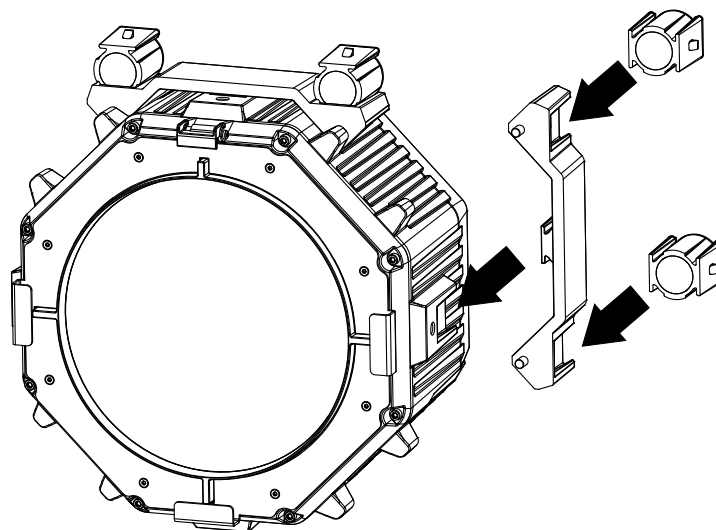
Then slide the VDO Atomic Dot fixtures onto the other side of the Interlock Couplers.
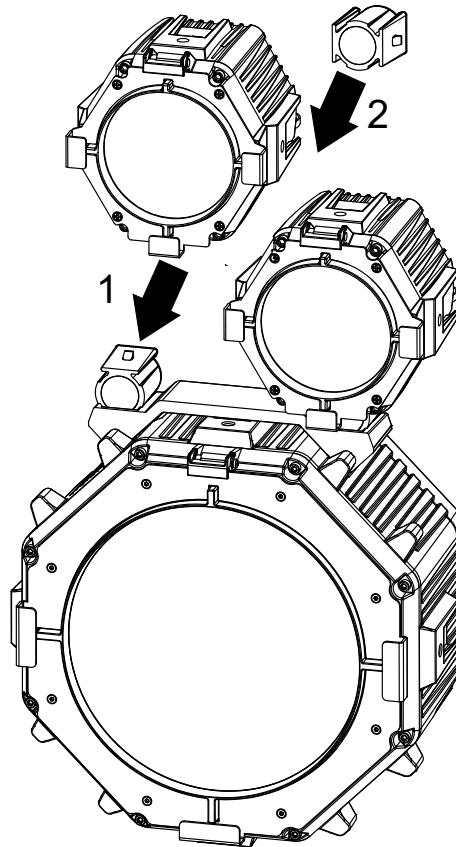
Once the two Atomic Dot fixtures are mounted to the Interlock Doubler, slide in an additional Interlock Coupler (2) to the channels between the two Dot fixtures to lock them together.

Because an array of four VDO Atomic Dot fixtures is the same size as a single VDO Atomic Bold fixture, a variety of different arrangements are possible.
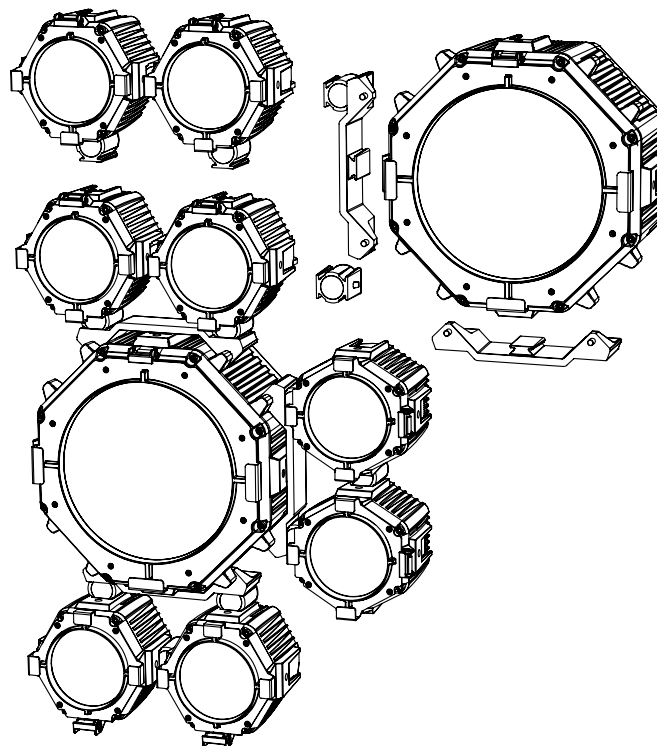
Safety bonds

To protect against the fixtures falling if the main rigging point fails, you should fit a safety bond to the attachment point on the back of each fixture.

If fixtures are linked together into a larger array, you should still attach a safety bond to each fixture since a failure of a coupler could cause parts of the assembly to fall. However to make rigging easier you can attach the top one round a fixed point, then loop the lower safety bonds into each other as shown in the picture.
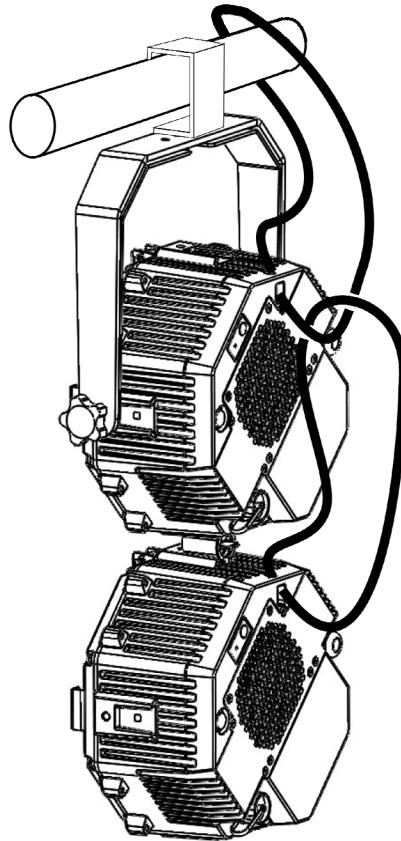
AC power and data connection

Warning! Read 'Safety information' on page 8 before installing the fixture.

For protection from electric shock, the power input to the Junction Box or Break-In cable must be grounded (earthed). The power distribution circuit must be equipped with a 16 A (EU) / 20 A (US) fuse or circuit breaker and ground-fault (earth-fault) protection.

AC power and control data are connected to the Junction Box or Break-In Cable. VDO Atomic Bold fixtures may then be connected in a daisy chain to each Junction Box or Break-In cable using a hybrid PDE cable which carries both power and data – maximum of 9 fixtures when powered at a nominal voltage of 240Vac, maximum of 5 fixtures when powered at a nominal voltage of 120Vac.

Safety limits for connecting devices

As the fixtures are connected in a chain, there is a limit to how many fixtures you can link together and how far apart they can be.

- Maximum number of fixtures connected in a chain: 9 fixtures when powered at a nominal voltage of 240Vac, 5 fixtures when powered at a nominal voltage of 120Vac.
- When DMX is being used as control protocol, the total length of DMX cable and Hybrid PDE cable combined must not exceed 300 m (measured between lighting console, DMX node or DMX splitter and last fixture on the chain).
- When Art-Net, sACN or P3 is being used as control protocol, the combined length of Ethernet cable (between network switch and junction box) and hybrid PDE cable to first fixture must not exceed 90 m. The length of hybrid PDE cable between any two daisy-chained fixtures may also not exceed 90 m.
- Install the sealing cap on the thru connector of the last fixture in the chain.

AC power connection to Junction Box or Break-In cable

Do not use an external dimming system to supply power to the Junction Box or Break-In cable and fixtures, as this may cause damage to the fixtures that is not covered by the product warranty.

Socket outlets or external power switches used to supply the system with power must be located near the system and easily accessible so that the system can easily be disconnected from power.

If you install a power plug on the power cable, install a grounding type (earthed) plug with integral cable grip that is suitable for your local mains voltage at a current of 16A. Follow the plug manufacturer's instructions and connect the wires in the power cable as shown in this table:

	Live or L	Neutral or N	Earth, Ground or ⏚
US system	Black	White	Green
EU system	Brown	Blue	Yellow/green

If you need to install a Neutrik powerCON TRUE1 connector on a power cable, follow the instructions on the Neutrik website at www.neutrik.com.

The fixture has an auto-ranging power supply that accepts AC mains power at 100-240 V at 50/60 Hz. Do not apply AC mains power at any other voltage or frequency to the fixture.

Data connection to Junction Box or Break-In Cable

The VDO Atomic Bold fixtures may be controlled by DMX512, Art-Net, sACN, or Martin P3 protocol. The data connection is made to the junction box/break-in cable and then linked to the fixtures via the PDE connections.

Using DMX512

In a DMX-controlled system, an RDM-compliant DMX lighting controller sends a DMX control data signal over a DMX link to the junction boxes/break-in cables of the system, and then over the hybrid link to the VDO Atomic Bold fixtures.

A DMX pass – through connector is only provided on the Active Junction Box. When using a Passive Junction Box or BreakIn Cable, and you need to connect multiple chains to the same DMX line, you must use an RDM-compliant splitter as described below (and shown in the diagram below). This example shows the passive PDE junction box being used.
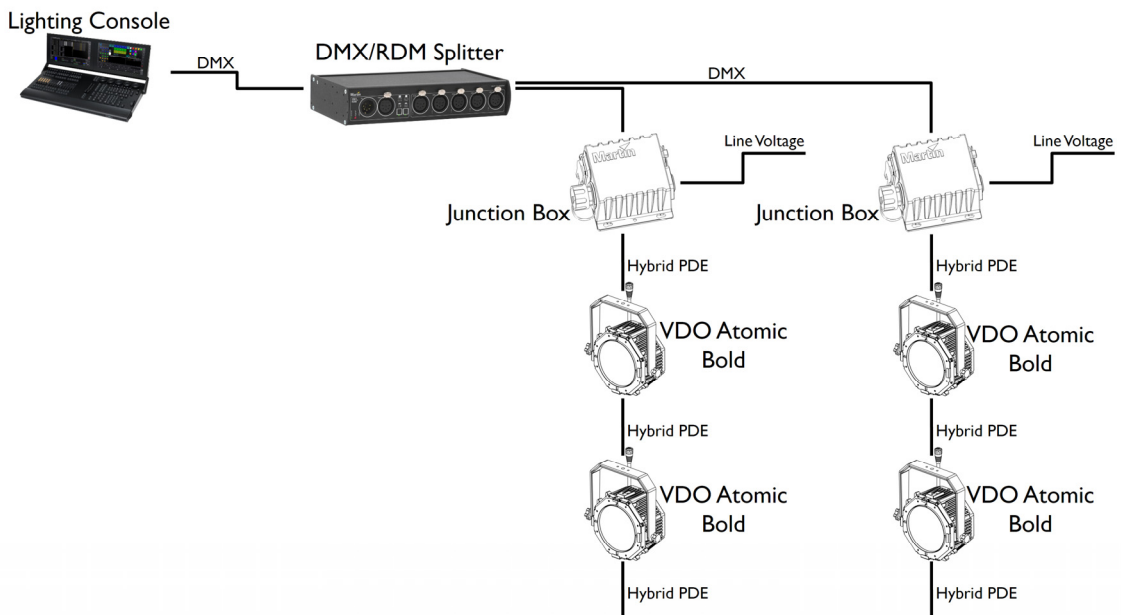
The DMX link requires DMX cable. It can be maximum 300 m (1000 ft.) in length and must run in one single daisy-chain, but it can be extended or split into branches using an RDM-compliant amplifier/splitter. Alternatively, you can run the DMX signal from the controller over Ethernet cable using Art-Net protocol and convert it to a DMX-compliant signal with an Art-Net to DMX converter.

