

iconnexion



POWERING EVERY WHEEL  
CONNECTING EVERY MILE

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## About iConnexion



### Broad Coverage

Aerospace, Green Energy, Industrial 5.0, Next-Gen Wireless, Automotive EV, Healthcare



20 Years' Expertise. Since 2007

Serving  
450 OEM/ODM  
250 EMS



# iconnexion



Awarded  
Harwin APAC Distributor of  
the Year 2025/26, Since 2015



10,000 sf  
Warehouse  
Storage Capacity



Headquartered  
in Singapore  
Global Hub for Trade  
& Innovation



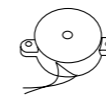
Value Engineering &  
Cost Optimization

12 APAC  
Offices

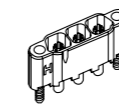
## Our Products



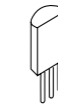
Antenna



Buzzer/  
Speaker



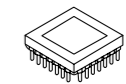
Connectors



Discretes



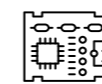
Electromechanical



Embedded  
Solutions



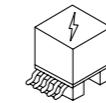
EV Charging  
Gun



PCB/Flex PCB



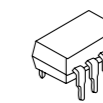
Passives



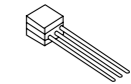
Power



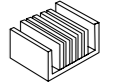
RF Wireless



Semiconductors



Sensors



Thermal  
Management

## Brand Partners

**HARWIN**  
ASIA

**Milesight**

**Lierda**  
利尔达

**capXX**

**TAITIEN**  
Our Performance. Your Reputation

**OBO Pro.2**

**SGCircuits**  
PCB Group  
for excellent customer solutions

**IEH**

**DACO**  
SEMICONDUCTOR

**Firstohm**

**FUJIPOLY**

**WLSN**

**HL**  
HI-LINK ITC

**Silvertel**

**LS** Materials

**鴻碩精密電工股份有限公司**  
Hotron Precision Electronic Industrial Co.,Ltd

**Flex Plus**

**PCTEL**  
an Amphenol company

**RAK**

**YB**

# EV ARCHITECTURE OVERVIEW

## WHY ENGINEERS CHOOSE ICONNEXION

Designing electric vehicles requires reliable components that can perform under demanding automotive environments. Iconnexion provides a curated portfolio of electronic components used across EV subsystems including battery systems, power electronics, vehicle connectivity, and control electronics.

By working with globally recognized technology partners, Iconnexion offers engineers access to high-quality connectors, passive components, RF technologies, thermal materials, sensors, and timing devices suitable for automotive and industrial applications.

Our component portfolio supports key EV systems such as battery management, motor control, charging infrastructure, and vehicle connectivity.

### Key Advantages

#### Automotive-grade components

Products designed for demanding electrical and environmental conditions.

#### Trusted global manufacturers

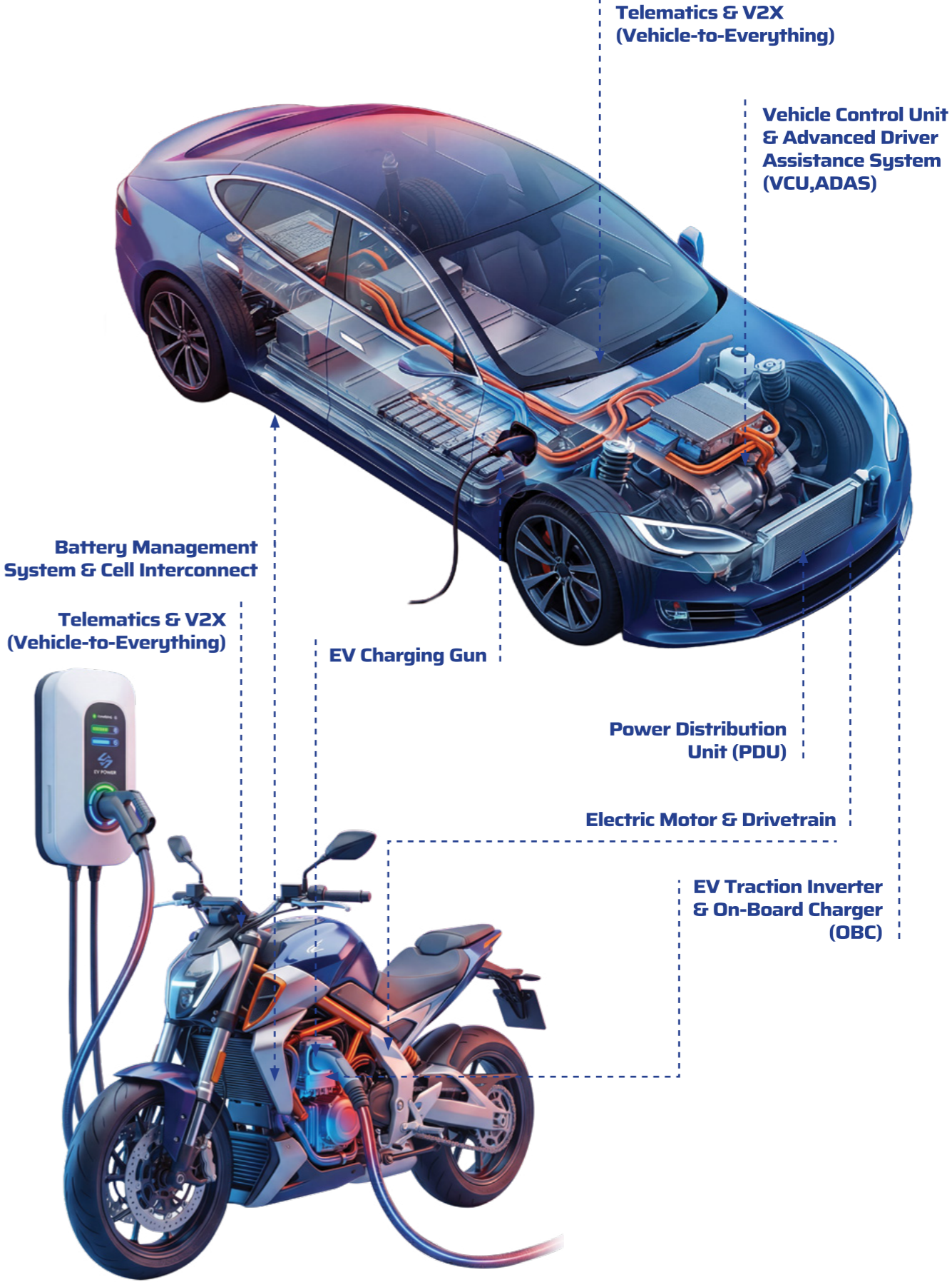
Solutions sourced from established technology partners.

