

User Manual

CM32 Series

Revision History

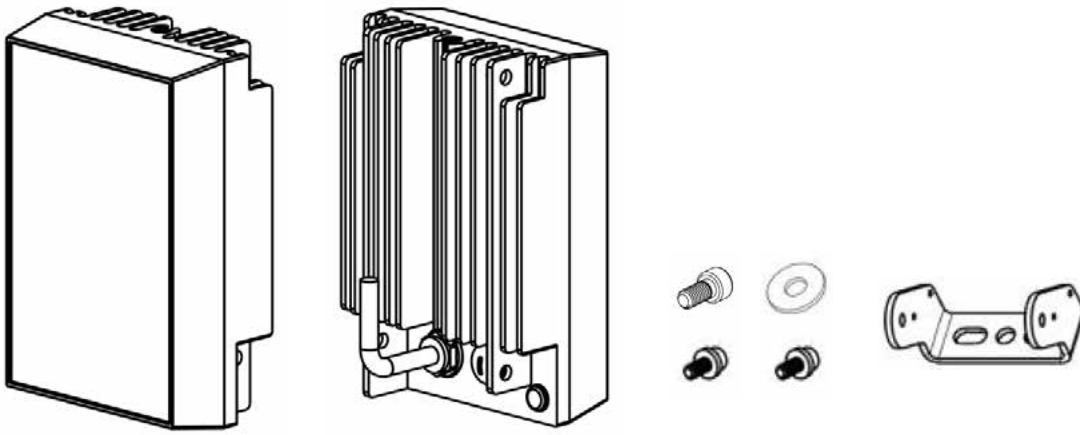
Doc. Ver.	Comment
Rev.1.0	Initial Release
Rev.2.0	Refine Manual & Style

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Package Contents

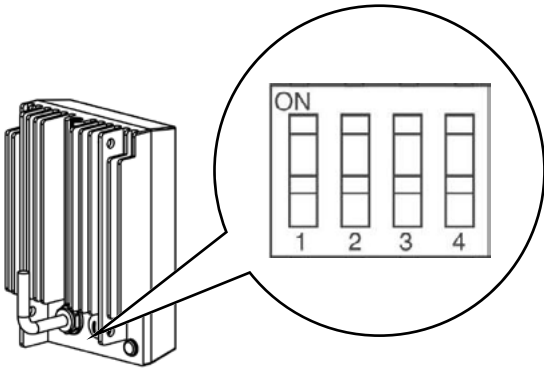
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- 1x IR Illuminator Unit
- 2x M6 screw
- 1x U-bracket
- 1x M6 X10 screw & 1x Washer

Specification

- Power Input: 24VAC or 24VDC. Max. power consumption is 32W.
- IR Angle: 10°/35°/70°/100°
- Configuration:



Switch Description	Number	Switch Setting	Specification
Light sensor Threshold	1 2	[1:2] OFF/OFF	3/30 lux
		[1:2] OFF/ON	50/200 lux
		[1:2] ON/OFF	300/600 lux
		[1:2] ON/ON	600/1000 lux
LED ON/OFF mode	3	OFF	Auto (Light Sensor Control)
		ON	Manual (DI Control)
DI Polarity	4	OFF	DI Active Low
		ON	DI Active High

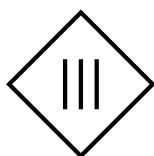
WARNING

- 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 observe 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 an 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 qualified personnel.



IR illuminators RISK GROUP 3 / WARNING IR emitted from this product. / Avoid eye exposure. Use appropriate shielding or eye protection. Do not look at the 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 environmentally safe recycling.

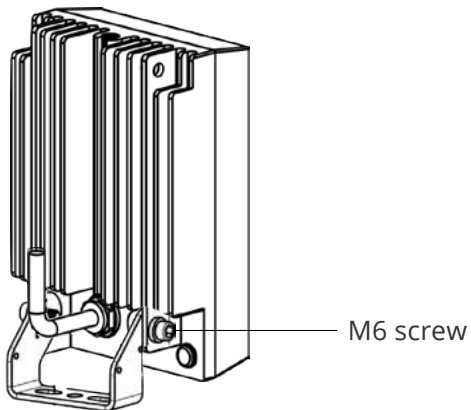
IMPORTANT

- Do not install the product with unstable brackets or installed on fragile mount surfaces.
- This product shall be used in compliance with local laws and regulations.
- 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.

