

RUSH® CS Series

CS300 GRAZE & WIDE

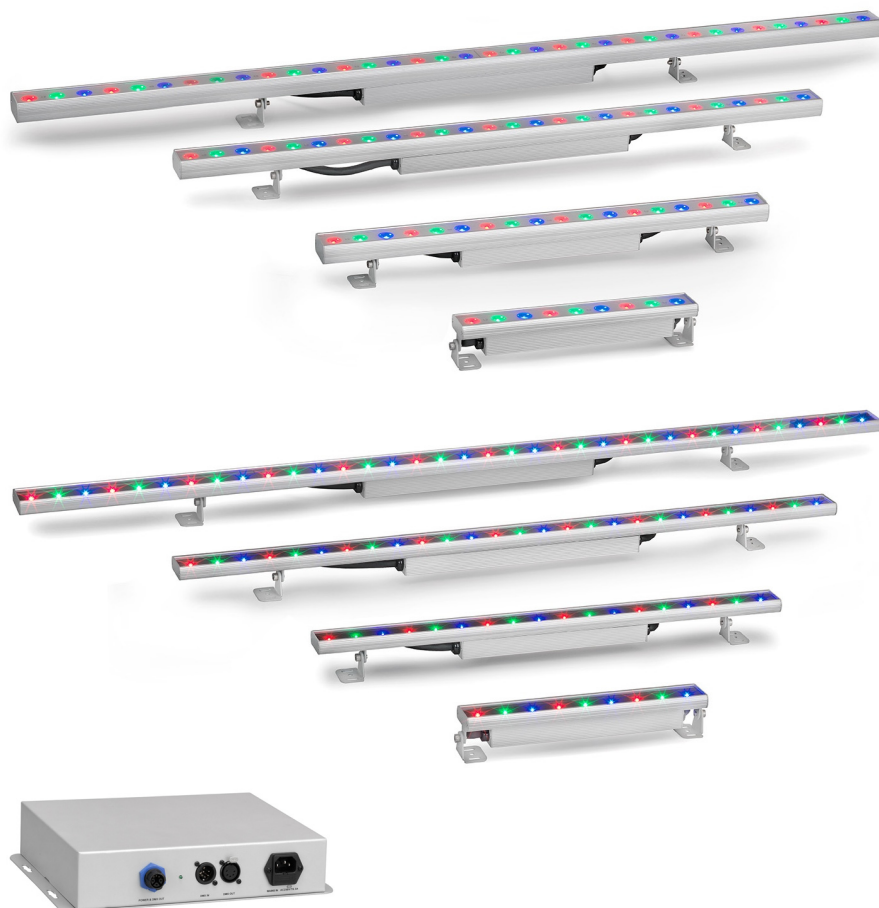
CS600 GRAZE & WIDE

CS900 GRAZE & WIDE

CS1200 GRAZE & WIDE

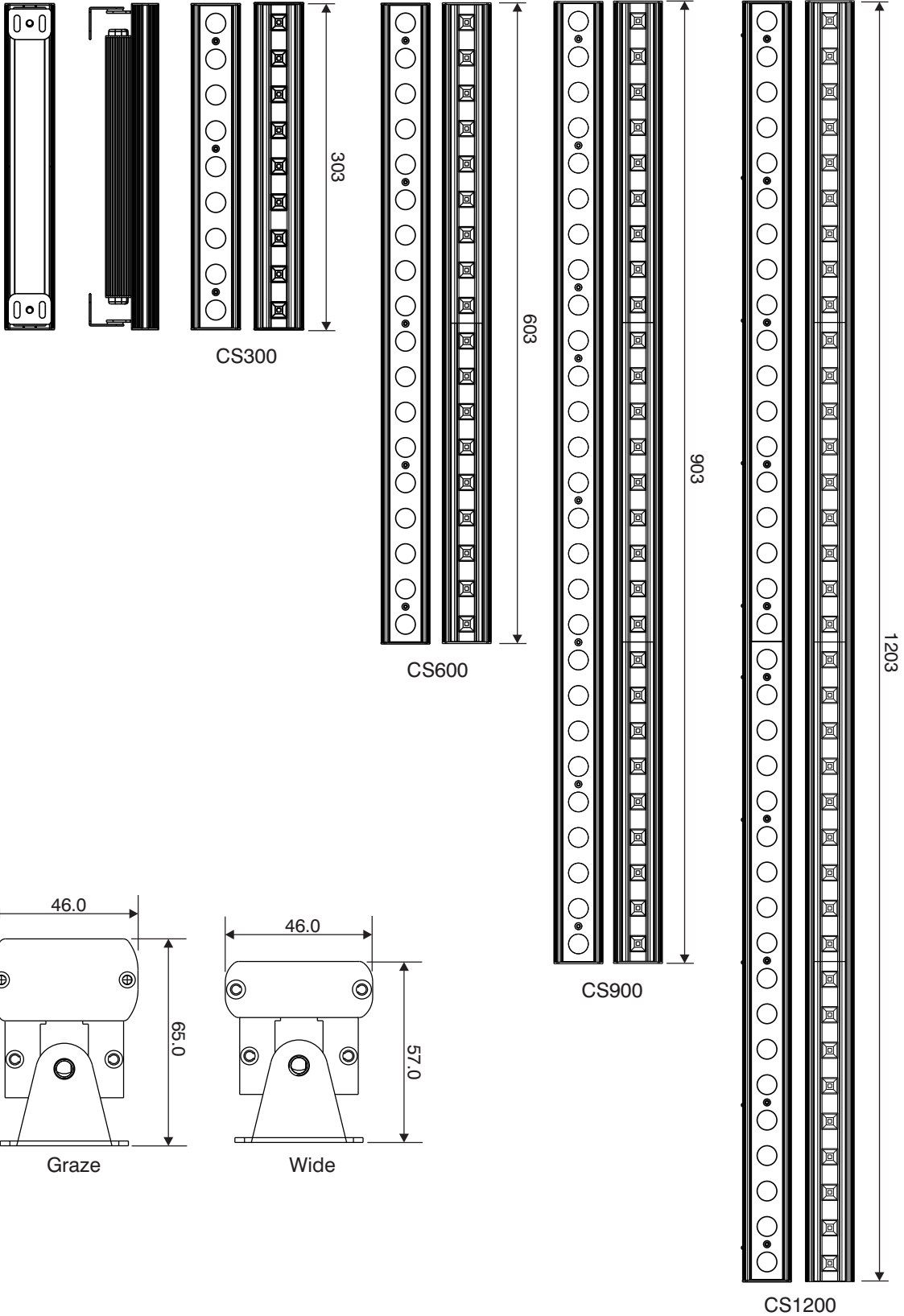
CS PSU Power Supply Unit

User manual

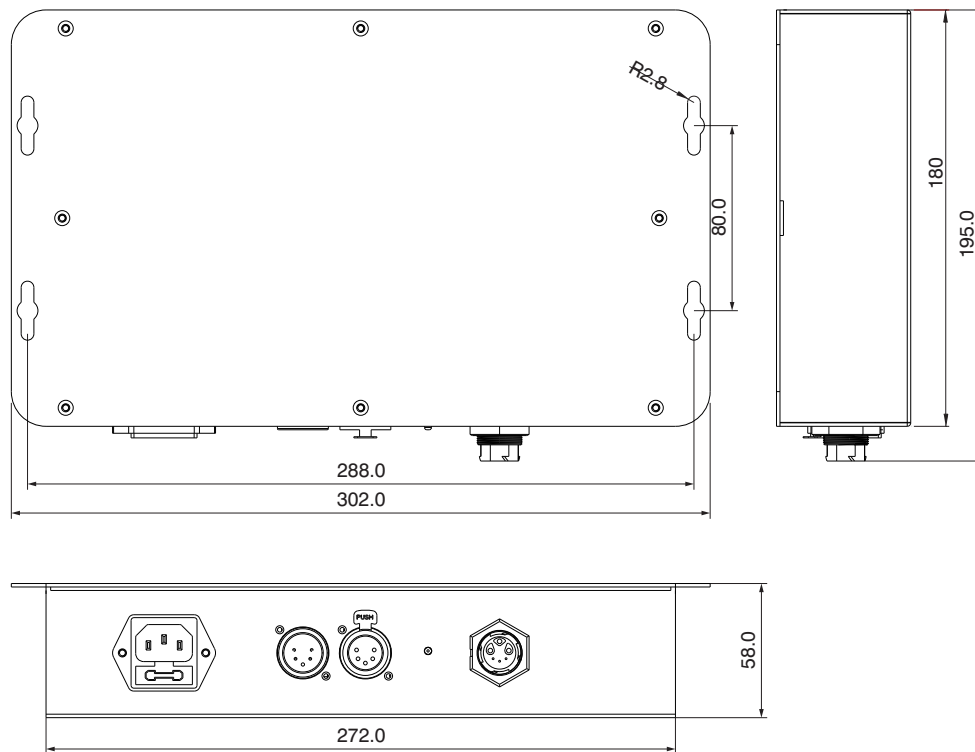


Martin[®]
by HARMAN

Dimensions



CS PSU Power supply unit



All dimensions are given in millimeters

For mounting bracket dimensions see page 11

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RUSH® CS Series User Manual – Revision B

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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!

Safety hazard. Risk of severe injury or death.



Warning!

Powerful light emission. Risk of eye injury.



Warning!

See user manual for important safety information.



Warning!

Hazardous voltage. Risk of lethal or severe electric shock.



Warning!

Fire hazard.



Warning!

Hot surfaces.