#### Broad EV component portfolio

Covering power, connectivity, sensing, and thermal management.

#### Engineering-focused solutions

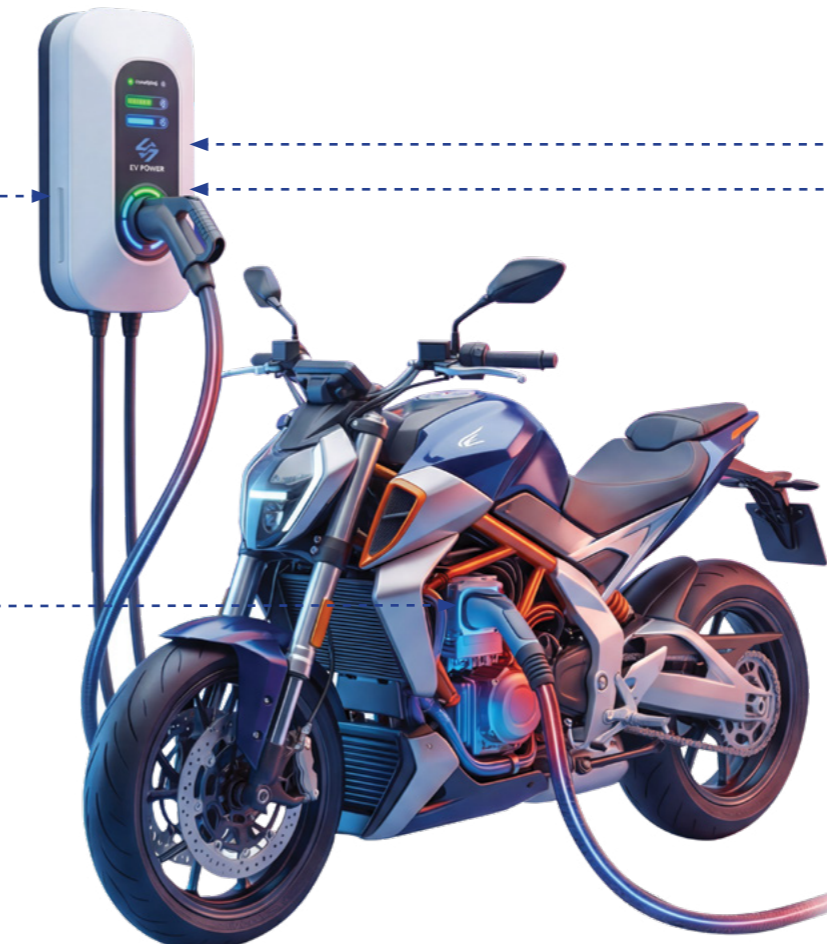
Components selected to support modern EV system architectures.



# Smart Vehicle Electronics

Advanced Electronics for Intelligent Vehicles

Integrating advanced sensing and intelligent control systems to enhance autonomous capabilities and driver safety. Our high-precision timing components, robust interconnects, and efficient power modules ensure seamless data processing and system reliability, enabling complex electronics within modern EVs to perform flawlessly under demanding automotive conditions and environmental stressors through superior signal integrity and mechanical stability.




**1**  **Smarteq™ AllDisc**  
 5G-ready, ground plane independent, low-profile, durable antenna




**2**  **EV Charging Gun**  
 Approvals: IEC 62196, SAE J1772, NACS TS-0023666, UL/cUL, CE/CB, VDE, PSE, CQC.




**3**  **PoE Module**  
 High-efficiency 24V, IEEE 802.3af/at compliant, 30W PoE+ module 24V output




**4**  **Flecto Connectors**  
 Up to 12Gb/s, 160 pins, vibration-proof reliability




**5**  **Fakra Cable**  
 Aptiv. TE. Harwin. Amphenol. Molex. Rosenberger. JAE. LEONI. ACOME. Belden. One harness. Every name that matters.




