









"What camera should I use where?" It depends.

# Verkada Camera Selector Guide



## Broad or specific area?

Verkada's broad range of cameras offers our customers the ability to capture a wide variety of scenes from near to far and small to large. Verkada's [Dome](#), [Mini](#), [Bullet](#), [Fisheye](#), [Multisensor](#) and [Pan-Tilt-Zoom \(PTZ\)](#) cameras are available in fixed, wide-angle lenses; with up to 28x optical zoom; and telephoto lenses to "get up close" to objects/scenes hundreds of feet away.

				
Dome	CD22/E & CD32/E	CD42 / CD42-E	CD52 / CD52-E	CD62/ CD62-E
	3MP	5MP	5MP	8MP
	Fixed Lens	Fixed Lens	3x Zoom Lens	3x Zoom Lens
				
Mini	CM22	CM42	CM41-E	CM41-S
	3MP	5MP	5MP	5MP
	Fixed Lens	Fixed Lens	Fixed Lens	Fixed Lens, Split
				
Bullet	CB52-E	CB52-TE	CB62-E	CB62-TE
	5MP	5MP	4K	4K
	Zoom Lens	Telephoto Zoom Lens	Zoom Lens	Telephoto Zoom Lens
	2.8 – 8mm	8 – 20mm	2.8 – 8mm	8 – 20mm
				
Fisheye	CF81-E			
	12MP			
	Fixed Lens			
				
Multisensor	CH52-E			
	20MP (4 x 5MP)			
	2.5x Zoom Lens			
				
PTZ	CP52-E			
	5MP			
	28x Zoom Lens			



## Broad or specific area?

Verkada's [Fisheye](#) cameras are designed to provide broad coverage of an area, either horizontally or vertically. When mounted on a ceiling, they can capture an entire space or hallway intersection in a single view or in a quadrant view. When mounted on a wall, they provide a panoramic left-to-right view, making them suitable for use on poles in parking lots, the sides of buildings, or in hallways.

For more expansive coverage with a higher level of detail, Verkada's [Multisensor](#) camera is a good choice. Each sensor can be independently repositioned and zoomed up to 2.5x, giving you the flexibility to tailor the coverage to your needs. For example, the Multisensor camera can capture up to a 360° view when mounted on a ceiling, a 270° view when mounted on a corner and a 180° view when mounted on a wall.

Verkada's CP52-E PTZ camera offers the best of both - a broad field of view and precise zoom capabilities. This camera allows security operators to dynamically monitor large areas with its 360-degree pan and 220-degree tilt functionalities. The 5MP image sensor ensures clear footage, enabling operators to investigate moving subjects and record comprehensive events in expansive spaces. Additionally, the camera's 28x optical zoom allows for capturing finer scene details in specific areas.

The CD22, CD32 and CD42 models have a 97° horizontal [field of view](#). If you need a wider angle view but a Fisheye or Multisensor isn't appropriate, the CD52 and CD62 offer a wider horizontal field of view at 105° and 116°, respectively.

## Fixed or mobile deployment?

Security cameras are most often mounted in fixed positions: to walls, ceilings, poles and other fixed-position mounting devices. While all Verkada cameras are surface-mountable out of the box, we also offer a [variety of mounts](#) to meet your needs.

The CM41-E, CM22, and CM42 are built specifically for mobile deployments. These cameras have additional certifications beyond our standard cameras, making them suitable for installation on vehicles such as cars, trains, buses, boats and ferries.

Read more about mobile deployment options [here](#).

## Interior or exterior?

All Verkada camera lines offer both indoor and outdoor models. What makes a camera outdoor-rated? Verkada's outdoor Dome cameras, Bullet cameras, Fisheye camera, Multisensor camera, PTZ camera and the CM41-E Mini offer industry-standard protection against dust and moisture (IP66 / IP67) as well as against impact (IK10). Read more about IP and IK ratings [here](#).

