



**Vandal Resistant  
Fisheye Camera**



**4G Router**



**1 Month  
Backup**



**3 Day Battery  
Backup**

## Solutions



## Features

### 4K Ultra HD Vandal-resistant Fisheye: 2MFIP-12MIR20-P

- 4K Ultra wide angle lens, 360° panoramic image
- Max 4000 x 3000 resolution
- Support PoE power supply
- Embedded infrared light, 360° fill-in light, up to 10m (33ft) IR distance
- IP66

### Solar Power System

- Monocrystalline silicon solar cell module with a 25 year service life
- Durable Lithium iron phosphate battery with an 8 year service life
- Standby time: 24 hours for 5 days
- Easy to manage controller
- Integrated power cabinet

**Note: More cameras can be added. Further customization is available. Price will change accordingly.**

## Specifications

| CAMERA: 2MPIP-2MIR505X |      |                                                                                                                                                                                   |             |               |              |
|------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|--------------|
| Sensor                 |      | 1/1.7", 12.0 megapixel, progressive scan, CMOS                                                                                                                                    |             |               |              |
| Lens                   |      | 1.8mm@F2.4                                                                                                                                                                        |             |               |              |
| DORI Distance          | Lens | Detect (m)                                                                                                                                                                        | Observe (m) | Recognize (m) | Identify (m) |
|                        | 1.8  | 43.8                                                                                                                                                                              | 17.5        | 8.8           | 4.4          |
| Angle of View (H)      |      | 360°                                                                                                                                                                              |             |               |              |
| Shutter                |      | Auto/Manual, shutter time: 1 ~ 1/100000s                                                                                                                                          |             |               |              |
| Minimum Illumination   |      | Color: 0.05 Lux (F2.4, AGC ON) 0 Lux with IR                                                                                                                                      |             |               |              |
| Day / Night            |      | IR-cut filter for day & night function                                                                                                                                            |             |               |              |
| S/N Ratio              |      | >52dB                                                                                                                                                                             |             |               |              |
| IR Range               |      | Up to 10m (33ft)                                                                                                                                                                  |             |               |              |
| wavelength             |      | 850nm                                                                                                                                                                             |             |               |              |
| IR On/Off Control      |      | Auto/Manual                                                                                                                                                                       |             |               |              |
| Defog                  |      | Digital Defog                                                                                                                                                                     |             |               |              |
| WDR                    |      | DWDR                                                                                                                                                                              |             |               |              |
| VIDEO                  |      |                                                                                                                                                                                   |             |               |              |
| Video Compression      |      | Ultra265, H.265, H.264, MJPEG                                                                                                                                                     |             |               |              |
| H.264 code profile     |      | Baseline profile, Main Profile, High Profile                                                                                                                                      |             |               |              |
| Frame Rate             |      | Main Stream: 15fps (4000 x 3000, 3000 x 3000); 25fps (2560 x 2560); Sub Stream: 15fps (2000 x 1500, 2000 x 2000); 25fps (2000 x 2000); Third Stream: 15fps (720 x 576, 320 x 288) |             |               |              |

## 4K Ultra HD Vandal Resistant Fisheye



|                         |                                                                    |
|-------------------------|--------------------------------------------------------------------|
| <b>Panorama</b>         | 25fps (3000 x 2000); 15fps (4000 x 3000, 3000 x 2000, 3000 x 1500) |
| <b>Frame Rate PTZ</b>   | 15fps (1920 x 1080)                                                |
| <b>Video Bit Rate</b>   | 128 Kbps—16 Mbps                                                   |
| <b>ROI</b>              | Up to 8 areas                                                      |
| <b>OSD</b>              | Up to 8 OSDs                                                       |
| <b>Privacy Mask</b>     | Up to 8 areas                                                      |
| <b>Motion Detection</b> | Up to 4 areas                                                      |

| IMAGE                          |                                                 |
|--------------------------------|-------------------------------------------------|
| <b>White Balance</b>           | Auto/Outdoor/Fine Tune/Sodium Lamp/Locked/Auto2 |
| <b>Digital Noise Reduction</b> | 2D/3D DNR                                       |
| <b>Smart IR</b>                | Support                                         |
| <b>Flip</b>                    | Normal/Flip Vertical/ Flip Horizontal/180°      |
| <b>Dewarping</b>               | N/A                                             |
| <b>HLC</b>                     | N/A                                             |
| <b>BLC</b>                     | Support                                         |

