

# KIT/DH-PFM364L-D1/DH-IPC-HFW4230MP-4G-AS-I2/DH-PFB121W

## Integrated Solar Monitoring System(Without Lithium Battery)



### System Overview

Integrated solar monitoring system(Without Lithium Battery), all in one design, using 4G to transfer monitoring data and solar to power, which is easy/quick to install and can save wiring to the greatest extent, includes three parts: 4G network camera, integrated solar power system and camera's mounting bracket, which is more convenient for sale, order and transportation.

The integrated solar power system, integrating solar panels, lithium batteries, maximum power point tracking(MPPT) charging controller and mounting brackets, provides stable power supply for the front-end data acquisition system —4G network camera through high conversion charging device. It is compact, portable, easy to install, disassemble and maintain compared with conventional system.

The 4G supported IR bullet camera delivers 2MP resolution with a 3.6mm or 6mm fixed lens. The camera can be connected to mobile internet as long as you have a SIM card, provides an excellent choice for a variety of small to mid-size applications such as off-grid system, farms, forest, border, etc.

Wall mount bracket of camera, support multi-angle flexible adjustment.

### Functions

#### Integrated Aluminum die casting casing

Compact structure integrated with solar panel and charging controller to improve the appearance, installation, and maintenance of the System.

#### Monocrystalline solar panel

Adopts monocrystalline solar panel to greatly improve optical absorbance efficiency and power generation performance with dusky light.

#### Remote monitoring with APP

With Dahua cameras, it supports real-time remote monitoring of the system operation status and alarm prompts of battery with APP.

#### Maximum Power Point Tracking charging controller (MPPT)

MPPT controller helps significantly improve the energy utilization efficiency of the System, and raise the charging efficiency by 10%–30% compared with conventional PWM controller.

#### RS-485 port

RS-485 port and standard Modbus protocol, meeting communication

### Solar Power System

- Integrated die casting casing
- Aluminum alloy frame
- Monocrystalline solar panel
- Lithium battery pack
- Remote monitoring with APP
- Maximum Power Point Tracking(MPPT) charging controller
- RS485 communication function
- Electronic protection

### 4G Network Camera

- 1/2.9" 2Megapixel progressive CMOS
- H.265&H.264 dual-stream encoding
- 25/30fps@2M(1920×1080)
- Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) &DMSS
- Micro SD card slot, up to 256GB
- 3.6mm,6mm fixed lens
- Max. IR LEDs Length 40m
- 4G supported
- IP67



requirements in various scenarios.

### Electronic protection

Comprehensive electronic protection: Current limiting, short circuit, and reverse current protection of solar panel; reverse connection, overvoltage, over-discharge, and over-temperature protection of lithium battery; overload and short circuit protection of load.

### 4G

The camera can be connected to Mobile Internet as long as you have a SIM card, then you can place it anywhere and no need to worry about the wiring hassles.

### Intelligent Video analysis (IVS)

Dahua camera is equipped with a built-in intelligent analytic algorithm based on video, which can realize intelligent functions like Tripwire and Intrusion, to quickly and accurately respond to monitoring events in specific area, It can enhance monitoring efficiency. In addition, the camera supports intelligent tamper detection, which is to generate warning message via detecting dramatic scene change and to guarantee effective video surveillance.

### Smart IR Technology

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 80m (262.5ft).

### Protection (IP67, wide voltage)

The camera allows for ±25% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 2KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67), the camera is the choice for installation in even the most unforgiving environments.

### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -30° C to +60° C (-22° F to +140° F) with 95% humidity.

### Smart Codec (H.265+ & H.264+)

Smart Codec is the optimized implementation of standard video compression (H.265 & H.264) that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart Codec technology reduces bit rate and storage requirements by up to 70% when compared to the standard video compression.