Warning! Risk Group 2 product according to EN 62471. Do not look directly into the beam. 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 RUSH® by 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 call the Martin® 24-hour service hotline on +45 8740 0000, or in the USA on 1-888-tech-180.

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.

Never connect or disconnect a live Power + Data Cable. Shut down power to the fixtures before connecting or disconnecting cables.

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.



Protection from burns and fire

Do not operate the fixture if the ambient temperature (T_a) exceeds 45°C (113°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 10 cm (4 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

The CS Series fixtures fall into Risk Group 2 according to EN62471. 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.

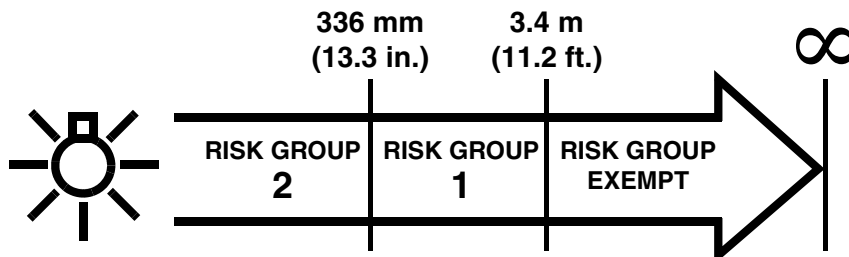
The light from the LED emitters is possibly hazardous and may be harmful to the eyes. Do not stare directly into the product's light output.

