CaMate

CM80 Series
# Vari-Angle IR Illuminator
Installation Guide
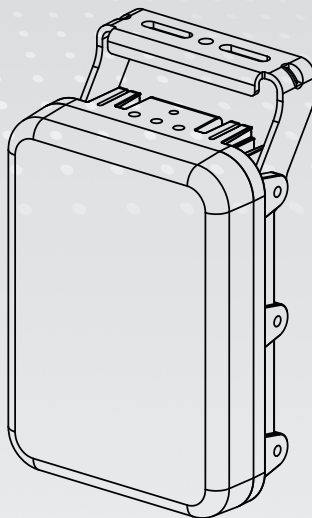


Rev. 1.1

QIG Part no.: 625040201G
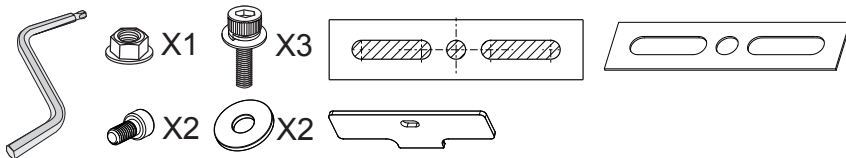
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## Package Contents



X1  X3

X2  X2

The 1/4" screws and washers are used to secure the illuminator to an external camera housing.

### 📝 NOTE:

- The wall-mount (CMA-B04), corner-mount (AM-412), pole-mount adaptor (AM-311/312), and other brackets are separately purchased.

- The screws and anchors for securing the illuminator to wall are user-supplied. Apply M6 anchors or screws.

## ⚠ WARNING:

- Please avoid eye exposure or apply appropriate protection, such as wearing a pair of Infrared protection glasses, when working with the product. Always use camera live view to oberve IR lighting effects.

- The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 2.5 m is not expected.

- The external flexible cable or cord of this luminaire cannot be replaced; if the cord is damaged, the luminaire shall be destroyed.

- The light source of this luminaire is not replaceable; when the light source reaches its end of life the whole luminaire shall be replaced.

- Please make sure Reinforce/Double insulation shall be maintained between LV supply and control circuits after installation.

- This flood light shall be used with a IEC/EN 61347-2-13 approved LED driver with SELV output equal to rated voltage of the luminaire, and output power of LED drivers shall be at least equal to rated power of the luminaire.

- Terminal block is not included. Installation may require advice from a qualified personnel.

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IR illuminators RISK GRORP 3 / WARNING IR emitted from this product. / Avoid eye exposure. Use appropriate shielding or eye protection. Do not look at operating lamp.

Class III luminaires
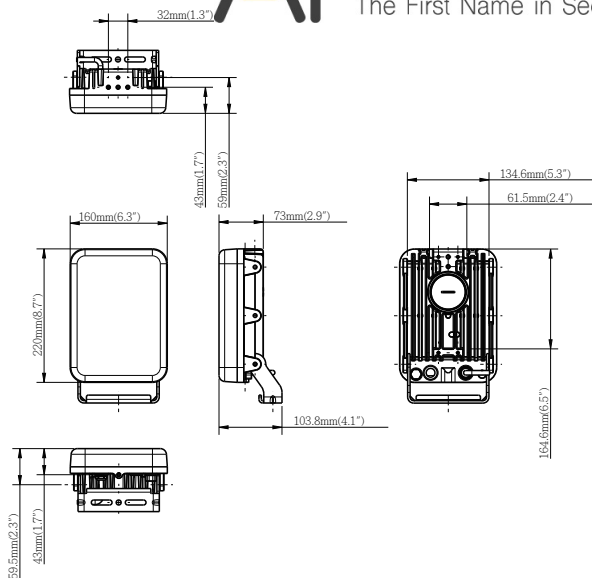
Do not stare at the operating light source.