For reliable DMX and RDM data transfer, it is recommended to terminate each branch with a termination plug – this contains a 120 ohm resistor between the cold and hot DMX data lines (pins 2 and 3 on XLR5, pins 4 and 7 on PDE connector). This means that both an unused DMX through port on an Active Junction Box as well as the female PDE connector of the last fixture on a chain needs to be fitted with such a termination plug.

The total length of DMX cable and Hybrid PDE cable combined must not exceed 300 m (measured between lighting console, DMX node or DMX splitter and last fixture on the chain).

If you would like assistance with creating a DMX link, your Martin® supplier will be glad to advise.

The number of VDO Atomic Bolds that you can control on one DMX link is limited by the number of DMX channels the fixtures will use and the 512 DMX channels available in one DMX universe at the DMX controller. Each time you have used 512 channels, you must create a new DMX link that is connected to a new DMX universe on the controller. Note that this limit applies to the *DMX link*. The maximum safety limits that apply to the chain of dots and cable (see "Safety limits for connecting devices" on page 24) take priority and must be respected in all cases.

DMX512 data is connected to the junction box / break-in cable using the XLR5 connector. The pin-out is:

- pin 1 = shield
- pin 2 = cold (-)
- pin 3 = hot (+).

Pins 4 and 5 in the XLR connectors are not used.

Using Art-Net or sACN

Art-Net or sACN data is connected to the system using the etherCON socket on the Junction Box or Break-In Cable. Each Junction Box/Break-In cable must have its own Ethernet connection from a network switch, unless you are using an Active PDE Junction Box, which has an Ethernet thru port, allowing you to daisy chain multiple Active Junction Boxes in an Ethernet chain.

- Please ensure that network switch can operate at 100Mbit Ethernet link speed towards the junction boxes, as the VDO Atomic Bold can only operate at that link speed.
- The combined length of Ethernet cable (between network switch and junction box) and hybrid PDE cable to first fixture must not exceed 90 m. The length of hybrid PDE cable between any two daisy-chained fixtures may also not exceed 90 m.
- A shielded Ethernet cable must be used between the Network Switch and the Junction Box / Break-In Cable. Use shielded twisted-pair Ethernet cable of type S/UTP, SF/UTP, S/STP or SF/STP only. The cable must be rated Cat 5e or better. The cable shield must be electrically connected to connector housings, and the other devices on the data link must also support shielded connections.

This example shows the passive PDE junction box being used.
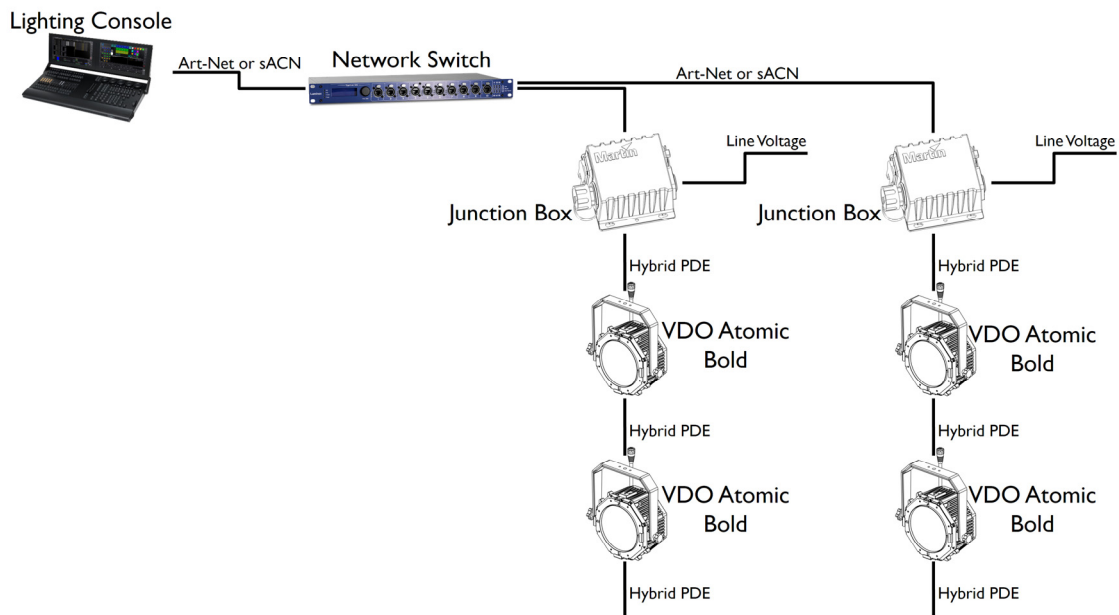
- **Caution:** To avoid ground loops and damage of equipment, make sure the Ethernet is galvanically isolated when linked between equipment of different potentials or power sources.

Martin VDO Atomic Bold user guide

Using P3

The Martin P3 System Controller combines control information from the lighting console with video information from a media server. This is distributed to the fixtures using a network switch. Each Junction Box must have its own Ethernet connection from the network switch, unless you are using an Active PDE Junction Box, which has an Ethernet thru port, allowing you to daisy chain multiple Active Junction Boxes in an Ethernet chain.

- Please ensure that network switch can operate at 100Mbit Ethernet link speed towards junction boxes, as the VDO Atomic Bold can only operate at that link speed.
- Please ensure that network switch can operate at 1Gbit Ethernet link speed towards the P3 System Controller, as it can only operate at that link speed.
- The combined length of Ethernet cable (between network switch and junction box) and hybrid PDE cable to first fixture must not exceed 90 m. The length of hybrid PDE cable between any two daisy-chained fixtures may also not exceed 90 m.
- A shielded Ethernet cable must be used between the Network Switch and the Junction Box / Break-In Cable. Use shielded twisted-pair Ethernet cable of type S/UTP, SF/UTP, S/STP or SF/STP only. The cable must be rated Cat 5e or better. The cable shield must be electrically connected to connector housings, and the other devices on the data link must also support shielded connections.
- Other P3-compatible fixtures such as the MAC Aura PXL and P3 PowerPort 1500 can be connected to the same network switch to operate all together from the same P3 System Controller.

The example below shows a system using a passive PDE junction box.
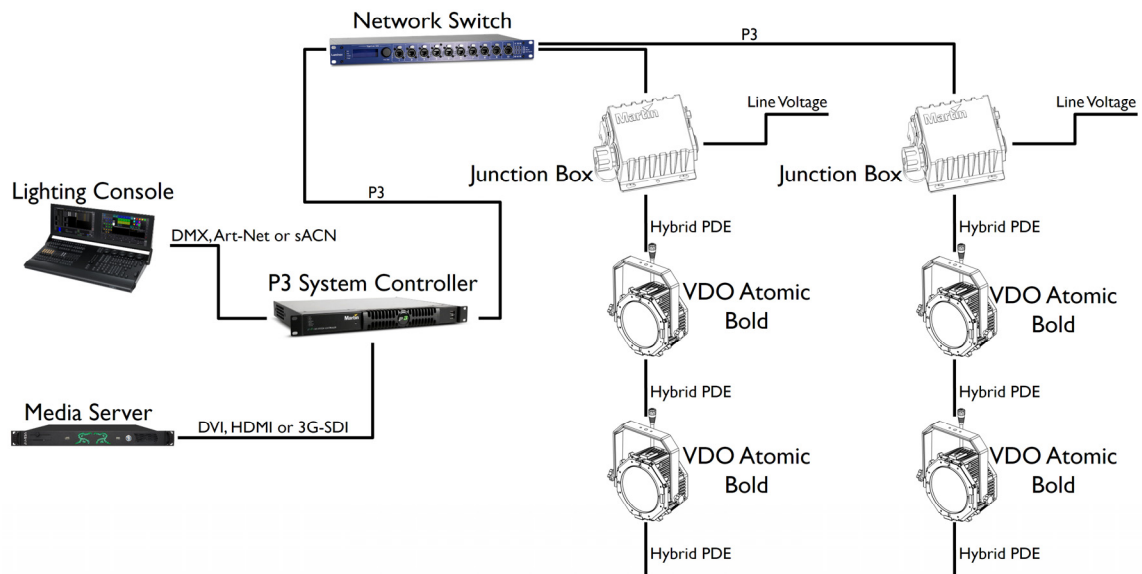
Caution: To avoid ground loops and damage of equipment, make sure the Ethernet is galvanically isolated when linked between equipment of different potentials or power sources.

PDE connections between fixtures

The VDO Atomic Bold fixtures are linked to each other and the Junction Box/Break-In cable using a PDE connection which carries both power and data.

- To make the connection, align the pins of the connectors and push together. The connector will lock automatically.
- To remove the connection, twist the locking ring counter-clockwise to unlock and then pull apart.

System Setup

All setup options for the VDO Atomic Bold are configured over the data link.

If you are using a Martin P3 system to control the fixture, please refer to the P3 System Controller user manual and instruction videos.

For DMX, Art-Net and sACN the fixture is configured using RDM.

It is also possible to configure the VDO Atomic Bold fixtures using a P3 System Controller (or P3-PC) to set DMX start addresses, DMX modes, DMX universes and other parameters. Once the fixtures are configured you can then run the fixtures directly using DMX, Art-Net or sACN without using the P3 System Controller.

Setting options by RDM

The VDO Atomic Bold fixture is remotely configured over the DMX line using RDM.

A full list of the RDM functions that the VDO Atomic Bold fixture supports is given at the end of this chapter. These functions are generally referred to using the more specific term 'PIDs' or 'Parameter IDs'.

Scanning for RDM devices on the data link

Before you can communicate with fixtures using RDM, you must send a scan command (also called a device discovery command) to all the devices on the data link so that the RDM controller can identify them. It does this by retrieving each device's factory-set unique identifier (UID). This process can take some time depending on the number of devices on the link.

To identify the fixtures on the link:

1. Check that the fixtures are correctly connected to the RDM controller on the data link and that power is applied to all fixtures.
2. Give the controller time to identify the devices on the link and prepare for communication with the devices.

Getting status and setting options by RDM

The status and options listed in the table below can be read and set by RDM.

