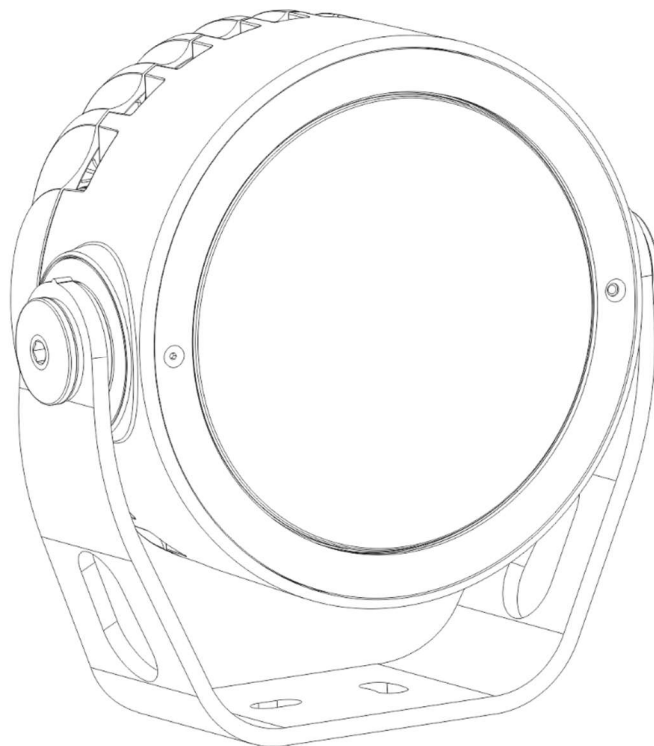


Calumma S MC Calumma S SC



QR code for user manual



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**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE POWERING OR INSTALLING YOUR Calumma !
Save it for future reference.**

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure safe operation, it is absolutely necessary for the user to follow the safety instructions and warnings written in this manual.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Unauthorized modification will void warranty.

1. Safety instructions

DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT!

This fixture should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized distributor or local power company.

Always disconnect the fixture from AC power before servicing or cleaning.

Make sure the power/data cable is not damaged by sharp edges.

Do not install the unit near an open flame.

Refer servicing to qualified service personnel.

This fixture falls under protection class I. Therefore this fixture has to be connected to a mains socket outlet with a protective earthing connection.

Do not connect this fixture to a dimmer pack.

LED light emission. Risk of eye injury. Do not look into the beam from a short distance without suitable protective eyewear. Do not look at LEDs with magnifiers or similar optical instruments that may concentrate the light output.

The fixture was designed for outdoor use. This fixture must not be used for underwater installation.

When choosing the installation spot, please make sure that the fixture is not exposed to extreme heat or dust.

Avoid using the unit in locations subject to possible impacts.

The fixture body never must be covered with cloth or other materials when the fixture is under operation.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The fixture becomes hot during operation. Allow the fixture to cool approximately 30 minutes prior to servicing or maintenance.

Operate the fixture only after having familiarized yourself with its functions. Do not permit operation by persons not qualified to operate the fixture. Most damages are the result of unprofessional operation!

Immunity of the equipment is designed for electromagnetic environments E1, E2, E3 according to the standard EN55103-2 ed.2 Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

The product (covers and cables) must not be exposed to a high frequency electromagnetic field higher than 3V/m.

The installation company should check levels of possible interferences above the tested levels E1,E2,E3 given by this standard (e.g. transmitters in surrounding area) before installing the equipment.

Emission of the equipment complies with the standard EN55032 Electromagnetic compatibility of multimedia equipment – Emission Requirements according to class B.

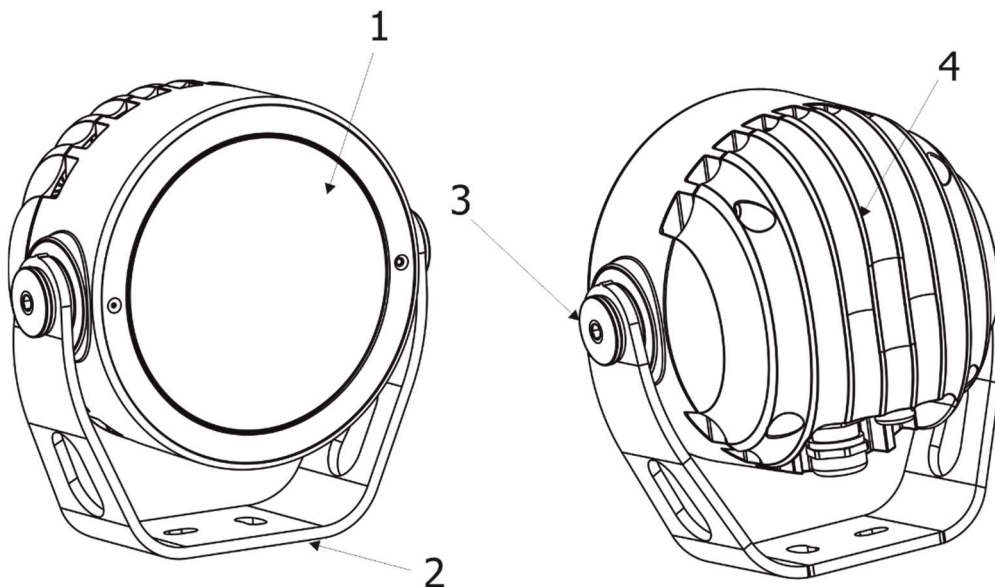
Please consider that unauthorized modifications on the fixture are forbidden due to safety reasons!

Please use the original packaging if the fixture is to be transported.

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the warranty becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock etc.

Warning for fixtures with Harsh Environment Finish (HEF):
Handle with care!
Avoid any damage to the painted surface.
Damaging the paint may result in corrosion and loss of warranty.

2. Fixture exterior view

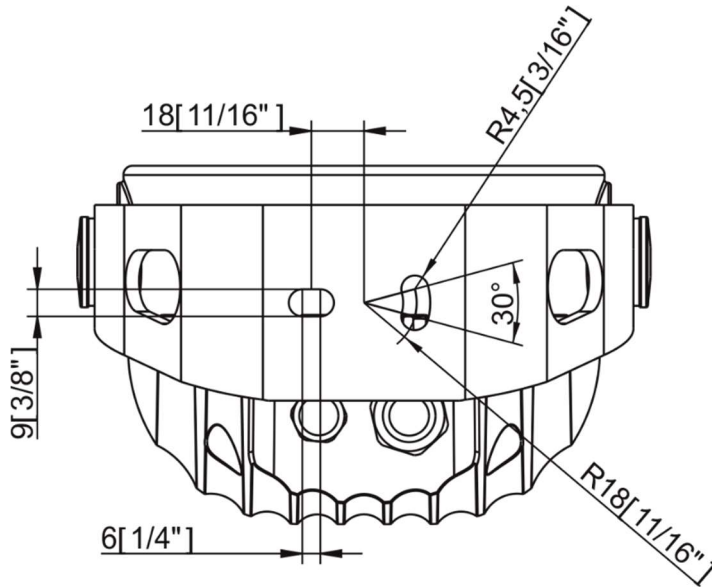


1. Transparent glass cover
2. Mounting yoke
3. Tilt adjusting lock
4. LED module with heat sink

3. Installation

3.1 Mounting the fixture

The Calumma S can be fastened in any orientation on a flat, non-flammable surface by means of mounting yoke (2).



The LED module (4) can be tilted $+180^{\circ}/-180^{\circ}$. Use an Allen key 2.5 for adjusting a LED module position.

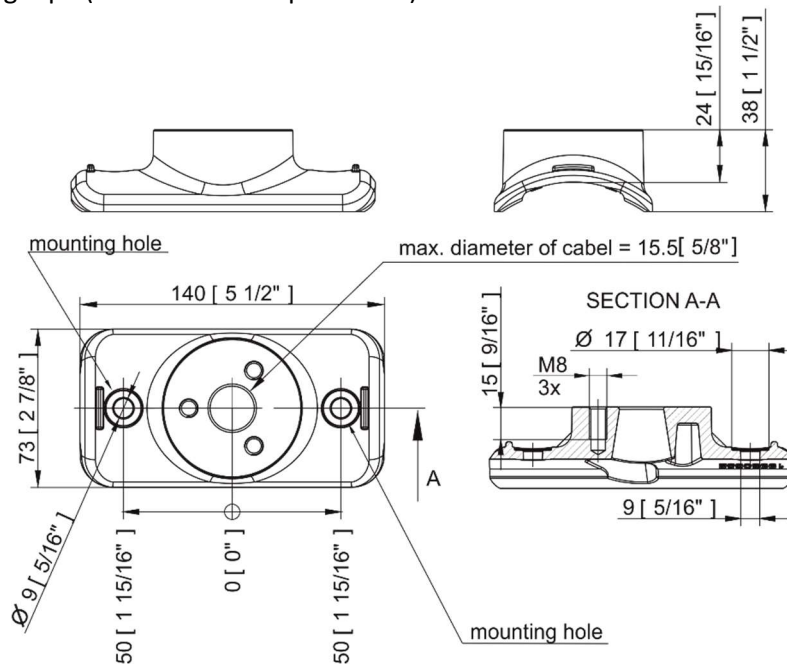
Ensure that the structure to which you are attaching the fixture is secure.