This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.
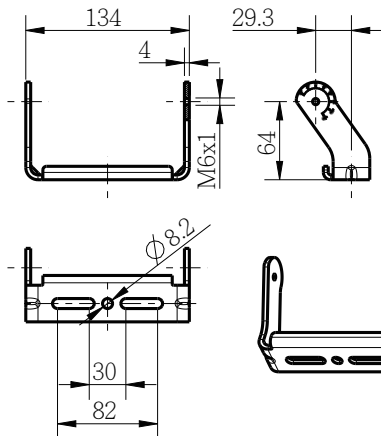
## ⚠ **IMPORTANT:**

- Do not install the product with unstable brackets, or installed on fragile mount surfces.
- This product shall be used in compliance with local laws and regulation.
- Please avoid using chemical or aerosol cleaning fluids to clean the product. Use a clean cloth slightly moistened with water.
- This product contains no parts repairable by the users. Contact CaMate for services.
- Power off the Illuminator as soon as smoke or unusual odors are detected.
- Do not place the Illuminator on unsteady surfaces.
- Replacing or failing to properly install the waterproof components, e.g., cables or cable glands, will void our IP67 warranty.
- Refer to your datasheet for the operating temperature.
- Do not touch the Illuminator during a lightning storm.

32mm(1.3")

43mm(1.7")
59mm(2.3")
160mm(6.3")
73mm(2.9")
134.6mm(5.3")
61.5mm(2.4")
220mm(8.7")
164.6mm(6.5")
103.8mm(4.1")
59.5mm(2.3")
43mm(1.7")

Standard Small U bracket

134
29.3
4
M6x1
64
Ø8.2
30
82

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Reserved mounting holes for
external camera housing

U bracket

Waterproof cover
for angle selector

Mounting holes

Optional mounting points for
U bracket

Dehumidifier
membrane

Reserved

Light sensor

Combo cable
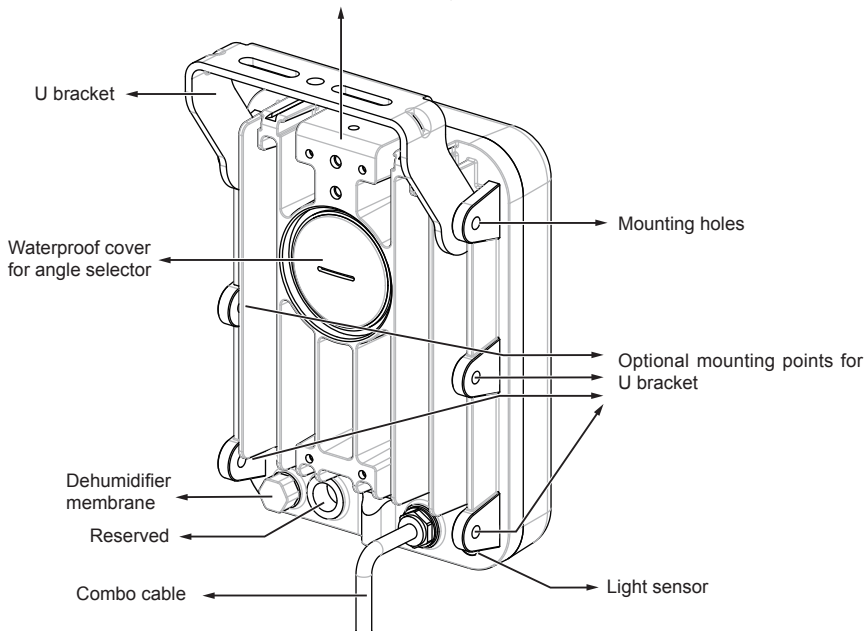
**Unit Weight**: 2.1KG.

**Max. Project Area**: 34684.7mm$^2$.
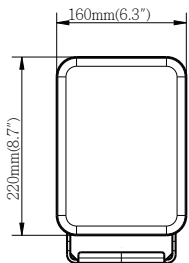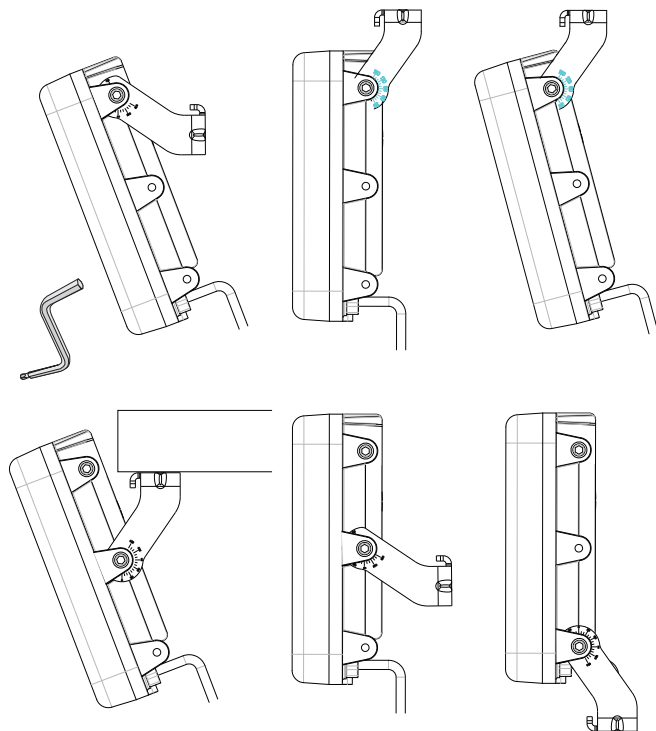
160mm(6.3″)

