EVMU (EV Management Unit)

Intelligently manage and integrate EV system components

EVMU forms the connected intelligent brain of an Electric Vehicle allowing you to integrate a wider variety of EV components together combined with advanced telematics allowing monitoring and managing locally and in the cloud.

Its comprehensive integration capability removes many of the current component choice restrictions and gives designers the 'pick of the best', thus delivering, design flexibility, efficiencies and future adaptability for their projects. EVMU can be applied to new vehicle projects, be retrofitted to existing vehicle fleets and used on non-vehicle applications to provide advanced control, integration and monitoring. With its wide range of direct input/output and communications interfaces it can integrate both simple and complex devices alike.

KEY FEATURES

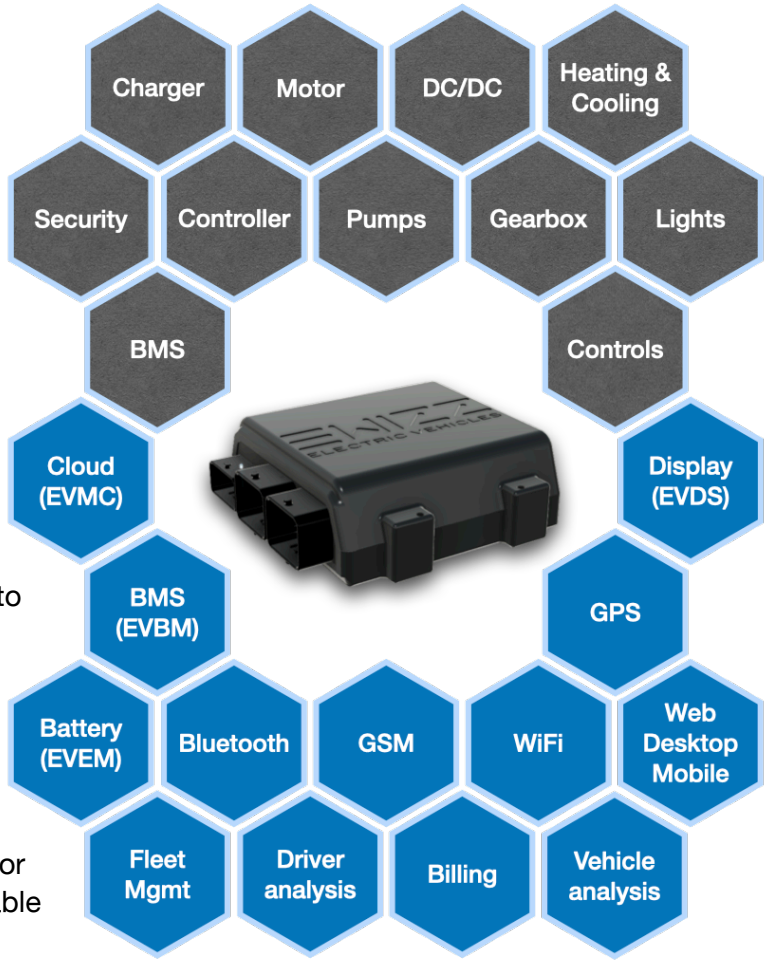
- Ability to directly control and intelligently integrate a wide variety of vehicle components
- Multiple secure wireless communications channels with cloud monitoring and management
- Single monitoring and control point for all vehicle systems
- Resilience with protection and power monitoring on all I/O
- Persistence with support for multiple independent power sources and internal backup battery
- Fully programable vehicle configurations and HV integration
- Part of EVMS (EV Management System) family of integrated modules, options and interfaces

With a wide array of direct I/O and communications interfaces EVMU can integrate with, control and report on most vehicle systems including displays, lights, cooling & heating, battery, motor controllers, BMS, power management, audio and more. Driver behaviour, vehicle attitude and state are continuously monitored via accelerometer, magnetometer and gyroscope capabilities.

The integrated wireless communications and tracking module provide secure on-line connectivity, voice interaction, tracking and control with GSM, GPRS, WiFi and BlueTooth connectivity.

EVMU integrates into the EVMC (EV Management Cloud) suite which offers monitoring and management interfaces on web, desktop and mobile platforms and a Cloud based ERP system for fleet management, data analysis and billing. EVMC capabilities can also be directly integrated into your own internal systems.

EVMC can be used for driver, route, vehicle and component analysis and management. EVMC users and/or automated processes can then feed back to EVMU in real time to manage situations either directly by controlling the vehicle parameters or by offering driver warnings through any of the available interfaces.



GENERAL	
Connectors	Molex 154 Pin, USB, 4 Aerials
Waterproof	IP65
Safety	Short circuit, Current, Voltage and Power sensors on all outputs and power supply
Dimensions	63 x 190 x 200mm
Operating temperature	-40ºC to 85ºC

COMMUNICATIONS, SENSORS & STORAGE	
Wired	1 * USB 2.0 3 * Serial RS232 3 * CAN 2.0b (max 1mb/s) 1 * RS485 (or RS232 above)
Wireless	WiFi 2.4 Ghz 802.11 b/g/n Bluetooth v3.0 BLE (SPP/HFP-AG) Bluetooth v4.0 BLE (GATT/PXP/FMP) Bluetooth v4.2 BR/EDR and BLE GPRS Multi-slot Class 12 Max 85.6kbps GSM Quad Band 850/900/1800/1900MHz Dual SIM & eSim compatible Jamming detection
Location	Multi-GNSS GPS/GLONASS/Galileo/QZSS 99 acquisition, 33 Tracking, 210 PRN channels Anti-Jamming, accuracy 0.1m/s
FOTA	Yes
Interfaces	Mobile, Desktop, Web & API
Motion	1 * BMX055 9 DOF 3 Axis accelerometer, magnetometer & gyroscope
Storage	3 * Micro SD card slots

INPUTS	
HV B+	4 * Analogue 0-150V 10bit
LV	12 * Digital 12V 12 * Analogue 0-12V 10bit 1 * Analogue 0-12V 12bit throttle input 4 * 5V High speed hall sensor

OUTPUTS	
High Voltage B+ Source	2 * Digital B+ Voltage 1A [1] 2 * Analogue B+ (0-150V) 1A [1]
Low Voltage Source	16 * Digital 12V 5A 12 * Digital PWM 12V 5A [2] 16 * Digital 5V/12V 1A [3] 4 * Digital PWM 5V/12V 1A [2] 12 * Analogue 0-12V 1A 1 * Protected throttle output
Sinks	8 * Digital 1A
Audio	25W Stereo output GSM Stereo Mic, Earphone and Speaker

[1] Max voltage is 150V based on B+
[2] PWM duty cycle individually software configurable
[3] Software configurable between 5V and 12V in banks of 4

POWER INPUTS	
Full operation	3 * High power 12V 25A inputs [1] 1 * High power 12V 10A input [1]
Basic operation	1 * High Voltage 20-150V 1A [1] 1 * Low power source 12V 5A [1] 1 * USB 5V 500mA [1]
Standby	1 * Backup battery 3.3V 3300 mAh 18650

[1] Backup battery is charged from this source

EVMS COMPATIBILITY	
EVDS	Display systems for user information and interaction
EVMC	Management Cloud system for fleet management, billing, data analysis and control.
EVBM	Modular battery management system including balancing, comms and protection
EVEM	Complete energy module

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