Mounting the fixture via the pole clamp adaptor

The pole clamp adaptor serves as a fastening element for Calumma S on a pole of diameter of 76-116mm or on the flat pole. The Calumma S has to be equipped with a modified mounting yoke (P/N 11418772) intended for this way of installation.

The pole clamp adaptor set includes: 1x pole clamp adaptor, 1x rubber cable gland, 3x Allen screw M8x20, 3x flat washer, 3x spring washer, 2x tube spacer.

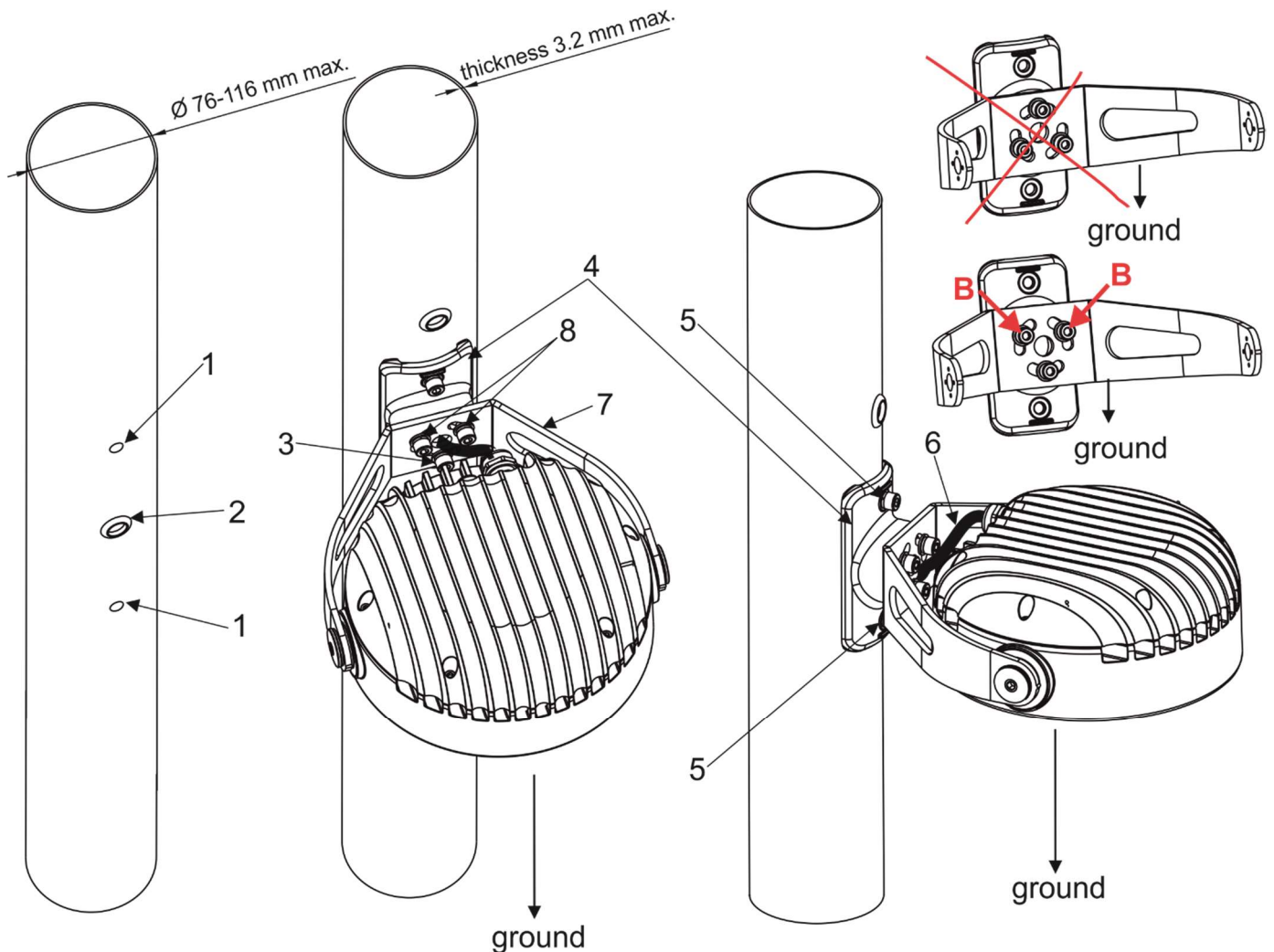
1. The pole clamp adaptor can be screwed on the pole by means of two screws or fixed by means of a steel clamping tape (max. width of tape=20mm).



Calumma S

If you use two screws for fastening the pole clamp adaptor on the pole, drill two holes (1) for fastening the pole clamp adaptor on the pole. Diameter of holes depends on material of pole and used screws. Be sure that fastening of the pole clamp adaptor is secure to keep weight of Calumma.

2. Drill the hole (2) for rubber cable gland (diameter of hole=20mm, max. thickness of pole wall= 3.2mm), make drilled hole edges clean (without burrs) and insert the rubber gland into the hole.



3. Screw the pole clamp adaptor (4) on the pole by means of two screws (5) with spring washers or use a steel clamping tape for fastening the pole clamp adaptor on the pole.
In case of screwing the pole clamp adaptor (7) on a flat surface (pole), two pole spacers have to be inserted under two mounting holes of the pole clamp adaptor (on fastening screws (5)) to fill up space between the pole and the pole clamp adaptor
4. Pass the Calumma cable (6) through mounting yoke (7), pole clamp adaptor (4) and through cable gland (2) into the pole.
5. Screw the Calumma mounting yoke (7) on the pole clamp adaptor (4) by means of three Allen screws M8x20 (3) with washers (Allen screw + spring washer+ flat washer). Keep correct orientation of the fastening screws (3) as drawn on the picture – two screws (B) have to aim upwards, one screw has to be orientated towards ground.
NOTE. Three mounting openings in the mounting yoke allow positioning of the mounting yoke in range of 0°- 360°.

3.2 Connection to mains

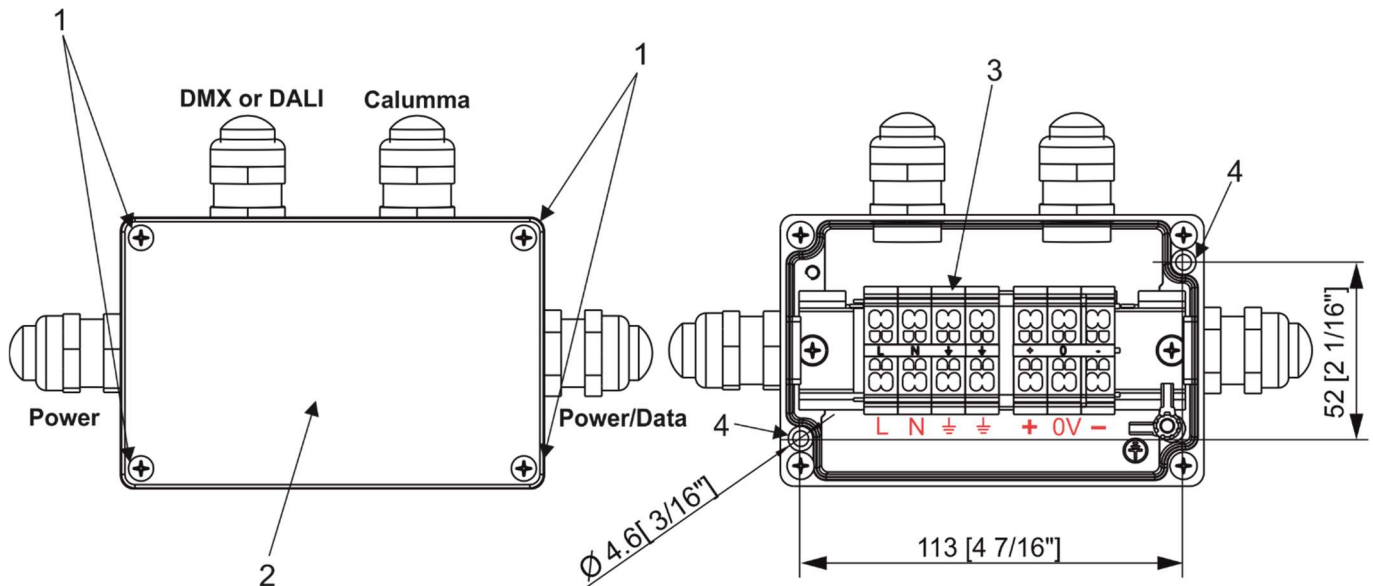
***The unit must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.
This device falls under class one and must be grounded!***

The Calumma is equipped with auto-switching power supply that automatically adjusts to any 50/60Hz AC power source from 120-277 Volts.