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 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.

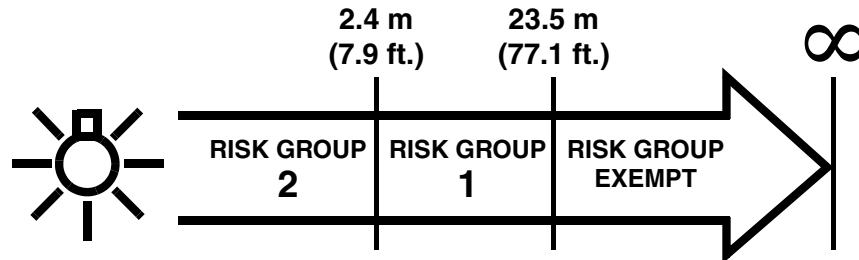
WIDE fixtures

The CS Series Wide fixtures fall into the following risk groups according to EN62471 at the distances indicated below. Position the CS Series Wide fixtures so that prolonged staring into the light output at less than 336mm (13.3 in.) from the fixture is not expected.



GRAZE fixtures

The CS Series Graze fixtures fall into the following risk groups according to EN62471 at the distances indicated below. Position the CS Series Graze fixtures so that prolonged staring into the light output at less than 2.4 m (7.9 ft.) from the fixture 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 a glare shield is 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

The RUSH® CS Series from Martin® is a line of rugged LED-based lighting fixtures with a remote power supply unit. Fixtures are available in 300 mm (1 ft.), 600 mm (2 ft.), 900 mm (3 ft.) and 1200 mm (4 ft.) length models, each with either wide or graze optics. Wide optic models are designed for a range of indirect lighting applications. Graze models are designed for illumination of walls or other surfaces and have an asymmetric 18° x 65° beam-angle.

The fixtures are powered by a remote power supply unit (PSU) which is controlled by DMX and configured using RDM (Remote Device Management). Multiple fixtures can be linked together making for simple installation of long runs. Each PSU can power up to 10 meters (32 ft.) of LED fixtures.

The RUSH® CS Series system features:

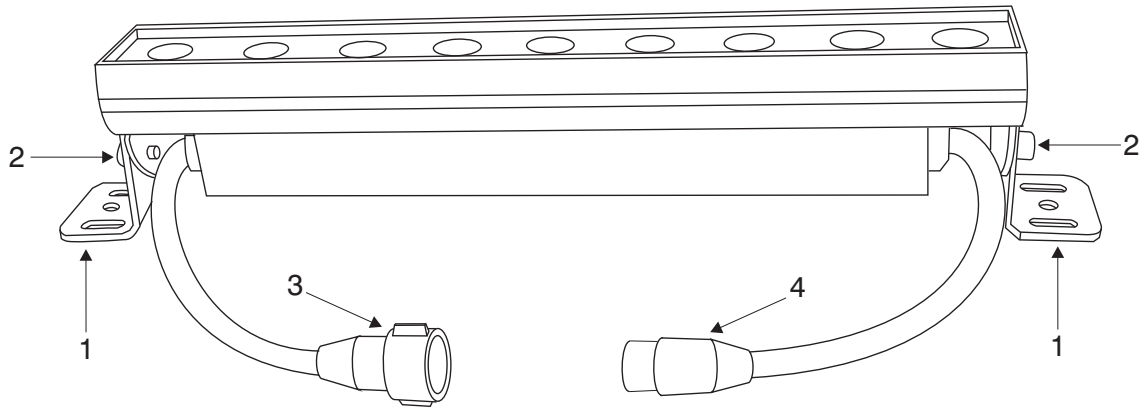
- Long-life, high output Cree LEDs
- Remote 100-240 V, 50/60 Hz auto-ranging AC power supply
- Low voltage 36V supply to fixtures
- Easy wiring with integral combined low voltage power and data cables

Each fixture is supplied with two hinged mounting brackets.

Before using the product for the first time

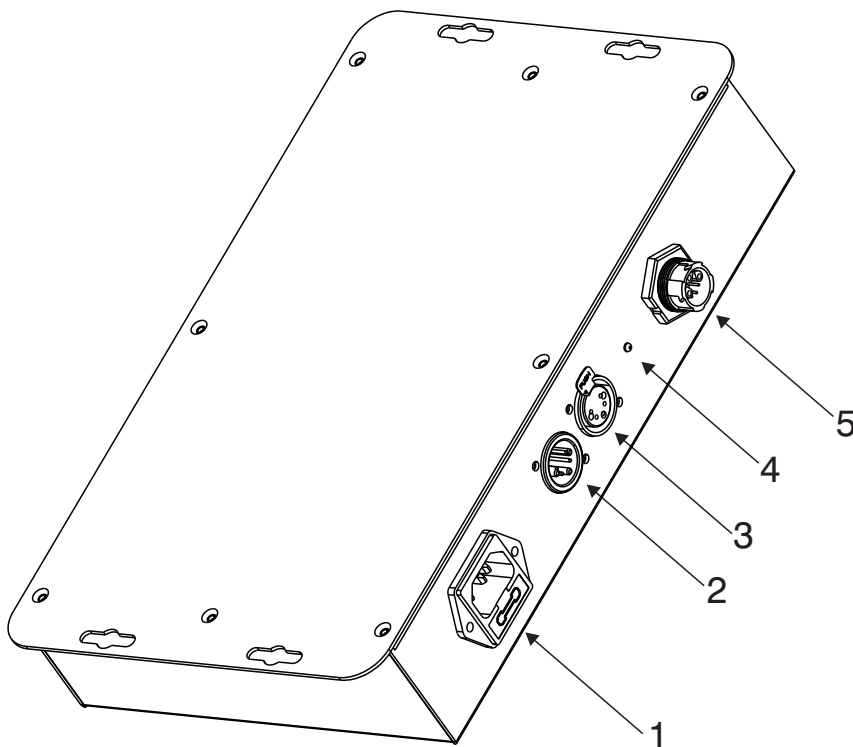
1. Read 'Safety information' on page 5 before installing, operating or servicing the fixture.
2. Unpack and ensure that there is no transportation damage before using the fixture. Do not attempt to operate a damaged fixture.
3. Before operating, ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
4. If fixtures are exposed to a sudden temperature change, give them time to warm or cool to the ambient temperature before applying power. This will help avoid damage due to condensation.
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