220mm(8.7″)

⚠ **IMPORTANT:**

It is highly recommended that the illuminator should be installed at a position higher than **3 meters** from the ground.

## U Bracket Positions & Orientation

Use the included allen wrench to attach and adjust the U bracket to your needs at the installation site.

You must first survey the
f the illuminator.

Use a coin or flat blade

35-Kg-cm
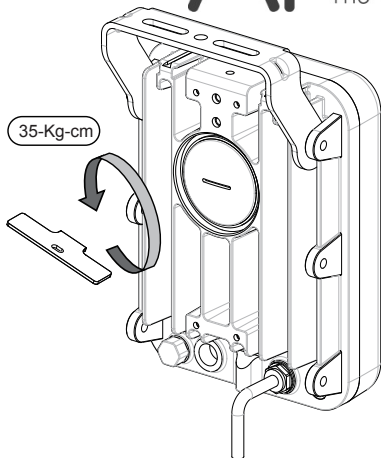
💡 **Tips:**

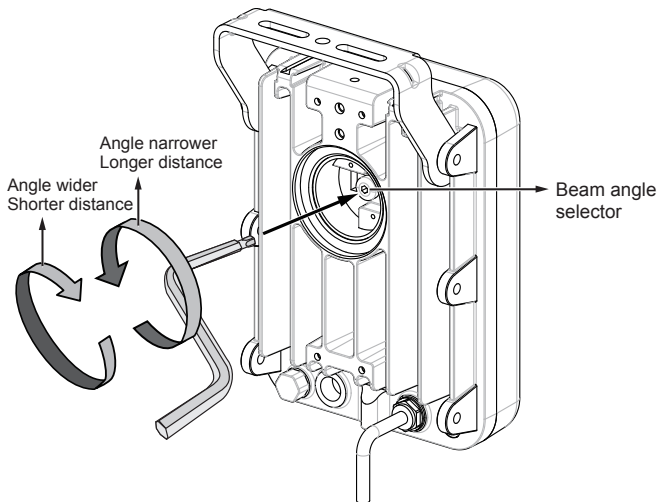**You may forget your current beam angle configuration**. In this case, turn many full circles clockwise until the rotation resistance is felt (returns to the widest angle, reaches its mechanical stops), and then turn the selector counter-clockwise according to the angle listed on the tables. Each full circle corresponds to a preset beam angle.

Use the 4mm side of the allen wrench to turn the beam angle to an estimated illumination distance, e.g., 200 meters. See the tables on the next page for how to do it.

Angle narrower
Longer distance

Angle wider
Shorter distance

Beam angle selector

The factory default for the [...] hen you turn the selector many rounds to i [...] ce can be felt. That means the mechanical stop is [...]

Refer to the tables below for the configurable IR light **beam angles** and the number of **full circles** needed to change to the preferred beam angles. Each full circle corresponds to a preset beam angle.

For example, if you need to change CM80I8-1040's beam angle to 30° (178m), turn the beam angle selector **Counter-clockwise 2 full circles**. If you are at the narrowest angle (10°) and prefer to turn to 24°, turn 3 full circles clockwise. When done, install the waterproof cover.