| AUDIO                    |           |
|--------------------------|-----------|
| <b>Audio Compression</b> | G.711     |
| <b>Two-way audio</b>     | Supported |
| <b>Suppression</b>       | Supported |
| <b>Sampling Rate</b>     | 8 KHZ     |

| STORAGE                |                       |
|------------------------|-----------------------|
| <b>Edge Storage</b>    | Micro SD, up to 256GB |
| <b>Network Storage</b> | ANR, NAS (NFS)        |

| NETWORK                       |                                                                                                                                |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Protocols</b>              | IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, 802.1x, SNMP, QoS |
| <b>Compatible Integration</b> | ONVIF (Profile S, Profile G, Profile T), API                                                                                   |
| <b>Client</b>                 | EZStation, EZView, EZLive                                                                                                      |
| <b>Web Browser</b>            | Plug-in required live view: IE9+, Chrome® 41 and below, Firefox® 52 and below                                                  |
|                               | Plug-in free live view: Chrome® 57.0+, Firefox® 58.0+, Edge® 16+, Safari® 11+                                                  |

### LIVE VIEW DISPLAY

|                     |                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mount Type</b>   | Support table, wall, and ceiling                                                                                                                                                                                                                                                            |
| <b>Display Mode</b> | Support 10 display modes in total (including display modes of mount types and decoding modes):<br>Display Mode: Original Image, Fisheye+4PTZ, Panoramic<br>Preview Mode: Original Image, 360° Panoramic+1PTZ, 180° Panoramic, Fisheye+3PTZ, Fisheye+4PTZ, 360° Panoramic+6PTZ, Fisheye+8PTZ |

### INTERFACE

|                         |                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------|
| <b>Audio I/O</b>        | Audio interface                                                                         |
|                         | Input: impedance 35kΩ; amplitude 2V [p-p]<br>Output: impedance 600Ω; amplitude 2V [p-p] |
| <b>Alarm I/O</b>        | 2/1<br>Multiple Alarm linkage editable                                                  |
| <b>Built-in Mic</b>     | Supported                                                                               |
| <b>Built-in Speaker</b> | Supported                                                                               |
| <b>Serial</b>           | 1 channel RS485 interface                                                               |
| <b>Network</b>          | 1 RJ45 10M/100M Base-TX Auto-adaptive Ethernet                                          |
| <b>Video Output</b>     | 1 BNC, impedance 75Ω; amplitude 1V [p-p]                                                |

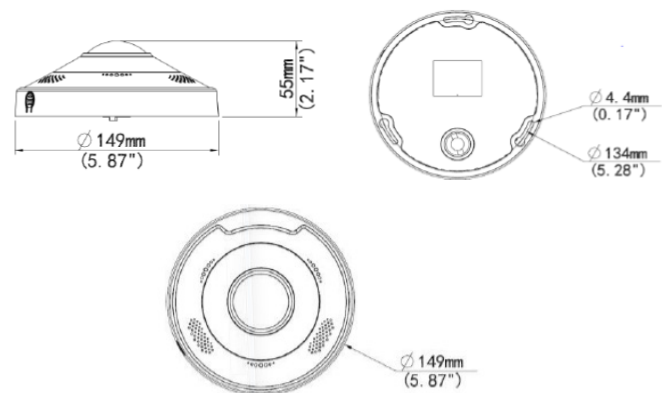
### CERTIFICATIONS

|                       |                                  |
|-----------------------|----------------------------------|
| <b>Certifications</b> | CE: EN 60950-1, FCC: FCC Part 15 |
|-----------------------|----------------------------------|