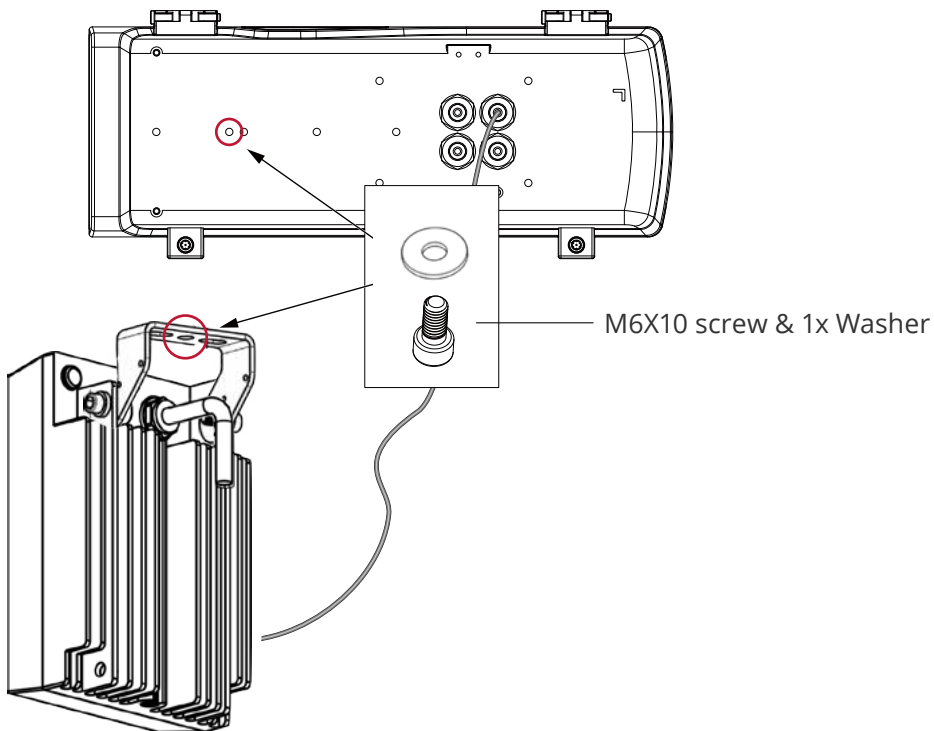
- Refer to your datasheet for the operating temperature.
- Do not touch the illuminator during a lightning storm.

Installation

Installation Guide with U-Bracket



Installation Guide with Housing



Cable Pinouts & Basic Wiring

Cable Pinouts

Name	Color	Gauge	Remark
D/N+	Purple	26AWG	Day/Night Detection Output
D/N-	Blue	26AWG	
COM+	Orange	26AWG	Error Status Output
COM-	Brown	26AWG	
LED+	Green	26AWG	LED ON/OFF Control Input
LED-	Yellow	26AWG	
Power+	Red	20AWG	Power Input: 24VAC or 24VDC
Power-	Black	20AWG	

Synchronization with Camera

IR Illuminator Bidirectional Detection and Activation

To ensure synchronized nighttime detection, configure the IR illuminator and its paired camera to automatically activate IR illumination and switch camera to Night Mode based on ambient lighting conditions. The wiring diagram below enables bidirectional triggering, allowing both the IR illuminator's light sensor and the camera's light sensor to work together.

