

WiSen: Camera Vision Unit Wireless Monitoring System



This internally battery powered multipurpose camera and alert sensor system enables the automatic capture of site images night or day as well as providing an onsite alerting system through visual LED's or via sound through the integrated siren.

The camera has a 1080p, full colour, 85° horizontal field of view lens with a night vision capability.

Images can be captured by a user induced request command (passive static mode) and by a user-controlled schedule (active static mode) which can be associated and reactive to trigger thresholds, with an image capture interval as low as 1 minute.

The internal memory can store upto 26,000 images which can be transmitted via Mobile GSM/ LAN / WLAN module configuration.

The visual unit also includes an integrated LED warning system, containing three warning colours. These can be configured and reactive to predefined alert warning thresholds. In addition, the 90dBm siren will give a high decibel sound alert. These sensory near real-time alerts enhance the safety of onsite workers who may be working in the vicinity.

Depending on configurable requirements the internal battery lifespan is up to 5+ months at hourly readings. For longer term self-power solutions this can be paired with an additional battery unit or through use of the WiSen solar power system which would give an unlimited duration.

FEATURES

- 1080p HD Camera
- Colour & Night Vision
- 85° Horizontal Field of View
- 45° Vertical Field of View
- Visual LED Alert System
- Siren Alert Sensor
- End User Configurable
- IP66

WiSen: Camera Vision Unit - 3002

PHYSICAL PROPERTIES

Dimensions (L x W x H)	180mm x 140mm x 60mm (excluding antenna)
Weight	2.0kg
Casing and Painting Materials	Aluminium-Alloy & Epoxy Polyester Powder Coating
International Protection Mark Rating	≥IP66
Operating Temperature	-40 to +85°C
Cable Gland	1 x EMC CMA12 for Camera connection 1 x EMC CMA14 for external DC input power connection

LOCAL STORAGE

Local Storage	Example: ≥ 180 days @ Sampling Interval (T)=10mins, i.e., 26,000 Images
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POWER

Primary DC Power	4 x ER34615 Lithium D Cell Battery
Battery Connection	Standard Aluminum Battery Holder
Secondary External AC/ DC Power Options	7V ~ 32VDC (Min. Current ≥ 2Amp) <ol style="list-style-type: none"> WiSen 110-240vAC to 12vDC IP68 Outdoor Adaptor WiSen M001 Non-Rechargeable Battery Enclosure (L 180mm x W 140mm x H 60mm) Extends Primary DC Battery life a further 1.5 times, for example 12.5 months @ 1-hour intervals. WiSen M101 Solar Charge Controller Unit (L 180mm x W 140mm x H 60mm) & 10-15W PV Panel. LiFePO4 rechargeable battery / 8-12hr recharge duration / 1.5-month battery life @ 1-hour intervals).

Battery Life Expectancy ^{1,2}

External AC/DC Power - Unlimited / Dependent on secondary power

Internal Power Only

Active Mode

Sampling Time Interval - T	Duration (Days)	Duration (Months)	Duration (Years)
1 Min ¹	3	0.1	-
5 Mins ²	15	0.5	-
15 Mins ²	55	1.8	0.1
30 Mins ²	91	3.0	0.2
1 Hour ²	164	5.4	0.4
24 Hours ²	2920+	96+	8+

Passive Mode

Sampling Time Interval - T	Duration (Days)	Duration (Months)	Duration (Years)
<5 Mins ¹	10	-	-
>5 Mins ²	44	0.1	-

⁽¹⁾ When less than <5mins the system is constantly connected to the mobile GSM network and allows near real time image transfer.

⁽²⁾ When greater than >5mins the system establishes a new connection to the mobile GSM network with image transfer delayed 1-2 current reading (T) time intervals

Mobile Network Stop Voltage ≥ 2.65VDC

NETWORK INTERFACES

Wireless Mobile Module	Compatible with 2G/2.5G/3G/4G of Micro SIM Card (3FF)
Wireless Wi-Fi Module	Compatible with 2.4GHz Routers (2.400-2.4835GHz – 802.11b/g/n)
Wired Ethernet Module	Compatible with LAN RJ45 & through PoE Extenders
Wired RS-485 Module	RS485 to RS232
Wired Port	RS232

CAMERA IMAGE SENSOR

Sensor Type	CMOS 2MP Colour
Image Resolution	1920 x 1080
Image Size	Typically, 100-300 KB
Field of View	Horizontal Place 85° / Vertical Place 45°
Lens Focal Length	3.6mm
Night Vision Range	Monochrome Night Vision - up to 8m (Reflective targets achieve greater observation target recognition)
Image Capture Interval	1 Minute to 24 Hours
Expected Latency ¹	1 to 3 Minutes

⁽¹⁾ Poor mobile GSM network quality will increase latency associated with image transfer time.

SIREN SENSOR

Volume	Max 90dB @0.1m
Alert Level Association	X2 (Blue & Red Alert Status)
Siren Update Interval	1 to 60 Minutes

VISUAL LED SENSOR

No. of LED's	LED x 3 of Green, Blue & Red Colours
Alert Level Association	X3 (Green, Blue & Red Alert Status)
LED Update Interval	1 to 24 Hours
LED Light Frequency	Normal Status (Green) – Once every 4 seconds Trigger Alert Status Level 1 (Blue) - Once every 3 seconds Trigger Alert Status Level 2 (Red) – Twice every 2 seconds

SERVICE INSPECTION

Inspection Period	Every 3 Years by Manufacture (or inspected by arranged methods)
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CERTIFICATION

Regional Conformity	UKCA
Network Rail	PADS Number: -
London Underground	Reg Number: -

ACCESSORIES

GSM/Wi-Fi Antennas	
WA029-00029	WiSen GSM Paddle Antenna 2G/3G/4G
WA029-00033	WiSen GSM Omni Antenna 2G/3G/4G with 50m Coaxial Cable Extension

Daughterboard Module Options	
WW002-0062	WiSen GSM 4G connection board EMEA
WW002-0054	WiSen Wi-Fi Module
WW002-0055	WiSen Ethernet Module
WW002-0090	WiSen RS485 Module

Power Supply	
WW001-00073	WiSen Solar Charge Controller Unit with 10W Solar Panel-M101
WW001-00073	WiSen Solar Charge Controller Unit with 25W Solar Panel-M101
WW001-00074	WiSen 10.8V Non-Rechargeable Battery Enclosure-M001
WL034-00054 / WL034-00076	WiSen Gateway 110-240v AC to 12v DC@3.0A Outdoor Power Adaptor (0.8m) or (5.0m)
WB016-00016	3.6V ER34615 19Ahr D Cell Lithium Battery

Mounting	
WM028-00153	WiSen Standoff Mounting for Enclosures*
WM028-00186	WiSen Flat Mounting Plates with U Clamps for Enclosures*
WM028-00148	WiSen 0.4m Tower Bracket for Enclosures
WM028-00150	WiSen 1.0m Tower Bracket for Enclosures
WM028-00230	WiSen L-Shaped Bracket with U Clamp for Tower Bracket
*Compatible with magnet fixings for non-intrusive installations	