**6**  **SiC MOSFET Modules**  
 Improve system efficiency and power density across AC chargers, DC fast chargers, and ultra-fast charging platforms




**7**  **OBO Pro Speaker**  
 AI voice guidance





**8**  **Thin Prismatic-Supercapacitors**  
 Automotive Grade Toughness 800mF, 65mΩ ESR, 2.75V, 1.7mm thin, -40°C to +85°C, ensuring reliability in any climate.







**9**  **FPC Connectors**  
 Flexible flat cable connectivity for high-resolution instrument cluster and dashboard displays




**10**  **USB Type-C**  
 High-speed data transmission (up to 10 Gbps, USB 3.0 support)

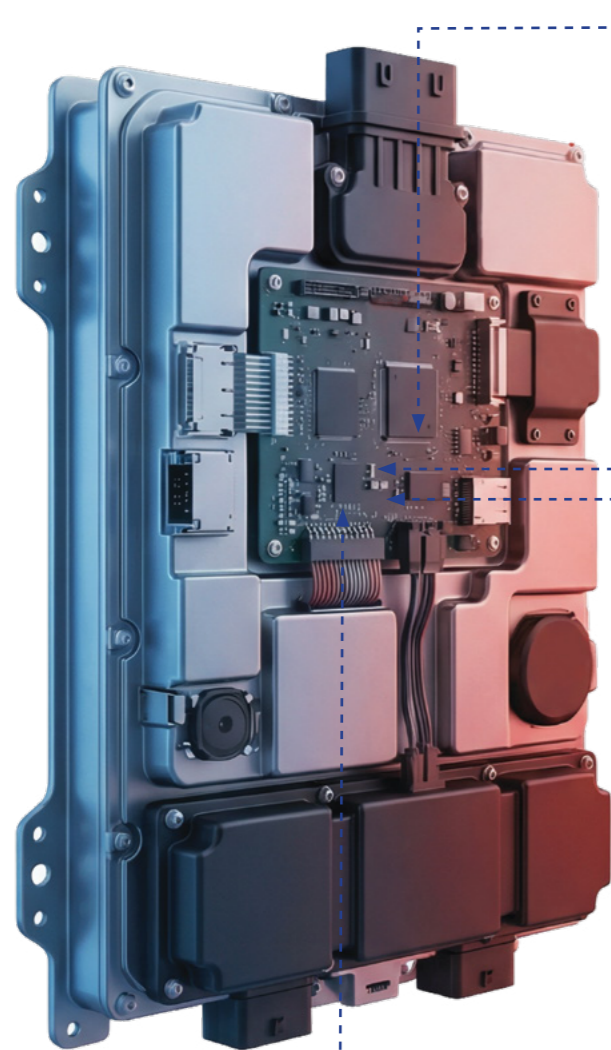



# Battery Management System & Cell Interconnect


Reliable interconnect and thermal control for high-voltage battery systems

In every electric vehicle (EV), the Battery Management System (BMS) plays a critical role in ensuring safety, performance, and longevity of the battery pack. Acting as the “brain” of the battery, the BMS continuously monitors, protects, and optimises battery operation under varying conditions.

As part of our E-Mobility Solutions, this week we focus on the Battery Management System block within the EV architecture, highlighting how key components come together to support reliable EV performance.




- 1 HARWiN ASIA Press-Fit Terminals**  
Solder-free PCB interconnect. Supports high-current PCB applications with strong retention and reliable contact integrity.





- 2 LS Materials LSUC Ultracapacitor**  
High-capacitance 3V 3000F ultracapacitor for peak power support and energy buffering