**Example:**



Angle / Width / Distance

40° ⇨ 36° ⇨ 30°

| CM80I8-1040 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Rotate direction | Full circle | Beam angle | Single mount | | Double mount | | Triple mount | |
| | | | Distance(m) | Width(m) | Distance(m) | Width(m) | Distance(m) | Width(m) |
| Counter-clockwide Narrower / Clockwide Wider | 0 | 40° | 140 | 101.9 | 198.0 | 144.1 | 242.5 | 176.5 |
| | 1 | 36° | 150 | 97.5 | 212.1 | 137.9 | 259.8 | 168.8 |
| | 2 | 30° | 178 | 95.4 | 251.7 | 134.9 | 308.3 | 165.2 |
| | 3 | 27° | 192 | 92.2 | 271.5 | 130.4 | 332.6 | 159.7 |
| | 4 | 24° | 210 | 89.3 | 297.0 | 126.3 | 363.7 | 154.6 |
| | 5 | 16° | 288 | 81.0 | 407.3 | 114.5 | 498.8 | 140.2 |
| | 6 | 15° | 301 | 79.3 | 425.7 | 112.1 | 521.3 | 137.3 |
| | 7 | 10° | 350 | 61.2 | 495.0 | 86.6 | 606.2 | 106.1 |

| CM80I8-2040 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Rotate direction | Full circle | Beam angle | Single mount | | Double mount | | Triple mount | |
| | | | Distance(m) | Width(m) | Distance(m) | Width(m) | Distance(m) | Width(m) |
| Counter-clockwide Narrower / Clockwide Wider | 0 | 40° | 170 | 123.7 | 240.4 | 175.0 | 294.4 | 214.3 |
| | 1 | 36° | 175 | 113.7 | 247.5 | 160.8 | 303.1 | 197.0 |
| | 2 | 29° | 210 | 108.6 | 297.0 | 153.6 | 363.7 | 188.1 |
| | 3 | 27° | 221 | 106.1 | 312.5 | 150.1 | 382.8 | 183.8 |
| | 4 | 20° | 280 | 98.7 | 396.0 | 139.6 | 485.0 | 171.0 |

| Rotate direction | Full circle | Beam angle | Single mount | | Double mount | | Triple mount | |
|---|---|---|---|---|---|---|---|---|
| | | | Distance(m) | Width(m) | Distance(m) | Width(m) | Distance(m) | Width(m) |
| Counter-clockwide Narrower / Clockwide Wider | 0 | 80° | 80 | 134.3 | 113.1 | 189.9 | 138.6 | 232.5 |
| | 1 | 77° | 83 | 132.0 | 117.4 | 186.7 | 143.8 | 228.7 |
| | 2 | 74° | 85 | 128.1 | 120.2 | 181.2 | 147.2 | 221.9 |
| | 3 | 66° | 89 | 115.6 | 125.9 | 163.5 | 154.2 | 200.2 |
| | 4 | 63° | 92 | 112.8 | 130.1 | 159.5 | 159.3 | 195.3 |
| | 5 | 60° | 95 | 109.7 | 134.4 | 155.1 | 164.5 | 190.0 |
| | 6 | 55° | 100 | 104.1 | 141.4 | 147.2 | 173.2 | 180.3 |
| | 7 | 52° | 105 | 102.4 | 148.5 | 144.8 | 181.9 | 177.4 |
| | 8 | 50° | 109 | 101.7 | 154.1 | 143.8 | 188.8 | 176.1 |
| | 9 | 45° | 115 | 95.3 | 162.6 | 134.7 | 199.2 | 165.0 |
| | 10 | 40° | 120 | 87.4 | 169.7 | 123.5 | 207.8 | 151.3 |

| CM80I8-90120 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Rotate direction | Full circle | Beam angle | Single mount | | Double mount | | Triple mount | |
| | | | Distance(m) | Width(m) | Distance(m) | Width(m) | Distance(m) | Width(m) |
| Counter-clockwide Narrower / Clockwide Wider | 0 | 120° | 60 | 207.8 | 84.9 | 293.9 | 103.9 | 360.0 |
| | 1 | 105° | 65 | 169.4 | 91.9 | 239.6 | 112.6 | 293.4 |
| | 2 | 90° | 70 | 140.0 | 99.0 | 198.0 | 121.2 | 242.5 |

