

AutomatePro is an all-in-one controller and compute system designed for outdoor mobile robotics and automation. It features NVIDIA® Jetson Orin series processors and GPUs, robust connectivity, and a rugged IP67-rated design. Preconfigured with ROS 2 and ROS-level abstraction for all I/O, RTK GNSS, and IMU, it also integrates 5G connectivity, GMSL high-speed camera interfaces, and numerous other connection options.

Applications

- Agriculture Robotics
- Marine Robotics
- Off Highway Machines
- Mining Robotics
- Construction Robotics
- AGV/UGVs



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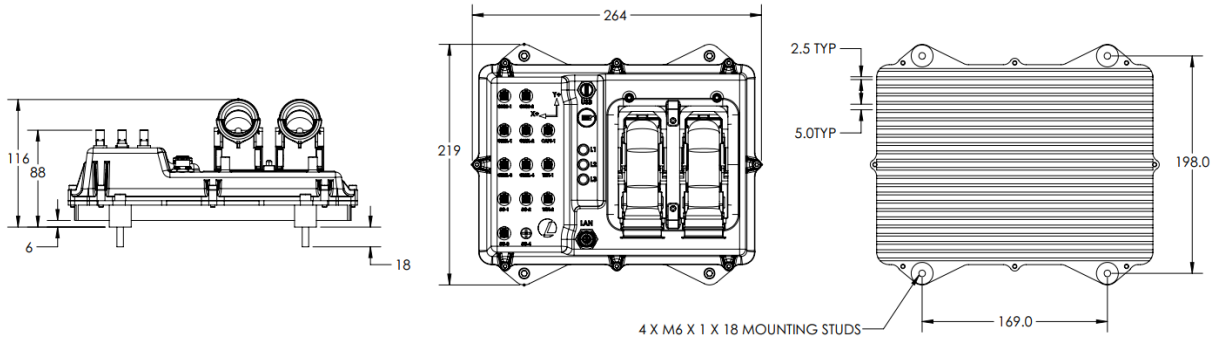