	Indoor	Outdoor
<b>Dome</b>	CD22, CD32, CD42, CD52, CD62	CD22-E, CD32-E, CD42-E, CD52-E, CD62-E
<b>Mini</b>	CM22, CM42, CM41-S	CM41-E
<b>Bullet</b>	CB52-E, CB52-TE, CB62-E, CB62-TE	CB52-E, CB52-TE, CB62-E, CB62-TE
<b>Fisheye</b>	CF81-E	CF81-E
<b>Multisensor</b>	CH52-E	CH52-E
<b>PTZ</b>	CP52-E	CP52-E

Outdoor cameras are also great options for indoor environments where there may be fine dust particles in the air such as industrial or manufacturing environments or other indoor environments that might otherwise experience outdoor conditions (moisture and temperature).



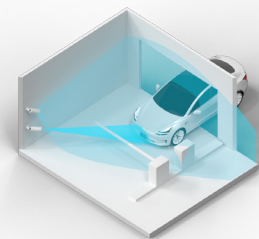
Form factor preference?

Deciding between camera form factors is a part of every camera deployment. Verkada’s recommended indoor camera options include Dome, Mini, Fisheye and Multisensor form factors. Outdoor options include Dome, Mini, Bullet, Fisheye, Multisensor and PTZ form factors. When would you use which form factor? Here are some things to consider:

Consideration	Recommendation
Should the camera be more noticeable?	Verkada’s Multisensor, PTZ, Bullet and Dome cameras are more visible due to their larger size compared to Mini cameras. A Dome camera mounted on an arm can further increase its visibility.
Or less noticeable?	Use Verkada’s Mini cameras when you prefer that the cameras are as inconspicuous as possible.  Dome cameras can be fairly inconspicuous, especially when mounted under a soffit or even directly on the wall.
Is the camera fully exposed to weather elements?	While all of Verkada’s camera lines (Dome, Mini, Fisheye, Bullet, Multisensor and PTZ) are designed and tested to withstand the elements, there can be certain situations where the Bullet cameras are better suited to ward off the elements due to a smaller lens covering and a lip over the top end of the camera’s face.
An outdoor camera requires a wide field of view.	Dome cameras can provide a wider field of view when fully zoomed out compared to bullet cameras due to their physical housing. If you require a very broad field of view, consider using <a href="#">Verkada Fisheye</a> cameras. On the other hand, if you need broad coverage with high image detail and 2.5x optical zoom, the <a href="#">Verkada Multisensor</a> camera may be a better option. For those in need of 360-degree pan with full control over the camera’s field of view and precise zoom capabilities at a distance, <a href="#">Verkada’s CP52-E PTZ</a> is the best option.
Does the camera need to fit in a small space and/or need to be concealed?	The CM41-S “Split Mini” was designed specifically to fit into tight spaces. Banking customers, for example, use the CM41-S inside ATM machines.

LPR mode?

Verkada’s License Plate Recognition solution uses a single or dual-camera system to provide users with the most comprehensive LPR coverage. Operating in LPR Mode, the LPR Camera uses a telephoto lens for capturing high-resolution images of license plates. The Context Camera uses a wide-angle lens to capture the entire vehicle and provide additional visual evidence for each event.



Verkada Telephoto Bullet Cameras	CB52-TE (5MP) or CB62-TE (4K)
Verkada Wide Angle Bullet Cameras	CB52-E (5MP) or CB62-E (4K)

The LPR Feed brings both cameras together, enabling teams to monitor vehicle events in real-time while also being able to filter and search by plate number.

For an overview and demonstration of Verkada LPR, [click here](#).

For a more in-depth overview and for steps on configuring LPR, [see our knowledge base](#).









Optical zoom?

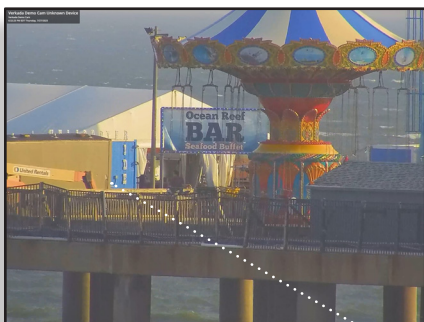
Optical zoom is different from [digital zoom](#) and involves moving parts within the camera lens to change the field of view (FoV) from wide to narrow. As the focal length of the lens increases, it's like moving the camera closer to the area being covered, narrowing and magnifying the field of view without reducing the resolution of the image. Verkada's Dome cameras offer both fixed and optical zoom options, the Multisensor series has optical zoom and the Bullet series has both optical zoom and telephoto zoom.