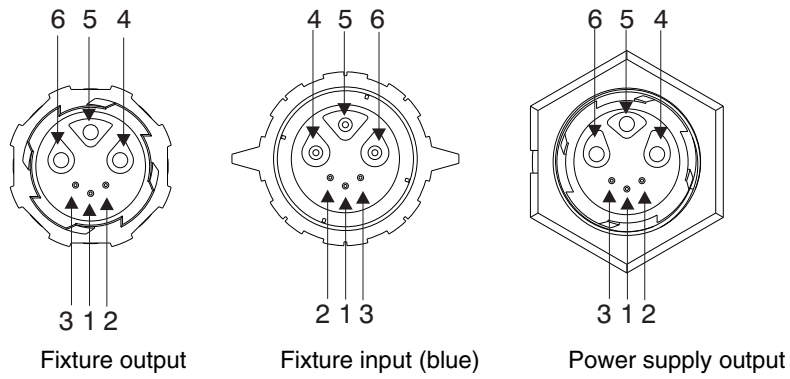
Number	Description
1	Mounting bracket
2	Tilt lock screws
3	Power/data input connector (blue)
4	Power/data output connector (black)

RUSH® CS Series LED fixture parts Identification



Number	Description
1	Mains power input (Fuse: T6.3A)
2	DMX input
3	DMX output
4	Mains power indicator light
5	Data/power output to fixtures

RUSH® CS PSU Parts Identification



Number	Description
1	Data ground
2	Data -
3	Data +
4	+36V power
5	Not connected
6	0V power

RUSH® CS Series combined power/data connector

The 5-pin XLR connectors for DMX use standard pinout.

Pin Number	Description
1	Data ground
2	Data -
3	Data +
4	Not connected
5	Not connected

RUSH® CS Series 5-pin XLR pinout

Physical installation



Warning! Read 'Safety information' on page 5 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 RUSH® CS Series. 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

RUSH® CS Series fixtures are intended for interior use only. Do not install outside or in damp or humid locations. The fixtures and Power Supply Unit require free and unobstructed airflow around them to ensure adequate cooling.

Observe the following limitations in selecting a location:

- Respect the limitations listed under 'Safety information' on page 5.
- Do not locate the fixture in an unventilated space.

Mounting the fixture



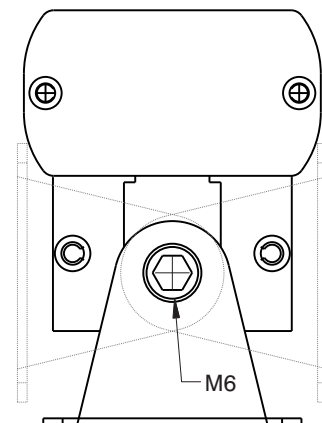
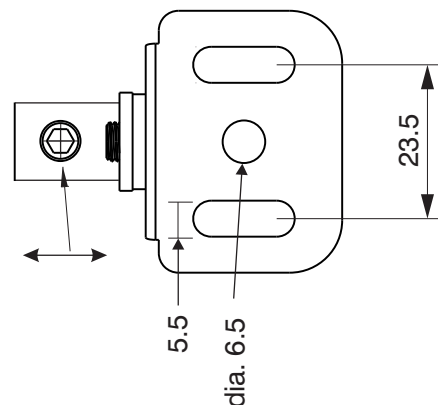
Warning! All fasteners used to mount RUSH® CS Series fixtures must be strong enough to mount the fixture safely. Install a washer directly under the head of each fastener when anchoring the mounting bracket to the installation surface.

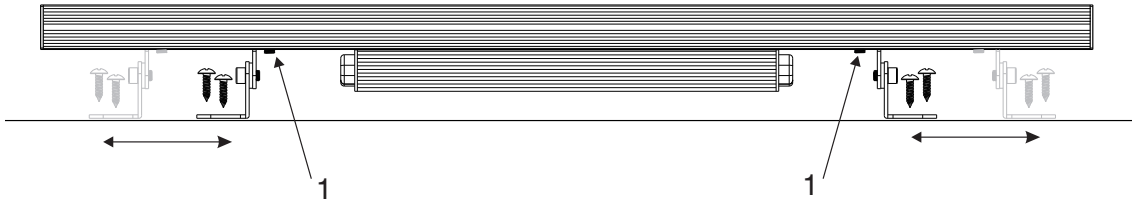
Positioning the mounting brackets

The fixture's mounting brackets must be securely anchored to a suitable support. The mounting surface must be hard, fixed and flat. For bracket dimensions see illustration on right.