MPPT controller helps significantly improve the energy utilization efficiency of the System, and raise the charging efficiency by 10%–30%

## Technical Specification

### Integrated Solar Power System

Model	DH-PFM364L-D1
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### Solar Panel

Type	Monocrystalline silicon
Max. Power	60W
Solar Cell Efficiency	21%
Max. Mechanical Load	5400Pa

### Protection

Over-discharge Protection Voltage	11.1V DC
Low Temperature Charging	≤-10°C (14°F)
Low Temperature Discharging	≤-20°C (-4°F)
Grade	IP66
Others	Over temperature, overvoltage of the battery, overload, and short circuit

### Port

Power Output	Φ5.5 mm × Φ2.1 mm × 12 mm (Φ0.22" × Φ0.08" × 0.47")
RS-485	1

### General

Main Body Material	Die casting aluminum
Installation	Pole mount, installed on 76 mm to 96 mm (Φ3.0"-Φ3.78") poles
Adjustable Angle	Horizontal: 0°-360° Vertical: -75°-80°
Product Dimensions	1149.5 mm × 367.6 mm × 430.2 mm (45.26" × 14.47" × 16.94")
Packaging Dimensions	1353 mm × 548 mm × 364 mm (53.27" × 21.57" × 14.33")
Packaging Method	1 pc in each carton
Net Weight	16 kg (35.27 lb)
Gross Weight	22.5 kg (49.60 lb)

### Environment

Operating Altitude	<3000 m (9842.5 ft)
Applicable Area	Areas with daily solar radiation >4.5 h
Operating Temperature	-20°C to 60°C (-4°F to 140°F)
Operating Humidity	<95% (RH)
Storage Temperature	0°C to 40°C (32°F to 104°F)
Storage Humidity	<95% (RH)

### Certification

Certifications	CE: EN61000-6-2, EN61000-6-4 FCC: FCC Part 15 Subpart B
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### 2MP 4G IR Bullet Network Camera

Model	DH-IPC-HFW4230M-4G-AS-I2
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### Camera

Image Sensor	1/2.9" 2Megapixel progressive scan CMOS
Effective Pixels )	1920(H) x 1080(V)
RAM/ROM	256MB/32MB
Scanning System	Progressive
Minimum Illumination	0.04Lux/F2.0( Color,1/3s,30IRE) 0.22Lux/F2.0( Color,1/30s,30IRE) 0Lux/F2.0(IR on)
S/N Ratio	More than 56dB
IR Distance	Distance up tp 40m (131.2ft)
IR On/Off Control	Auto/ Manual
IR LEDs	2

Lens					
Lens Type		Fixed			
Mount Type		M12			
Focal Length		3.6mm (6mm optional)			
Max. Aperture		F2.0			
Angle of View		H: 82.5° (51.5°), V: 44° (29.5°)			
Optical Zoom		N/A			
Focus Control		Fixed			
Close Focus Distance		0.9m(2m) 29.5ft(6.56ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	3.6mm	53m(174ft)	21m(69ft)	10m(33ft)	5m(17ft)
	6mm	80m(262ft)	32m(105ft)	16m(52ft)	8m(26ft)
Pan/Tilt/Rotation					
Pan/Tilt/Rotation Range		N/A			
Intelligence					
Event Trigger		Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access,Storage anomaly			
IVS		Tripwire, Intrusion			
Video					
Compression		H.265/H.264H/MJPEG(Sub Stream)			
Smart Codec		Support H.265/H.264			
Streaming Capability		2 Streams			
Resolution		1080P(1920x1080)/1.3M(1280x960)/720P(1280x720)/D1(704x576)/VGA(640x480)/CIF(352x288)			
Frame Rate		Main Stream: 1080P@25fps Sub Stream: D1@25fps			
Bit Rate Control		CBR/VBR			
Bit Rate		H.264: 32~10240Kbps H.265: 12~6400Kbps			
Day/Night		Auto ICR			
BLC Mode		BLC / HLC / DWDR			
White Balance		Auto/Natural/Street Lamp/Outdoor/Manual			
Gain Control		Auto			
Noise Reduction		3D DNR			
Motion Detection		Off / On (4 Zone, Rectangle)			
Region of Interest		Off / On (4 Zone)			
Electronic Image Stabilization (EIS)		N/A			
Smart IR		Support			
Defog		N/A			
Digital Zoom		N/A			
Flip		0°/90°/180°/270°			
Mirror		Off / On			
Privacy Masking		Off / On (4 Area, Rectangle)			
Audio					
Compression		G.711a/ G.711Mu/ AAC/ G.726			
Network					
Ethernet		RJ-45 (10/100Base-T)			
Mobile Communication		4G			
Operating band		Model 1: TDD-LTE:Band38/39/40/41 FDD-LTE:Band1/3/5/8 WCDMA:Band1/8 TD-SCDMA:Band34/39 EVDO/CDMA1X:BC0 GSM:Band3/8 Model 2: FDD-LTE:Band1/2/3/4/5/7/8/20 UMTS:Band1/2/5/8 GSM:850/900/1800/1900			
Protocol		HTTP;HTTPS;TCP;ARP;RTSP;RTP;RTCP;UDP;SMTP; FTP;DHCP;DNS;DDNS;PPPoE;IPV4/V6;QoS;UPnP; NTP;Bonjour;IEEE 802.1X;Multicast;ICMP;IGMP;TLS			
Interoperability		ONVIF Profile S&G, API			
Streaming Method		Unicast / Multicast			
Max. User Access		10 Users /20 Users			
Edge Storage		NAS Local PC for instant recording Mirco SD card 256GB			
Web Viewer		IE, Chrome, Firefox, Safari			
Management Software		Smart PSS, DSS, DMSS			
Smart Phone		IOS, Android			
Certifications					
Certifications		CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B			
Interface					
Audio Interface		1/1 channel In/Out			
Alarm		2 channel In: 500mA 5VDC 2 channel Out: 300mA 12VDC			

