



 Verkada

# Verkada Camera Selector

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



### 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](#), and [Bullet](#) cameras are available in fixed, wide-angle lenses; wide-angle lenses with 3x optical zoom; and telephoto lenses to “get up close” to objects/scenes hundreds of feet away.

<b>Dome</b>	<b>CD42</b>	<b>CD52</b>	<b>CD62</b>	
	5 MP	5 MP	8 MP	
	Fixed Lens	3x Zoom Lens	3x Zoom Lens	
<b>Mini</b>	<b>CM41</b>	<b>CM61</b>	<b>CM41-S</b>	
	5 MP	8 MP	5 MP	
	Fixed Lens	Fixed Lens	Fixed Lens, Split	
<b>Bullet</b>	<b>CB51-E</b>	<b>CB51-TE</b>	<b>CB61-E</b>	<b>CB61-TE</b>
	5 MP	8 MP	8 MP	8 MP
	Zoom Lens	Telephoto Zoom Lens	Zoom Lens	Telephoto Zoom Lens
	2.8 - 8 mm	8 - 20 mm	2.8 - 8 mm	2.8 - 8 mm

Verkada’s [Fisheye](#) cameras are purpose-built to provide broad area coverage either horizontally or vertically. Mounted to a ceiling, the fisheye camera can capture an entire space or hallway intersection in a single, de-warped view or in a de-warped quadrant view. Mounted to a wall, the fisheye provides a panoramic left-to-right view great for use on poles in parking lots, the sides of buildings, or in hallways.

The CD42 and CM41 models offer a 97-degree horizontal [field of view](#). If a customer wants a wider angle view but a fisheye isn’t appropriate, the CD52 and CD62 offer a wider horizontal field of view at 105-degrees and 116-degrees 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](#) is built specifically for mobile deployments. With additional certifications beyond our standard outdoor cameras, the CM41-E is perfect for installations in and on vehicles, trains, and buses.

Read more about the CM41-E and mobile deployments [here](#).

### Interior or exterior?

The Verkada Dome series cameras are all available in both indoor and outdoor versions. What makes a camera outdoor-rated? Verkda’s outdoor Dome cameras, Bullet cameras, and the CM41-E Mini offer industry-standard protection against dust and moisture (IP67) as well as against impact (IK10). Read more about IP and IK ratings [here](#).

	Indoor	Outdoor
<b>Dome</b>	CD42, CD52, CD62	CD42-E, CD52-E, CD62-E
<b>Mini</b>	CM41, CM41-S, CM61	CM41-E
<b>Bullet</b>	CM41, CM41-S, CM61	CB51-E, CB51-TE, CB61-E, CB61-TE
<b>Fisheye</b>	CF81-E	CF81-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 indoor camera options include Dome and Mini form factors. Outdoor options include Dome, Mini, and Bullet form factors. When would you use which form factor? Here are some things to consider; and when there are multiple options listed consider them listed in order of preference:

Consideration	Recommendation
Should the camera be more noticeable?	Indoor Domes are more noticeable simply because they’re larger than the Mini cameras.  Verkada’s Bullet cameras are bold and noticeable but visually appealing all at the same time. A Dome camera on an arm mount can also make the camera more noticeable.
Or less noticeable?	Use Verkada’s Mini cameras when you prefer that the cameras are as inconspicuous as possible. In spaces where aesthetics matter, the <a href="#">CM61 Mini</a> is the perfect fit.  Dome cameras can be fairly inconspicuous, especially when mounted under a soffit or even directly on the wall.
Is the camera used for License Plate Recognition (LPR)?	Verkada’s Bullet cameras can run in “LPR Mode” to capture images of and characters off of license plates that pass by. Verkada recommends the Telephoto Bullet cameras specifically to get a close-up image of plates.
Is the camera fully exposed to weather elements?	While all of Verkada’s outdoor cameras (Domes, Mini, and Bullets) 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.	Because of the differences in physical housing, Dome cameras can offer a wider field of view when zoomed all the way out than Bullet cameras can.  For a very broad field of view, use the <a href="#">Verkada fisheye</a> cameras.
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 dual-camera system for providing 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.

