

## Product Data Sheet: FlatMesh Camera

The FlatMesh Camera is a fully integrated product which combines a high quality digital camera, 3G modem and FlatMesh network radio node in order to provide a high quality and robust visual monitoring capability as an integral part of the FlatMesh network.

Dual Infrared illuminators ensure that the camera is capable of taking very clear images at night whilst the integration of a rechargeable battery ensures that the camera can be powered without the need for external mains supply.



### Key Features

- Can be triggered to take an image via the FlatMesh Web Monitor or by a message initiated by Senceive's dual-axis tilt sensor nodes and passed over the FlatMesh wireless communications network
- Dual illuminators for good image quality in low light conditions
- Choice of lens types i.e. wide or narrow for different site conditions, depending on the length of the site and the possible positioning of the camera
- Integrated 3G modem for high speed image upload
- Fully integrated solar charging circuit connected to internal rechargeable lithium battery pack (no external battery pack)
- Integrated invisible infrared illuminators for simple and error-free installation. The use of infra-red means there is no visual disturbance for personnel in the vicinity
- Integrated temperature sensor and battery monitor
- Weatherproof to IP66

## Physical Specifications

Parameter	Value
Dimensions excluding pole bracket	336 x 174 x 302 mm
Dimensions including pole bracket	356 x 305 x 302 mm
Total Mass	5.6 kg (approx.)
Housing Material	Extruded aluminium with plastic end caps
International Protection Marking	IP66
Mounting Options	Wall mounting bracket included with one-screw rotation and tilt adjustment Pole mounting bracket adaptor also available
Operating Temperature Range	-20°C to +60°C

## Imaging Specifications

Parameter	Value
Maximum Image Resolution	1600 x 1200 pixels
Shutter Type	Rolling shutter
Scanning	Progressive
Lens Focal Length	3.6mm for standard configuration Other configurations are available
Compression Format	JPEG

## Infrared Illuminator Specifications

Parameter	Value
Power	48W
Wavelength	940nm (invisible to the human eye)
Beam Angle	60° wide, 25° high for standard configuration Other configurations are available
Range	In standard configuration, 80 to 100m (day-time), approximately 60m (night-time) Consult with Senceive for your application

## FlatMesh Radio Specifications

Parameter	Value
Communication Type	Proprietary FlatMesh v3 Mesh Networking Protocols IEEE 802.15.4
Frequency Band	2400 – 2485 MHz ISM Band
Maximum Transmit Power including Antenna Gain	+9.1dBm as tested to EN 300 328 v1.8.1
Range	Up to 300m depending on the environment
RF Module	Senceive FM3Node

## Cellular Radio Specifications

Parameter	Value
Frequency Bands for GSM/GPRS/EDGE	850 / 900 / 1800 / 1900 MHz
Frequency Bands for UMTS/HSPA+	900 / 2100 MHz
Output Power for GSM/GPRS/EDGE	Class 4 (+33dBm) for 850 and 900 MHz Class 1 (+30dBm) for 1800 and 1900 MHz
Output Power for UMTS/HSPA+	Class 3 (+24dBm)
Maximum Antenna Gain	+5dBi
Support SIM Cards	3V and 1.8V
RF Module	SIMCom SIM5360E

## Internal Battery

Parameter	Value
Battery Type	Lithium Iron Phosphate, rechargeable
Nominal Voltage	12.8V
Nominal Capacity	7500mAh
Charging Temperature Range	0°C to 45°C
Typical Runtime without charge	10 days when taking up to 6 photos per day Consult with Senceive for your application

## Power Input

Parameter	Value
Recommended Solar Panel Type	12V 45W
Target Voltage for MPPT	15.0V