3.2.1 Junction box installation

The junction box falls under protection class I . Therefore, every junction box has to be connected to a mains socket outlet with a protective earthing connection.

1. Unscrew the four screws (1) from the cover (2) on the junction box to get access to the terminal block (3) and two mounting holes of diameter of 4.6 mm (4).
2. Screw the junction box on a non-flammable flat surface.

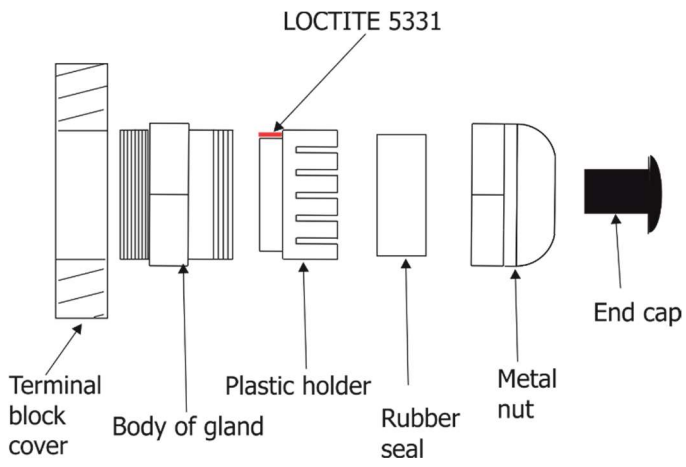


3. Connect cables.

The cable gland M20 x 1.5 with a standard seal serves for a cable of diameter of 7-13mm, for smaller diameter of cable (4-8mm) you have to remove the original seal from the cable gland M20x1.5 and use the enclosed reducing seal instead of it. The reducing seal for diameter of cable 4-8mm (P/N 13051388) is enclosed in the Junction box. Remove the end cap from the cable gland before passing the cable.

We recommend to apply an adequate layer of the paste LOCTITE 5331 on the plastic holder of the cable gland before inserting it into the body of the gland.

Cable gland M20x1.5:

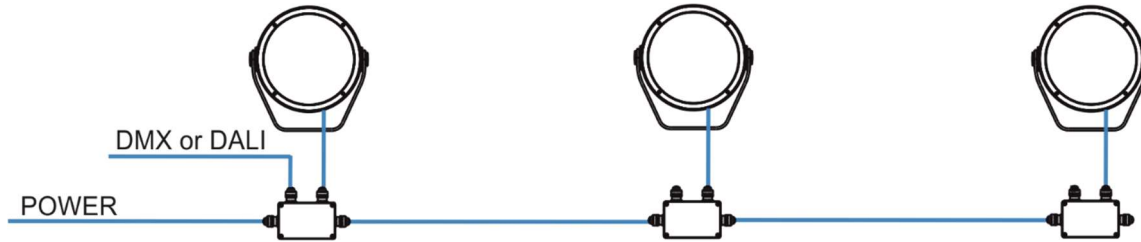


4. Screw the cover (2) back on the junction box.

4. Control and connection options

4.1 DMX or DALI

Example



DMX connection (CE)

IF the 5-cored cable Flamar 3x AWG 16 + 1x (2x AWG 24), (P/N 1305 1508) is used for Calumma connection and connection among junction boxes:

| Core | Connection | Core | Connection |
|--------------|-------------|-----------|------------------|
| Black | Live (L) | Red | Data + (+) |
| Blue | Neutral (N) | White | Data – (-) |
| Yellow/Green | GND ⊕ | Shielding | Data ground (0V) |

Up to 32 Calummas can be connected in DMX chain.

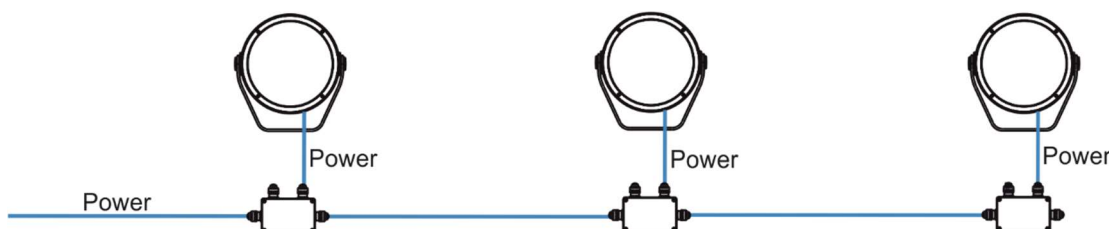
DALI connection

IF the 5-cored cable SJTW 5x 14AWG (P/N 1305 3336) is used for Calumma connection and connection among junction boxes:

| Core | Connection | Core | Connection |
|--------------|-------------|--------|------------|
| Black | Live (L) | Red | Data |
| White | Neutral (N) | Orange | Data |
| Yellow/Green | GND ⊕ | | |

Up to 64 Calummas can be connected in DALI network.

4.2 Power On/Off

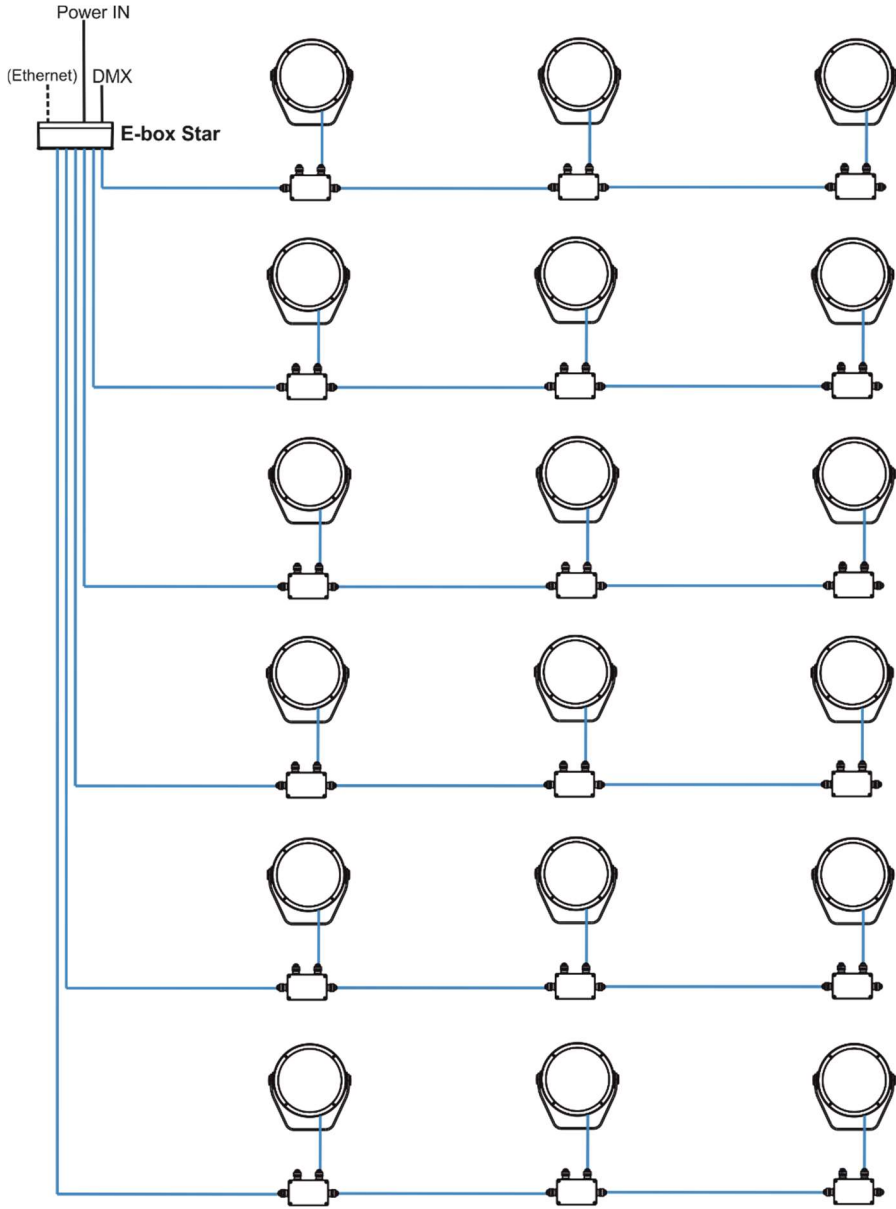


Note: This type of connection is available for SC (single chip) version only. Non dimmable.