<b>LPR Camera</b>	Verkada Telephoto Bullet Camera	CB51-TE (5MP) or CB61-TE (4K)
<b>Context Camera</b>	Verkada Wide Angle Bullet Camera	CB51-E (5MP) or CB61-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?

Not to be confused with [Digital zoom](#), Optical zoom leverages moveable parts within the camera’s lens that result in the ability to change the camera’s field of view (FoV) from wider to narrower. As you increase the lens’s focal length it is as if you are physically moving the camera closer to the coverage area. You’re narrowing the field of view while magnifying it without reducing the overall image resolution of the camera.

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
<b>Focal Length</b>	2.8mm–8mm	8mm–20mm
<b>Image at No Zoom</b>	 <p>CB61-E at 2.8mm</p>	 <p>CB61-TE at 8mm</p>
<b>Image at Full Zoom</b>	 <p>CB61-E at 8mm</p>	 <p>CB61-TE at 20mm</p>

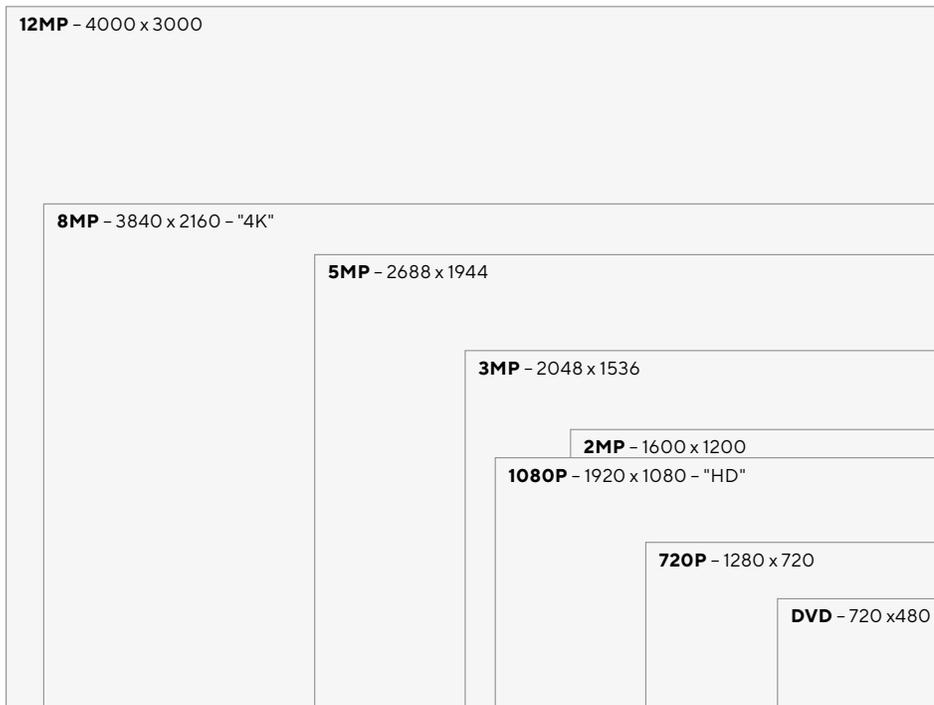
Verkada Dome cameras offer fixed and zoom options and the Bullet series offers zoom and “telephoto zoom” options.



## Level of detail

Across the camera product line Verkada offers 5, 8, and 12 megapixel (MP) options. Megapixel means 1,000,000 pixels. So a 12MP camera has 12,000,000 pixels (horizontal resolution multiplied by vertical resolution). A camera's megapixel rating is therefore directly related to its resolution. More pixels mean more detail.

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 [Overview](#) and [Configuration](#) support articles.
- 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.



## Video retention

What makes Verkada unique in the video security industry is our ability to provide guaranteed standard quality retention onboard each and every camera. Across the camera product line, we offer standard retention options of 30, 60, 90, 120, and 365 days of guaranteed retention.

Furthermore, Verkada customers can mix and match camera retention options according to specific retention needs eliminating the need to size and manage complex and cumbersome on-prem storage solutions.