While each deployment is unique, there are times when optical zoom might be useful or necessary to achieve the desired result:

- The object/area you need to cover is a great distance from where the camera must be mounted.  
Examples – Large parking lots, parking lot/property entrances, distant buildings/objects, etc.
- You simply want a closer, more cropped view of the scene where analytic features may be in use.  
Examples – Facility entrances, lobbies, elevator vestibules, security checkpoints.

	Wide Angle	Telephoto
Focal Length	2.8mm-8mm	8mm-20mm
Image at No Zoom		
	CB62-E at 2.8mm	CB62-TE at 8mm
Image at Full Zoom		
	CB62-E at 8mm	CB62-TE at 20mm

1257.2ft / 383.2m<sup>1</sup>



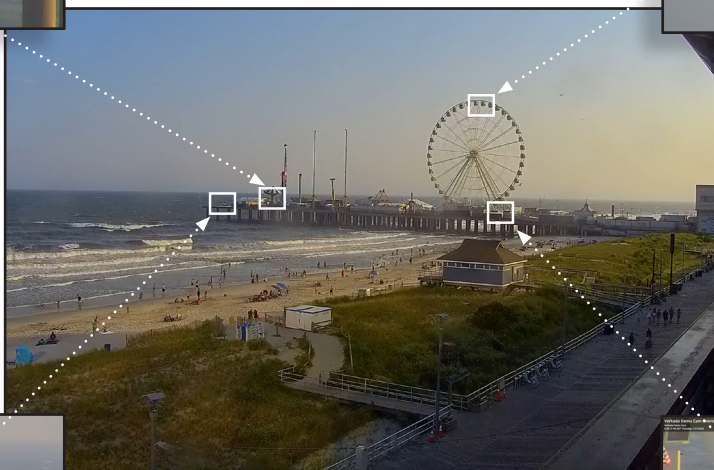
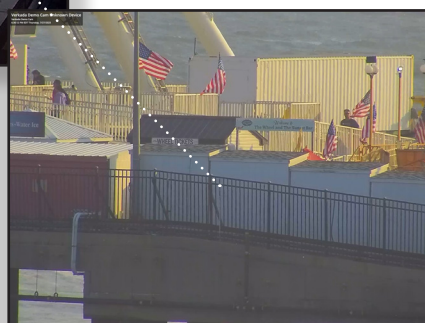
1050.0ft / 320.0m<sup>1</sup>



1386.2ft / 422.5m<sup>1</sup>



1022.0ft / 311.5m<sup>1</sup>



## The CP52-E PTZ has the best optics in the Verkada portfolio

**Lens:** The CP52-E camera is equipped with a varifocal lens with motorized zoom functionality, providing the convenience to remotely adjust the focal length and zoom level. This allows operators to precisely move the camera and focus on specific areas or subjects.

**Image sensor:** Similar to other cameras in the Verkada portfolio, including Domes and Bullets, the CP52-E boasts a 1/2.8" Progressive CMOS image sensor.

**Focal length:** The CP52-E offers a focal length range of 4.94mm (F1.3) to 148.24mm (F4.8), allowing it to capture scenes with a wide range of magnification levels. At the shorter end of 4.94mm (F1.3), the camera delivers a broader field of view, ideal for comprehensive monitoring. When zoomed in to 148.24mm (F4.8), the camera provides magnification capabilities, enabling the capture of fine details even at a distance.

**Shutter speed:** The CP52-E's shutter speed spans from 1/30 second to 1/10,000 second, offering a wide range of options for different scenarios. This versatility enables the camera to excel in various conditions, from low-light environments where capturing details is critical to situations involving fast-moving action that require crisp snapshots.