ROS 2

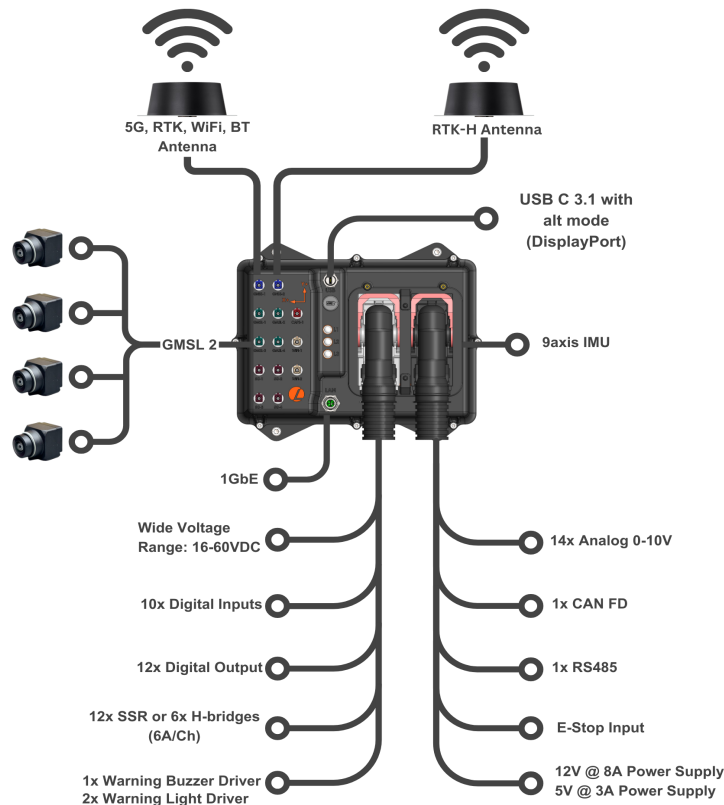
Specifications

Processor Module		Wireless Connectivity	
Compute Module <i>(Different Options)</i>	NVIDIA Jetson Orin NX 16GB NVIDIA Jetson Orin NX 8GB NVIDIA Jetson Orin Nano 8GB NVIDIA Jetson Orin Nano 4GB	Cellular <i>(Optional)</i>	5G with 4G/3G fallback (FAKRA-D)
AI Performance	34 to 157 TOPs	Wireless LAN <i>(Long-range high-performance options available upon request)</i>	WiFi IEEE 802.11a/b/g/n/ac (FAKRA-I)
Software		Bluetooth	Bluetooth 5.0 (FAKRA-I)
OS	Jetpack 6.0 (rev2) / Linux Ubuntu 22.04	On-Board Sensing	
Middleware	ROS 2 Humble	GNSS Positioning <i>(Optional)</i>	RTK GNSS Position 2-6cm (FAKRA-C)
ROS 2-based Software Package	<ul style="list-style-type: none"> • ROS 2 abstraction for IMU • ROS 2 abstraction for GNSS • ROS 2 abstraction for all I/O Interfaces • ROS 2 abstraction for cameras 	GNSS Heading <i>(Optional)</i>	RTK GNSS Differential Heading $\pm 0.4^\circ$ (FAKRA-C)
Communication Interfaces		Satellite RTK Correction <i>(Optional)</i>	Satellite RTK Correction Data over L-Band
USB	1x USB3.1 — 5Gbit/s (USB Type C with DisplayPort Output)	IMU	9 axis MEMS IMU
Serial	1x RS485 (Main Connector)	Power	
Ethernet	1x Gbit (M12x)	Power Input	15.5-60VDC <i>(Overvoltage, Undervoltage, Overcurrent protection through e-fuse)</i>
CAN Bus	1x CAN FD (Main Connector)	Auxiliary Power Supplies	12VDC @ 8A — Allocated for offboard sensors and actuators 5VDC @ 3A — Allocated for offboard sensors and actuators
GMSL2 Camera PoC Inputs <i>(Optional)</i>	2x or 4x GMSL2 with Power Over Coax (FAKRA-Z)	Onboard Power Supply Monitoring	Voltage and Current monitoring of <ul style="list-style-type: none"> • Bus Power Supply • 12V Power Supply • 5V Power Supply
I/O Interfaces		Mechanical	
Analog Input	14x Analog Input Channels (0-10V or 4-20mA on request)	Dimensions	264mm x 219mm x 117mm
Digital Drives/SSR	12x 6A SSR Channels with external supply up to 42V. Software configurable as H-Bridge— Special request for 24x Drives	Weight	2.1kg
Digital Output	6x 12V 500mA Digital Out Channels with 15kHz PWM 6x 500mA Digital Out Channels Low Side Drive	Mounting	<ul style="list-style-type: none"> • 4x M6 Studs or Bolts • DIN Rail Mount - <i>Optional</i>
Digital Input	10x Digital Input Channels (12-24V)	IP Rating	IP67
Warning Buzzer/Horn Driver	1x Warning Buzzer Driver (Main Connector), 2x LED Warning Light Driver	Environment	
E-Stop	1x Input (Main Connector)	Operating Temp.	-20 to 45°C
Storage		Storage Temp.	-40 to 70°C
M.2	256GB NVMe M.2 SSD <i>other options available</i>		

Dimensions



General Layout



Optional Accessories

Part #	Description	Image
AP-1001	7-in-1 IP67 Antenna — 5G, WiFi and RTK GNSS (FAKRA 3m cable)	
AP-1002	1-in-1 RTK GNSS IP67 Antenna (FAKRA-C 3m cable)	
AP-1003	GMSL2 Camera, Sony ISX031, IP67 with HDR (FAKRA-Z 2m cable)	
AP-1004	Development Breakout Board	
AP-1005	DIN Rail Mount	
AP-1006	M12x to RJ45 Cable (2m)	

Order at: sales@lemvos.com or www.lemvos.com/automatepro/