The fixture can be mounted at any angle. The mounting brackets allow the fixture to be manually tilted 90° either side of central position for beam aiming adjustment.

Fasten the fixture securely with suitable mechanical fasteners. Do not stand it on a surface or leave it where it can be moved or fall over. Ensure that the surface and all fasteners used can support at least 10 times the weight of all fixtures and equipment they will support.

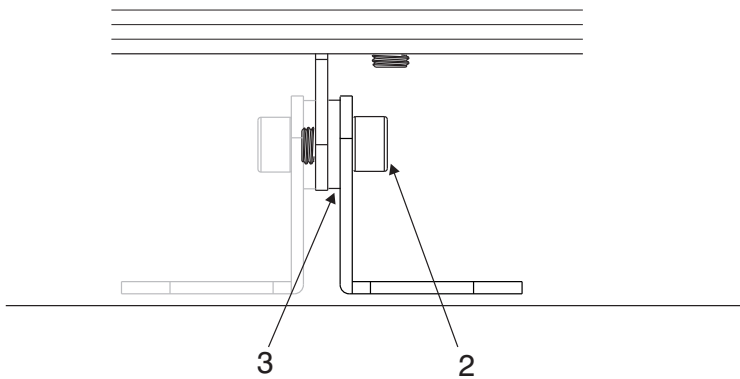




You can slide the mounting brackets along the fixture by loosening the slide grub screw (1) using a 2mm hex key (not supplied). Ensure that the grub screw is re-tightened to lock the bracket in the desired position.



You can reverse the orientation of the mounting brackets so that the flanges face inwards by removing the M6 hex-head bolts (2) and washers (3). In most cases, leaving the mounting flanges on the outside is preferable because it provides easier access to the hinge bolts for tilt adjustment.



Reassemble the bracket with the mounting flange and bolt (2) on the inside, ensuring that you fit the washer (3) as shown above, between the bracket and the flange.

Fastening to the mounting surface

To mount a fixture on a suitable surface:

1. Loosen the hinge bolts and tilt the mounting brackets to 90 degrees. This allows you easy access to screw the brackets to the mounting surface.
2. Fasten the mounting brackets loosely to the mounting surface using two suitable fasteners in each bracket.
3. Refer to 'Connecting fixtures' on page 13 and connect the fixture power + data input to the output of the previous fixture.
4. Adjust the position of the mounting brackets as necessary. Tighten the fasteners in the flange and the slide lock grub screw on each mounting bracket.
5. Pivot the mounting brackets to the desired tilt angle and tighten the hinge bolts.

AC power and data connection to PSU



Warning! Read 'Safety information' on page 5 before installing the fixtures and PSU.

Electrical installation must be carried out by qualified professionals only. Lock out power to the entire installation before working on cables and connections.



For protection from dangerous electric shock, the PSU must be grounded (earthed). The AC power distribution system must be fitted with current overload and ground-fault (earth-fault) circuit breakers as well as a means to isolate fixtures from power and lock out power during service.

In the RUSH® CS Series system, AC power and DMX control data are connected to the RUSH® CS Power Supply Unit (PSU). The PSU then sends low voltage DC power and DMX data to one or more fixtures using a custom 6-pole connector.

Important! Do not connect or disconnect a live power and data cable. Shut down power to the installation before connecting or disconnecting cables.

The RUSH® CS PSU accepts AC power at 100 - 240 V nominal, 50 or 60 Hz. Do not connect to power at any other voltage or frequency.

There is no power on/off switch. Power is applied to the PSU and fixtures as soon as they are connected to power. Provide a means to disconnect or shut down power to fixtures that is easily accessible and is located close to the fixtures.

Do not use an external dimming system to supply power to the system, as this may cause damage to the system that is not covered by the product warranty.

Power requirements

The RUSH® CS PSU must be supplied with AC mains power at 100 - 240 V nominal, 50/60 Hz using either a grounded single-phase (live, neutral, ground/earth) distribution system or one phase of a grounded three-phase (3 live phases, neutral, ground/earth) distribution system.

Connecting fixtures

All fixtures are fitted with captive input and output cables, carrying data and power using a custom 6-pole connector. Fixtures can be connected end to end using the captive cables, or if the fixtures need to be separated they can also be connected using the 1 m (3.2 ft.), 5 m (16 ft.) or 10 m (32 ft.) extension cables listed under 'Accessories' on page 23.

The blue connector is the input connector and the black connector is the output to the next fixture in the chain.

Maximum total length of fixtures

The PSU can power up to 10 meters of RUSH® CS fixtures. For example, eight 1200 mm fixtures, eleven 900 mm fixtures, seventeen 600 mm fixtures or thirty-two 300 mm fixtures.

If you connect too many fixtures, the PSU will shut down to protect itself. When the extra load is removed, the PSU will resume normal operation.

Maximum total length of cable

If you connect additional extension cables between the PSU and the first fixture, or between fixtures, a maximum length of cable applies due to voltage drop in the cable. If the cable is too long, the fixtures furthest from the power supply will lose intensity. This will be particularly visible on the green and blue LEDs, so colors will tend to shift towards red.