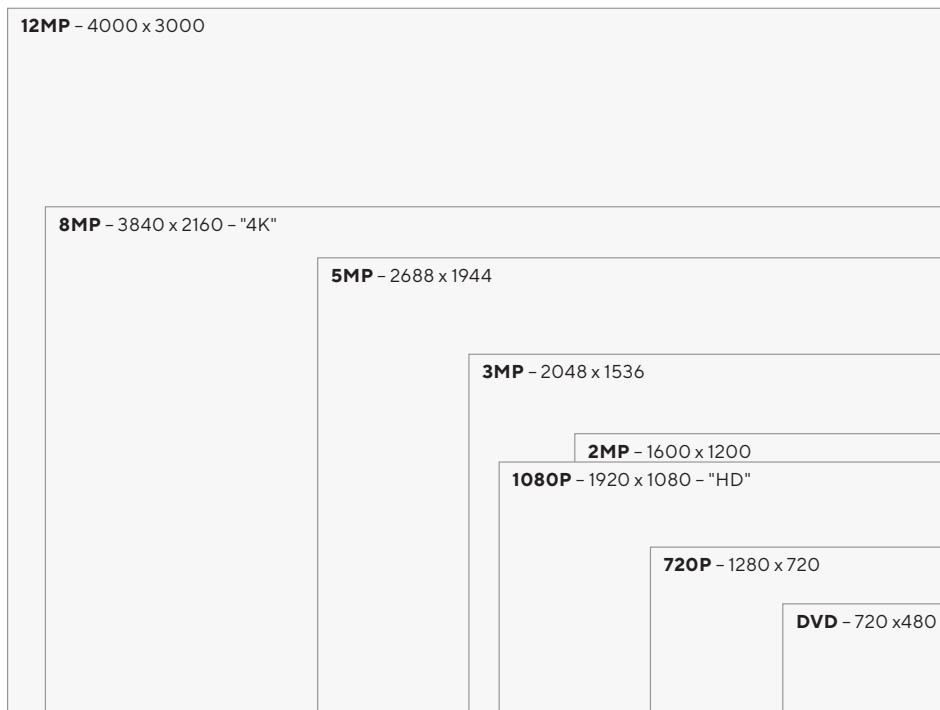
1. Distances were approximated using the measurement tool on Google Earth. Images are real screenshots from Command.



## Level of detail

Across the camera product lines, Verkada offers 3 megapixel (MP), 5MP, 8MP, 12MP and 20MP (4 X 5MP) options.

Below is a relative comparison of the image size of a variety of different video resolutions starting with the standard “DVD” resolution of 720 x 480 (or .3 MP), to 1080P / 2MP, all the way up to 12 MP. As you can see, an 8MP camera (“4K” resolution) is substantially larger / more detailed than 1080P / 2MP.



### When is it important to have a higher level of detail?

- Generally speaking - when the maximum amount of video detail is preferred.
- When face searching/matching is a critically important function of the camera.
  - For more information about deploying cameras for People Analytics, refer to the [User Guide for People Analytics](#).
  - For more information about deploying cameras for License Plate Recognition (LPR), refer to the [User Guide for LPR](#).
- To comprehensively cover large areas.
- To achieve the widest field of view possible without using a fisheye lens.
- To provide the best ability to read text/numbers on objects within the camera's field of view.

### When might it be more appropriate to use a 5MP camera instead of an 8MP camera?

- Generally speaking — when great coverage is needed but the maximum amount of detail is not critical.
- Where simply knowing if there is motion/activity is all that is required and not detailed depictions of thereof.
- Video coverage is required but the specific area covered by the camera can be considered “low priority”.
- Where analytic features aren't in use.
- The customer is overly concerned with the price.
- When there are significant constraints to uplink bandwidth.



## Video retention

Verkada simplifies the process of setting the retention period for its cameras. Instead of the complicated and imprecise process of sizing storage in legacy systems, Verkada allows customers to choose a camera with standard onboard retention of 30, 60, 90, 120, 180 or 365 days.

