MSU-GLSM

Solar / battery / methanol hybrid

A solar/battery mobile surveillance unit with automatic methanol fuel-cell backup. Two 550 W bifacial panels and 24 V / 450 Ah AGM storage prioritize solar operation; the fuel cell recharges batteries when additional charging is needed. A 120 VAC shore-power connection provides an additional charging or external-power option.

Configuration is subject to final confirmation by Mirtek before procurement. Component ratings apply only to the named component.

Model overview

Power	Solar / battery / methanol hybrid
Solar array	2 × 550 W bifacial panels (maximum rating)
Battery pack	24 V / 450 Ah; 6 × 150 Ah deep-cycle AGM batteries
Backup fuel cell	Up to 125 W; output decreases with operating hours and elevated temperatures
Shore charging	120 VAC; approximately 9 hours
Standard cameras	AXIS P3748-PLVE panoramic + AXIS Q6135-LE PTZ
Mast height	23 ft
Mast rotation	350°
Total weight	2,305 lb
Runtime at 140 W / full power	96–113 hours
Runtime at 140 W / after 3,000 hours	58–62 hours
Runtime at 140 W / after 6,000 hours	44–48 hours

Dimensions & mobility

Travel dimensions (L × W × H)	103.3 × 51.6 × 90 in

Operational dimensions (L × W × H)	103.3 × 112.8 × 276 in
Total weight	2,305 lb
Mast height	23 ft
Mast rotation	350°
Maximum wind rating	62 mph (can be increased with high wind kit – sold separately)

Solar & battery power

Solar panels	2 bifacial panels, 550 W maximum rating each
Battery bank	6 × 150 Ah deep-cycle AGM batteries
Battery pack	24 V at 450 Ah
Inverter/charger	3 kVA
Expected battery cycle life	3,100 cycles at 25°C

Methanol fuel-cell backup

Maximum output power	125 W
Output after 3,000 hours	100 W at 24 V
Output after 6,000 hours	83 W at 24 V
Maximum charging current	6 A at 21 V
Fuel consumption	Approx. 0.9 L/kWh
Dimensions (L × D × H)	448 × 198 × 275 mm
Weight	Approx. 7.8 kg
User interface	Push button and LED; optional display / Bluetooth / Ethernet options
Data interfaces	RJ-12 (CAN/RS232) and RJ-45 Ethernet

Fuel cartridge connection	2x 28 Liter cartridges

Runtime & charging

Runtime at 140 W / full power	96–113 hours
Runtime at 140 W / after 3000hrs	58-62 hours
Runtime at 140 W / after 6000hrs	44-48 hours
AC grid charging time	Approx. 9 hours (via 120v shore power)

AXIS P3748-PLVE panoramic camera

Camera model	AXIS P3748-PLVE
Sensor configuration	4 × 8 MP sensors per camera
Video resolution	4 × 3840 × 2160 (4K) per camera
Frame rate	Up to 12.5/15 fps per channel
Horizontal field of view	360° total (103°–41° per sensor)
Pan / tilt / roll	Remote PTRZ adjustment
Low-light performance	IR illumination; 0 lux B/W with IR on
IR range	20 m at 0 lux; 30 m at 0.2 lux
WDR	Forensic WDR up to 120 dB, scene dependent
Video compression	H.264, H.265 and Motion JPEG
Analytics	Edge-based AI analytics including human/vehicle detection, line crossing, object-in-area, occupancy and motion scenarios
Environmental rating	IP66 / NEMA 4X / IK10
Camera operating temperature	-40°C to 50°C; PTR functionality to -30°C

Camera power	PoE, IEEE 802.3af/802.3at Type 2 Class 4; typical 10.9 W, max 23.6 W per camera

AXIS Q6135-LE PTZ — coverage

Coverage	Pan-tilt-zoom camera for remote monitoring and long-range scene inspection.

AXIS Q6135-LE PTZ — imaging & zoom

Resolution	2 MP; 1920 × 1080 maximum
Frame rate	Up to 50/60 fps, depending on system frequency
Image sensor	1/2-inch progressive-scan CMOS
Optical zoom	31×
Total zoom	Up to 372× when combining 31× optical and 12× digital zoom
Lens focal length	6.91–214.64 mm
Low-light performance	Colour: 0.09 lux at 30 IRE; black-and-white: 0.002 lux at 30 IRE; 0 lux with IR illumination on

AXIS Q6135-LE PTZ — movement & durability

Pan	360° endless rotation
Tilt	+20° to −90°
Preset positions	Up to 300
Weather / impact ratings	IP66, IK10 and NEMA 4X stated
Operating temperature note	NEMA TS2 suitability up to 74°C; see full datasheet for complete limits

AXIS Q6135-LE PTZ — video & analytics

Compression	AV1, H.264, H.265 and Motion JPEG

Analytics	On-device AI analytics for detection and classification of people and vehicles
Image features	Day/night filter, wide dynamic range and electronic image stabilization
Security	Built-in device security features