You can set an option on one fixture by sending a unicast RDM command to that one fixture only, or you can set the same option on all the fixtures on the data link by sending a broadcast RDM command to all the devices on the link.

For status reading, you can only use unicast RDM to read information from an individual fixture.

RDM

As a minimum, the VDO Atomic Bold fixtures support the following RDM functions:

RDM DISCOVERY
DISC_UNIQUE_BRANCH
DISC_MUTE
DISC_UN_MUTE

STATUS COLLECTION	GET	SET
QUEUED_MESSAGE	✓	
STATUS_MESSAGES	✓	
STATUS_ID_DESCRIPTION	✓	
CLEAR_STATUS_ID		✓

RDM INFORMATION	GET	SET
SUPPORTED_PARAMETERS	✓	
PARAMETER_DESCRIPTION	✓	

PRODUCT INFORMATION	GET	SET
DEVICE_INFO	✓	
DEVICE_MODEL_DESCRIPTION	✓	
MANUFACTURER_LABEL	✓	
DEVICE_LABEL	✓	✓
FACTORY_DEFAULTS	✓	✓
SOFTWARE_VERSION_LABEL	✓	

DMX SETUP	GET	SET
DMX_PERSONALITY	✓	✓
DMX_PERSONALITY_DESCRIPTION	✓	
DMX_START_ADDRESS	✓	✓
SLOT_DESCRIPTION	✓	

SENSORS	GET	SET
SENSOR_DEFINITION	✓	
SENSOR_VALUE	✓	✓

USAGE INFORMATION	GET	SET
DEVICE_HOURS	✓	
DEVICE_POWER_CYCLES	✓	

CONTROL	GET	SET
IDENTIFY_DEVICE	✓	✓
RESET_DEVICE		✓
PERFORM_SELFTEST	✓	✓
SELF_TEST_DESCRIPTION	✓	

NETWORK CONFIGURATION	GET	SET
LIST_INTERFACES	✓	
INTERFACE_LABEL	✓	
INTERFACE_HARDWARE_ADDRESS_TYPE1	✓	
IPV4_DHCP_MODE	✓	
IPV4_CURRENT_ADDRESS	✓	
IPV4_STATIC_ADDRESS	✓	✓
INTERFACE_APPLY_CONFIGURATION		✓

MARTIN CUSTOM	GET	SET
DMX_RESET	✓	✓
FIXTURE_ID	✓	✓
COLOR_MODE	✓	✓
DIMMER_CURVE	✓	✓
VIDEO_TRACKING	✓	✓
STROBE_BEHAVIOR	✓	✓
FAN_CLEAN	✓	✓
FAN_MODE	✓	✓
SERIAL_NUMBER	✓	

Using the VDO Atomic Bold

Warning! Read 'Safety information' on page 8 before applying power to the VDO Atomic Bold.

Do not use the VDO Atomic Bold if the ambient temperature exceeds 40° C (104° F) or falls below 0° C (32° F).

Thermal regulation

The VDO Atomic Bold uses a fan to control its temperature. But depending on the selected fan mode and ambient temperature, it will also dim down its main LED to prevent overheating. In most cases the fixture will dim down (to 50%) after about 10 seconds of full white, but this can be earlier if a silent fan mode is selected or ambient temperature is high.

Video display using P3

The VDO Atomic Bold can display video from all common video sources. The video signal must be sent to a Martin® P3 controller and then distributed to fixtures. The P3 controller lets you map, configure and control an installation containing VDO Atomic Bolds (and other Martin® P3 enabled fixtures if you have them).

Once the VDO Atomic Bold fixtures are mapped and addressed on the P3 System Controller, it is possible to map video onto them, while still having control from the lighting desk. At any given moment the output from the fixture can be controlled by video content, DMX channels, internal effect macros or a mix.

See the P3 controller documentation for details.

DMX control

The VDO Atomic Bold can display effects controlled by DMX (either using the 5-pin XLR, via Art-Net / sACN or via DMX sent through the P3 System Controller).

Six DMX modes are available:

- **1 channel mode**: uses a single DMX channel and operates the fixture as a white "blinder" with automatic tungsten fade effect
- **3 channel mode:** gives strobe functionality of intensity / duration / rate, same as Atomic 3000 DMX/LED (no backlight functions)
- **4 channel mode:** As 3 channel mode but with an additional effects channel, same as Atomic 3000 DMX/LED (no backlight functions)
- **Compact mode:** uses 10 DMX channels and offers 16-bit dimmer and 8-bit RGB color mixing for Beam and Aura separately.
- **Basic mode:** uses 27 DMX channels and gives RGB color mixing of beam & aura, strobe effects and pre-programmed dynamic effects. P3 video data can also be superimposed or mixed under DMX control.
- **Extended mode:** uses 243 DMX channels to add to Basic mode by allowing individual control of the 72 LEDs in the backlight/aura. P3 video data can also be superimposed or mixed under DMX control.

See "DMX protocols" on page 35 for full details of DMX control.

An RDM-compatible DMX controller or P3 System Controller is required so that you can address and configure the fixtures. See the DMX/RDM controller documentation for details.

Status LED

The only user controls on the VDO Atomic Bold are a status LED and a pushbutton. The function of these is described below.

LED indication	Meaning
Blue Constant	Busy (e.g. booting up or writing to flash memory)
Red Constant	Error. The fixture has encountered a fatal error and cannot run.
Red Flashing	No control source detected (no protocols detected on DMX or Ethernet).
Green Flashing	Ready. P3 packets detected, but fixture not in joined state.
Green Constant	Running normally in P3 mode (P3 joined).
Cyan Flashing	Ready. Fixture in DMX mode but not receiving valid DMX data.
Cyan Constant	Running normally in DMX mode.
Yellow Constant	Overtemperature.
Magenta Flashing	Ready. Fixture in Art-Net or sACN mode but not receiving valid DMX data.
Magenta Constant	Running normally in Art-Net or sACN mode.

Pushbutton functions

The pushbutton can be used to activate internal test patterns within the fixture, perform a fixture reboot or perform a factory reset of the fixture (just like other Martin LED Video fixtures).

If the pushbutton is given a short press, the first internal test pattern is activated. If the pushbutton is then given another short press, the next internal test pattern is activated. This way the user can "step" through the different internal test patterns.

Press once: Full Red test pattern

Press again: Full Green test pattern

Press again: Full Blue test pattern

Press again: Full White test pattern

Press again: White Beam test pattern

Press again: Dynamic test pattern

Press again: Test patterns stopped, fixture returns to normal operation

If the button is pressed, and kept held in for 5 seconds, the Status LED will turn blue. If the user then releases the button, the fixture will perform a normal reboot.

If the button is pressed, and kept held in for 8 seconds, the Status LED will turn white. If the user then releases the button, the fixture will perform a factory reset (return to factory default/backup firmware image).

Maintenance

Read Safety information on page 6 before maintaining the fixture. Always comply with the safety instructions.

Refer any service operation not described in this user manual to a qualified service technician.

Excessive dust, smoke fluid, and particle buildup degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.

Disconnect mains power before cleaning or servicing the fixture.

Fixtures must be serviced in an area where there is no risk of anyone being injured by failing parts, tools or other materials.

Installing optical accessories

Installing one of the optical accessories available from Martin® for the VDO Atomic Bold takes a few seconds. No tools are required.
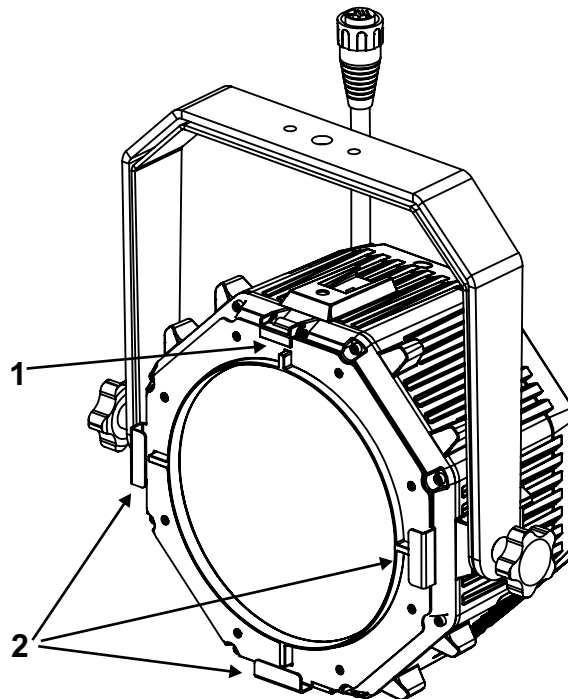
To install an optical accessory:

1. Slide and lift up the hinged retaining clip (1) on the top of the VDO Atomic Bold and hold it back.
2. Slide the optical accessory into the PAR64-sized holders (2) on the front of the fixture, ensuring that the accessory is correctly located on all sides.
3. Gently release the retaining clip and ensure it locks the accessory in position.

When using the Martin VDO Atomic Bold Diffuser, make sure that you insert it with the matt side towards the fixture.

Cleaning

Cleaning schedules vary depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the VDO Atomic Bold. Environmental factors that may result in a need for frequent cleaning include airborne dust and pollution.

Inspect products frequently to see whether cleaning is necessary. If in doubt, consult your Martin® dealer about a suitable maintenance schedule.

To clean the product, use warm water and a soft brush or a low-pressure or medium-pressure water jet. Use car shampoo to help remove dirt and grease. If possible, dry with a soft cloth to avoid streaking. Do not use a stiff brush or scouring pad. Do not use solvents or abrasives.

When cleaning, pay extra attention to the fan on the back of the fixture and the cooling fins underneath the fan, as dust and dirt may build up in this area and will significantly reduce the cooling capacity of the fixture.

LED performance

Martin® use the best components available, but the characteristics of all LEDs change gradually over many thousands of hours of use. Not all colors change at the same rate, and rates of change vary depending on factors such as temperature and how intensively a particular color is used. Because of the changes, overall light output and the exact hues obtained from specific color mixes in all LED-based products can be expected to shift slightly over time.

To help you obtain consistent output despite these changes, Martin® P3 software from version 4.1.0 contains the P3 Fixture Adjuster tool. This feature lets you compensate for changes in LED characteristics and restore initial output and color authenticity levels. Please contact Martin® for more details.

Installing new software

It may be necessary to upload new software (i.e. device firmware) to the VDO Atomic Bold if it appears to have a software-related fault or if you want to update to a newer software version. Software for Martin® products is available via the Martin Companion application, which can be downloaded free of charge from the Martin® website.

The VDO Atomic Bold software can be installed from the P3 System Controller over the P3 data link. See the P3 System Controller user manual for software installation instructions.

Alternatively software may be installed over the DMX data link using the Martin Companion cable and Martin Companion application.