Our cameras record both standard and high quality video streams simultaneously. The standard quality video is recorded up to the specified retention period (30 days for most devices) and high quality video is saved to onboard media when motion is detected in the scene. The remaining onboard storage is allocated to high quality video, audio (if enabled) and analytics (if enabled). This method of video retention, called [Adaptive Quality](#), allows customers to meet their retention policies without having to calculate storage needs and eliminates the need for complex on-prem storage solutions.

Each camera model offers different retention options:

Camera Series	Camera Model	Max Retention in Days					
		30	60	90	120	180	365
Dome	CD22	✓	✓	✓			
	CD32	✓	✓	✓			
	CD42	✓	✓	✓	✓		✓
	CD52	✓	✓	✓	✓		✓
	CD62	✓	✓	✓			
	CM22	✓	✓	✓			
Mini Dome	CM42	✓	✓	✓	✓		✓
	CM41-E	✓	✓	✓			✓
	CM41-S	✓		✓			
Bullet	CB52-E	✓	✓	✓			✓
	CB52-TE	✓	✓	✓			✓
	CB62-E	✓	✓	✓			
	CB62-TE	✓	✓	✓			
Fisheye	CF81-E	✓	✓	✓			
Multisensor	CH52-E	✓	✓		✓		✓
PTZ	CP52-E	✓	✓	✓		✓	





## Verkada mounts

Out of the box, each Verkada camera is able to be surface-mounted or attached to a variety of different junction box sizes. If there's a need or preference to use a specific mount, Verkada offers a full line of mounts.

### Camera mounts overview

**ACC-MNT-2**

Arm Mount

**Compatible with Mounts:**  
ACC-MNT-8, ACC-MNT-9,  
ACC-MNT-CORNER-1,  
ACC-MNT-MPEND-1

**ACC-MNT-7**

Angle Mount

**Compatible with Cameras:**  
Dome Series, Fisheye Camera

**Mounts:**  
ACC-MNT-9, ACC-MNT-CORNER-1

**ACC-MNT-3**

L-Bracket Mount

**Compatible with Cameras:**  
Dome Series, Fisheye Camera

**Mounts:**  
ACC-MNT-9, ACC-MNT-CORNER-1

**ACC-MNT-8**

Pendant Cap Mount

**Compatible with Cameras:**  
Dome Series, Fisheye Camera,  
Multisensor Camera

**Mounts:**  
ACC-MNT-2, ACC-MNT-XLARM-1

**ACC-MNT-MPEND-1**

Mini Pendant Cap Mount

**Compatible with Cameras:**  
Mini Series

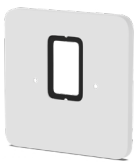
**Mounts:**  
ACC-MNT-2

**ACC-MNT-9**

Pole Mount

**Compatible with Cameras:**  
Bullet Series

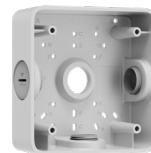
**Mounts:**  
ACC-MNT-2, ACC-MNT-3,  
ACC-MNT-7, ACC-MNT-SJBOX-1