Wiring Overview

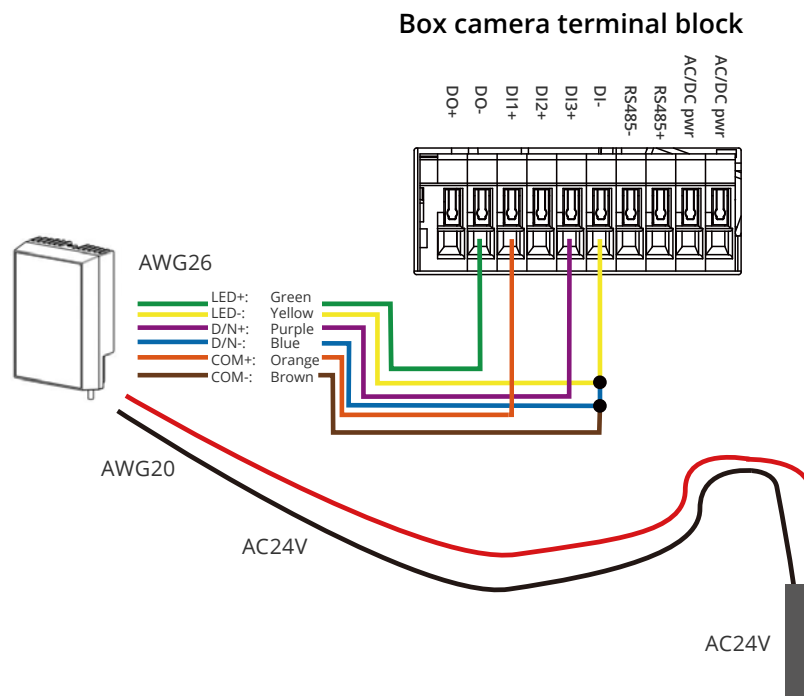
Digital Output (DO)

- D/N+ (Purple wire) = Open drain output, 45V Max (current must be under 100mA)
- D/N- (Blue wire) = GND

Digital Input (DI)

- LED+ (Green wire) = TTL + voltage
- LED- (Yellow wire) = TTL - voltage (GND)
- If connected to a dry contact output:
 - Logic level 1 (Open) = IR LEDs off
 - Logic level 0 (Closed to GND) = IR LEDs on
- If connected to a wet contact output:
 - Logic level 1 (4V~40V) = IR LEDs off
 - Logic level 0 ($\leq 0.8V$) = IR LEDs on

- When the illuminator is controlled and set by the VIVOTEK camera, two approaches can achieve synchronization, as detailed in the following sections. Refer to the wiring diagram below for different approaches.



Approach 1: IR Illuminator Triggers Camera

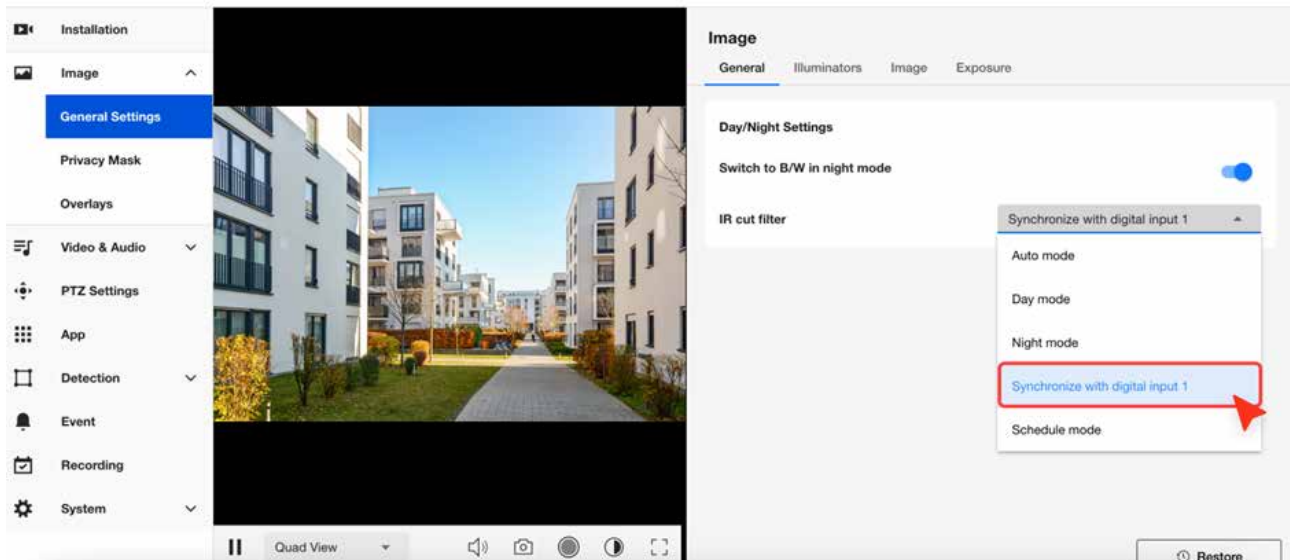
In this setup, the IR illuminator's light sensor controls the camera's Night Mode activation. When the illuminator's built-in light sensor detects low-ambient light (e.g., at night), it automatically turns on the IR LEDs and sends a signal to the camera's DI (Digital Input) via its DO (Digital Output), instructing the camera to switch to Night Mode.