The maximum recommended length of one system is 50 m (164 ft.) including both cable and fixtures.

Data network requirements

The DMX lighting controller connects to the RUSH® CS Series PSU using the 5-pin XLR plug. Further DMX equipment may be connected using the 5-pin XLR socket.

The following considerations must be taken into account when laying out the data network:

- 512 DMX channels are available in a single DMX universe. Each time the combined channel requirements of a group of connected fixtures exceeds 512, an additional DMX universe will be required.
- You can reliably connect up to 32 fixtures in a single daisy chain.
- Use RS-485 data cable. RS-485 cable has low capacitance and a characteristic impedance of 85 to 150 Ohms. It is electrically shielded and has at least 1 twisted pair of conductors. The minimum recommended wire size is 0.25 mm² (24 AWG) for runs up to 200 meters (1000 ft.) and 0.32 mm² (22 AWG) for runs up to 500 meters (1640 ft.).
- Branches may be added to the link using an opto-isolated splitter. Use an RDM-compatible amplifier-splitter such as the Martin® RDM 5.5 Splitter. Each branch may itself connect up to 32 fixtures.
- An RDM amplifier may also be used to extend a network beyond 500 meters (1640 ft.) or to connect up to 32 additional fixtures to the daisy chain.
- Long parallel runs of AC power and control data cables may cause interference on the data link and must be avoided. Even if not required by law, use separate conduits for power and data cables.

Setup



Warning! Read 'Safety information' on page 5 before operating the fixture.

This section explains the fixture settings and utilities that the user has access to via RDM (Remote Device Management according to ANSI/ESTA E1.20).

RDM and Martin® M-PC

RUSH® CS Series fixtures require an RDM-compatible controller to check and alter fixture settings, send control commands and retrieve fixture data. Martin® offers a range of suitable controllers.

Martin® M-PC is a Windows-based application available from Martin® that lets you set up, manage and control a lighting installation from a PC that is connected to the installation via a DMX data link. To use Martin® M-PC, connect a PC running the application to the data link via a USB-to-DMX interface box such as the Martin® M-DMX (see 'Related Items' on page 23).

A full list of the RDM functions that RUSH® CS Series fixtures support is given at the end of this chapter. These functions are generally referred to using the more specific term 'PIDs' or 'Parameter IDs'.

Step one: scanning for 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. In Martin® M-PC, go to RDM CONTROLLER → DISCOVER DEVICES.
3. Give the controller time to identify the devices on the link and prepare for communication with the devices.

Setting DMX mode

This command lets you set the DMX mode of fixtures on the data link. Because DMX mode affects the number of DMX channels a fixture uses, it will affect the assignment of DMX addresses to fixtures. You should therefore set fixtures' DMX mode before you set their DMX addresses.

The CS PSU can be set to either 3Ch. DMX mode – "1: 3ch-Slot" (factory default setting) or 6Ch. DMX mode – "2: 6ch-Slot". 6ch. mode offers additional control functions but uses more DMX channels. See the 'DMX protocol' section on page 19 for an overview of the functions available and number of DMX channels used.

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

Procedures vary in different controllers, but to set the DMX mode in Martin® M-PC:

1. Go to RDM CONTROLLER → Scan → Properties → Device Info → Change personality.
2. Select EXD MODE or STD MODE.
3. Press ENTER to confirm your selection.

Setting DMX addresses

This command lets you set the DMX addresses of fixtures on the data link. From the factory the DMX address is set to 001.

A fixture's DMX address is the first DMX channel it uses to receive data communication. It uses this channel and the channels immediately above it. A RUSH CS fixture uses six DMX channels, so if it has DMX address 001, it will use channels 001, 002, 003, 004, 005 and 006. DMX address 007 will be available as a DMX address for the next fixture on the data link. If this fixture also uses six DMX channels, the next available DMX address will be 013, and so on.

You can set the DMX address of one fixture by sending a unicast RDM command to that one fixture only, or you can set all the fixtures on the data link to the same DMX address by sending a broadcast RDM command to all the devices on the link. If all the fixtures have the same DMX address, they will behave identically and you will not be able to control any single fixture independently.

To set a DMX address:

1. In Martin® M-PC, go to RDM CONTROLLER → Scan → Properties → Advanced → Choose PID → Set DMX START ADDRESS.
2. In the Message column, enter the DMX address that you want to give to the fixture (or give to all the fixtures if you are sending a broadcast command).
3. Press RDM SET to confirm your selection.

The Response column will show the setting result as either Success or Failed.

Dimming control

You can control the output intensity of the fixtures on the link via RDM.

You can control the intensity of one fixture by sending a unicast RDM command to that one fixture only, or you can control all the fixtures on the data link by sending a broadcast RDM command to all the devices on the link.

To control intensity:

1. In Martin® M-PC, go to FUNCTION → MANUAL CONTROL → DMX TRANSMITTER
2. Scroll to an intensity level from 0 to 255.
3. Press ENTER to confirm your selection.

Temperature status

Using RDM you can read the temperature status of the fixture: This tells you whether the fixture LEDs are operating at the correct temperature or whether they have overheated.

To retrieve this information:

1. In Martin® M-PC, go to RDM CONTROLLER → DISCOVER DEVICES → Get Sensor value.
2. Use the arrow keys on the keyboard to scroll and display temperature status for all fixtures.

Overall fixture status

You can display general status information for a fixture.