DMX protocol

The VDO Atomic Bold has six possible DMX modes

DMX Mode	DMX channels	Functions
1 channel	1	Single channel "blinder" with automatic tungsten effect
3 channel	3	As Atomic 3000 DMX/LED (no backlight)
4 channel	4	As Atomic 3000 DMX/LED (no backlight)
Compact	10	Control over intensity and color of main beam and aura separately
Basic	27	Including Aura backlight control and P3 mix control
Extended	243	As Basic mode, but including individual control over 72 Aura backlight pixels

- While in Basic mode the DMX control of the Aura backlight does not offer individual pixel control, the pixels can still be driven individually using the P3 System Controller pixels.

DMX mode 1 channel

Channel	Value	Function	Fade Status	Default Value
1		**Dimmer**	Fade	0
	0 - 255	Close → Open		

Notes:
- Fixture will automatically reduce intensity to control temperature when running at high power for too long
- Main Beam and Aura will mix 2700K white at full intensity and emulate tungsten effect when dimming down

DMX mode 3 channel

Channel	Value	Function	Fade Status	Default Value
1		**Beam Flash Intensity**	Fade	0
	0	Blackout		
	1 - 255	Minimum → Maximum Intensity		
2		**Beam Flash Duration**	Fade	0
	0 - 255	7 → 650 ms		
3		**Beam Flash Rate**	Fade	0
	0 - 255	0.289 → 16.67 Hz		

Notes:
- Fixture will automatically reduce intensity to control temperature when running at high power for too long
- Main beam will mix 5700K white to mimic Martin Atomic 3000
- Aura Backlight is not used in this mode
- As Atomic 3000 DMX/LED 3-Channel Mode

DMX mode 4 channel

Channel	Value	Function	Fade Status	Default Value
1		**Beam Flash Intensity**	Fade	0
	0	Blackout		
	1 - 255	Minimum → Maximum Intensity		
2		**Beam Flash Duration**	Fade	0
	0 - 255	7 → 650 ms		
3		**Beam Flash Rate**	Fade	0
	0 - 255	0.289 → 16.67 Hz		
4		**Beam Special Effects**	Snap	0
	0 - 5	No Effect		
	6 - 42	Ramp Up		
	43 - 85	Ramp Down		
	86 - 128	Ramp Up, Down		
	129 - 171	Random		
	172 - 214	Lightning		
	215 - 255	Spikes (flash over low light)		

Notes:

- Fixture will automatically reduce intensity to control temperature when running at high power for too long
- Main beam will mix 5700K white to mimic Martin Atomic 3000
- Aura Backlight is not used in this mode
- As Atomic 3000 DMX/LED 4-Channel Mode

DMX mode Compact

Channel	Value	Function	Fade Status	Default Value
1 - 2		**Beam Dimmer**	Fade	0
	0 - 65535	Close → Open		
3		**Beam Red**	Fade	255
	0 - 255	0 → 100%		
4		**Beam Green**	Fade	255
	0 - 255	0 → 100%		
5		**Beam Blue**	Fade	255
	0 - 255	0 → 100%		
6 - 7		**Aura Dimmer**	Fade	0
	0 - 65535	Close → Open		
8		**Aura Red**	Fade	255
	0 - 255	0 → 100%		
9		**Aura Green**	Fade	255
	0 - 255	0 → 100%		
10		**Aura Blue**	Fade	255
	0 - 255	0 → 100%		

- Fixture will automatically reduce intensity to control temperature when running at high power for too long
- Main Beam will mix 6500K white when RGB set to full
- Aura will mix 6500K white when RGB set to full

DMX mode Basic

Channel	Value	Function	Fade Status	Default Value
1 - 2		**Beam Flash Intensity**	Fade	0
	0	Blackout		
	1 - 65535	Minimum → Maximum Intensity		
3		**Beam Flash Duration**	Fade	0
	0 - 255	7 → 650 ms		
4		**Beam Flash Rate**	Fade	0
	0 - 255	0.289 → 16.67 Hz		
5		**Beam Special Effects**	Snap	0
	0 - 5	No Effect		
	6 - 42	Ramp Up		
	43 - 85	Ramp Down		
	86 - 128	Ramp Up, Down		
	129 - 171	Random		
	172 - 214	Lightning		
	215 - 255	Spikes (flash over low light)		
6 – 7		**Beam Red**	Fade	65535
	0 - 65535	0 → 100%		
8 – 9		**Beam Green**	Fade	65535
	0 – 65535	0 → 100%		
10 – 11		**Beam Blue**	Fade	65535
	0 - 65535	0 → 100%		
12		**Beam CTC**	Fade	0
	0 – 10	Disabled (Still controllable from P3 System Controller, when used)		
	11-191	2000K to 11000K in 50K steps (11=2000K, 101=6500K, 191=11000K)		
	192-255	11000K		
13		**Beam Color Presets**	Snap	0
	0 - 10	None, mix color via RGB		
	11	Color 1 - LEE 790 - Moroccan pink		
	13	Color 2 - LEE 157 - Pink		
	15	Color 3 - LEE 332 - Special rose pink		
	17	Color 4 - LEE 328 - Follies pink		
	19	Color 5 - LEE 345 - Fuchsia pink		
	21	Color 6 - LEE 194 - Surprise pink		
	23	Color 7 - LEE 181 - Congo Blue		
	25	Color 8 - LEE 071 - Tokyo Blue		

Channel	Value	Function	Fade Status	Default Value
	27	Color 9 - LEE 120 - Deep Blue		
	29	Color 10 - LEE 079 - Just Blue		
	31	Color 11 - LEE 132 - Medium Blue		
	33	Color 12 - LEE 200 - Double CT Blue		
	35	Color 13 - LEE 161 - Slate Blue		
	37	Color 14 - LEE 201 - Full CT Blue		
	39	Color 15 - LEE 202 - Half CT Blue		
	41	Color 16 - LEE 117 - Steel Blue		
	43	Color 17 - LEE 353 - Lighter Blue		
	45	Color 18 - LEE 118 - Light Blue		
	47	Color 19 - LEE 116 - Medium Blue Green		
	49	Color 20 - LEE 124 - Dark Green		
	51	Color 21 - LEE 139 - Primary Green		
	53	Color 22 - LEE 089 - Moss Green		
	55	Color 23 - LEE 122 - Fern Green		
	57	Color 24 - LEE 738 - JAS Green		
	59	Color 25 - LEE 088 - Lime Green		
	61	Color 26 - LEE 100 - Spring Yellow		
	63	Color 27 - LEE 104 - Deep Amber		
	65	Color 28 - LEE 179 - Chrome Orange		
	67	Color 29 - LEE 105 - Orange		
	69	Color 30 - LEE 021 - Gold Amber		
	71	Color 31 - LEE 778 - Millennium Gold		
	73	Color 32 - LEE 135 - Deep Golden Amber		
	75	Color 33 - LEE 164 - Flame Red		
	77	Color 34 - LEE 113 - Magenta		
	79	Color 35 - LEE 343 - Medium Lavender		
	81	Color 36 - Pure White		
	83	Color 37 - Pure Red		
	85	Color 38 - Pure Yellow		
	87	Color 39 - Pure Green		
	89	Color 40 - Pure Cyan		
	91	Color 41 - Pure Blue		
	93	Color 42 - Pure Magenta		
	95	Color 43 - LEE 115 - Peacock Blue		
	97	Color 44 - LEE 180 - Dark Lavender		
	99	Color 45 - LEE 287 - Double CT Orange		
	101	Color 46 - LEE 204 - Full CT Orange		
	103	Color 47 - LEE 205 - Half CT Orange		
	105	Color 48 - LEE 015 - Deep Straw		
	107 - 190	No Function		
	191 - 214	Color Wheel Rotation Fast → Slow		
	215 - 219	Color Wheel Rotation Stop (stick to last color)		

Channel	Value	Function	Fade Status	Default Value
	220 - 243	Color Wheel Rotation Inverse Slow → Fast		
	244 - 247	Random Colors Fast		
	248 - 251	Random Colors Medium		
	252 - 255	Random Colors Slow		
14		**Beam P3 Mix**	Snap	0
	0 - 26	DMX-Mode Color of beam LED is fully controlled by channel 6-11 (P3 pixel data ignored)		
	27 - 228	Mix-Mode Color of beam LED is defined by mix of: - Channel 6-11 - P3 pixel data (range 27 to 228 performs cross-fade between the two)		
	229 - 255	Video-Mode Color and brightness of beam LED is driven by P3 pixels, but Beam Red/Green/Blue channels 6-11 keep ability to "color" the video.		
15		**Control / Settings**	Snap	0
	0 - 9	No Function		
	10 - 14	Reset Entire Fixture - 5 sec		
	15 - 22	No Function		
	23	Linear Dimming Curve - 1 sec (default)		
	24	Square Law Dimming Curve - 1 sec		
	25	Inverse Square Law Dimming Curve - 1 sec		
	26	S-Curve Dimming Curve - 1 sec		
	27 - 35	No Function		
	36	Enable Video Tracking (always active in P3 mode)		
	37	Disable Video Tracking (default)		
	38	Beam Extended Color Mode (default)		
	39	Beam Calibrated Color Mode		
	40 - 53	No Function		
	54	Regulated fan speed, fixed light output intensity (default)		
	55	Full fan speed, regulated light output intensity		
	56	Medium fan speed, regulated light output intensity		
	57	Low fan speed, regulated light output intensity		
	58	Ultra-low fan speed, regulated light output intensity		
	59	Beam Behavior = LED (default)		
	60	Beam Behavior = Xenon		
	61 - 255	No Function		
16		**FX Select**	Snap	0
	0	No FX		

Channel	Value	Function	Fade Status	Default Value
	1-255	FX Selection (see table)		
17		**FX Speed / Modifier (depending on effect)**	Fade	128
	0 – 126	Rev Fast → Slow		
	127 – 128	Stop		
	129 – 255	Slow → Fast		
18		**FX Synchronization**	Snap	36
	0	No Sync		
	1	Fixture Offset 10 Degree		
	2	Fixture Offset 20 Degree		
	3-34	Fixture Offset…		
	35	Fixture Offset 350 Degree		
	36	Synchronized		
	37-100	No Function		
	101 – 120	Random Start		
	121 - 140	Random Duration		
	141 - 255	No Function		
19		**Aura Strobe/Shutter Effect**	Snap	30
	0-19	Shutter closed (intensity 0%)		
	20 - 49	No Strobe		
	50 - 200	Strobe, Slow → Fast		
	201 - 210	No Strobe		
	211 - 255	Random Strobe, Slow → Fast		
20 - 21		**Aura Dimmer**	Fade	0
	0 - 65535	Close → Open		
22		**Aura Red (all pixels)**	Fade	255
	0 - 255	0 → 100%		
23		**Aura Green (all pixels)**	Fade	255
	0 – 255	0 → 100%		
24		**Aura Blue (all pixels)**	Fade	255
	0 - 255	0 → 100%		
25		**Aura CTC**	Fade	0
	0 – 10	Disabled (Still controllable from P3 System Controller, when used)		
	11-191	2000K to 11000K in 50K steps (11=2000K, 101=6500K, 191=11000K)		
	192-255	11000K		
26		**Aura Color Presets**	Snap	0
	0 - 10	None, mix color via RGB		
	11	Color 1 - LEE 790 - Moroccan pink		
	13	Color 2 - LEE 157 - Pink		
	15	Color 3 - LEE 332 - Special rose pink		
	17	Color 4 - LEE 328 - Follies pink		
	19	Color 5 - LEE 345 - Fuchsia pink		
	21	Color 6 - LEE 194 - Surprise pink		
	23	Color 7 - LEE 181 - Congo Blue		
	25	Color 8 - LEE 071 - Tokyo Blue		