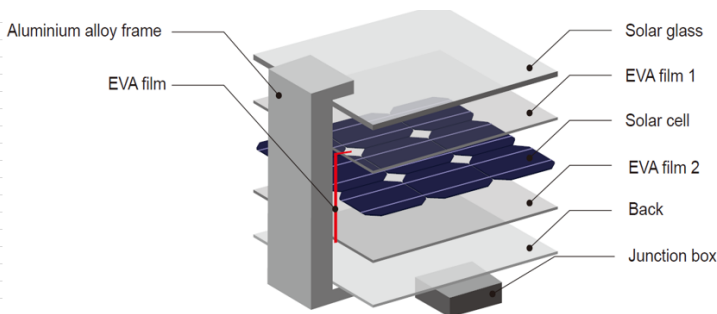
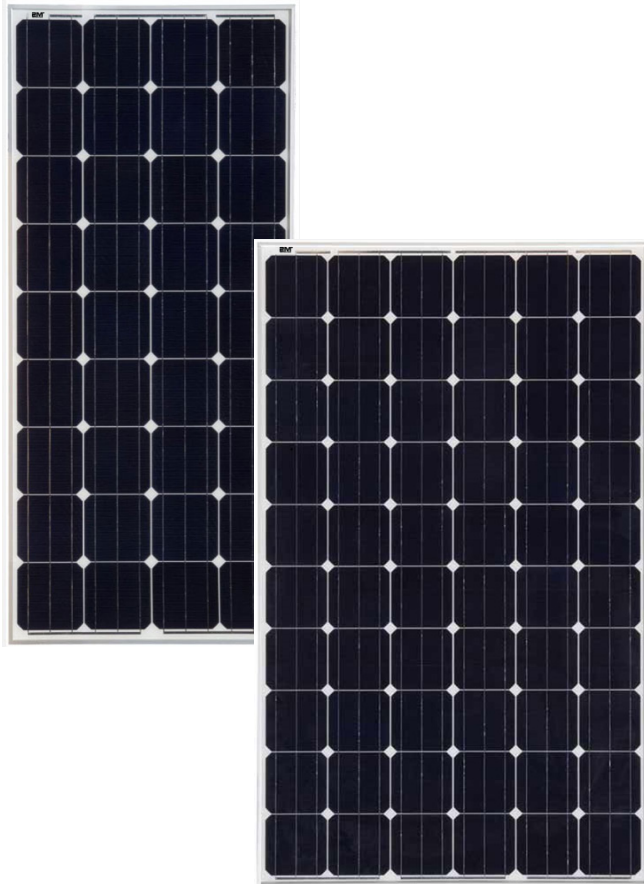
### GENERAL

|                            |                                                                |
|----------------------------|----------------------------------------------------------------|
| <b>Power</b>               | DC 12V±25%, PoE (IEEE 802.3af)<br>Power consumption: Max 11.7W |
| <b>Dimensions (Ø x H)</b>  | Ø 149 x 55 (mm) (Ø 5.87" x 2.17" in.)                          |
| <b>Net Weight</b>          | 0.5kg (1.1lb)                                                  |
| <b>Material</b>            | Metal + Plastic                                                |
| <b>Working Environment</b> | -35°C ~ 60°C (-31°F ~ 140°F), Humidity: ≤95% RH                |
| <b>Storage Environment</b> | -35°C ~ 60°C (-31°F ~ 140°F), Humidity: ≤95% RH                |
| <b>Surge Protection</b>    | 6kv                                                            |
| <b>Ingress Protection</b>  | IP66                                                           |
| <b>Vandal Resistant</b>    | IK10                                                           |
| <b>Reset Button</b>        | Supported                                                      |

### Dimensions



## Solar Panel Modules



### SOLAR MODULE SPECIFICATIONS

#### MODULE DATA

|                                    |                                       |        |        |
|------------------------------------|---------------------------------------|--------|--------|
| Standard Power (W)                 | 170                                   | 300    | 380    |
| Working Voltage (V)                | 18.86                                 | 32.01  | 38.41  |
| Working Current (A)                | 8.51                                  | 8.86   | 8.86   |
| Open Circuit Voltage (V) Voc       | 22.35                                 | 37.27  | 44.72  |
| Short-circuit Current (A) Isc      | 9.02                                  | 9.373  | 9.895  |
| Cell Efficiency (%) CE             | 19.3                                  | 19.9   | 19.9   |
| Module Efficiency (%) ME           | >16.13                                | >17.43 | >17.52 |
| Tolerance (%)                      | ±3%                                   |        |        |
| Nominal Operating Cell Temperature | 47°C (+/- 2°C)   116.6°F (+/- 35.6°F) |        |        |

#### TEMPERATURE COEFFICIENTS

|                                           |                  |
|-------------------------------------------|------------------|
| Short Circuit Current Coefficient Isc (%) | 0.04°C / 32.1°F  |
| Open Circuit Voltage Coefficient Voc (%)  | -0.38°C / 31.3°F |
| Nominal Power Factor Pm (%)               | -0.47°C / 31.2°F |
| Working Current Coefficient Im(%)         | 0.04°C / 32.1°F  |
| Working Voltage Coefficient Vm (%)        | -0.38°C / 31.3°F |