To retrieve this status data:

1. In Martin® M-PC, go to RDM CONTROLLER → DISCOVER DEVICES → Status check.
2. Overall fixture status is displayed.

RDM

As a minimum, RUSH® CS Series fixtures support the following RDM functions:

Device discovery

DISC_UNIQUE_BRANCH
DISC_MUTE
DISC_UN_MUTE

Device management

	GET	SET
QUEUED_MESSAGE	✓	
STATUS_MESSAGES	✓	
STATUS_ID_DESCRIPTION	✓	
SUPPORTED_PARAMETERS	✓	
DEVICE_INFO	✓	
DEVICE_MODEL_DESCRIPTION	✓	
MANUFACTURER_LABEL	✓	
DEVICE_LABEL	✓	✓
SOFTWARE_VERSION_LABEL	✓	
BOOT_SOFTWARE_VERSION_ID	✓	
BOOT_SOFTWARE_VERSION_LABEL	✓	
DMX_PERSONALITY	✓	✓
DMX_START_ADDRESS	✓	✓
DEVICE_HOURS	✓	✓
IDENTIFY_DEVICE	✓	✓
LAST_STATE		✓
DIMMER_CURVE		✓

Maintenance



Warning! There are no user-serviceable parts inside. Do not open the housing. Refer any service operation not described in this manual to Martin Professional™ or its authorized service agents.

Installation, on-site service and maintenance can be provided worldwide by the Martin Professional™ Global Service organization and its approved agents, giving owners access to Martin's expertise and product knowledge in a partnership that will ensure the highest level of performance throughout the product's lifetime. Please contact your Martin® supplier for details.

Never try to repair the fixture by yourself as this may result in damage or malfunction and it may potentially void your product warranty. The only service operation the user can carry out on RUSH® CS Series fixtures is occasional cleaning.

Be aware that the output of LEDs, like all light sources, changes gradually over many thousands of hours of use. If you require products to perform to very precise color specifications, you may eventually need to make small readjustments at the lighting controller.

The light source in this product is not user-replaceable. When the light source LEDs reach the end of their service life, they may be replaced only by Martin® Service, an authorized Martin® Service agent or a similarly qualified person.

Cleaning

Regular cleaning is essential for fixture life and performance. Buildup of dust and dirt degrades the fixture's light output and cooling ability.

Cleaning schedules will vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the RUSH® CS Series. Inspect fixtures within their first few weeks of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation. If in doubt, consult your Martin® dealer about a suitable maintenance schedule.

Do not use products that contain solvents, abrasives or caustic agents for cleaning, as they can cause surface damage to the fixture. The aluminum housing and front cover can be cleaned with a soft cloth moistened with mild detergents such as those for washing cars.

To clean the fixture housing and front cover:

1. Isolate the PSU from AC power and allow the fixtures to cool for 20 minutes.
2. Wipe each fixture clean with a soft dry or damp cloth.

DMX protocol

6-channel mode

The DMX control allows 0 to 100% intensity control of red, green and blue. 0 to 100% master dimming is provided using 16-bit control (two DMX channels). The final control channel allows five fixed color temperatures of white light to be produced – when this channel is set to a value above zero, the Red, Green and Blue control channels are overruled and have no effect.

Channel	Value	Function
1	0-255	Dimmer: 0-100%
2	0-255	Dimmer Fine: 0-100%
3	0-255	Red: 0-100% (if channel 6 = 000)
4	0-255	Green: 0-100% (if channel 6 = 000)
5	0-255	Blue: 0-100% (if channel 6 = 000)
6	000 001-051 052-102 103-153 154-204 205-255	Color temperature OFF White 2800K White 3200K White 4000K White 5600K White 7200K

3-channel mode (default setting)

The DMX control allows 0 to 100% intensity control of red, green and blue.

Channel	Value	Function
1	0-255	Red: 0-100%
2	0-255	Green: 0-100%
3	0-255	Blue: 0-100%

Specifications

Physical

CS300 Wide

Length 303 mm (11.9 in.)
Width 46 mm (1.8 in.)
Height 57 mm (2.2 in.) including bracket
Weight 0.8 kg (1.8 lbs.)

CS300 Graze

Length 303 mm (11.9 in.)
Width 46 mm (1.8 in.)
Height 65 mm (2.6 in.) including bracket
Weight 1 kg (2.2 lbs.)

CS600 Wide

Length 603 mm (23.7 in.)
Width 46 mm (1.8 in.)
Height 57 mm (2.2 in.) including bracket
Weight 1.1 kg (2.4 lbs.)

CS600 Graze

Length 603 mm (23.7 in.)
Width 46 mm (1.8 in.)
Height 65 mm (2.6 in.) including bracket
Weight 1.4 kg (3.1 lbs.)

CS900 Wide

Length 903 mm (35.6 in.)
Width 46 mm (1.8 in.)
Height 57 mm (2.2 in.) including bracket
Weight 1.5 kg (3.3 lbs.)

CS900 Graze

Length 903 mm (35.6 in.)
Width 46 mm (1.8 in.)
Height 65 mm (2.6 in.) including bracket
Weight 2 kg (4.4 lbs.)

CS1200 Wide

Length 1203 mm (47.4 in.)
Width 46 mm (1.8 in.)
Height 57 mm (2.2 in.) including bracket
Weight 1.8 kg (4.0 lbs.)

CS1200 Graze

Length 1203 mm (47.4 in.)
Width 46 mm (1.8 in.)
Height 65 mm (2.6 in.) including bracket
Weight 2.5 kg (5.5 lbs.)