Channel	Value	Function	Fade Status	Default Value
	27	Color 9 - LEE 120 - Deep Blue		
	29	Color 10 - LEE 079 - Just Blue		
	31	Color 11 - LEE 132 - Medium Blue		
	33	Color 12 - LEE 200 - Double CT Blue		
	35	Color 13 - LEE 161 - Slate Blue		
	37	Color 14 - LEE 201 - Full CT Blue		
	39	Color 15 - LEE 202 - Half CT Blue		
	41	Color 16 - LEE 117 - Steel Blue		
	43	Color 17 - LEE 353 - Lighter Blue		
	45	Color 18 - LEE 118 - Light Blue		
	47	Color 19 - LEE 116 - Medium Blue Green		
	49	Color 20 - LEE 124 - Dark Green		
	51	Color 21 - LEE 139 - Primary Green		
	53	Color 22 - LEE 089 - Moss Green		
	55	Color 23 - LEE 122 - Fern Green		
	57	Color 24 - LEE 738 - JAS Green		
	59	Color 25 - LEE 088 - Lime Green		
	61	Color 26 - LEE 100 - Spring Yellow		
	63	Color 27 - LEE 104 - Deep Amber		
	65	Color 28 - LEE 179 - Chrome Orange		
	67	Color 29 - LEE 105 - Orange		
	69	Color 30 - LEE 021 - Gold Amber		
	71	Color 31 - LEE 778 - Millennium Gold		
	73	Color 32 - LEE 135 - Deep Golden Amber		
	75	Color 33 - LEE 164 - Flame Red		
	77	Color 34 - LEE 113 - Magenta		
	79	Color 35 - LEE 343 - Medium Lavender		
	81	Color 36 - Pure White		
	83	Color 37 - Pure Red		
	85	Color 38 - Pure Yellow		
	87	Color 39 - Pure Green		
	89	Color 40 - Pure Cyan		
	91	Color 41 - Pure Blue		
	93	Color 42 - Pure Magenta		
	95	Color 43 - LEE 115 - Peacock Blue		
	97	Color 44 - LEE 180 - Dark Lavender		
	99	Color 45 - LEE 287 - Double CT Orange		
	101	Color 46 - LEE 204 - Full CT Orange		
	103	Color 47 - LEE 205 - Half CT Orange		
	105	Color 48 - LEE 015 - Deep Straw		
	107 - 190	No Function		
	191 - 214	Color Wheel Rotation Fast → Slow		
	215 - 219	Color Wheel Rotation Stop (stick to last color)		

Channel	Value	Function	Fade Status	Default Value
	220 - 243	Color Wheel Rotation Inverse Slow → Fast		
	244 - 247	Random Colors Fast		
	248 - 251	Random Colors Medium		
	252 - 255	Random Colors Slow		
27		**Aura P3 Mix**	Snap	0
	0 - 26	DMX-Mode Color of Aura LEDs is fully controlled by channel 22-24 (Aura Red, Green & Blue) (P3 pixel data is ignored)		
	27 - 228	Mix-Mode Color of Aura LEDs is defined by mix of: - Channel 22-24 (Aura Red, Green & Blue) - P3 pixel data (range 27 to 228 performs cross-fade between the two)		
	229 - 255	Video-Mode Color and brightness of Aura LED is driven by P3 pixels, but Aura Red/Green/Blue channels 22-24 keep ability to "color" the video.		

Notes:

- Fixture will automatically reduce intensity to control temperature when running at high power for too long

DMX mode Extended

Channel	Value	Function	Fade Status	Default Value
1 - 2		**Beam Flash Intensity**	Fade	0
	0	Blackout		
	1 - 65535	Minimum → Maximum Intensity		
3		**Beam Flash Duration**	Fade	0
	0 - 255	7 → 650 ms		
4		**Beam Flash Rate**	Fade	0
	0 - 255	0.289 → 16.67 Hz		
5		**Beam Special Effects**	Snap	0
	0 - 5	No Effect		
	6 - 42	Ramp Up		
	43 - 85	Ramp Down		
	86 - 128	Ramp Up, Down		
	129 - 171	Random		
	172 - 214	Lightning		
	215 - 255	Spikes (flash over low light)		
6 – 7		**Beam Red**	Fade	65535
	0 - 65535	0 → 100%		
8 – 9		**Beam Green**	Fade	65535
	0 – 65535	0 → 100%		
10 – 11		**Beam Blue**	Fade	65535

Channel	Value	Function	Fade Status	Default Value
	0 - 65535	0 → 100%		
12		**Beam CTC**	Fade	0
	0 – 10	Disabled (Still controllable from P3 System Controller, when used)		
	11-191	2000K to 11000K in 50K steps (11=2000K, 101=6500K, 191=11000K)		
	192-255	11000K		
13		**Beam Color Presets**	Snap	0
	0 - 10	None, mix color via RGB		
	11	Color 1 - LEE 790 - Moroccan pink		
	13	Color 2 - LEE 157 - Pink		
	15	Color 3 - LEE 332 - Special rose pink		
	17	Color 4 - LEE 328 - Follies pink		
	19	Color 5 - LEE 345 - Fuchsia pink		
	21	Color 6 - LEE 194 - Surprise pink		
	23	Color 7 - LEE 181 - Congo Blue		
	25	Color 8 - LEE 071 - Tokyo Blue		
	27	Color 9 - LEE 120 - Deep Blue		
	29	Color 10 - LEE 079 - Just Blue		
	31	Color 11 - LEE 132 - Medium Blue		
	33	Color 12 - LEE 200 - Double CT Blue		
	35	Color 13 - LEE 161 - Slate Blue		
	37	Color 14 - LEE 201 - Full CT Blue		
	39	Color 15 - LEE 202 - Half CT Blue		
	41	Color 16 - LEE 117 - Steel Blue		
	43	Color 17 - LEE 353 - Lighter Blue		
	45	Color 18 - LEE 118 - Light Blue		
	47	Color 19 - LEE 116 - Medium Blue Green		
	49	Color 20 - LEE 124 - Dark Green		
	51	Color 21 - LEE 139 - Primary Green		
	53	Color 22 - LEE 089 - Moss Green		
	55	Color 23 - LEE 122 - Fern Green		
	57	Color 24 - LEE 738 - JAS Green		
	59	Color 25 - LEE 088 - Lime Green		
	61	Color 26 - LEE 100 - Spring Yellow		
	63	Color 27 - LEE 104 - Deep Amber		
	65	Color 28 - LEE 179 - Chrome Orange		
	67	Color 29 - LEE 105 - Orange		
	69	Color 30 - LEE 021 - Gold Amber		
	71	Color 31 - LEE 778 - Millennium Gold		
	73	Color 32 - LEE 135 - Deep Golden Amber		
	75	Color 33 - LEE 164 - Flame Red		
	77	Color 34 - LEE 113 - Magenta		
	79	Color 35 - LEE 343 - Medium Lavender		

Channel	Value	Function	Fade Status	Default Value
	81	Color 36 - Pure White		
	83	Color 37 - Pure Red		
	85	Color 38 - Pure Yellow		
	87	Color 39 - Pure Green		
	89	Color 40 - Pure Cyan		
	91	Color 41 - Pure Blue		
	93	Color 42 - Pure Magenta		
	95	Color 43 - LEE 115 - Peacock Blue		
	97	Color 44 - LEE 180 - Dark Lavender		
	99	Color 45 - LEE 287 - Double CT Orange		
	101	Color 46 - LEE 204 - Full CT Orange		
	103	Color 47 - LEE 205 - Half CT Orange		
	105	Color 48 - LEE 015 - Deep Straw		
	107 - 190	No Function		
	191 - 214	Color Wheel Rotation Fast → Slow		
	215 - 219	Color Wheel Rotation Stop (stick to last color)		
	220 - 243	Color Wheel Rotation Inverse Slow → Fast		
	244 - 247	Random Colors Fast		
	248 - 251	Random Colors Medium		
	252 - 255	Random Colors Slow		
14		**Beam P3 Mix**	Snap	0
	0 - 26	DMX-Mode Color of beam LED is fully controlled by channel 6-11 (P3 pixel data ignored)		
	27 - 228	Mix-Mode Color of beam LED is defined by mix of: - Channel 6-11 - P3 pixel data (range 27 to 228 performs cross-fade between the two)		
	229 - 255	Video-Mode Color and brightness of beam LED is driven by P3 pixels, but beam Red/Green/Blue channels 6-11 keep ability to "color" the video.		
15		**Control / Settings**	Snap	0
	0 - 9	No Function		
	10 - 14	Reset Entire Fixture - 5 sec		
	15 - 22	No Function		
	23	Linear Dimming Curve - 1 sec (default)		
	24	Square Law Dimming Curve - 1 sec		
	25	Inverse Square Law Dimming Curve - 1 sec		
	26	S-Curve Dimming Curve - 1 sec		
	27 - 35	No Function		

Channel	Value	Function	Fade Status	Default Value
	36	Enable Video Tracking (always active in P3 mode)		
	37	Disable Video Tracking (default)		
	38	Beam Extended Color Mode (default)		
	39	Beam Calibrated Color Mode		
	40 - 53	No Function		
	54	Regulated fan speed, fixed light output intensity (default)		
	55	Full fan speed, regulated light output intensity		
	56	Medium fan speed, regulated light output intensity		
	57	Low fan speed, regulated light output intensity		
	58	Ultra-low fan speed, regulated light output intensity		
	59	Beam Behavior = LED (default)		
	60	Beam Behavior = Xenon		
	61 - 255	No Function		
16		**FX Select**	Snap	0
	0	No FX		
	1-255	FX Selection (see table)		
17		**FX Speed / Modifier (depending on effect)**	Fade	128
	0 – 126	Rev Fast → Slow		
	127 – 128	Stop		
	129 – 255	Slow → Fast		
18		**FX Synchronization**	Snap	0
	0	No Sync		
	1	Fixture Offset 10 Degree		
	2	Fixture Offset 20 Degree		
	3-34	Fixture Offset…		
	35	Fixture Offset 350 Degree		
	36	Synchronized		
	37-100	No Function		
	101 – 120	Random Start		
	121 - 140	Random Duration		
	141 - 255	No Function		
19		**Aura Strobe/Shutter Effect**	Snap	30
	0-19	Shutter closed (intensity 0%)		
	20 - 49	No Strobe		
	50 - 200	Strobe, Slow → Fast		
	201 - 210	No Strobe		
	211 - 255	Random Strobe, Slow → Fast		
20 - 21		**Aura Dimmer**	Fade	0
	0 - 65535	Close → Open		
22		**Aura Red (all pixels) – see note 1**	Fade	255
	0 - 255	0 → 100%		