Connections

IR Illuminator D/N+ → Camera DI3+ (Purple wire)

IR Illuminator D/N- → Camera DI- (GND) (Blue wire)

For cameras equipped with an IR cut filter, navigate to **Image > General Settings > General > IR Cut Filter** and select "**Synchronize with Digital Input 1.**" This ensures that the IR cut filter operates in sync with the external IR illuminator.



Approach 2: Camera Triggers IR Illuminator

In this setup, the camera controls the IR illuminator's On/Off state. When the camera's built-in light sensor detects low-ambient light (e.g., at night), it switches to Night Mode and sends a signal via its DO (Digital Output) to the illuminator's DI (Digital Input), activating the IR LEDs.

Connections

IR Illuminator LED+ (Green wire) → Camera DO-

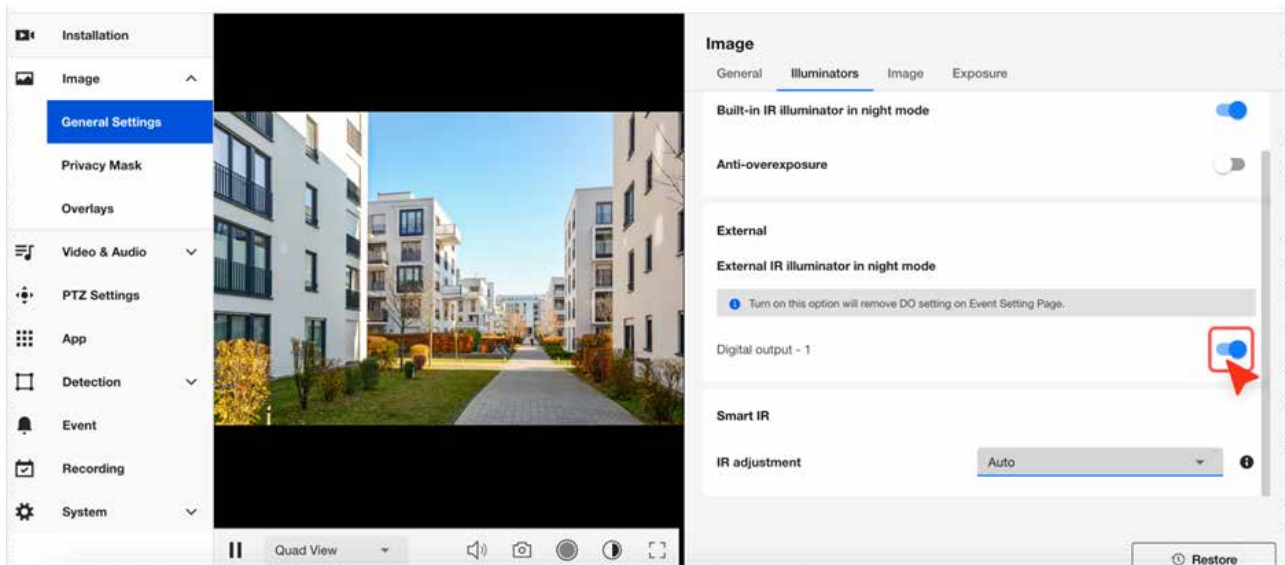
IR Illuminator LED- (Yellow wire) → Camera DI-