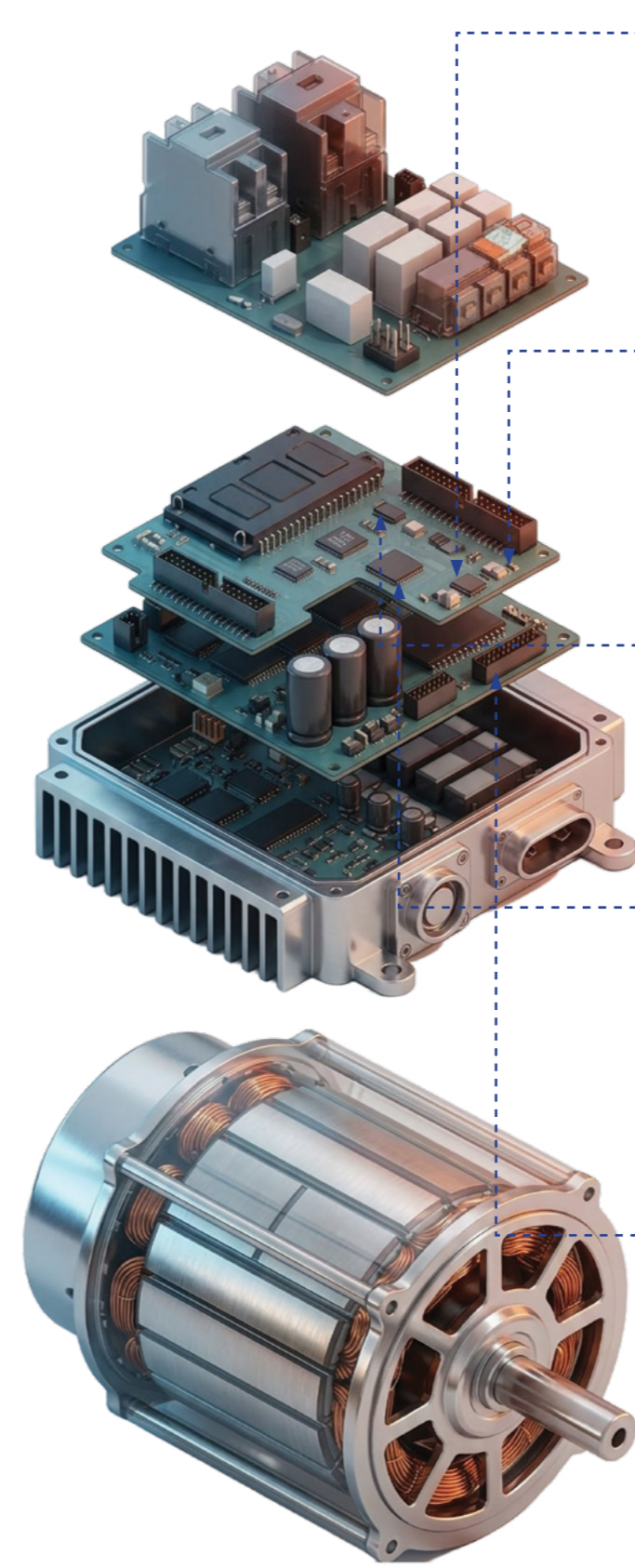


- 3 SGCircuits PCB Group Heavy Copper / Rigid-Flex PCBs**  
Combines up to 6oz copper for high-current power distribution with Rigid-Flex technology to eliminate wire harnesses.



- 4 Firstohm Metal Film MELF Resistors**  
Better heat dissipation and stability to operate longer hours than chip resistor.



- 1 DACO SEMICONDUCTOR Discrete Semiconductors**  
Excellent thermal behavior, enabling higher efficiency and improved torque response in compact motor controllers.



- 2 WLSI Automotive MLCC**  
Voltage sensing networks, filtering circuits, signal integrity stabilization



- 3 TAI TIEN Crystal/Oscillator**  
Provides clock source for MCU in BMS



- 4 FUJIPOLY Thermal Interface Material**  
High-heat power electronics use SARCON® to transfer thermal energy to the vehicle's housing or heat sinks.



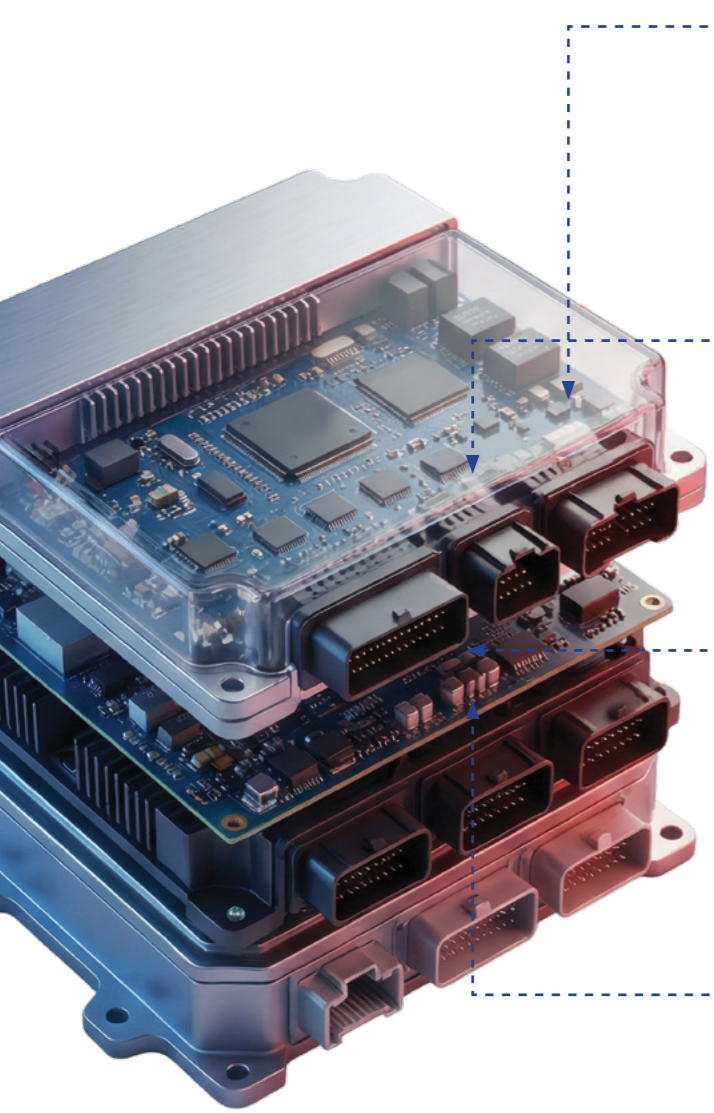
- 5 HARWiN Flecto Connectors**  
Offers up to 4 power contacts, 20–120 signal positions, mating heights from 5.98mm to 29.90mm, and up to ±0.8mm floating movement for better shock and vibration performance.