Power Supply Unit

Length 302 mm (11.9 in.)
Width 195 mm (7.7 in.)
Height 58 mm (2.3 in.)
Weight 4.2 kg (9.3 lbs.)

Dynamic Effects

Intensity 0 - 100%
Color mixing RGB
Color temperature control Off, 2800K, 3200K, 4000K, 5600K, 7200 K

Control and Programming

Control systems	DMX, RDM
DMX channels	3, 6
DMX compliance	USITT DMX512/1990
RDM compliance	ANSI E1.20

Optics

CS300/CS600/CS900/CS1200 Wide

Light source	CREE XP-E2 LEDs R/G/B
Beam angle	124°
Minimum LED lifetime	50 000 hours (to >70% luminous output)*

CS300/CS600/CS900/CS1200 Graze

Light source	CREE XP-E2 LEDs R/G/B
Beam angle	18° x 65°
Minimum LED lifetime	50 000 hours (to >70% luminous output)*

*Figure obtained under manufacturer's test conditions

See www.martin.com for full photometric specifications.

Construction

Housing	Aluminum
Finish	Clear anodized (standard) or white (optional)
Lens	Frosted polycarbonate
Ingress protection	IP20
RoHS compliant	

Installation

Orientation	Any
Mounting	Direct with included brackets and user-supplied fasteners
Minimum distance to illuminated surfaces	0.2 m (8 in.)

Connections

Mains input	C13 IEC 60320
DMX input and output	5-pin XLR
Fixture DC power and data in/thru	6-pin custom connectors

Electrical (RUSH® CS Series PSU)

AC power	100 -240 V nominal, 50/60 Hz
Power supply unit	Auto-ranging electronic switch-mode
DC output voltage	36 V
Maximum output current	12 A
Maximum power consumption	485 W
Mains inlet fuse	250 V, T 6.3 A

Typical power consumption (RUSH® CS Series fixtures)

Fixture power consumption	12 W per foot +/- 1 W*, PF 0.97 +/- 0.05
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*Power figures are typical, not maximum. Measurements made at nominal voltage. Allow for +/- 10% deviation. PF = Power factor.

Thermal

Cooling	Convection
Maximum surface temperature	55° C (131° F)
Maximum ambient temperature (Ta max.)	45° C (113° F)
Minimum ambient temperature (Ta min.)	-30° C (-22° F)

Approvals



PSU

EU Safety	EN60950-1
EU EMC	EN 61000-4-2, EN61000-4-4, EN61000-4-5
US Safety	UL60950-1
US EMC	CFR 47 Part 15 Class A
Canadian Safety	CSA C22.2 No. 60950-1
Australia/NZ	Pending

Wide & Graze fixture

EU Safety	EN60598-2-1, EN62031, EN61347-1, EN61347-2-11, EN 62471, EN62493
EU EMC	EN55015, EN55103-2, EN55032, EN61000-3-2, EN61000-3-3, EN61547, EN61000-4-2, EN61000-4-4, EN61000-4-5
US Safety	UL 2018
US EMC	CFR 47 Part 15 Class A
Canadian Safety	CSA C22.2 No. 9.0
Australia/NZ	Pending

Included Items

- User manual
- Two adjustable mounting brackets

Accessories

Cables

RUSH® Power + Data Extension Cable, 6-pin custom connectors, 1 m (3.3 ft.)	P/N 91611846
RUSH® Power + Data Extension Cable, 6-pin custom connectors, 5 m (16.4 ft.)	P/N 91611847
RUSH® Power + Data Extension Cable, 6-pin custom connectors, 10 m (32.8 ft.)	P/N 91611848

Related Items

Martin® Software Uploader 2	P/N 91611770
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Ordering Information

Wide Lighting Fixtures

RUSH® CS300 Wide, 124° (1 ft., RGB)	P/N 90480175
RUSH® CS600 Wide, 124° (2 ft., RGB)	P/N 90480185
RUSH® CS900 Wide, 124° (3 ft., RGB)	P/N 90480195
RUSH® CS1200 Wide, 124° (4 ft., RGB)	P/N 90480205

Graze Lighting Fixtures


RUSH® CS300 Graze, 18°x 65° (1 ft., RGB)	P/N 90480170
RUSH® CS600 Graze, 18°x 65° (2 ft., RGB)	P/N 90480180
RUSH® CS900 Graze, 18°x 65° (3 ft., RGB)	P/N 90480190
RUSH® CS1200 Graze, 18°x 65° (4 ft., RGB)	P/N 90480200

Power Supply Unit

RUSH® CS Series PSU	P/N 90480210
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Specifications subject to change without notice. For latest product specifications, see www.martin.com

RUSH® CS Series from Martin®
Made in China

	<p>Disposing of this product</p> <p>Martin® products are supplied in compliance with Directive 2012/19/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), where applicable. Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Martin products</p>
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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 16 x 38 mm (each label), in black on a yellow background

<p style="text-align: center;">RISK GROUP 2</p> <p>CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes.</p>
<p style="text-align: center;">GROUPE DE RISQUE 2</p> <p>PRUDENCE. Produit à émission de radiations visibles potentiellement dangereuses. Ne pas fixer le faisceau en fonctionnement. Risque de lésions oculaires.</p>



www.martin.com · Olof Palmes Allé 18 · 8200 Aarhus N · Denmark
Tel. +45 8740 0000 · Fax +45 8740 0010