Light Sensor Status Output

Open = Day Mode

Short = Night Mode (below 300 lux for IR to turn ON)

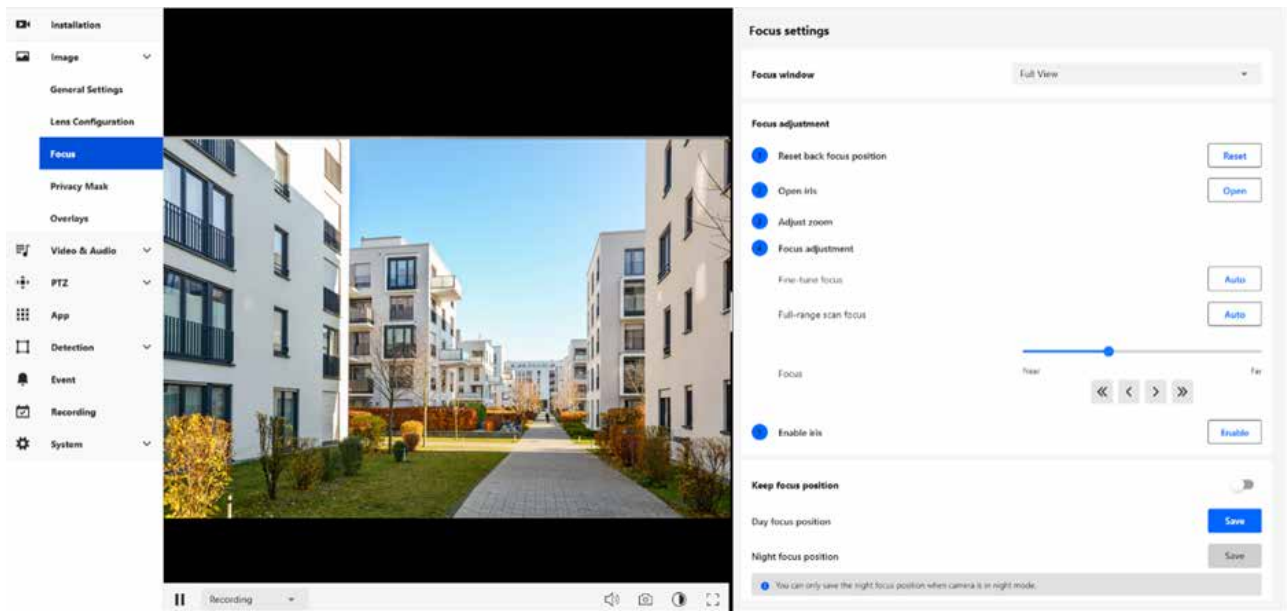
To enable and synchronize the camera and its paired external IR illuminator, navigate to **Image > General Settings > Illuminators > External**, and toggle on "**Digital Output - 1**." The setting triggers a digital output signal to activate the IR illuminator.



While both approaches can be used, we highly recommend following **Approach 1** to allow the illuminator to control the camera Day/Night switch. This ensures the camera image works properly. If your system is designed without any DO control via the illuminator, we still recommend connecting with the camera. In case of any corner cases, you can switch to using the camera to control the illuminator On/Off state.