# Vehicle Control Unit & Advanced Driver Assistance System (VCU,ADAS)

Intelligent Control and Advanced Safety

Driving the intelligence of modern electric vehicles through centralized vehicle control units and advanced driver assistance systems. Our high-reliability interconnects and precision timing solutions ensure real-time data processing and fail-safe operation, maintaining mechanical stability and signal integrity under extreme vibration to support autonomous navigation, collision avoidance, and sophisticated sensor fusion technologies.



- 1 HARWiN ASIA Pannut & Spacers**  
Precision threading ensures secure fastening under vibration



- 2 OBO Pro.2 Buzzer/Speaker**  
Wide frequency response for audible alert and warning systems



- 3 HARWiN SMT Contact Pads**  
Mating area for spring contacts, spring-loaded contacts, and spring-loaded contact connectors



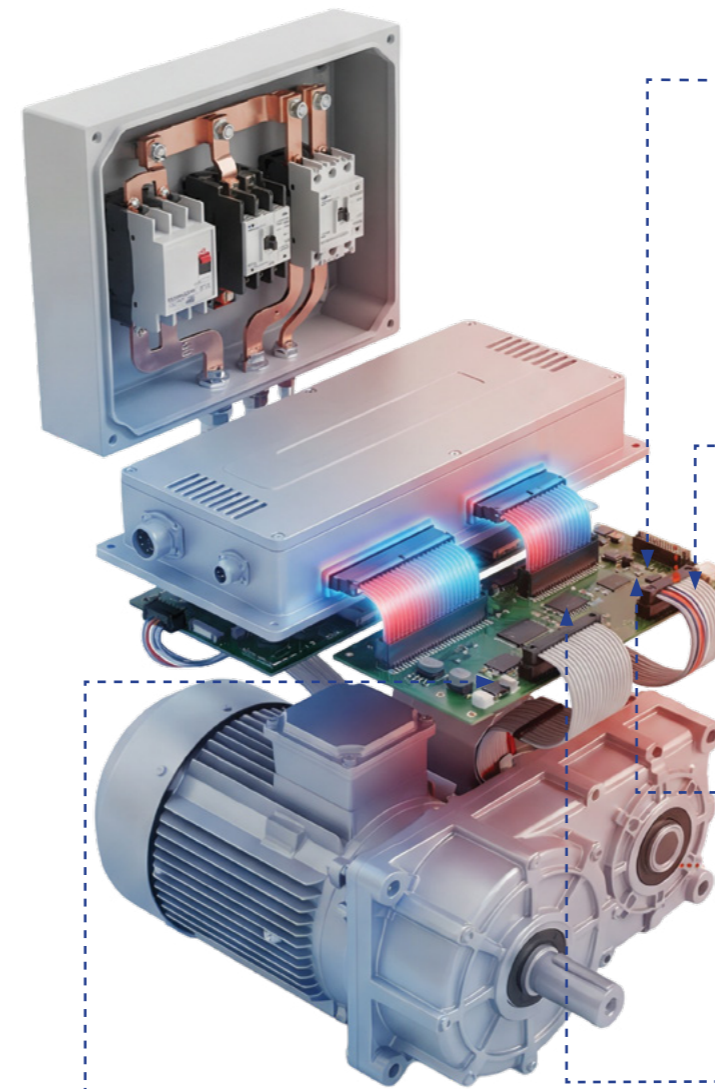
- 4 HARWiN Sycamore Contact**  
Ultra-low profile SMT sockets designed for automated assembly, protecting sensitive ICs and sensors from soldering heat.






# Electric Drive & Power Electronics



Efficient Power Delivery for EV Drives

Optimizing the heart of EV propulsion by ensuring seamless power delivery and mechanical endurance within the motor control environment. Our specialized rigid-flex circuitry and vibration-resistant connectors manage high-torque demands and thermal loads, providing the robust electrical architecture necessary for high-efficiency traction systems that must perform reliably across thousands of duty cycles.



- 1 TAITIEN Crystal/Oscillator**  
Manufactured in IATF 16949 certified facilities with specialized process controls and high-temperature production to guarantee long-term stability.



- 2 HARWiN Kontrol Cable Assembly**  
High-density 1.27mm pitch connectors with built-in latches for vibration-resistant signal integrity.



- 3 Firstohm MMV / SFPV MELF Resistor**  
These MELF families are explicitly positioned for motor-control gate resistor duty in the uploaded EV sheet.