Channel	Value	Function	Fade Status	Default Value
23		**Aura Green (all pixels) – see note 1**	Fade	255
	0 – 255	0 → 100%		
24		**Aura Blue (all pixels) – see note 1**	Fade	255
	0 - 255	0 → 100%		
25		**Aura CTC – see note 1**	Fade	0
	0 – 10	Disabled (Still controllable from P3 System Controller, when used)		
	11-191	2000K to 11000K in 50K steps (11=2000K, 101=6500K, 191=11000K)		
	192-255	11000K		
26		**Aura Color Presets – see note 1**	Snap	0
	0 - 10	None, mix color via RGB		
	11	Color 1 - LEE 790 - Moroccan pink		
	13	Color 2 - LEE 157 - Pink		
	15	Color 3 - LEE 332 - Special rose pink		
	17	Color 4 - LEE 328 - Follies pink		
	19	Color 5 - LEE 345 - Fuchsia pink		
	21	Color 6 - LEE 194 - Surprise pink		
	23	Color 7 - LEE 181 - Congo Blue		
	25	Color 8 - LEE 071 - Tokyo Blue		
	27	Color 9 - LEE 120 - Deep Blue		
	29	Color 10 - LEE 079 - Just Blue		
	31	Color 11 - LEE 132 - Medium Blue		
	33	Color 12 - LEE 200 - Double CT Blue		
	35	Color 13 - LEE 161 - Slate Blue		
	37	Color 14 - LEE 201 - Full CT Blue		
	39	Color 15 - LEE 202 - Half CT Blue		
	41	Color 16 - LEE 117 - Steel Blue		
	43	Color 17 - LEE 353 - Lighter Blue		
	45	Color 18 - LEE 118 - Light Blue		
	47	Color 19 - LEE 116 - Medium Blue Green		
	49	Color 20 - LEE 124 - Dark Green		
	51	Color 21 - LEE 139 - Primary Green		
	53	Color 22 - LEE 089 - Moss Green		
	55	Color 23 - LEE 122 - Fern Green		
	57	Color 24 - LEE 738 - JAS Green		
	59	Color 25 - LEE 088 - Lime Green		
	61	Color 26 - LEE 100 - Spring Yellow		
	63	Color 27 - LEE 104 - Deep Amber		
	65	Color 28 - LEE 179 - Chrome Orange		
	67	Color 29 - LEE 105 - Orange		
	69	Color 30 - LEE 021 - Gold Amber		
	71	Color 31 - LEE 778 - Millennium Gold		
	73	Color 32 - LEE 135 - Deep Golden Amber		

Channel	Value	Function	Fade Status	Default Value
	75	Color 33 - LEE 164 - Flame Red		
	77	Color 34 - LEE 113 - Magenta		
	79	Color 35 - LEE 343 - Medium Lavender		
	81	Color 36 - Pure White		
	83	Color 37 - Pure Red		
	85	Color 38 - Pure Yellow		
	87	Color 39 - Pure Green		
	89	Color 40 - Pure Cyan		
	91	Color 41 - Pure Blue		
	93	Color 42 - Pure Magenta		
	95	Color 43 - LEE 115 - Peacock Blue		
	97	Color 44 - LEE 180 - Dark Lavender		
	99	Color 45 - LEE 287 - Double CT Orange		
	101	Color 46 - LEE 204 - Full CT Orange		
	103	Color 47 - LEE 205 - Half CT Orange		
	105	Color 48 - LEE 015 - Deep Straw		
	107 - 190	No Function		
	191 - 214	Color Wheel Rotation Fast → Slow		
	215 - 219	Color Wheel Rotation Stop (stick to last color)		
	220 - 243	Color Wheel Rotation Inverse Slow → Fast		
	244 - 247	Random Colors Fast		
	248 - 251	Random Colors Medium		
	252 - 255	Random Colors Slow		
27		**Aura P3 Mix**	Snap	0
	0 - 26	DMX-Mode Color of Aura LEDs is fully controlled by channel 22-24 (Aura Red, Green & Blue) (P3 pixels are ignored)		
	27 - 228	Mix-Mode Color of Aura LEDs is defined by mix of: - Channel 22-24 (Aura Red, Green & Blue) - P3 pixels (range 27 to 228 performs cross-fade between the two)		
	229 - 255	Video-Mode Color and brightness of Aura LEDs is driven by P3 pixels, but Aura Red/Green/Blue channels 22-24 keep ability to "color" the video.		
28		**Aura Red Pixel 1**	Fade	255
	0 - 255	0 → 100%		
29		**Aura Green Pixel 1**	Fade	255
	0 - 255	0 → 100%		
30		**Aura Blue Pixel 1**	Fade	255
	0 - 255	0 → 100%		
…		**…**		

Channel	Value	Function	Fade Status	Default Value
241		**Aura Red Pixel 72**	Fade	255
	0 - 255	0 → 100%		
242		**Aura Green Pixel 72**	Fade	255
	0 - 255	0 → 100%		
243		**Aura Blue Pixel 72**	Fade	255
	0 - 255	0 → 100%		

Note:

- Channels 22-26 control color of all pixels together. Individual pixel RGB on channels 28-243 can then be combined using HTP (highest takes precedence) rules. So if you want full individual pixel control, bring channels 22-24 to zero first.
- Fixture will automatically reduce intensity to control temperature when running at high power for too long
- The Aura pixels are mapped as shown in the diagram below, looking into the fixture lens.
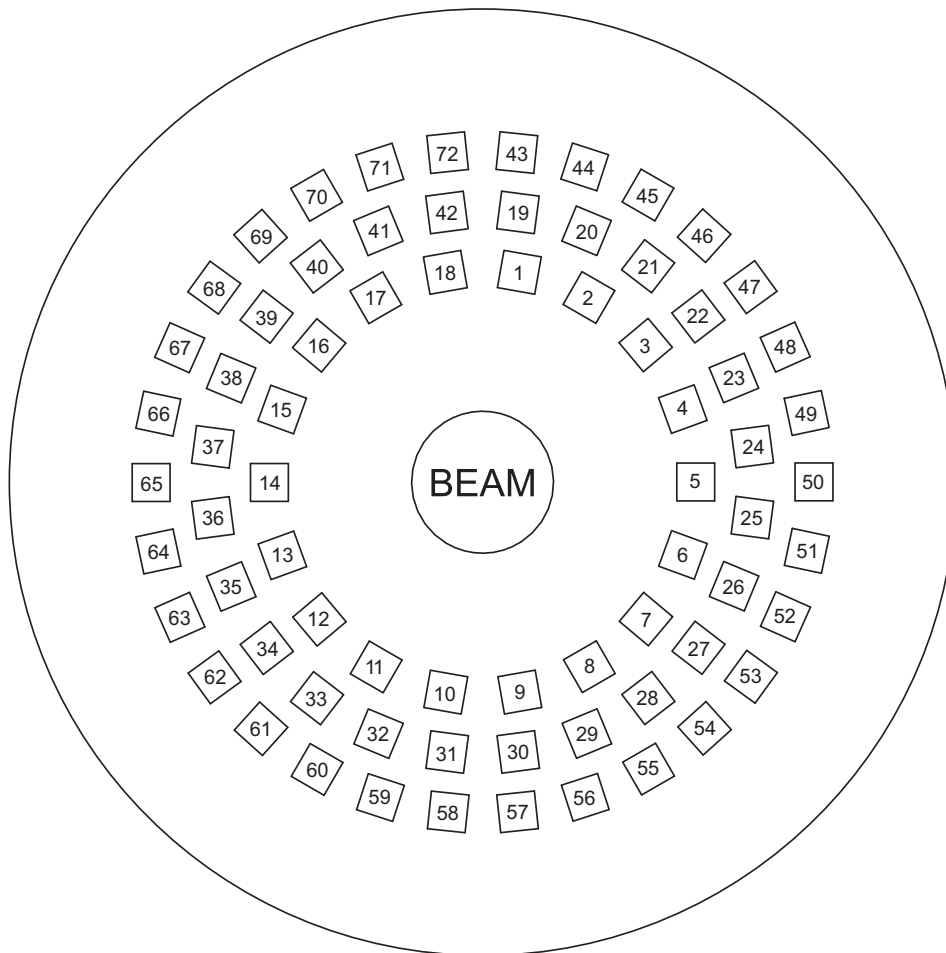
FX Table

Beam intensity effects (1-47)

These effects modulate the intensity of the Beam LED while maintaining the color set by the RGB channels and/or P3 pixel.

When the Beam virtual color wheel (DMX channel 13) is set to 0 (open), the intensity modulation uses black/off as reference. So (for example) the Beam Wave effect will sweep between full intensity and off.

When the Beam virtual color wheel (DMX channel 13) is set to any other color, the intensity modulation will use that selected color as reference. So (for example) the Beam Wave effect will sweep between the 'normal' color and the color selected on the virtual color wheel.

Beam color effects (48-95)

These effects override the color set by the RGB channels, virtual color wheel and P3 pixel.

Aura intensity effects (96-159)

These effects modulate the intensity of the Aura LEDs while maintaining the color(s) set by the RGB channels, RGB pixel channels and P3 pixels.

When the Aura virtual color wheel (DMX channel 26) is set to 0 (open), the intensity modulation uses black/off as reference. So (for example) the Aura Wave effect will sweep between full intensity and off.

When the Aura virtual color wheel (DMX channel 26) is set to any other color, the intensity modulation will use that selected color as reference. So (for example) the Aura Wave effect will sweep between the 'normal' color(s) and the color selected on the virtual color wheel.

Aura color effects (160-207)

These effects override the color(s) set by the RGB channels, RGB pixel channels, virtual color wheel and P3 pixels.

Beam & Aura combined effects (208-255)

These effects apply to both the Beam and Aura LEDs and provide a complete effect.