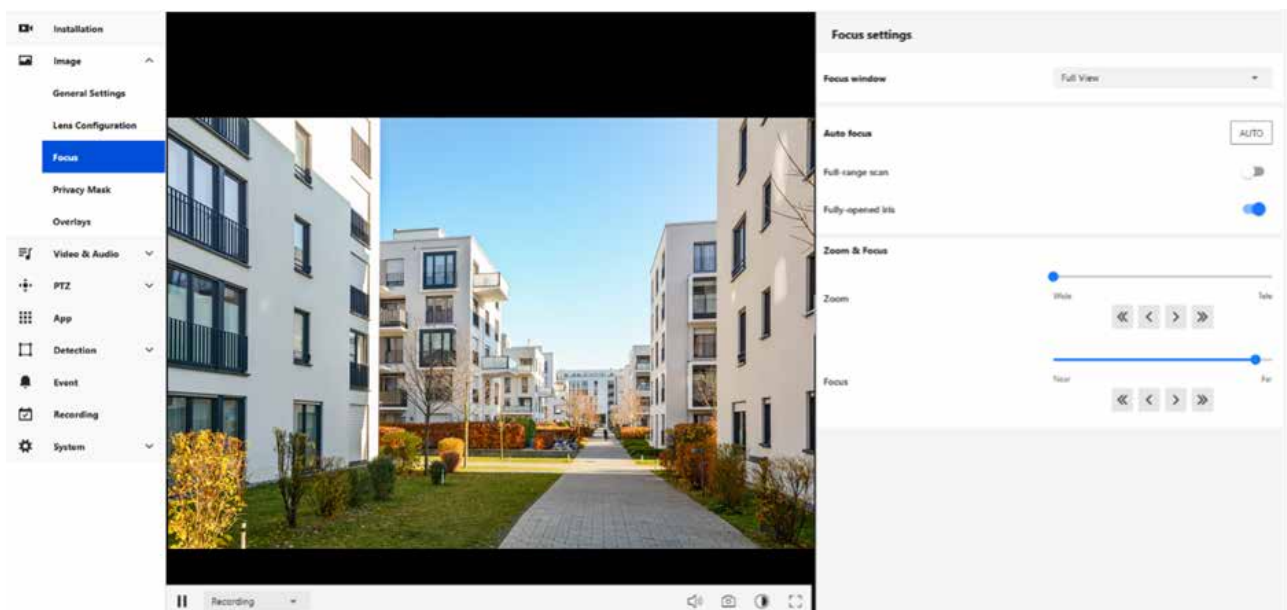
Camera Configuration & Control 6

Use the **Media > Image > Focus** function to tune for a best image focus on your target area. If using a non-iCS lens model (RBF lens), you should manually tune the focus to be close to the optimal and then use the auto scan focus function.



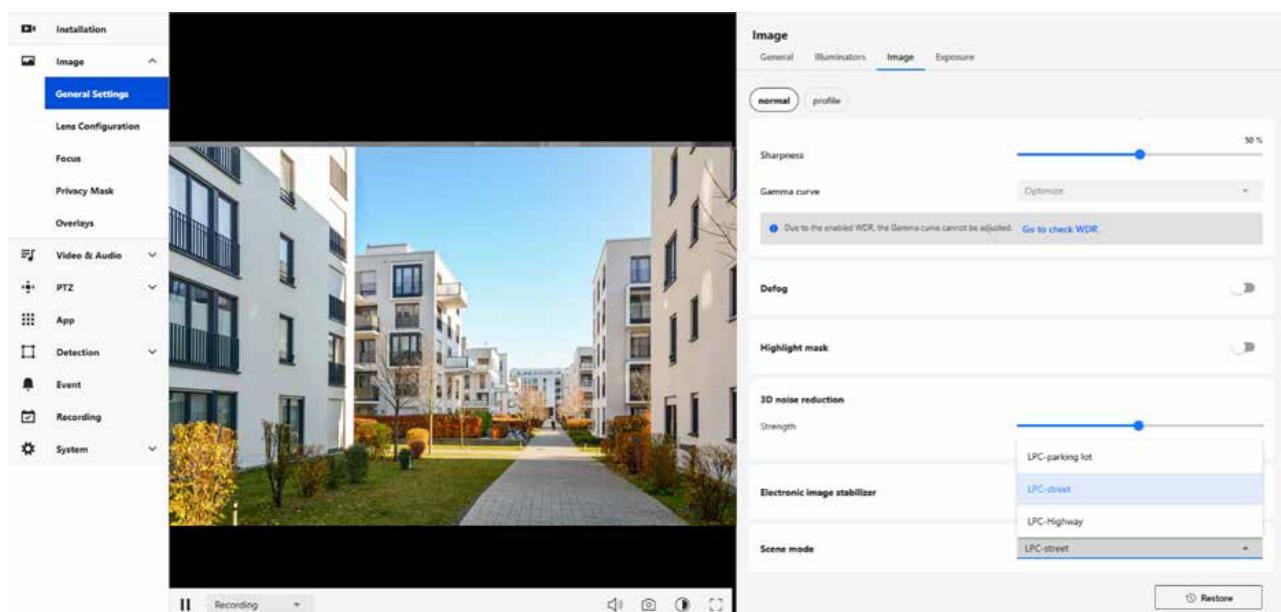
(Non-iCS lens)