- 4 FUJIPOLY SARCON Thermal Interface Pad**  
Efficient heat dissipation for EV power electronics



- 5 DACO SiC MOSFET Modules**  
Improve system efficiency and power density across AC chargers, DC fast chargers, and ultra-fast charging platforms

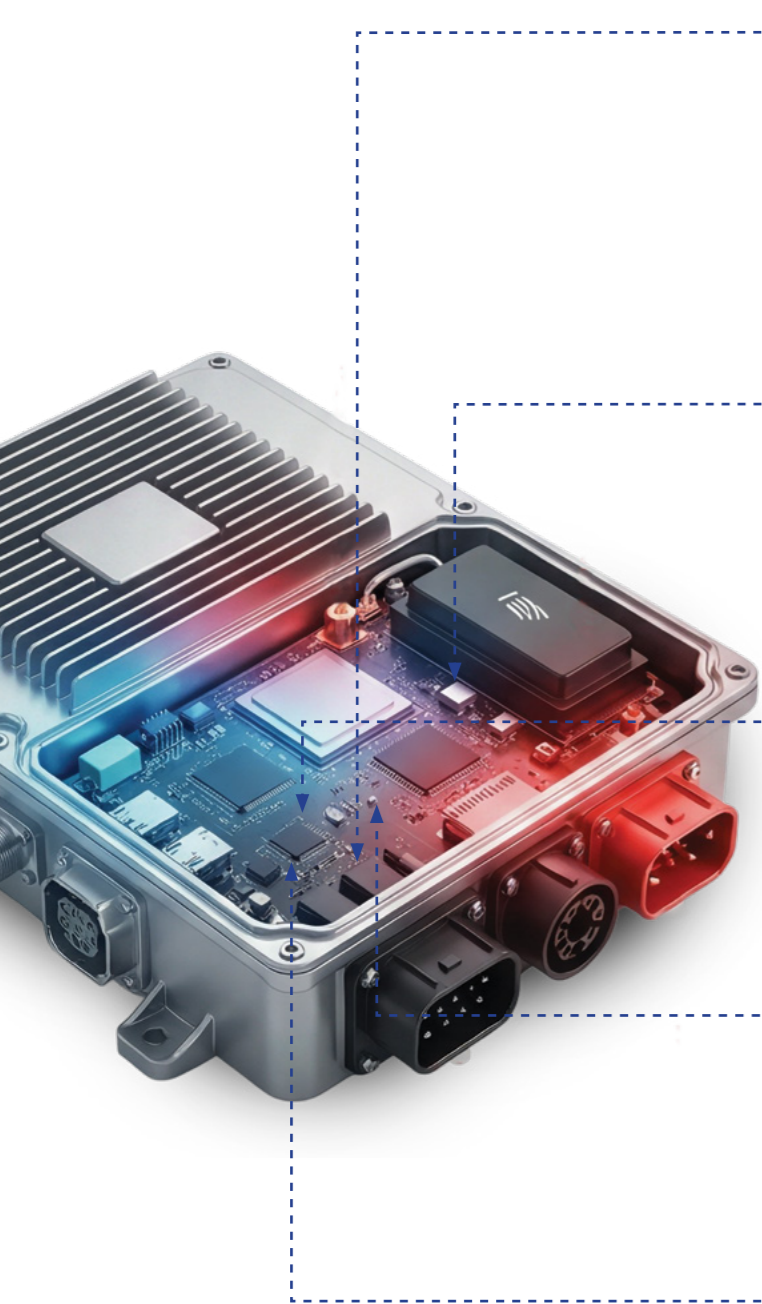



# EV Traction Inverter & On-Board Charger (OBC)

Power That Moves EVs

The traction inverter converts DC power from the battery into AC power to drive the electric motor, while the OBC manages the safe and efficient charging of the battery from external power sources.

To ensure reliable operation, these systems require high-performance electronic components capable of handling high voltage, high current, and demanding automotive environments.



- 1 SOSHIN** PSA **EMI Filter**  
Single-phase EMI filter families are suitable candidates for OBC or charger AC-front-end noise suppression, with compact or higher-attenuation options.



- 2 HARWiN** ASIA **Pannut Spacers**  
Mechanical support for EV electronic assemblies



- 3 DACO** SEMICONDUCTOR **SiC MOSFET Modules**  
Efficient power switching for EV systems