Camera power midspan

Midspan power rating	30 W
AC input	100–240 V AC, 50–60 Hz
Data rate	10/100/1000 Mbps
Ethernet connectors	Shielded RJ-45 input and output
Power connector	C14 AC inlet
Operating temperature at 30 W	−20°C to +55°C
Operating humidity	0–90% RH, non-condensing
Storage temperature	−20°C to +70°C
15 W remote load	17.3 W input consumption at 230 V AC
30 W remote load	32.9 W input consumption at 230 V AC

Video control & alarm bridge

Video alarm zones	8
Audio	Live audio control; supports IP-based audio and analog audio output
Alerts	Real-time video alarms and notifications
Arming & scheduling	Alarm zones can be armed and scheduled
Integration	Supports ONVIF event messaging and integration with AI cameras / AI server platforms

Mobile access	Mobile app support alerts, live video, live audio broadcasts and arming/disarming

Tamper & shock sensors

Door tamper detection	12v limit switch
Shock sensor	12v vibration sensor

Video bridge electrical & network

Power input	12 V DC
PoE	IEEE 802.3af Class 3
Peak power consumption	DC: 800 mA peak; PoE: 10.5 W peak
Ethernet	RJ-45 10/100/BASE-T
Security	TLS/SSL
USB	2 × USB 2.0 Type-A and 2 × USB 3.0 Type-A

Video bridge physical & environmental

Dimensions	150 × 98 × 35 mm
Weight	265 g
Enclosure	White polycarbonate
Operating temperature	0°C to +40°C
Humidity	Less than 85% RH

Monitoring integration

Central station	Supports CID signaling and encrypted communication;
Cloud event storage	Options include 30 / 90 / 365-day storage. (Subscription required)

LTE communications

Function	Compact cellular gateway for remote IoT / M2M connectivity.

Cellular connectivity

LTE performance	Up to 150 Mbps downlink / 50 Mbps uplink (LTE FDD, module laboratory performance)
Supported LTE bands	B2, B4, B5, B12, B13, B14, B66, B71
Legacy cellular	WCDMA / DC-HSPA+
SIM	Nano SIM (4FF), 1.8 / 3.0 V

Network & security

Ethernet	10/100/1000 Mbps, auto MDI/X
USB	USB 2.0; USB tethering
Protocols	IPv4 / IPv6, TCP/UDP, DHCP, HTTP, SNMP, FTP, DNS, Modbus TCP and MQTT
Security	Firewall, ACL, port forwarding, VPN / IPSec and HTTPS
Remote management	Web interface over HTTP/HTTPS or SSH; remote diagnostics and SMS alerts

LTE power & physical

Input voltage	7–30 V DC; passive PoE up to 24 V
Dimensions	Approx. 45 × 45 × 35 mm (1.75 × 1.75 × 1.35 in)
Weight	Approx. 105 g
Operating temperature	−40°C to +85°C
Humidity	5–95%, non-condensing
Antenna connections	3 × SMA female (main, diversity, GPS)

LTE performance notes

Performance	Cellular throughput is a stated maximum under laboratory conditions; actual speeds depend on coverage, carrier and network conditions.

On-board computer

Configuration summarized	fanless mini PC configuration

Computing & storage

Processor	Intel Processor N150; 4 cores / 4 threads; up to 3.6 GHz
Memory	16 GB DDR4 RAM; source states upgradeable to 32 GB
Primary storage	512 GB SSD
Expansion	Additional M.2 2280 NVMe slot (up to 4 TB stated); microSD slot (up to 2 TB stated)
Graphics	Integrated Intel UHD Graphics
Operating system	Windows 11 Pro

Connectivity & display

Display outputs	Dual HDMI plus USB-C; source advertises up to triple-display support
Networking	Ethernet LAN and Wi-Fi 5
USB	USB-C and additional USB connectivity

Computer design & use

Cooling	Fanless passive cooling
Noise	0 dB fan noise under normal operation
Intended use	Compatibility with existing security platforms such as Genetec, Milestone etc.

Computer configuration

Configuration	16 GB RAM / 512 GB SSD

Lighting & warning

LED Strobe Lights	12v low consumption Integrated LED strobe warning lights

Audible warning & communication

Features	Built-in speaker with two-way audio, IP66-, NEMA-4X- and IK09-rated, Multiple LED colors and custom audio, PoE out to power additional devices

Audio environmental ratings

Ingress Protection Rating	IP66
Operating Temperature (T-T)	-40-55°C
Durability	Vandal Resistant
Environmental Certification	CE, FCC, UL
Indoor/Outdoor	Outdoor

Notes & limitations

1. Specifications describe the stated configuration and are subject to configuration, component availability and manufacturer revisions. Confirm the final configuration with Mirtek before procurement.

2. Component ratings apply to the named component, not to the entire assembled surveillance unit. Cellular throughput is a stated maximum; actual speeds depend on coverage, carrier and network conditions.

3. Fuel-cell output is up to 125 W initially, 100 W at 24 V after 3,000 hours, and 83 W at 24 V after 6,000 hours; actual output decreases with operating hours and elevated temperatures.

4. Runtime figures are the document’s stated 140 W load figures; they are not unconditional runtime guarantees.

5. High-wind kit is sold separately; the document does not state an increased numerical wind rating.

6. Dimensional drawing labels and travel/operational measurements describe different reference points; confirm transport clearances for the selected configuration.

Discuss your configuration

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