4.3 DMX or Ethernet via E-box

Example with junction boxes

Pass Through mode is intended for this connection. Max. 32 fixtures can be connected to one LED output of the E-Box (Star, Daisy, Lite) in this mode.



CE version

IF the 5-cored cable Flamar 3x AWG 16 + 1x (2x AWG 24), (P/N 1305 1508) is used for Calumma connection and connection among junction boxes:

| Core | Connection | Core | Connection |
|--------------|-------------|-----------|------------------|
| Black | Live (L) | Red | Data + (+) |
| Blue | Neutral (N) | White | Data - (-) |
| Yellow/Green | GND ⊕ | Shielding | Data ground (0V) |

Calumma S

US version

IF the 6-cored cable SJTW 6x 14AWG, (P/N 1305 3480) is used for Calumma connection and connection among junction boxes:

| Core | Connection | Core | Connection |
|--------------|-------------|--------|------------------|
| Black | Live (L) | Red | Data + (+) |
| White | Neutral (N) | Orange | Data – (-) |
| Yellow/Green | GND ⊕ | Blue | Data ground (0V) |

Number of connected Calummas to one E-box output depends on a cable length, power voltage, type of Calumma and E-box operation mode.

The tables below state max. theoretical number of Calummas connected to the one LED output of the E-box.

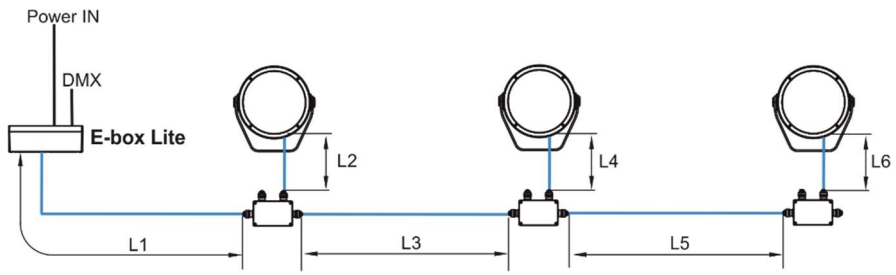
Table for Pass-Through mode of E-boxes.

| Calumma S MC | Voltage | | | |
|----------------|---------|------|------|------|
| | 120V | 190V | 230V | 277V |
| Cable length * | | | | |
| 10 m | 32 | 32 | 32 | 32 |
| 20 m | 32 | 32 | 32 | 32 |
| 30 m | 32 | 32 | 32 | 32 |
| 50 m | 26 | 32 | 32 | 32 |
| 70 m | 18 | 32 | 32 | 32 |
| 100 m | 13 | 32 | 32 | 32 |
| 200 m | 6 | 16 | 24 | 32 |
| 500 m | 3 | 6 | 9 | 14 |

| Calumma S SC | Voltage | | | |
|----------------|---------|------|------|------|
| | 120V | 190V | 230V | 277V |
| Cable length * | | | | |
| 10 m | 32 | 32 | 32 | 32 |
| 20 m | 32 | 32 | 32 | 32 |
| 30 m | 32 | 32 | 32 | 32 |
| 50 m | 26 | 32 | 32 | 32 |
| 70 m | 18 | 32 | 32 | 32 |
| 100 m | 13 | 32 | 32 | 32 |
| 200 m | 6 | 16 | 24 | 32 |
| 500 m | 3 | 6 | 9 | 14 |

* Cable length is a total cable length between power supply (e.g. E-box) and last connected Calumma.
Example: Total cable length=L1+L2+L3+L4+L5+L6

Calumma S



5. Software update

Software update of Calumma S modules has to be done by means of the software ROBE Uploader running on PC. The ROBE Uploader is a software for automatized software update of ROBE fixtures. The ROBE Uploader switches Calummas S to the update mode automatically.

Please see <https://www.robe.cz/robe-uploader/> for more information.

The Calummas S have to be operated in the Pass-Through mode.

To update Calummas S including the E-box.

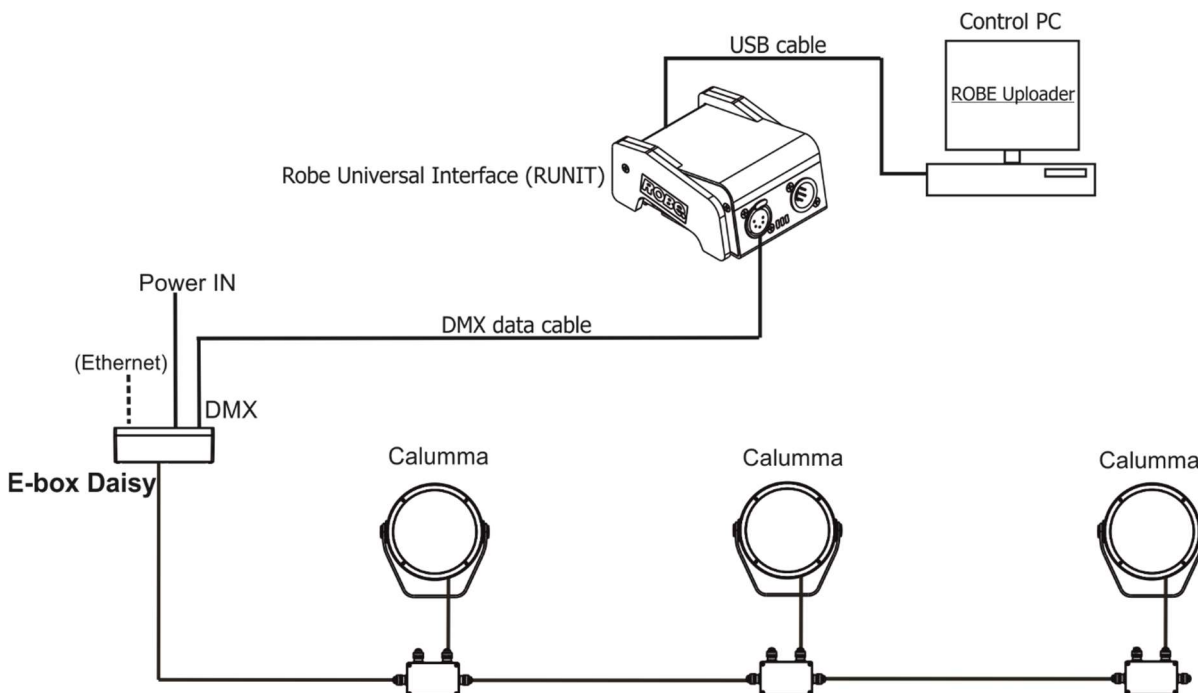
1. Update connected LED modules by means of the file Calumma.lib in the ROBE Uploader.
2. Set the E-box to the Standard mode and switch it off/on. Use the file EminereEbox.lib in the ROBE Uploader for software update of the E-box.
3. After updating the E-box, set the E-box to the Pass-Through mode and switch it off/on.

For more information about updating please see the E-box Lite/Daisy/Star user manual.

Note: Calummas S in DALI connection and ON/OFF connection cannot be updated.