Camera Series	Camera Model	Max Retention in Days				
		30	60	90	120	365
Dome	CD42	✓	✓	✓	✓	✓
	CD52	✓	✓	✓	✓	✓
	CD62	✓	✓	✓		
Mini Dome	CM41	✓	✓	✓	✓	✓
	CM41-E	✓	✓	✓		✓
	CM41-S	✓		✓		
	CM61	✓	✓	✓		
Fisheye	CF81-E	✓	✓	✓		
Bullet	CB51-E	✓	✓	✓		✓
	CB51-TE	✓	✓	✓		✓
	CB61-E	✓	✓	✓		
	CB61-TE	✓	✓	✓		



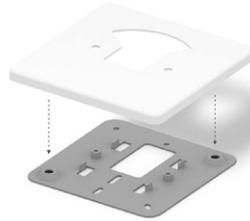
## Verkada mounts

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-1  
Pendant Cap  
**Compatible with**  
D30, D50, D80, CF81-E,  
and ACC-MNT-2



ACC-MNT-6  
Mini Junction Box Mount  
**Compatible with**  
Mini Series



ACC-MNT-2  
Arm Mount  
**Compatible with**  
ACC-MNT-1, ACC-MNT-4,  
ACC-MNT-5, ACC-MNT-8,  
ACC-MNT-9, and ACC-MNT-10



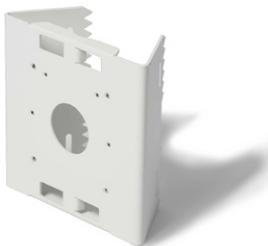
ACC-MNT-7  
Angle Mount  
**Compatible with**  
Dome Series, Fisheye Series,  
D30, D50, D80, SV11,  
ACC-MNT-4, ACC-MNT-9,  
and ACC-MNT-10



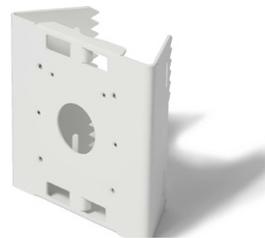
ACC-MNT-3  
L-Bracket Mount  
**Compatible with**  
Dome Series, Fisheye Series,  
D30, D50, ACC-MNT-4,  
ACC-MNT-9, and  
ACC-MNT-10



ACC-MNT-8  
Pendant Cap Mount (Gen 2)  
**Compatible with**  
Dome Series, Fisheye  
Series, D30, D50, D80,  
SV11 and ACC-MNT-2



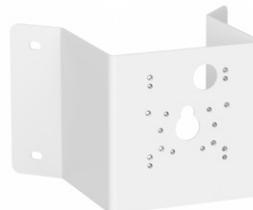
ACC-MNT-4  
Pole Mount  
**Compatible with**  
ACC-MNT-2, ACC-MNT-3  
and ACC-MNT-7



ACC-MNT-9  
Pole Mount (Gen 2)  
**Compatible with**  
the Bullet Series and  
ACC-MNT-2, ACC-MNT-3,  
or ACC-MNT-7



ACC-MNT-5  
Mini Pendant Cap Mount  
**Compatible with**  
Mini Series, D40 and  
ACC-MNT-2



ACC-MNT-10  
Corner Mount  
**Compatible with**  
ACC-MNT-2, ACC-MNT-3,  
ACC-MNT-7, Dome Series,  
and Bullet Series



When to use which mounts:

Mount	Comments
ACC-MNT-1	This mount can attach directly to 0.75" female NPT and 1.5" male NPT threads allowing customers to drop a D30, D50, or D80 camera down from a high ceiling. <b>This mount is deprecated; use ACC-MNT-8.</b>
ACC-MNT-2	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.
ACC-MNT-3	Use the L-shaped bracket to point the dome of the camera down in order to achieve a steeper downward viewing angle.
ACC-MNT-4	Attach Dome or Fisheye cameras or other mounts to a pole ranging from 1.25" in diameter up to 6" in diameter. This mount is deprecated; use ACC-MNT-9.
ACC-MNT-5	Use this mount to attach CM41s and CM61s to 0.75" female NPT and 1.5" male NPT threads or to the arm mount.
ACC-MNT-6	Enables the CM41 and CM61 to be attached directly to a standard junction box.
ACC-MNT-7	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.
ACC-MNT-8	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.
ACC-MNT-9	Attach cameras or other mounts to a pole ranging from 1.25" in diameter up to 6" in diameter.
ACC-MNT-10	Use this mount to attach a camera to a corner.

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.