Type	DMX	Name	Description
	0	No Effect	
Beam Intensity Effects	1	Beam Wave	Beam Intensity Sine Wave
	2	Beam Step	Beam Intensity ON/OFF Step
	3	Beam Pulse	Beam Intensity Pulse
	4	Beam Blackout Strobe	Beam Blackout Flashes
	5	Beam 2x Strobe	Beam 2x Flash
	6	Beam 3x Strobe	Beam 3x Flash
	7	Beam 4x Strobe	Beam 4x Flash
	8	Beam Up, Down, Flash	Beam Fade Up, Fade Down and Flash
	9	Beam Up, Down, Flash Second Color	Beam Fade Up, Fade Down and Flash in Color Preset Color
	10	Beam Up, Flash, Down, Flash	Beam Fade Up, Flash, Fade Down and Flash
	11	Beam Up, Flash, Down, Flash Second Color	Beam Fade Up, Flash in Color Preset Color, Fade Down and Flash in Color Preset Color
	12	Beam Random Levels	Beam Random Intensity Levels
	13	Beam Movie Flicker	Beam Movie Flicker Effect
	14	Beam Atomic Lighting	Beam Atomic Lighting Effect
	15	Beam Thunderstorm	Beam Thunderstorm Effect
	16	Beam HouseLight	Beam to Steady Intensity
	17	Beam Threshold Strobe	Beam Strobe auto-firing when intensity of content hits certain minimum
	18	Beam Threshold On	Beam On when intensity of content hits certain minimum
	19-47	No effect	
Beam Color	48	Beam Rainbow Wave	Beam Rainbow Fades
	49	Beam Rainbow Step	Beam Rainbow Steps
	50	Beam Rainbow Pulse	Beam Rainbow Pulsing
	51	Beam RGB Wave	Beam RGB Fades
	52	Beam RGB Step	Beam RGB Steps
	53	Beam RGB Pulse	Beam RGB Pulsing
	54	Beam CMY Wave	Beam CMY Fades
	55	Beam CMY Step	Beam CMY Steps
	56	Beam CMY Pulse	Beam CMY Pulsing
	57	Beam Random Mix Wave	Beam Random Color Fades
	58	Beam Random Mix Step	Beam Random Color Steps
	59	Beam Random Mix Pulse	Beam Random Color Pulsing
	60	Beam Spectrum Shifter	Beam Color Shift from Current Color
	61	Beam Dual Color Flip	Beam Alternating between RGB/P3 Color and Color Preset Color
	62	Beam Red White Blue Fade	Beam Red-Blue thru White Fade
	63	Beam Red White Blue Snap	Beam Red-Blue thru White Snap
	64	Beam Fire	Beam Fire Effect
	65	Beam Water	Beam Water Effect

Type	DMX	Name	Description
	66	Beam Swimming Pool	Beam Swimming Pool Effect
	67	Beam Ice	Beam Ice Effect
	68	Beam Hot and Cold	Beam Hot and Color Effect
	69	Beam Warm and Fuzzy	Beam Warm and Fuzzy Effect
	70	Beam Silver and Gold	Beam Silver and Gold Effect
	71	Beam Gold and Silver	Beam Gold and Silver Effect
	72	Beam Electric Arc	Beam Electric Arc Effect
	73	Beam Plasma	Beam Plasma Effect
	74-95	No effect	
Aura Intensity Effects	96	Aura Wave (sine wave)	Full Aura Intensity Sine Wave
	97	Aura Step (50/50 on/off)	Full Aura Intensity ON/OFF Step
	98	Aura Pulse	Full Aura Intensity Pulse
	99	Aura Blackout Strobe	Full Aura Blackout Flashes
	100	Aura 2x Strobe	Full Aura 2x Flash
	101	Aura 3x Strobe	Full Aura 3x Flash
	102	Aura 4x Strobe	Full Aura 4x Flash
	103	Aura Up, Down, Flash	Full Aura Fade Up, Fade Down and Flash
	104	Aura Up, Down, Flash Second Color	Full Aura Fade Up, Fade Down and Flash in Color Preset Color
	105	Aura Up, Flash, Down, Flash	Full Aura Fade Up, Flash, Fade Down and Flash
	106	Aura Up, Flash Second Color, Down, Flash Second Color	Full Aura Fade Up, Flash in Color Preset Color, Fade Down and Flash in Color Preset Color
	107	Aura Random Levels	Full Aura Random Intensity Levels
	108	Aura SparkleStars	Aura Pixels Sparkle Overlay
	109	Aura SparkleStars Heavy	Aura Pixels Heavy Sparkle Overlay
	110	Aura Starfield	Aura Pixels Starfield Effect
	111	Aura Fiberoptic	Aura Pixels Piberoptic Effect
	112	Aura PixelKiller	Aura Pixels Turning ON/OFF when moving Effect Speed channel
	113	Aura Build Up/Down	Aura Pixels Turning ON/OFF at speed of Effect Speed channel
	114	Aura Ring Wave	Aura Rings Intensity Sine Wave
	115	Aura Ring Step	Aura Rings Intensity ON/OFF Step
	116	Aura Ring Pulse	Aura Rings Intensity Pulse
	117	Aura Waterdrop	Aura Rings Waterdrop Effect
	118	Aura Radar Spinning	Aura Pixels Radar Pattern
	119	Aura Line Spinning	Aura Pixels Line Rotating
	120	Aura Cross Spinning	Aura Pixels Rotating Cross
	121	Aura Cross Circle Wave	Aura Pixels Cross to Circle Sine Wave
	122	Aura Sonar 1	Aura Pixels Spinning Sonar 1 LED
	123	Aura Sonar 2	Aura Pixels Spinning Sonar 2 LEDs

Type	DMX	Name	Description
	124	Aura Sonar 3	Aura Pixels Spinning Sonar 3 LEDs
	125	Aura Sonar 6	Aura Pixels Spinning Sonar 6 LEDs
	126	Aura Sonar 9	Aura Pixels Spinning Sonar 9 LEDs
	127	Aura NightRider	Aura Pixels NightRider Effect
	128	Aura Snowflakes	Aura Pixels Snowflakes Effect
	129	Aura Rain	Aura Pixels Rain Effect
	130	Aura 1 Slice Pie Wave	Aura 1/6 Segment Wave
	131	Aura 1 Slice Pie Step	Aura 1/6 Segment ON/OFF Step
	132	Aura 1 Slice Pie Pulse	Aura 1/6 Segment Pulse
	133	Aura 2 Slice Pie Wave	Aura 2/6 Segment Wave
	134	Aura 2 Slice Pie Step	Aura 2/6 Segment ON/OFF Step
	135	Aura 2 Slice Pie Pulse	Aura 2/6 Segment Pulse
	136	Aura 3 Slice Pie Wave	Aura 3/6 Segment Wave
	137	Aura 3 Slice Pie Step	Aura 3/6 Segment ON/OFF Step
	138	Aura 3 Slice Pie Pulse	Aura 3/6 Segment Pulse
	139	Aura Random Slice Pie Wave	Aura Random Segment Wave
	140	Aura Random Slice Pie Step	Aura Random Segment ON/OFF Step
	141	Aura Random Slice Pie Pulse	Aura Random Segment Pulse
	141	Aura Random Slice Pie Pulse	Aura Random Segment Pulse
	142	Aura Random 12 Wave	Aura Pixels Random 12 LED Sine Wave
	143	Aura Random 12 Step	Aura Pixels Random 12 LED ON/OFF Step
	144	Aura Random 12 Pulse	Aura Pixels Random 12 LED Pulse
	145	Aura Random 24 Wave	Aura Pixels Random 24 LED Sine Wave
	146	Aura Random 24 Step	Aura Pixels Random 24 LED ON/OFF Step
	147	Aura Random 24 Pulse	Aura Pixels Random 24 LED Pulse
	148	Aura Vertical Wave	Vertical Intensity Wave running over the Aura Pixels
	149	Aura Horizontal Wave	Horizontal Intensity Wave running over the Aura Pixels
	150	Aura Vertical Bouncing Line	Vertical Intensity Line bouncing over the Aura Pixels
	151	Aura Horizontal Bouncing Line	Horizontal Intensity Line bouncing over the Aura Pixels
	152	Aura Vertical+Horizontal Bouncing Line	Vertical plus Horizontal Intensity Line bouncing over the Aura Pixels
	153	Aura Noise	Aura Pixels Noise Overlay
	154	Aura Movie Flicker	Full Aura Movie Flicker Effect
	155	Aura Atomic Lighting	Full Aura Atomic Lighting Effect
	156	Aura Thunderstorm	Full Aura Thunderstorm Effect
	157-159	No effect	

Type	DMX	Name	Description
Aura Color	160	Aura Rainbow Wave	Full Aura Rainbow Fades
	161	Aura Rainbow Step	Full Aura Rainbow Steps
	162	Aura Rainbow Pulse	Full Aura Rainbow Pulsing
	163	Aura RGB Wave	Full Aura RGB Fades
	164	Aura RGB Step	Full Aura RGB Steps
	165	Aura RGB Pulse	Full Aura RGB Pulsing
	166	Aura CMY Wave	Full Aura CMY Fades
	167	Aura CMY Step	Full Aura CMY Steps
	168	Aura CMY Pulse	Full Aura CMY Pulsing
	169	Aura Random Mix Wave	Full Aura Random Color Fades
	170	Aura Random Mix Step	Full Aura Random Color Steps
	171	Aura Random Mix Pulse	Full Aura Random Color Pulsing
	172	Aura Spectrum Shifter	Aura Pixels Color Shift from Current Color
	173	Aura Red White Blue Fade	Full Aura Red-Blue thru White Fade
	174	Aura Red White Blue Snap	Full Aura Red-Blue thru White Snap
	175	Aura Fire	Aura Pixels Fire Effect
	176	Aura Water	Aura Pixels Water Effect
	177	Aura Swimming Pool	Aura Pixels Swimming Pool Effect
	178	Aura Ice	Aura Pixels Ice Effect
	179	Aura Hot and Cold	Aura Pixels Hot and Color Effect
	180	Aura Warm and Fuzzy	Aura Pixels Warm and Fuzzy Effect
	181	Aura Silver and Gold	Aura Pixels Silver and Gold Effect
	182	Aura Gold and Silver	Aura Pixels Gold and Silver Effect
	183	Aura Electric Arc	Aura Pixels Electric Arc Effect
	184	Aura Plasma	Aura Pixels Plasma Effect
	185	Aura Police Car 1	Aura Pixels Police Car Effect 1
	186	Aura Police Car 2	Aura Pixels Police Car Effect 2
	187	Aura Police Car 3	Aura Pixels Police Car Effect 3
	188-207	No effect	
Beam & Aura Combined Effects	208	Full Thunderstorm	Full Beam and Aura Thunderstorm Effect
	209	Full Welding	Full Beam and Aura Welding Effect
	210	Full 3 Step Strobe	Full Beam, Full Aura, Off Chase
	211	Full Tick Tock	Full Beam, Full Aura Chase
	212	Aura Ramp Beam Flash	Full Aura Intensity Ramp plus Full Beam Flash
	213	Beam Ramp Aura Flash	Full Beam Intensity Ramp plus Full Aura Flash
	214	Beam-Aura Wave	Intensity Sine Wave between Full Beam and Full Aura
	215	Beam-Aura Step	Intensity ON/OFF Step between Full Beam and Full Aura
	216	Beam-Aura Pulse	Intensity Pulse between Full Beam and Full Aura