- 4 WLSN** **Automotive MLCC**  
Reliable capacitors for EV power electronics



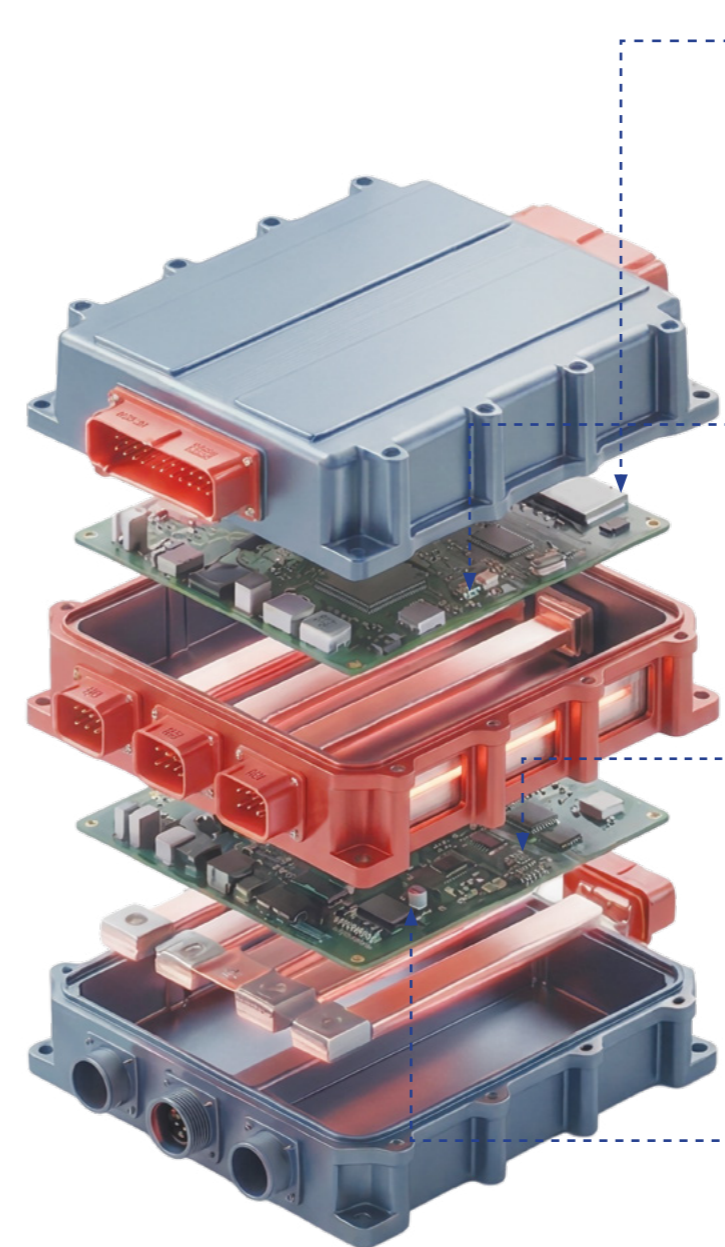
- 5 FUJIPOLY** **SARCON Thermal Pads**  
Efficient heat dissipation for EV power electronics




# Power Distribution Unit (PDU)

Reliable power routing and system protection

Ensuring safe and efficient energy routing across high-voltage vehicle architectures through robust mechanical support and high-capacity storage solutions. These components manage peak power demands and maintain system stability under extreme vibration, protecting critical circuitry while optimizing the distribution of electrical power from the battery to essential drivetrain and auxiliary systems.



- 1 HARWiN** ASIA **Fluid Connectors**  
Supports EV battery, Power Distribution Unit (PDU), and on-board charger cooling where compact, leak-resistant fluid routing is required.



- 2 HARWiN** **M300 Connectors**  
Robust mechanical locking, prevents disconnect under vibration



- 3 MATSUO** PSA **Overcurrent Protection Fuse**  
AEC-Q200 fuse families cover compact ECU protection from sub-amp up to high-current surface-mount positions depending on branch current.



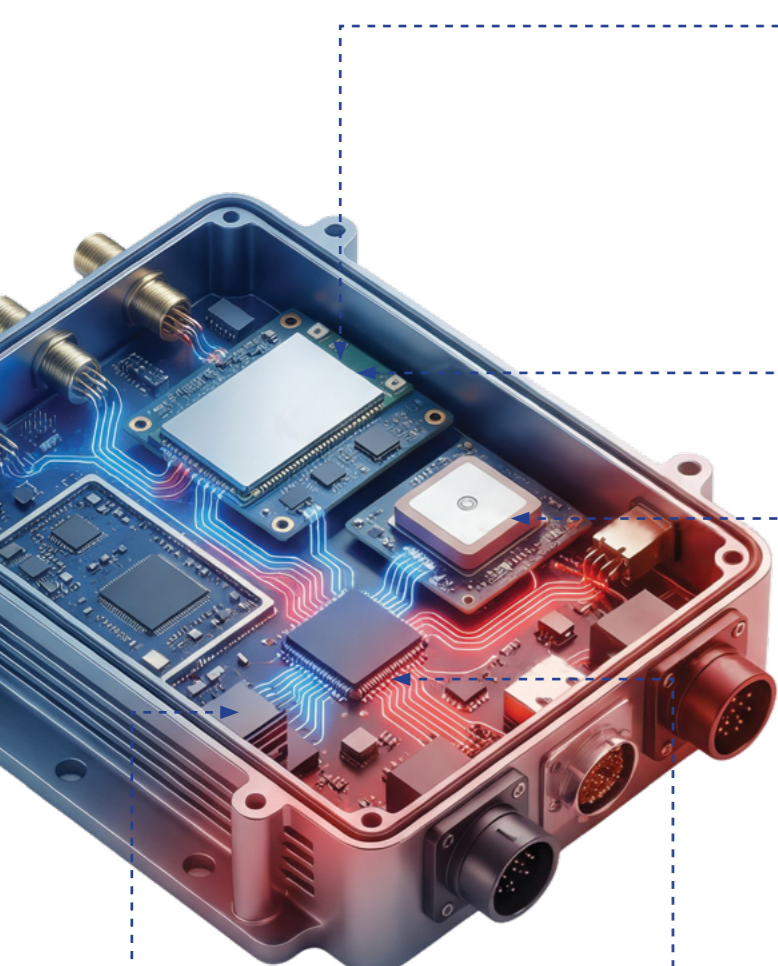
- 4 Nitsuko** PSA **Film Capacitor**  
Small high-voltage film capacitor families up to 630VDC and up to 125C are plausible for OBC/PFC/snubber positions where thermal stability matters.