**ACC-MNT-MJBOX-1**

Mini Junction Box Mount

**Compatible with Cameras:**  
Mini Series

**Mounts:**  
ACC-MNT-SJBOX-1

**ACC-MNT-SJBOX-1**

Square Junction Box

**Compatible with Cameras:**  
Bullet Series, Mini Series

**Mounts:**  
ACC-MNT-9, ACC-MNT-CORNER-1,  
ACC-MNT-POLE-1, ACC-MNT-  
MJBOX-1



## Camera mounts overview

**ACC-CAM-SHIELD-1**

Camera Weather Shield

**Compatible with Cameras:**

Dome Series, Fisheye Camera

**Mounts:**

ACC-MNT-7

**ACC-MNT-XLARM-1**

Large Arm Mount

**Compatible with Mounts:**

Dome Series, Multisensor Camera, PTZ Camera

**Mounts:**

ACC-MNT-8, ACC-MNT-CORNER-1, ACC-MNT-POLE-1

**ACC-MNT-REC-1**

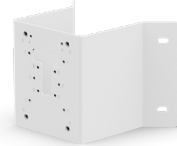
Recess Ceiling Mount

**Compatible with Cameras:**

Indoor Dome Series

**Mounts:**

N/A

**ACC-MNT-CORNER-1**

Corner Mount

**Compatible with Cameras:**

Dome Series, Fisheye Camera, Bullet Series, Mini Series

**Mounts:**

ACC-MNT-2, ACC-MNT-7, ACC-CAM-SHIELD-1, ACC-MNT-XLARM-1, ACC-MNT-SJBOX-1

**ACC-MNT-MREC-1**

Mini Recess Mount

**Compatible with Cameras:**

Indoor Mini Series

**Mounts:**

N/A

**ACC-MNT-POLE-1**

Pole Mount

**Compatible with Cameras:**

Dome Series, Fisheye Camera, Bullet Series, Mini Series

**Mounts:**

ACC-MNT-2, ACC-MNT-7, ACC-CAMSHIELD-1, ACC-MNT-XLARM-1, ACC-MNT-SJBOX-1

**ACC-MNT-CLIP-1**

Tile Clip Mount

**Compatible with Cameras:**

Indoor Dome, Mini, and Fisheye

**Mounts:**

N/A



## When to use which mounts:

Mount	Comments
<b>ACC-MNT-2</b>	Use the arm mount to protrude a camera off of a wall either to make it more noticeable and/or to point the camera back towards the building to cover a door for example. This mount requires a pendant cap mount as well.
<b>ACC-MNT-3</b>	Use the L-shaped bracket to point the dome of the camera down in order to achieve a steeper downward viewing angle.
<b>ACC-MNT-MPEND-1</b>	Use this mount to attach mini cameras to 3/4" NPT threaded drop pipes and 1.5" NPT threads or to the arm mount.
<b>ACC-MNT-MJBOX-1</b>	Use this mount to attach mini camera to a standard junction box.
<b>ACC-MNT-7</b>	Most commonly used when wall-mounting a fisheye camera to achieve a slightly more downward angle so as to see less of the sky or the ceiling above the camera. Can also be used to enable a steeper sideward angle of a dome camera.
<b>ACC-MNT-8</b>	This mount can attach directly to 0.75" female NPT and 1.5" male NPT threads allowing customers to drop a camera down from a high ceiling.
<b>ACC-MNT-9</b>	Attach cameras or other mounts to a pole ranging from 1.25" in diameter up to 6" in diameter.
<b>ACC-MNT-SJBOX-1</b>	This new mount offers easier installation of Verkada's mounts and cameras, broadens generic mount compatibility and improves the aesthetic of our Bullet and Mini series cameras.
<b>ACC-CAM-SHIELD-1</b>	The camera weather shield is a great addition for outdoor Dome and Fisheye camera installations, providing protection from UV rays, solar glare and bird discharge.
<b>ACC-MNT-POLE-1</b>	For mounting cameras to circular poles 2" to 6" in diameter.
<b>ACC-MNT-CORNER-1</b>	Mount for installing cameras and accessories to external corners.
<b>ACC-MNT-XLARM-1</b>	Wall mount arm for larger cameras. Includes 1.5" NPT to connect to pendant caps and 3/4" NPT at the base for conduit.
<b>ACC-MNT-REC-1</b>	Recess ceiling mount for securely mounting an indoor dome camera flush within a drop ceiling that is up to 50mm thick.
<b>ACC-MNT-MREC-1</b>	Recess ceiling mount for securely mounting an indoor mini camera flush within a drop ceiling.
<b>ACC-MNT-CLIP-1</b>	For mounting cameras to commercial ceiling tile railings ranging from 9/16" to 15/16" wide without the need to drill.

See [this documentation article](#) for a full description of which cameras can attach to which mounts and which mounts can attach to other mounts. A flowchart of the most used scenarios can be found on the next page.