Type	DMX	Name	Description
	217	Tungsten Emulation Beam+Aura	Tungsten Emulation using Beam and Aura
	218	Tungsten Emulation Beam+Aura including decay	Tungsten Emulation using Beam and Aura including Fade Delay
	219	Tungsten Emulation Beam Only	Tungsten Emulation using Beam
	220	Tungsten Emulation Beam Only including decay	Tungsten Emulation using Beam including Fade Delay
	221	Tungsten Emulation Aura Only	Tungsten Emulation using Aura
	222	Tungsten Emulation Aura Only including decay	Tungsten Emulation using Aura including Fade Delay
	223	Police Car 4	Beam and Aura Police Car Effect 4
	224	Police Car 5	Beam and Aura Police Car Effect 5
	225	Police Car 6	Beam and Aura Police Car Effect 6
	226	Police Car 7	Beam and Aura Police Car Effect 7
	227	Police Car 8	Beam and Aura Police Car Effect 8
	228	Police Car 9	Beam and Aura Police Car Effect 9
	229-255	No effect	

Troubleshooting

This section describes a few common problems that may occur during operation and provides some suggestions for easy troubleshooting:

Symptom	Potential cause	Remedies
No light from fixture.	Power supply issue, such as blown fuse, faulty connector or damaged cable.	Ensure that the mains supply is connected to the junction box/break-in cable and supplying power to the fixture.
		Ensure that the fixture's test LED lights up when the test button is pressed.
		Check all power connections and cables.
Fixture does not respond to control.	Fault in the control network due to wiring problem, connector or cable damaged, or	Check if the fixture status LED is flashing red to show that control data is not being received, and if so, check all DMX cables and connections to ensure the integrity of the physical network.
		Ensure that the DMX network is terminated.
		Check that the components in the DMX network all use standard DMX polarity.
	incorrect DMX addressing, or	Ensure that the fixture is set to the correct DMX address, one that matches that set on the DMX control device.
		Check the pins on the connectors from the previous fixture in the DMX network.
		Attempt to control the fixture with another DMX control device.
	potential interference from proximity to a high voltage installation.	Move the fixture if it is being operated very close to an unshielded high-voltage installation.

Specifications

Physical Fixture

Width excluding hanging bracket .... 288 mm (11.3 in.)
Width including hanging bracket .... 371 mm (14.6 in.)
Height excluding hanging bracket .... 288 mm (11.3 in.)
Height including hanging bracket .... 394 mm (15.5 in.)
Depth .... 161 mm (6.3 in.)
Fixture center to center using interlock couplers (vertical and horizontal) ... 300 mm (11.8 in.)
Weight including hanging bracket .... 9.32 kg (20.5 lb.)
Weight excluding hanging bracket .... 7.65 kg (16.9 lb.)

Dynamic Effects

Beam Dimmer/Shutter .... 0 – 100% continuous dimming, variable flash rate and duration
.... and atomic effects
Beam Dimming options .... Choice of four dimming curves
Beam Color mixing .... RGB, independently variable 0 - 100%
Beam Color temperature control .... Variable 2000 - 11000 K
Beam Virtual Color wheel .... 48 color presets, continuous rotation & random color
Beam P3 Mix .... Videomapping of fixture with variable crossfade
.... between DMX control and video control
Aura Dimmer/Shutter .... 0 – 100% continuous dimming, regular and random strobe effects
Aura Dimming options .... Choice of four dimming curves
Aura Color mixing .... RGB, independently variable 0 - 100%
Aura Color temperature control .... Variable 2000 - 11000 K
Aura Virtual Color wheel .... 48 color presets, continuous rotation & random color
Aura PixelMapping .... individual RGB control of each Aura pixel
Aura P3 Mix .... Videomapping of fixture with variable crossfade
.... between DMX control and video control
Built-in FX .... Various pre-programmed FX on Beam, Aura and combination of both

Control and Programming

Control protocols .... DMX, RDM,Art-Net, RDM over Art-Net, sACN, P3
Protocol detection .... Automatic
DMX modes .... 1-channel, 3-channel, 4-channel, Compact, Basic, Extended
DMX channels 1/3/4/10/27/243
Setting and addressing .... RDM, RDM over Art-Net or P3
Fixture identification .... User settable ID number
DMX compliance .... USITT DMX512 A
RDM compliance .... ANSI/ESTA E1.20 RDM
Art-Net compliance .... Art-Net 1, 2, 3 and 4, including RDM over Art-Net
sACN compliance .... ANSI E1.31 – 2016
Martin P3 Compliance .... P3 System Controller Software 5.1.0 or newer
DMX/RDM Transceiver RS-485
Ethernet Transceiver .... 10/100Mbit (with fail-safe bypass)
Firmware update .... via DMX using Martin Companion
.... or via Ethernet using P3 System Controller

P3 Video Processing

Color resolution .... 16 bit per color, 48 bit per pixel (Beam & Aura)
Color temperature control .... 2000-11000K (Beam & Aura)
Color Gamut Control .... full spectrum control (Beam & Aura)
Synchronization .... system-wide
Frame Rate .... up to 75 frames/sec
Brightness Control .... 0-100% (maintaining full color depth)
Gamma Correction and Control .... fully controllable (Beam & Aura)

Control / User Interface

Device status .... Multi-color status LED
Device test and reset ....Pushbutton to call up local test patterns and reset device

Optics and photometric data

Front Accessory Holder ....PAR64 size
Lens diameter 200mm
Beam LED
LED type .... RGBW
Max. total lumen output ....12000 lumens (boost/strobe mode)
  ....7500 lumens (continuous mode)
Beam angle.. 12.7 degrees (half peak)
Field angle ....27.0 degrees (one-tenth peak)
Color Temperature...variable (2000-11000K)
CRI (Color Rendering Index) ....>80 (at 6500K mixed white)
Resolution 16-bit
Minimum LED lifetime...50 000 hours (to >70% luminous output)*
Calibration.. Color calibrated
Color mode ....Extended mode and Calibrated mode
Aura LEDs
LED type ....RGB
LED quantity 72
Color temperature... variable (2000K-11000K)
Resolution .... 16-bit per pixel
Minimum LED lifetime...50 000 hours (to >70% luminous output)*
Calibration.. Color calibrated
Color mode ....Extended mode and Calibrated mode

Figure obtained under manufacturer's test conditions:

Construction

Color ....Black
Housing material ....Aluminum
Protection rating.. IP 65
RoHS .... Compliant
REACH .... Compliant

Installation

Mounting Options.........hanging from bracket, hanging from clamp attached directly to fixture
  ....or hanging from other fixture using interlock mechanism, floor standing
Clamp attachment to hanging bracket...M12
Clamp attachment directly to fixture M8
Maximum vertical column height .... 4 fixtures
Orientation .... Any
Minimum distance to combustible materials..0.1 m
Minimum distance to illuminated surfaces...0.5 m
Location ....indoor or temporary outdoor use

Connections

AC power, DMX and Network input....................Cable tail with PDE hybrid connector (IP 65)
AC power, DMX and Network thru....................Chassis mount PDE hybrid connector (IP 65)
Hot plugging... Compatible

Electrical

AC power ....100-240 V nominal, 50/60 Hz
Power Supply Unit .... Auto-ranging electronic switch mode
Maximum power consumption .... 400 W
Typical half-cycle RMS inrush current .... .3.0 A
Typical earth-leakage current .... 0.80 mA

Typical Power and Current

100V, 60Hz ....358 W, 3.58 A, PF 0.99
120V, 60Hz ....353 W, 2.96 A, PF 0.99
208V, 60Hz ....350 W, 1.73 A, PF 0.97
230V, 50Hz ....349 W, 1.59 A, PF 0.96
240V, 50Hz ....351 W, 1.55 A, PF 0.95

Measurements made at nominal voltage with all LEDs at full intensity. Allow for a deviation of +/-10%. PF = power factor.

Thermal

Cooling ....Forced air (temperature regulated, low noise)
Maximum ambient temperature (Ta max.)... 40° C (104° F)
Minimum ambient temperature (Ta min.)... 0° C (32° F)
Total heat dissipation (calculated, +/- 10%)...................................... 1365 BTU/hr.

Approvals

EU safety...EN 60598-2-17 (EN 60598-1), EN 62471, EN 62493
EU EMC ....EN 55015, EN 55032, EN 55103-2, EN 61000-3-2, EN 61000-3-3, EN 61547
US safety...UL 1573
US EMC ....47 CRF §15 Class B
Canadian safety ....CSA C22.2 No. 166
Canadian EMC... ICES-003 Class B, ICES-005 Class B
Australia/NZ .... RCM
United Kingdom.. UKCA

Accessories

Junction Box
Passive Junction Box Power-DMX-Ethernet to PDE.. P/N 91610001
Active Junction Box Power-DMX-Ethernet to PDE.................................. P/N MAR-91700002
Adapters Cables
PDE Break-In Cable... P/N MAR-91700000
PDE Break-Out Cable... P/N MAR-91700001
Optical Accessories
VDO BlinderDot Diffuser 60 Degrees .... P/N MAR-91616119
VDO BlinderDot Diffuser 30 Degrees .... P/N MAR-91616120
Mechanical Accessories
Super Lightweight Half Coupler Rigging Clamp, black...................................... P/N 91602018
G-clamp (vertical hanging installation only) .... P/N 91602003
Half-coupler clamp .... P/N 91602005
Quick trigger clamp (vertical hanging installation only).................................... P/N 91602007
Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, black...................................... P/N 91604006
Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, silver...................................... P/N 91604007
VDO Atomic Bold Interlock Doubler... P/N MAR-91616122
Set of 10 VDO Atomic Couplers .... P/N 91610003
VDO Atomic Half Coupler .... P/N 91610004
VDO Atomic Interlock Adapter... P/N 91610006
VDO Atomic Pivot Coupler... P/N 91610007
VDO Atomic Bold Double Width Bracket .... P/N MAR-91616121
Pre-Assembled Cables
Power+Data Cable Rental PDE-PDE 1m .... P/N 91616001
Power+Data Cable Rental PDE-PDE 2,5m .... P/N 91616002
Power+Data Cable Rental PDE-PDE 5m .... P/N 91616003
Power+Data Cable Rental PDE-PDE 10m .... P/N 91616004
Power+Data Cable Rental PDE-PDE 25m .... P/N 91616005
Bulk Cable and Connectors
Power+Data Connector PDE Male .... P/N 91611701
Power+Data Connector PDE Female.. P/N 91611702
Power+Data Cable Power-DMX-Ethernet Rental 100m................................... P/N 91616006

Flightcase
Flightcase for 6 x VDO Atomic Bold .... P/N MAR-91515056

Related Items
Martin Companion Cable (for firmware update over DMX) ....P/N 91616091
Martin P3-050™ System Controller ....P/N 90721090
Martin P3-150™ System Controller ....P/N 90721015
Martin P3-300™ System Controller ....P/N 90721060
Martin P3-PC™ System Controller ....free download from martin.com

Ordering Information
VDO Atomic Bold in cardboard.. P/N MAR-90357703

Specifications are subject to change without notice. For the latest product specifications, see
www.martin.com

Photobiological Safety Warning

The label shown below is displayed on this product. If it becomes difficult or impossible to read, it must be replaced using the illustration below to reproduce new labels sized 17 x 51 mm, in black on a yellow background.

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