If using an iCS lens model, use the auto focus function for an optimal image. The configuration page automatically displays different options according to the lens you installed.

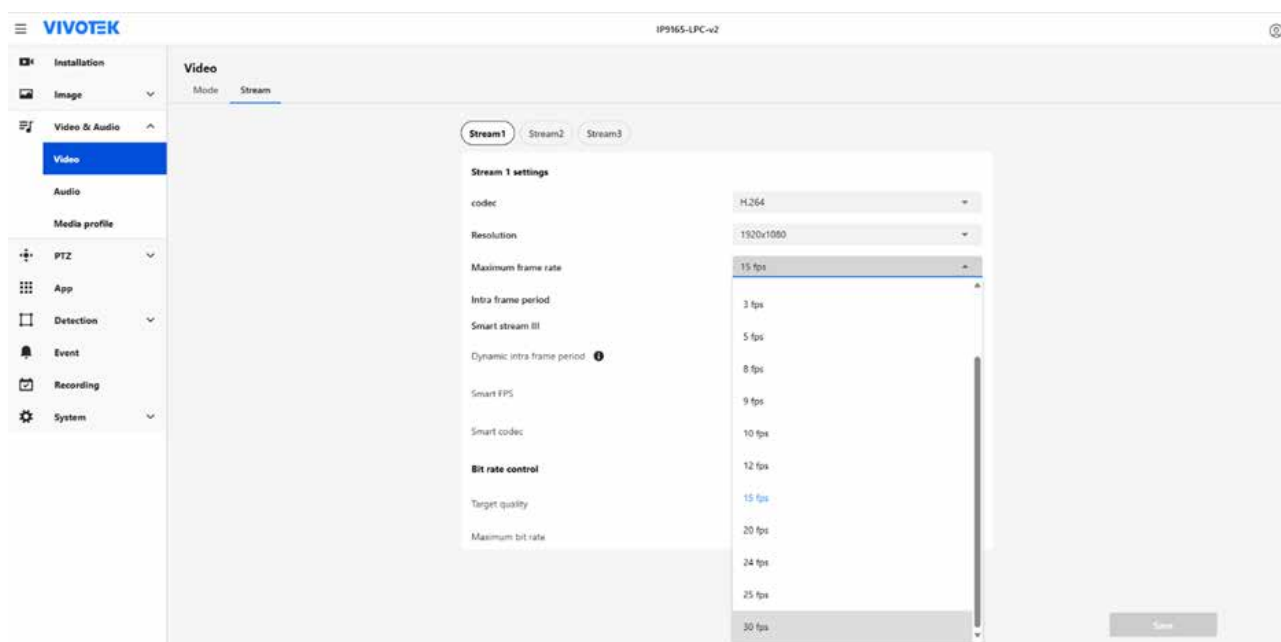


(iCS-lens)

In the **Configuration > Media > Image settings** page, select an application scenario, LPC Highway, street, or parking lot mode. The related parameters, such as shutter time, will be automatically changed for the scenario.

