MSU-GLB

Diesel / battery hybrid

A diesel/battery hybrid mobile surveillance unit combining diesel generation and battery storage for surveillance, communications, lighting and auxiliary equipment. Battery-assisted operation reduces engine runtime; light-tower-load hybrid runtime is up to 300 hours, dependent on configuration and operating conditions.

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

Model overview

Power	Diesel / battery hybrid
Standard cameras	2 × AXIS P3748-PLVE
Mast height	27.9 ft / 8.5 m maximum
Mast rotation	350°
Communications	CAT4 LTE; up to 150 Mbps downlink / 50 Mbps uplink
Audio	15 W outdoor IP horn
Tower lighting	4 high-output lamps, 70,000 lumens total
Battery pack	24 V / 200 Ah lead-acid; 4.8 kWh nominal
Hybrid runtime	Up to 300 hours at light-tower load; configuration / operating-condition dependent

Platform & power

Power source	Diesel generator + battery energy storage system
Power architecture	Diesel/battery hybrid power system
Generator output receptacle	1 × 110 VAC / 15 A outlet
Battery type	Lead-acid battery bank; lithium-ion-free

Battery pack	24 V / 200 Ah nominal
Nominal battery energy	4.8 kWh (24 V × 200 Ah)
Expected Battery cycle	3,100 (at 25 degrees Celsius)
Expected Battery Lifetime	8-11 years
Hybrid operating concept	Battery-assisted operation with diesel generation for recharging and extended operation
Generator End	Linz Alumen 60 Hz
Mast height	27.9 ft / 8.5 m maximum
Mast rotation	350°
Lifting system	Hydraulic mast system
Stabilizers	5 outriggers for wind stability
Overall dimensions	93 in L × 58 in W × 94.5 in H
Base unit weight	2,205 lb (1,000 kg)
Maximum wind rating	110 kph (68 mph)
Fuel	Diesel
Fuel tank capacity	120 L (31.7 US gal)
Engine	Kohler KDW702
Fuel consumption during recharging	1 L/hr (approx. 0.3 gal/hr), lights on
Hybrid runtime — light tower load	Up to 300 hours, configuration/operating-condition dependent
Secondary fluid containment	110%
Structure	Powder-coated steel enclosure with galvanized hydraulic mast

Standard surveillance cameras

Quantity	2
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

LTE communications

Gateway type	CAT4 LTE IoT Ethernet gateway
Cellular performance	Up to 150 Mbps downlink / 50 Mbps uplink over air
LTE bands	B2, B4, B5, B12, B13, B14, B66, B71
WCDMA bands	B2, B4, B5

Ethernet	10/100/1000 Mbps Gigabit Ethernet
USB	USB 2.0
Networking	IPv4 / IPv6, TCP, UDP, DHCP, HTTP, SNMP, FTP, DNS, MQTT and related network protocols
Security	Firewall, ACLs, VPN, IPSec, GRE / VPN tunnelling, HTTPS and access controls
GPS	Integrated GPS support; up to 5 Hz update rate
Operating temperature	-40°C to +85°C
Dimensions	Approx. 1.75 × 1.75 × 1.35 in

Video control & alarm bridge

Video channels	8
Video alarm zones	8
Alarm handling	Real-time video alarms and notifications
Integration	ONVIF event messaging; integration with AI cameras and server platforms
Audio	IP and analog audio output
Central monitoring	Supports live video monitoring, live audio broadcasts and remote control with additional hardware
Network	10/100 Ethernet, RJ45
Power	12 VDC or PoE, IEEE 802.3af Class 3
Peak power consumption	10.5 W
Security	TLS / SSL
Dimensions	150 × 98 × 35 mm (5.9 × 3.86 × 1.38 in)
Weight	265 g (0.6 lb)

Audible warning & communication

Speaker type	15 W outdoor IP horn speaker
Environmental protection	IP67 waterproof
Maximum SPL	113 dB
Frequency response	300 Hz–8 kHz
Amplifier	Built-in 15 W amplifier
Network interface	10/100 Base-TX, RJ45
Protocols	SIP, ONVIF, HTTP, IPv4, DHCP, RTSP, RTP, TCP, UDP and related network protocols
Audio	Network audio with support for multiple common audio codecs
Alarm input	1 channel
Power	PoE or 12–24 VDC
Operating temperature	-30°C to +60°C
Humidity	5–85%
Dimensions	285 × 205 × 290 mm
Weight	1.3 kg

On-board computer

Computer type	Fanless mini PC
Processor	4-core / 4-thread processor, up to 3.6 GHz, 8 W TDP
Memory	16 GB RAM
Storage	512 GB SSD
Storage expansion	M.2 2280 SATA/NVMe expansion; microSD support

Networking	Dual-band Wi-Fi 5, Bluetooth 5.1, Gigabit Ethernet
Video outputs	2 × HDMI 2.0 plus USB-C video output
Data I/O	USB 3.2, USB 2.0, USB-C, RJ45 Ethernet, 3.5 mm audio
Unattended operation	Auto power-on, Wake-on-LAN, PXE/iPXE boot and RTC wake support
Physical dimensions	Approx. 5.2 × 3.2 × 0.7 in
Weight	Approx. 0.44 lb

Lighting & warning

Tower lighting	4 high-output lamps, 70,000 lumens total
LED strobe lights	Integrated LED strobe warning lights

System integration

Standard configuration	2 × AXIS panoramic multi-sensor cameras + CAT4 LTE gateway + 8-channel video control bridge + 15 W IP horn + on-board fanless mini PC + LED strobe lights
Camera customization	Camera quantity, model and analytics configuration can be customized
LTE customization	LTE hardware and connectivity configuration can be customized
Monitoring	Networked surveillance and alarm architecture suitable for integration with remote monitoring services

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.

Discuss your configuration

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