#### COMPONENTS & MECHANICAL DATA

|                               |                                    |                                  |                               |
|-------------------------------|------------------------------------|----------------------------------|-------------------------------|
| Solar Cell                    | 156 x 156 Mono-crystalline silicon |                                  |                               |
| Number of Cell (pcs)          | 4 x 9 series connection            | 6 x 10 series connection         | 6 x 12 series connection      |
| Size of Module                | 1485 x 668 mm/<br>4.9' x 2.2' ft   | 1640 x 990 mm/<br>5.4' x 3.2' ft | 1960 x 990/<br>6.4' x 3.2' ft |
| Front Glass Thickness         | 3.2mm   0.1" in                    |                                  |                               |
| Surface Maximum Load Capacity | 2400-5400Pa                        |                                  |                               |
| Allowable Hail Load           | 23m/s, 7.53g   23m/s, 0.3oz        |                                  |                               |
| Weight Per Piece (kg)         | 15.26kg/33.6 lbs                   | 18.86/41.6 lbs                   | 22.16/48.9 lbs                |
| Junction Box Type             | Pass the TUV or CE Certificate     |                                  |                               |
| Bypass Diode Rating (A)       | 12 or None                         |                                  |                               |
| Cable & Connector Type        | Pass the TUV or CE Certificate     |                                  |                               |
| Frame (Material Corners,etc.) | 30# / 35#                          | 40# / 35#                        |                               |
| Back Board Type (Brand Type)  | TPT, PET or KPF                    |                                  |                               |
| Working Temperature           | -40°C to 85°C   -40°F to 185°F     |                                  |                               |
| Standard Test Conditions      | AM1.5 1000W/m² 25°C/77°F           |                                  |                               |

## Solar Power Controller MPPT



### CONTROLLER SPECIFICATIONS

|                                                 |                                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>System Voltage</b>                           | 12V/24V/48V/96V automatic recognition                                                              |
| <b>Max Charging Current</b>                     | 40A                                                                                                |
| <b>Fast Charging Voltage</b>                    | 14.0/28.0V/56V/112V(25°C)/(77°F)                                                                   |
| <b>Boost Charging Voltage</b>                   | 14.5/29.0V/58.0V/116V(25°C)/(77°F)                                                                 |
| <b>Equalization Charging Voltage</b>            | 14.8/29.6V/59.2V/118.4V(25°C)/(77°F)                                                               |
| <b>Float Charging Voltage</b>                   | 13.7/27.4V/54.8V/109.6V(25°C)/(77°F)                                                               |
| <b>Low Voltage Alarm</b>                        | 11.0/22.0/44.0/88.0V                                                                               |
| <b>Low Voltage Disarming</b>                    | 12.5/25.0V/50.0V/100.0V                                                                            |
| <b>Storage Cell Type</b>                        | Liquid, Gel, Lithium                                                                               |
| <b>Temperature Compensation</b>                 | -4.17mV/K per cell (boost charging, equalization charging);<br>-3.33mV/K per cell (float charging) |
| <b>Solar Power End Max Voltage</b>              | 55V/100V/150V/300V                                                                                 |
| <b>Storage Cell Max Voltage</b>                 | DC280V                                                                                             |
| <b>Cable Length</b>                             | 120mm/80mm   4.7" in/3.1" in.                                                                      |
| <b>High Protection Voltage For Storage Cell</b> | 15.5/31.0/62V/124V                                                                                 |
| <b>Communication Protocol</b>                   | RS232/RS485/TCP/IP transmission wired or wireless by GPRS/3G/4G etc.                               |
| <b>Recommended Wire Diameter</b>                | 6mm <sup>2</sup>                                                                                   |
| <b>Max Current Consumption</b>                  | 8mA /16mA /24mA                                                                                    |
| <b>Working Temperature</b>                      | -40°C ~ 60°C                                                                                       |
| <b>Protection Level</b>                         | IP30~IP68                                                                                          |
| <b>Altitude (for reference)</b>                 | 4000~5000m   2.5~3.1 miles                                                                         |

## Lithium Iron Phosphate Battery

### BATTERY SPECIFICATIONS

|                               |                                                                                |
|-------------------------------|--------------------------------------------------------------------------------|
| <b>Voltage</b>                | 12.8V                                                                          |
| <b>Max Capacity</b>           | 230AH                                                                          |
| <b>Discharge Stop Voltage</b> | 11.2V                                                                          |
| <b>Charge Stop Voltage</b>    | 14.4V                                                                          |
| <b>Working Temperature</b>    | -10°C~70°C   14°F to 158°F                                                     |
| <b>Service Life</b>           | 2000-2500 circle life                                                          |
| <b>Features</b>               | Deep discharge depth, no memory, environmental protection, portable, long life |



**Note: Batteries are custom made according to the projects requirement. Picture is for reference only.**