**Electrical**

Power Supply	DC12V±30%
Power Consumption	3.6W, 9.5W(IR on); 6W(4G on, IR off)

**Environmental**

Operating Conditions	-30° C ~ +60° C (-22° F ~ +140° F) / Less than 95% RH
Storage Conditions	-30° C ~ +60° C (-22° F ~ +140° F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	N/A

**Construction**

Casing	Metal+Plastic
Dimensions	194.4mm×96.6mm×89.5mm (7.65"×3.8"×3.52")
Net Weight	0.7kg (1.54lb)
Gross Weight	0.8kg (1.76lb)

**Wall Mount Bracket**

Model	DH-PFB121W
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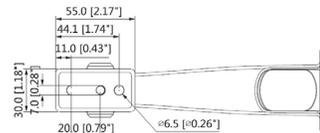
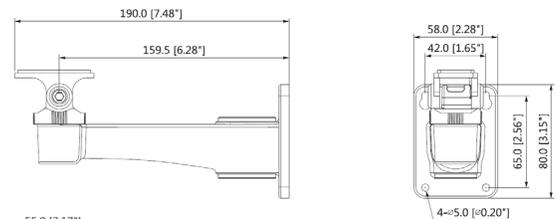
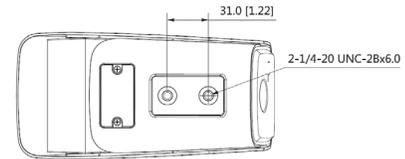
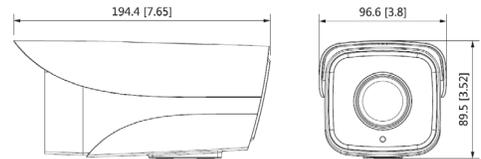
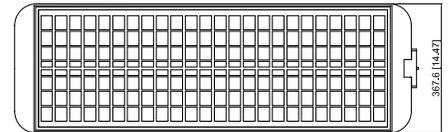
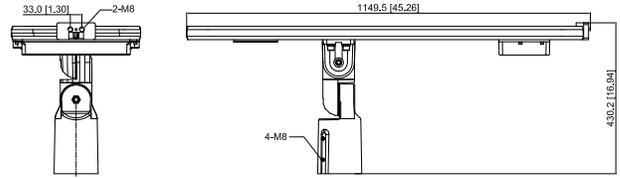
**General**

Material	Aluminum
Dimension(WxHxD)	58mmx88mmx190.5mm(2.28"x3.46"x7.50")
Weight	0.24kg(0.53lb)
Load Bearing	1kg(2.2lb)
Color	White
Operating Temperature	-40°C~+60°C(-40°F~+140°F)
Humidity	<90% RH
Applicable Model	Please check "Accessory Selector" on DAHUA website

**Ordering Information**

Type	Part Number	Description
Power Series	KIT/DH-PFM364L-D1/DH-IPC-HFW4230MP-4G-AS-I2/DH-PFB121W	KIT: 60W integrated solar power system(Without Lithium Battery) /4G bullet camera/ PFB121W
Accessories (Optional)	PM372-L45-4S14P	Integrated solar lithium battery

**Dimensions (mm/inch)**



**Application**