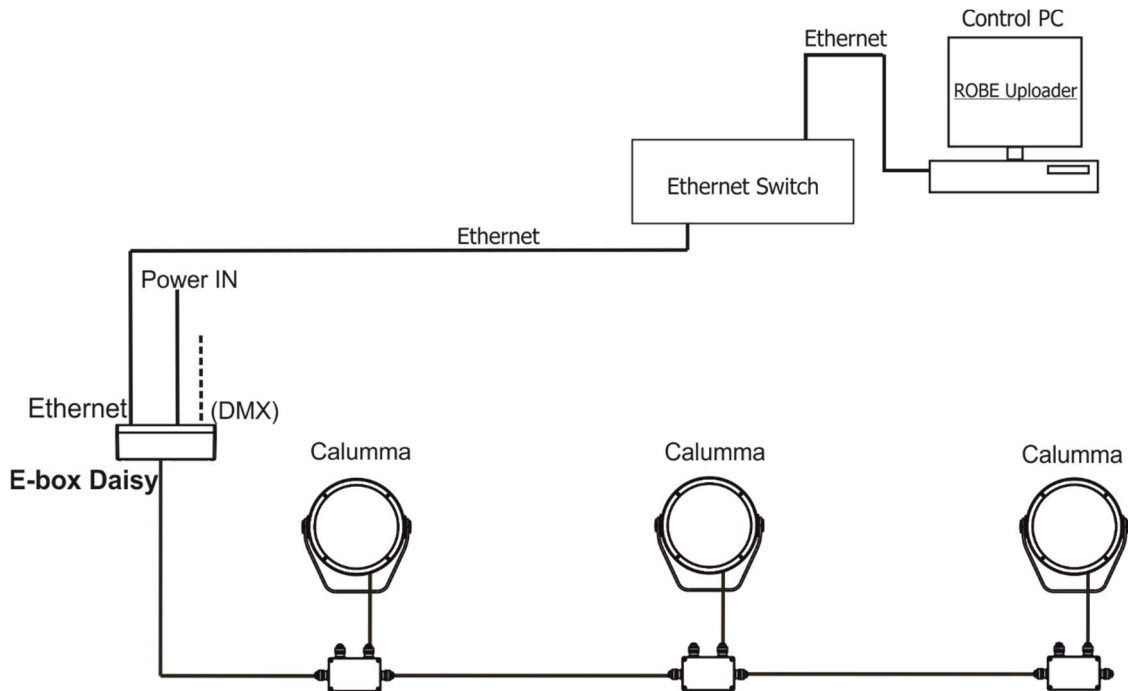
Examples of connection:

1. By means of DMX connection and RUNIT. Connection via junction boxes.



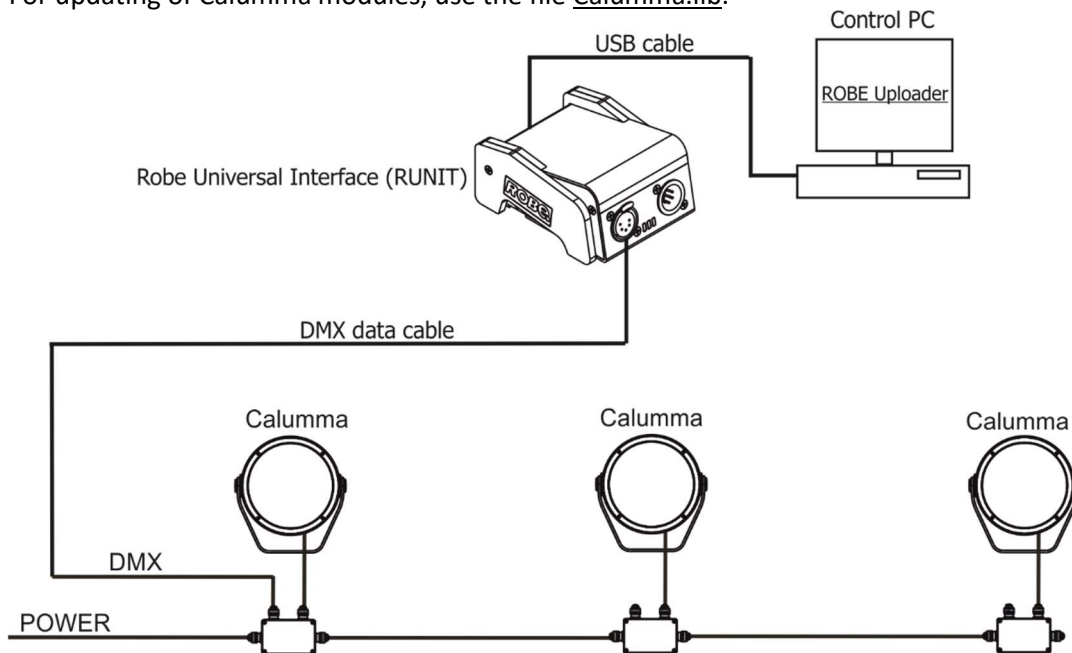
Calumma S

2. By means of the Ethernet connection. Connection via junction boxes.



DMX connection

For updating of Calumma modules, use the file [Calumma.lib](#).



6. Technical specifications

Power supply

- Electronic auto-ranging
- Input voltage: 120 - 277V AC, 50/60 Hz
- Power consumption:
 - Calumma S MC: 30 W
 - Calumma S SC: 30 W
- Inrush current:
 - Calumma S MC: 60A/230VAC, 30A/115VAC
 - Calumma S SC: 60A/230VAC, 30A/115VAC

Optic

- Light source:
 - Calumma S MC: 3 x high power multichip LEDs
 - Calumma S SC: 19 x high power single chip LEDs
- Colour variants: RGBW (W - 6500 K), RGBA, PW (W - 3000 K)
- Beam Angle Calumma S MC:
 - Symetrical: 9°, 15°, 25°, 30°, 45°, 65°, 100°
 - Bi-symetrical: 10° x 30°, 30° x 10°, 10° x 60°, 60° x 10°, 15° x 45°, 45° x 15°, 15°x90°, 90°x15°, 30°x60°, 60°x30°, 30°x90°, 90°x30°
- Beam Angle Calumma S SC:
 - Symetrical: 10°, 15°, 25°, 30°, 45°, 65°, 100°
 - Bi-symetrical: 10° x 30°, 30° x 10°, 10° x 60°, 60° x 10°, 15° x 45°, 45° x 15°, 15°x90°, 90°x15°, 30°x60°, 60°x30°, 30°x90°, 90°x30°
 - Asymmetrical side, Asymmetrical forward
- Projected Lumen Maintenance: L90B10 >90.000 hrs, Ta = 25°C / 77°F

Compatible drivers

- E-box Daisy
 - 1 Output
 - 1 Main power Input
 - Control: DMX, Art-Net, sACN , W-DMX control, RDM
 - Pixel control
 - 120-277V Input
 - Connection via terminal blocks, inlets via grommet
 - IP67
- E-box Star
 - 6 outputs
 - 1 Main power Input
 - Control: DMX, Art-Net, sACN , W-DMX control, RDM
 - Pixel control
 - 120-277V Input
 - Connection via terminal blocks, inlets via grommet
 - IP67
- E-box Lite
 - 1 output
 - 1 Main power Input
 - Control: DMX, W-DMX control, RDM
 - Pixel control
 - 120-277V Input
 - Connection via screw terminal blocks, inlets via grommet
 - IP67

Mounting method

- Via yoke
- Adjustability: -180°/+180°

Housing

- High pressure die-cast aluminium body
- Tempered glass

Cooling system

- Convection

Total heat dissipation

- Calumma S MC: 77 BTU/h (calculated)
- Calumma S SC: 77 BTU/h (calculated)

Protection factor

- CE: IP 67 (IP 66 junction box)
- US: Suitable for wet location

Impact rating

- IK10

Operating ambient temperature range

- -20°C /+40°C (-4°F /+104°F)

Connection - CE

- DMX connection
Calumma IN: Flamar 3x AWG 16 + 1 x (2x AWG 24), Standard 1m with bare-end (P/N 1305 1508)
Interconnecting cables: Flamar 3x AWG 16 + 1 x (2x AWG 24) (P/N 1305 1508)
Junction box (P/N 1098 0714)
- DALI connection
Calumma IN: SJTW 5x 14AWG, standard 1m with bare-end (P/N 1305 3336)
Interconnecting cables: SJTW 5x 14AWG (P/N 1305 3336)
Junction box (P/N 1098 0714)
- DMX or Ethernet via E-box and Junction box
Calumma IN: Flamar 3x AWG 16 + 1x (2x AWG 24), standard 1m with bare-end (P/N 1305 1508)
Interconnecting cables: Flamar 3x AWG 16 + 1 x (2x AWG 24), (P/N 1305 1508)
Junction box (P/N 1098 0714)