# Telematics & V2X (Vehicle-to-Everything)

Connected Mobility and Communication Solutions

Enabling reliable V2X communication through high-performance antenna systems and integrated wireless modules, ensuring stable signal transmission, low-latency connectivity, and robust operation in harsh automotive environments.



**1 HARWiN SMT RfI Shield Clips**  
SMT clips that allow shield cans to be snapped into place by hand, eliminating the need for secondary manual soldering



**2 HARWiN RfI Shield Cans**  
A shielding enclosure that provides excellent RF attenuation for sensitive V2X communication modules



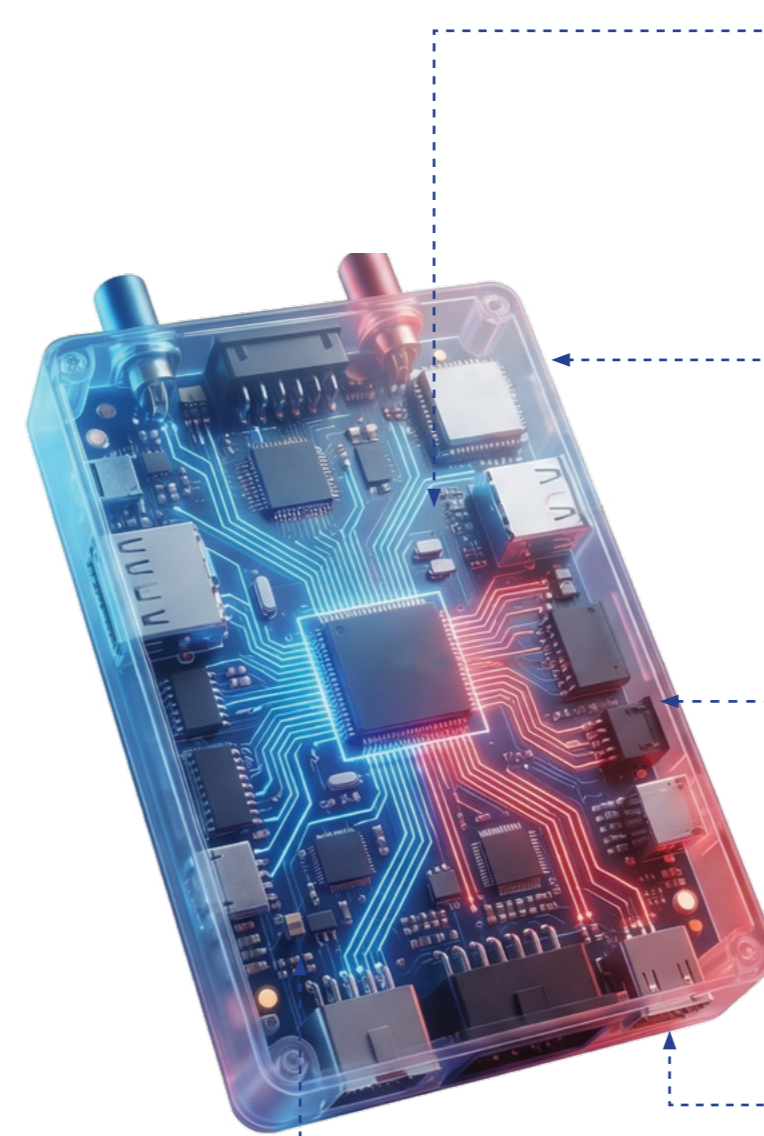
**3 GINPAQ PSA GNSS Positioning Antenna**  
High-accuracy GNSS patch family is relevant where ADAS / telematics needs better positioning than a simple L1 receiver.



**4 Lierda 利尔达 BLE, Wi-Fi, Cellular Modules**  
Multi-protocol wireless connectivity with low-latency data transmission



**5 HARWiN ASIA Antennas (Internal/External)**  
Wideband RF performance for stable multi-frequency communication (GNSS, LTE, 5G)



**1 RAK® Cellular IoT Module**  
■ LTE-M / NB-IoT connectivity  
■ Built-in GNSS (GPS + GLONASS)



**2 PCTEL an Amphenol company Vehicle Antenna**  
■ Supports GPS + LTE + Wi-Fi in one unit  
■ Designed for harsh environments (UV, vibration)



**3 HARWiN ASIA SMT EMI Contact Finger**  
Offers 3.70mm to 13.00mm height, rated 5A with 5,000-cycle, these fingers maintain consistent contact pressure even after years of vehicle vibration and thermal expansion/contraction cycles.



**4 HARWiN ASIA USB Type-C**  
High-speed data transmission (up to 10 Gbps, USB 3.0 support)



**5 MATSUO PSA Tantalum Capacitors**  
AEC-Q200 chip tantalum family is already positioned by Matsuo for ECU, ABS and airbag electronics, with 271N extending to 150°C for engine-room



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