Select a position at the in ... he alignment sticker
and start drilling a hole or ...
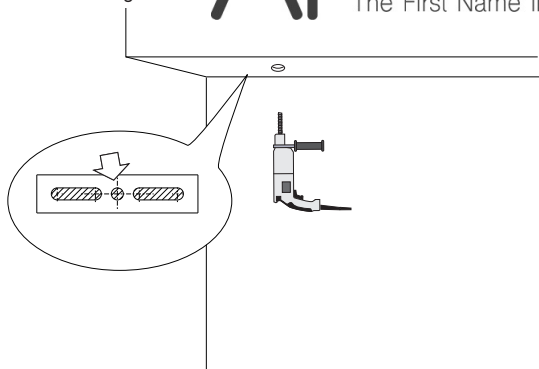
Apply the included grip sticker to the U bracket.
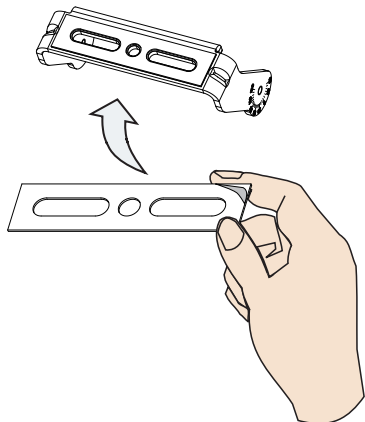
Hammer the anchor in ... the U bracket to it, such as securing it using the ...

M6 anchor
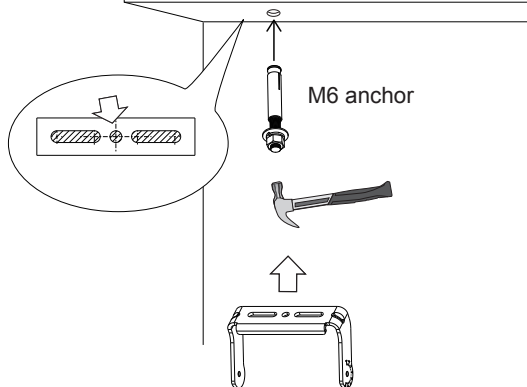
Secure the illuminator to bracket using the hex socket screws.
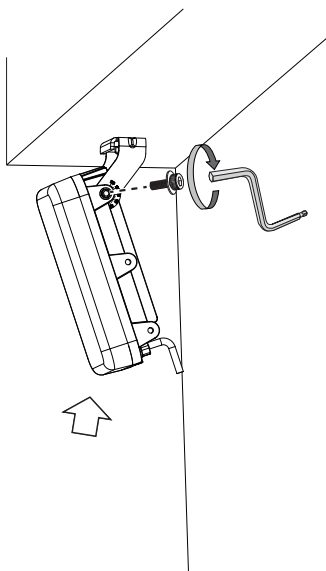
You will need to turn on b  th the illuminated area
with the camera's field of
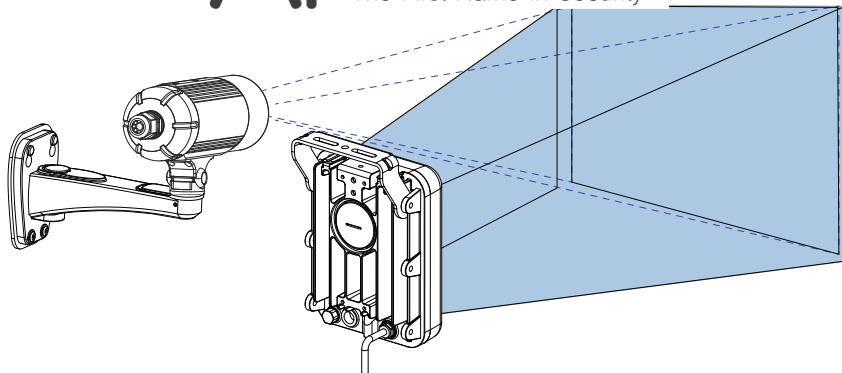


Turn the illuminator toward the FOV of the partner camera, shift the tilt angle, and then tighten the screw and the rear cover to secure the illuminator.