Connection - US

- DALI connection
Calumma IN: SJTW 5x 14AWG, standard 1m with bare-end (P/N 1305 3336)
Interconnecting cables: SJTW 5x 14AWG (P/N 1305 3336)
Junction box (P/N 1098 0714)
- DMX or Ethernet via E-box and Junction box
Calumma IN: SJTW 6x 14AWG ,standard 1m with bare-end (P/N 1305 3480)

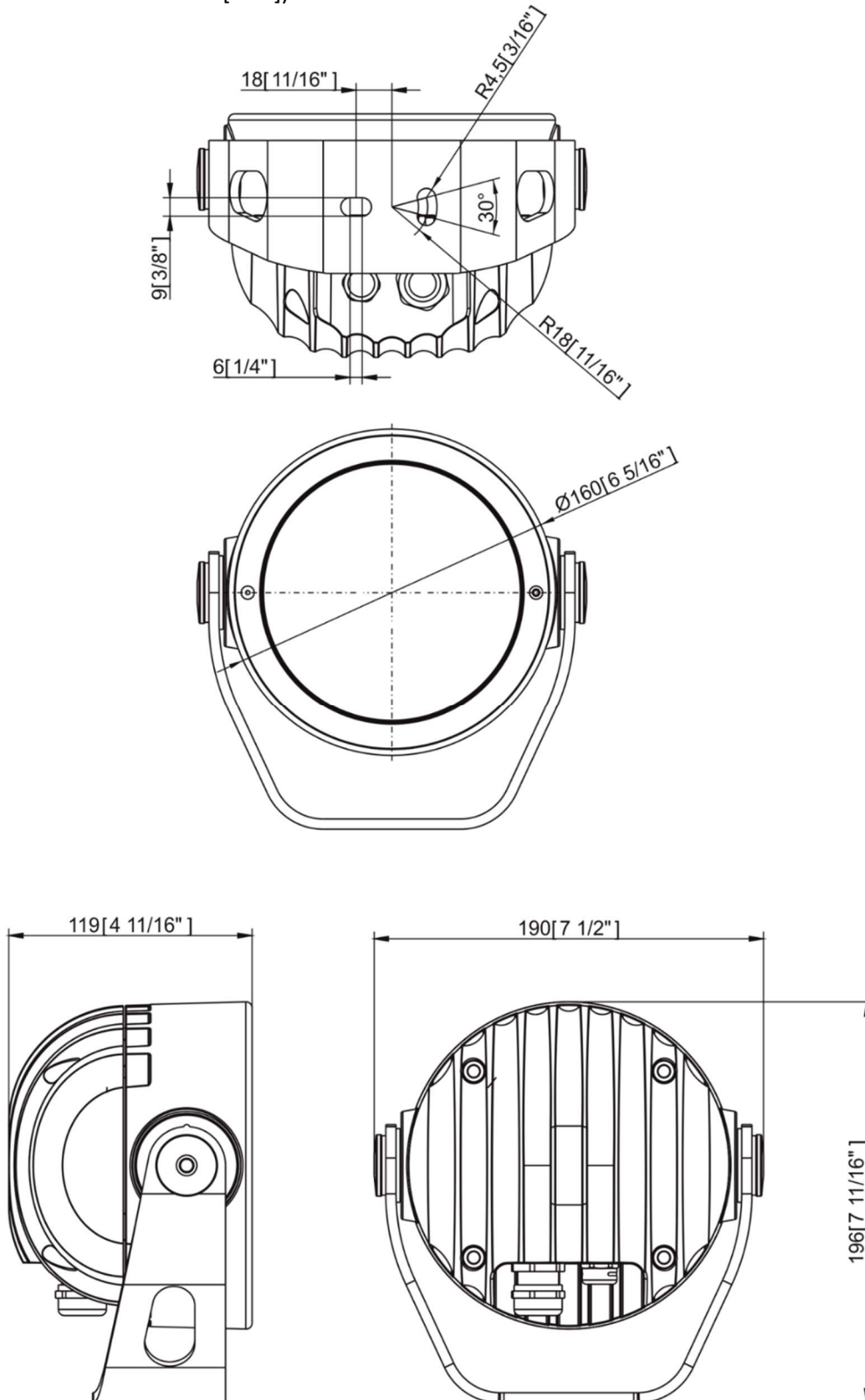
Calumma S

Interconnecting cables: SJTW 6x 14AWG ,(P/N 1305 3480)
Junction box (P/N 1098 0714)

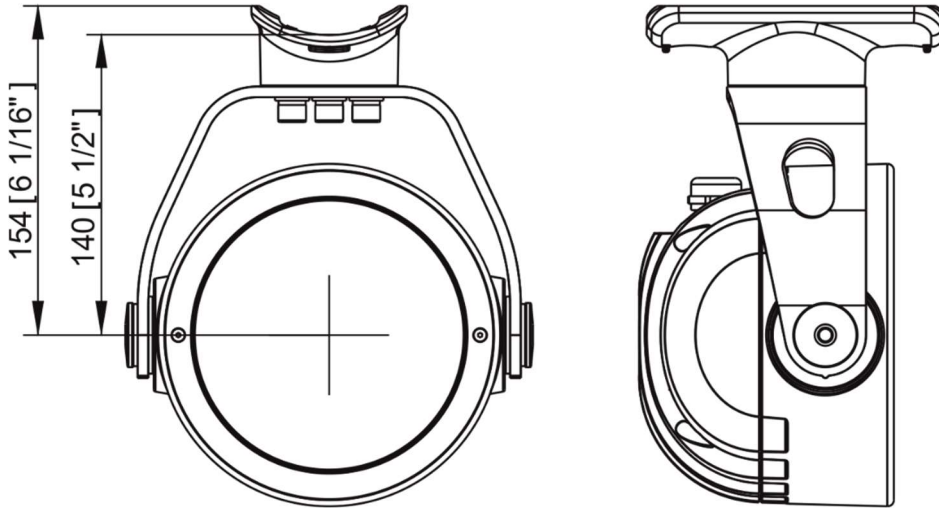
Weight

- Calumma S SC: 3.44 kg (7.6 lbs)
- Calumma S MC: 3.68 kg (8.11 lbs)

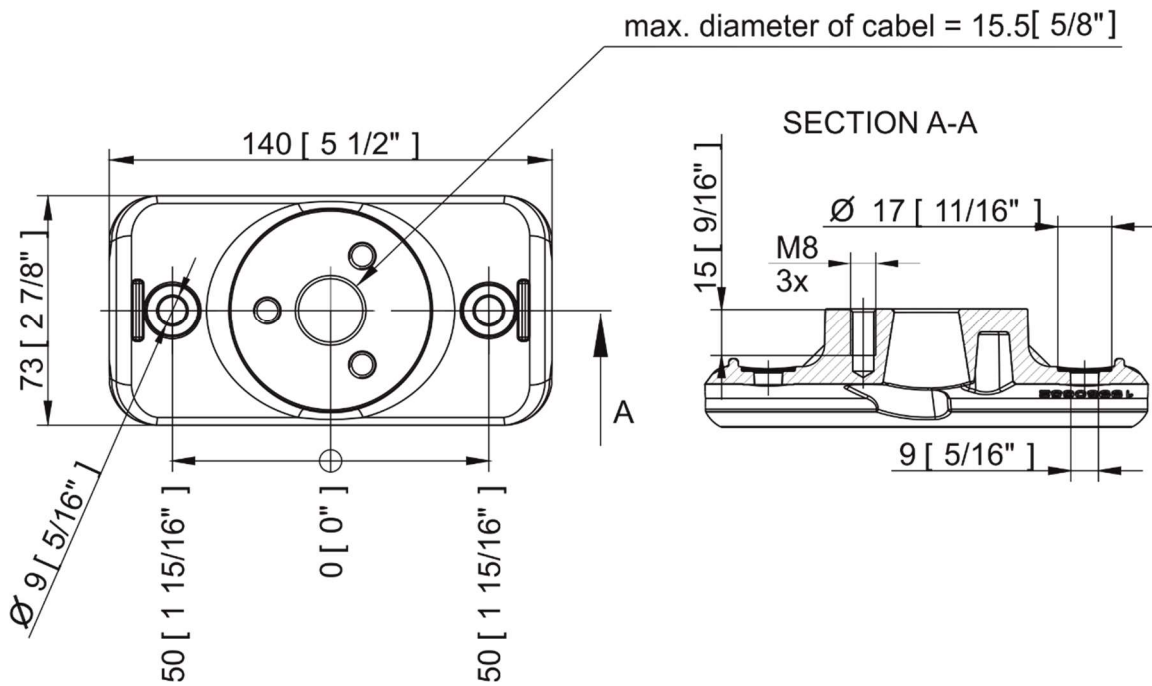
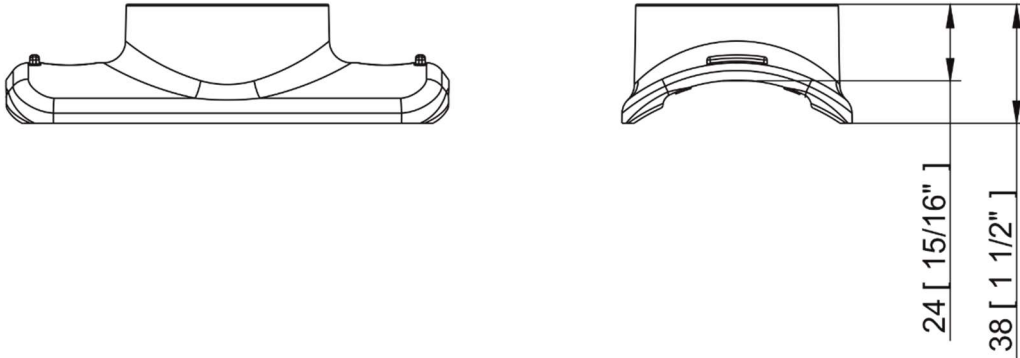
Dimensions (All dimensions in mm [inch])