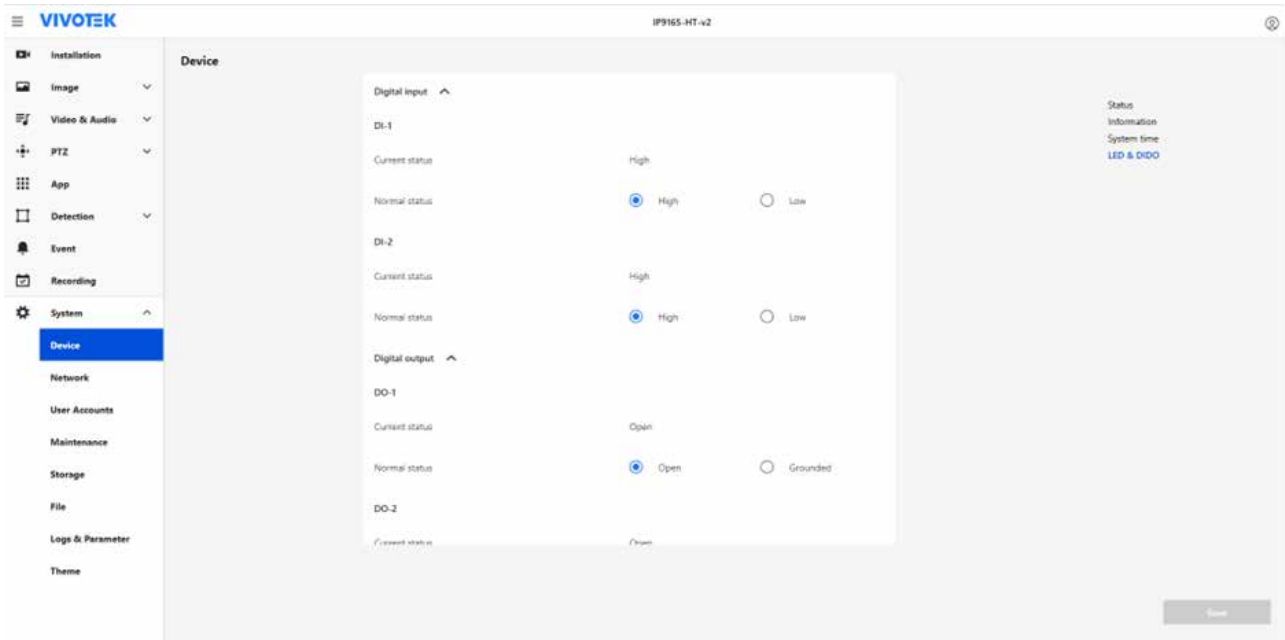


If preferred, e.g., shooting fast moving vehicles, select the 30fps frame rate.

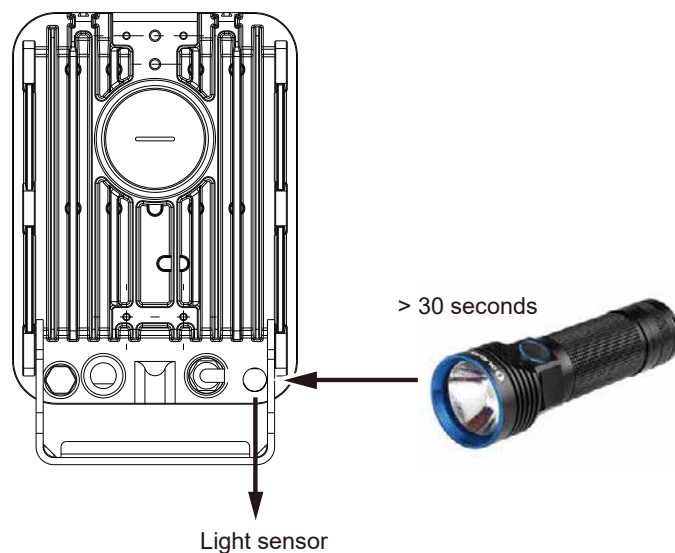


NOTE

When doing the initial testing in lab or office, the light sensor of the IR unit may not react quickly as in the outdoor environment. The lighting level in your office may not be bright enough to trigger the light sensor. You can use a flashlight to shine on the light sensor for 30 seconds. Check the live view to see if the IR light is disabled.



The light sensor's slow reaction time can be problematic in real-world applications, such as when vehicle lights flash quickly in tunnels. To turn on the IR light, blind the IR light sensor to check (camera enters the night mode and IR should be turned on within 30 seconds.)



The customized buttons will appear on the main page for easy access to IR control.





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