**Cable Pinouts**

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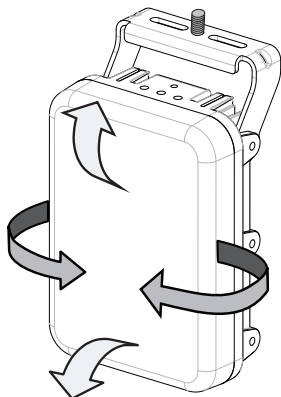
| Name | Color | Gauge | Description |
|------|-------|-------|-------------|
| V+ | Red | (20AWG) | Power input |
| V- | Black | (20AWG) | 12~24V DC±10%<br>24V AC±10% (50~60Hz), (14.5VDC current controlled) |
| DI+ | Green | (26AWG) | LED ON/OFF control<br>* Dry contact<br>Logic level 1(Open) = LED off<br>Logic level 0(Close to GND) = LED on<br>* Wet contact<br>Logic level 1: 4V~40 V = LED off<br>Logic level 0: 0.8V MAX = LED on |
| DI- | Yellow | (26AWG) | Ground |
| DO+ | Purple | (26AWG) | Light sensor status output<br>1. Open = Day<br>2. Short = Night (300 lux for IR ON) |
| DO- | Blue | (26AWG) | Ground |
| RS485+ | Orange | (26AWG) | RS485 interface control |
| RS485- | Brown | (26AWG) | |
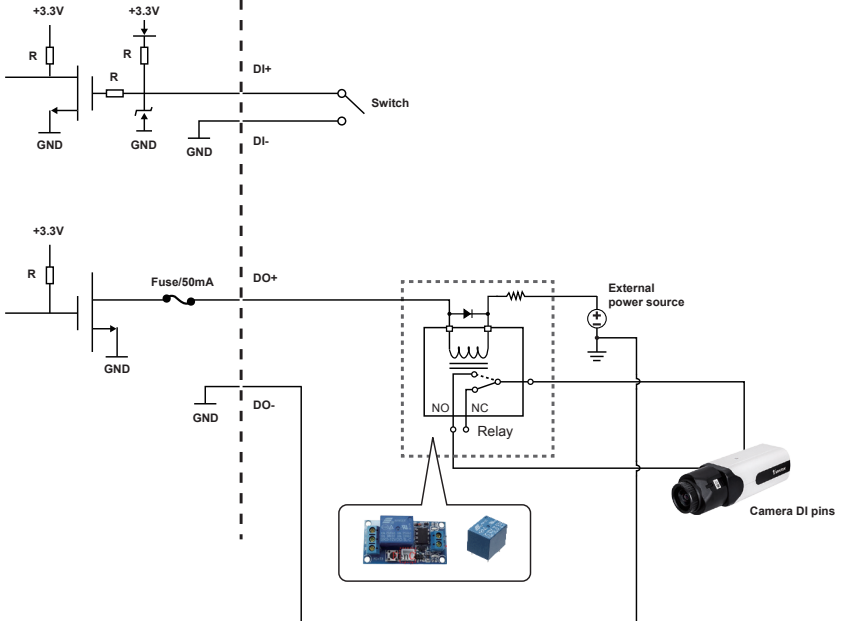
**IR LED ON/OFF control (Green & Yellow wires)**

This mode means that CaMate illuminator On/Off control is triggered by camera or other alarm system. User can decide using the appropriate dry/wet contacts depending on wiring condition.

DI+: Green = TTL + voltage
DI-: Yellow = TTL – voltage (GND)

\* Dry contact

  Logic level 1 (Open) = LED off
  Logic level 0 (Close to GND) = LED on

\* Wet contact

  Logic level 1: 4V~40 V = LED off
  Logic level 0: 0.8V MAX = LED on

**Light sensor status output mode**

This mode means that the illuminator's On/Off control and is triggered by the illuminator's light sensor via the DO(Digital output) connection (connected to the camera's DI pins). Users can configure the camera configuration to control the corresponding illuminator On/Off status.

   DO+: Purple= Open drain output, 45V Max. (current must be under 100mA)

   DO-: Bule = GND

Light sensor status output

   1. Open = Day

   2. Short = Night (lower than 300 lux for IR to turn ON)

**Stand-alone illuminator mode**

This mode means that the illuminator's On/Off control is triggered by its light sensor, in the case, the default wiring is connecting the green wire with purple wire.

Some cameras have related settings that need the inter-connection with the illuminator. For example, some cameras come with an IR cut filter that need to be turned off when entering night mode; or, automatically turn on the adjacent illuminator when entering night mode.

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