Calumma S with Pole clamp adaptor

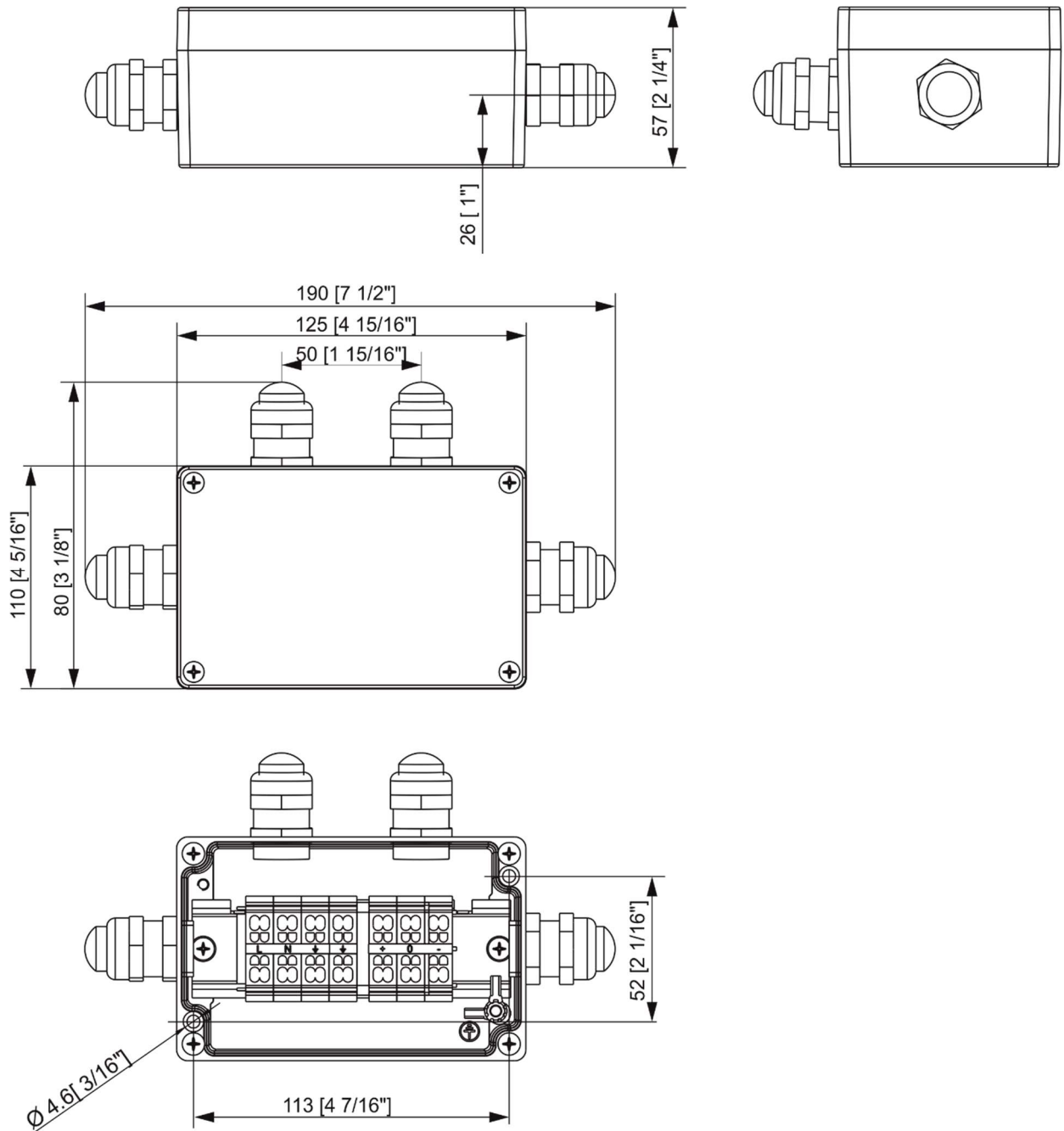


Pole clamp adaptor for Calumma



Calumma S

Junction box



Included items

- 1 x Calumma S MC / Calumma S SC
- 1 x User manual

Optional accessories

Junction Box for Calumma, 1x Output, Ral 9006 (P/N 10980757)

Junction Box for Calumma, 1x Output, Ral 9011 (P/N 10980714)

Top Hat Calumma S RAL9011 (P/N 10980733)

Calumma S

Half Top Hat Calumma S RAL9011 (P/N 10980737)
Pole clamp adaptor for Calumma RAL 9011 (P/N 10980783)
Tenon Adaptor for Calumma S
Pole Mount Bracket for Calumma S

E-box Daisy (P/N 10063655)
E-box Daisy/W (P/N 10063638)
E-box Lite (P/N 10063657)
E-box Lite/W (P/N 10063653)
E-box Star (P/N 10063656)
E-box Star/W (P/N 10063644)

7. Cleaning and maintenance

DANGER !
Disconnect from the mains before starting any maintenance or cleaning work

Rinse off loose dirt with low pressure water spray. Wash the housing with a soft brush or sponge and a mild, non-abrasive washing detergent. Rinse it.

Maintenance and service operations are only to be carried out by a qualified person.

Should you need any spare parts, please use ROBE OEM parts.

7.1 Disposing of the product

To preserve the environment please dispose or recycle this product at the end of its life according to the local regulations and codes.

8. ChangeLog

This section summarizes changes in the user manual.

| Version of manual | Date of issue | Description of changes |
|-------------------|---------------|---|
| 1.1 | 12/10/2022 | DMX chart ver.1.1 added |
| 1.2 | 05/01/2023 | Software update description changed |
| 1.3 | 10/02/2023 | DMX chart ver. 1.2 added |
| 1.4 | 17/02/2023 | Pole adaptor for Calumma added |
| 1.5 | 22/02/2023 | Power ON/Off connection description changed |

Specifications are subject to change without notice.

