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

Integrated Solar Monitoring System

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

System Overview

Integrated solar monitoring system, all in one desion, 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, lithium battery pack 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.

Lithium battery
Iron phosphate lithium battery has smaller size and longer cycle life compared with conventional lithium battery.

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 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.

Technical Specification

Integrated Solar Power System

Model	DH-PFM364L-D1

System

Output Voltage	12.8V DC (11.1V DC to 14.6V DC)
Output Current	1A
Standard Backup Time (20ºC)	"Backup time(h)=576Wh/total load power consumption (W) For example, the total load power consumption is 6W, then backup time: 576Wh/6W=96h"
Idling Power Consumption	< 0.5W

Solar Panel

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

Battery

Type	Lithium iron phosphate battery
Rated Capacity (20ºC, 5hr)	576Wh (12.8V/45Ah)
Low Temperature Discharge (-20°C, 5hr)	≥80% of rated capacity
High Temperature Discharge (60°C, 5hr)	≥90% of rated capacity
Maximum Charging Voltage	14.6V DC
Maximum Charging Current	10A

Protection

Over-discharge Protection Voltage	11.1V DC
Low Temperature Charge	≤-10°C (14°F)
Low Temperature Discharge	≤-20°C (-4°F)
Others	Over-temperature and overvoltage protection of battery; overload and short circuit protection of load.

Port

Power Output	Φ5.5mm×Φ2.1mm×12mm (Φ0.22""×Φ0.08""×0.47"")
RS-485	1
RS-485 to Ethernet	N/A
Network	N/A

General

Casing Material	Aluminum
IP Rating	IP66
Installation	Pole-mount, suitable for Φ76~96mm (Φ3.0"~Φ3.78") pole
Adjustable Angle Range	"Pan: 0°~360° Tilt: -75°~80°"
Operating Altitude	< 3000m
Applicable Area	Daily solar radiation≥4.5h
Operating Temperature	Day (charging mode): 0°C~60°C (32°F~140°F) Night (discharging mode): -20°C~60°C (-4°F~140°F)
Operating Humidity	Less than 95% RH
Storage Temperature	0°C~+40°C (32°F~104°F)
Storage Humidity	Less than 95% RH
Dimensions	1149.5mm×367.5mm×430.2mm (45.26""x14.47""x16.94"")
Net Weight	26.5kg (58.42lb)
Gross Weight	34.5kg (76.06lb)

Certification

Certification	CE: EN61000-6-2, EN61000-6-4 FCC: FCC Part 15 Subpart B

2MP 4G IR Bullet Network Camera

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

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)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	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(1280×720)/D1(704×576)/ VGA(640×480)/CIF(352×288)
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

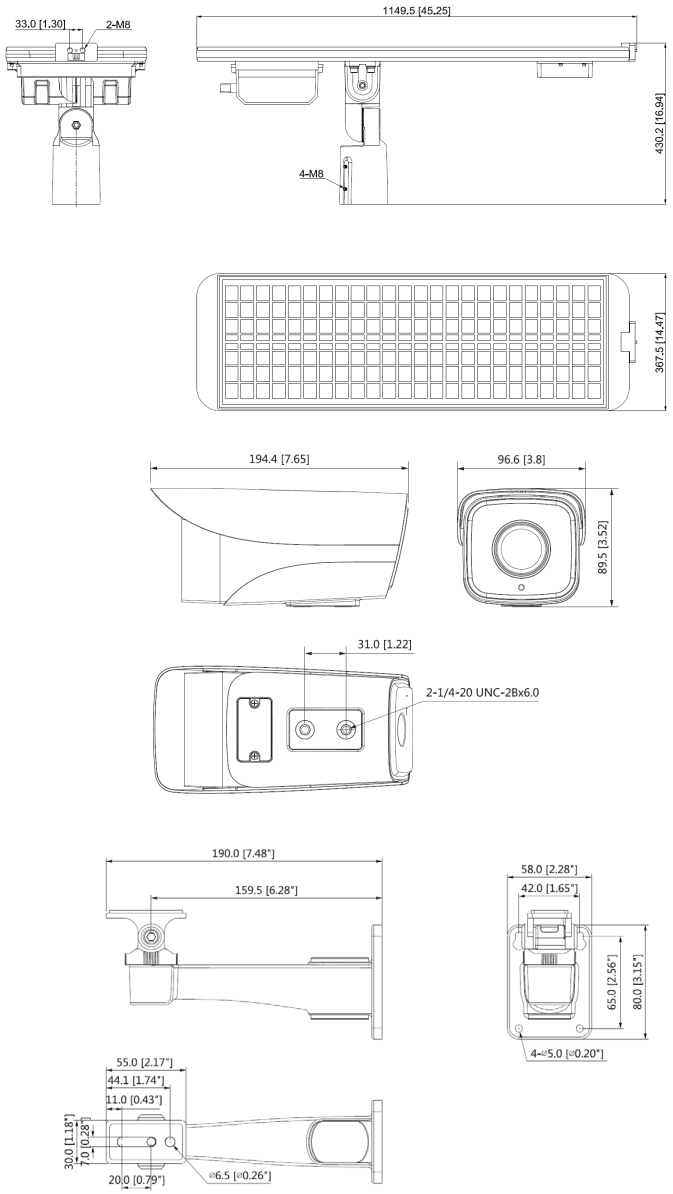
Audio Interface	1/1 channel In/Out
Alarm	2 channel In: 500mA 5VDC 2 channel Out: 300mA 12VDC

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
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	-40ºC~+60ºC(-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/4G bullet camera/ PFB121W

Dimensions (mm/inch)



Application

© 2019 Dahua. All rights reserved. Design and specifications are subject to change without notice.