February 22, 2023

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Made in CZECH REPUBLIC by ROBE LIGHTING s.r.o. Palackeho 416/20 CZ 75701 Valasske Mezirici

DMX protocol for Calumma - All sizes - MC and SC

Version: 1.2 (16 modes in total)

| Mode/Channels in all | | | | | | | | Mode 1- RGBW(A)-8bit, Mode 2- RGB 8-bit, Mode 3- full RGBW(A) | | |
|----------------------|---|----|---|---|---|----|-----------|--|--|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8-10 | Mode 4- White-full control, Mode 5- Reduced RGBW(A) | | |
| 4 | 3 | 12 | 3 | 6 | 8 | 15 | Reserved | Mode 6- Reduced RGBW(A)+white control | | |
| Mode/channels | | | | | | | | RGBW/RGBA/RGB modes | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | DMX Value | Function | | Type of control |
| - | - | - | - | - | - | 1 | | Special functions | | |
| | | | | | | | 0 | No function | | step |
| | | | | | | | | <i>To activate following functions , stop in DMX value for at least 3 sec.</i> | | |
| | | | | | | | 1-2 | Save current DMX values to fixture as initial DMX values. | | step |
| | | | | | | | 3-4 | Show saved initial DMX values | | step |
| | | | | | | | 5-6 | Run factory demo sequences at switching fixture on (without DMX) | | step |
| | | | | | | | 7-255 | Reserved | | |
| 1 | 1 | 1 | - | 1 | 1 | 2 | | Red | | |
| | | | | | | | 0 - 255 | Red LEDs saturation control (0-100%) | | proportional |
| - | - | 2 | - | - | - | 3 | | Red Fine | | |
| | | | | | | | 0 - 255 | Red LEDs saturation control fine | | proportional |
| 2 | 2 | 3 | - | 2 | 2 | 4 | | Green | | |
| | | | | | | | 0 - 255 | Green LEDs saturation control (0-100%) | | proportional |
| - | - | 4 | - | - | - | 5 | | Green Fine | | |
| | | | | | | | 0 - 255 | Green LEDs saturation control fine | | proportional |
| 3 | 3 | 5 | - | 3 | 3 | 6 | | Blue | | |
| | | | | | | | 0 - 255 | Blue LEDs saturation control (0-100%) | | proportional |
| - | - | 6 | - | - | - | 7 | | Blue Fine | | |
| | | | | | | | 0 - 255 | Blue LEDs saturation control fine | | proportional |
| 4 | - | 7 | - | 4 | 4 | 8 | | White (Amber) | | |
| | | | | | | | 0 - 255 | White LEDs saturation control (0-100%) | | proportional |
| - | - | 8 | - | - | - | 9 | | White (Amber) Fine | | |
| | | | | | | | 0 - 255 | White LEDs saturation control fine | | proportional |
| - | - | 9 | 1 | - | 5 | 10 | | Green correction | | |
| | | | | | | | 0 | Uncorrected white | | step |
| | | | | | | | 1-127 | Minus green - uncorrected white | | proportional |
| | | | | | | | 128 | Uncorrected white (128=default) | | step |
| | | | | | | | 129-255 | Uncorrected white - Plus green | | proportional |
| - | - | 10 | 2 | - | 6 | 11 | | Colour temperature correction (CTC) | | |
| | | | | | | | 0 | No function | | step |
| | | | | | | | 1 - 10 | Tungsten dimming 2700 K | | step |
| | | | | | | | 11 - 20 | Tungsten dimming 3200 K | | step |
| | | | | | | | 21-255 | Colour temperature changing from 1800 K --> 6500 K (21-1800K, 66-2700K, 91-3200K,141-4200K, 211-5600K, 255-6500K) | | proportional |
| - | - | - | - | - | - | 12 | | Virtual Colour Wheel | | |
| | | | | | | | 0 | No function | | step |
| | | | | | | | 1-2 | White 1800 K | | step |
| | | | | | | | 3-4 | White 2700 K | | step |
| | | | | | | | 5-6 | White 3200 K | | step |

DMX protocol

| Mode/channels | | | | | | | DMX Value | Function | Type of control |
|---------------|---|---|---|---|---|-----------|-----------|---|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | |
| | | | | | | | 7-8 | White 4200 K | step |
| | | | | | | | 9-10 | White 5600 K | step |
| | | | | | | | 11-12 | White 6500 K | step |
| | | | | | | | 13 | Blue (Blue=full, Red+Green+White/Amber=0) | step |
| | | | | | | | 14-23 | Red=0, Green->up,Blue =full, White/Amber=0 | proportional |
| | | | | | | | 24 | Cyan (Red=0, Green=full, Blue =full, White/Amber=0) | step |
| | | | | | | | 25-34 | Red=0, Green=full, Blue->down, White/Amber=0 | proportional |
| | | | | | | | 35 | Green (Red=0, Green=full, Blue =0, White/Amber=0) | step |
| | | | | | | | 36-45 | Red->up, Green=full, Blue=0, White/Amber=0 | proportional |
| | | | | | | | 46 | Yellow (Red=full, Green=full, Blue=0, White/Amber=0) | step |
| | | | | | | | 47-56 | Red=full, Green->down, Blue=0, White/Amber=0 | proportional |
| | | | | | | | 57 | Red(Red=full, Green=0, Blue=0, White/Amber=0) | step |
| | | | | | | | 58-67 | Red=full, Green=0, Blue->up, White/Amber=0 | proportional |
| | | | | | | | 68 | Magenta (Red=full, Green=0, Blue=full, White/Amber=0) | step |
| | | | | | | | 69-78 | Red -> down, Green=0, Blue=full, White/Amber=0 | proportional |
| | | | | | | | 79 | Blue (Red=0, Green=0, Blue=full, White/Amber=0) | step |
| | | | | | | | | Transition effects | |
| | | | | | | | 80-87 | Rainbow effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 88-95 | Rainbow effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 96-103 | Full dynamic white (1800K->6500K->1800K) (with fade time) from slow-> fast | proportional |
| | | | | | | | 104-111 | Full dynamic white (1800K->6500K->1800K) (without fade time) from slow-> fast | proportional |
| | | | | | | | 112-119 | Dynamic warm white (1800K-3000K-1800K) (with fade time) from slow-> fast | proportional |
| | | | | | | | 120-127 | Dynamic warm white (1800K-3000K-1800K) (without fade time) from slow-> fast | proportional |
| | | | | | | | 128-135 | Rainbow effect + full dynamic white (with fade time) from slow-> fast | proportional |
| | | | | | | | 136-143 | Rainbow effect + full dynamic white (without fade time) from slow-> fast | proportional |
| | | | | | | | 145-151 | Blue/Green effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 152-159 | Blue/Green effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 160-167 | Red/Blue effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 168-175 | Red/Blue effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 176-183 | Green/Red effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 184-191 | Green/Red effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 192-199 | Blue/4000K effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 200-207 | Blue/4000K effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 208-215 | Green/4000K effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 216-223 | Green/4000K effect (without fade time) from slow-> fast | proportional |
| | | | | | | | 224-231 | Red/4000K effect (with fade time) from slow-> fast | proportional |
| | | | | | | | 232-239 | Red/4000K effect (without fade time) from slow-> fast | proportional |
| | | | | | | 13 | | Shutter/Strobe | |
| | | | | | | | 0-31 | Shutter closed | step |
| | | | | | | | 32-63 | Shutter open | step |
| | | | | | | | 64-95 | Strobe-effect from slow to fast | proportional |
| | | | | | | | 96-127 | Shutter open | step |
| | | | | | | | 128-143 | Opening pulse in sequences from slow to fast | proportional |
| | | | | | | | 144-159 | Closing pulse in sequences from fast to slow | proportional |

DMX protocol

| Mode/channels | | | | | | | DMX Value | Function | Type of control |
|--|---|----|---|---|---|----|-----------|--|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | |
| | | | | | | | 160-191 | Shutter open | step |
| | | | | | | | 192-223 | Random strobe-effect from slow to fast | proportional |
| | | | | | | | 224-255 | Shutter open | step |
| - | - | 11 | 3 | 5 | 7 | 14 | | Dimmer | |
| | | | | | | | 0 - 255 | Light intensity coarse (0-100%) | proportional |
| - | - | 12 | - | 6 | 8 | 15 | | Dimmer Fine | |
| | | | | | | | 0 - 255 | Light intensity fine | proportional |
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| All Specifications subject to change without notice | | | | | | | | | |

| DMX protocol for Calumma - All sizes - MC and SC | | | | | |
|--|-----------|-----------|------------------|--|------------------------|
| Version: 1.2 (16 modes in total) | | | | | |
| Mode/Channels in all | | | | TW Modes: Mode 6- White selection + Dimmer, Mode 7- WW + CW | |
| 11 | 12 | 13 | 14-16 | PW Mode: Mode 8- Dimmer | |
| 3 | 4 | 2 | Reserved | | |
| TW and PW modes | | | | | |
| Mode/channels | | | DMX Value | Function | Type of control |
| 11 | 12 | 13 | | | |
| 1 | - | - | | White colour selection | |
| | | | 0 - 255 | White from 2700 K - 6500 K | proportional |
| - | 1 | - | | Warm White | |
| | | | 0 - 255 | Warm White LEDs saturation control (0-100%) | proportional |
| - | 2 | - | | Cool White | |
| | | | 0 - 255 | Cool White LEDs saturation control (0-100%) | proportional |
| 2 | 3 | 1 | | Dimmer | |
| | | | 0 - 255 | Light intensity coarse (0 - 100%) | proportional |
| 3 | 4 | 2 | | Dimmer Fine | |
| | | | 0 - 255 | Light intensity fine | proportional |
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