

Impact Clean Power Technology S.A.

We specialise in design and development of the most cutting edge energy storage systems based on lithium-ion cells and self-produced advanced control systems. Our outstanding solutions enable us to produce innovative electric propulsion systems for road, water, and air transport applications.

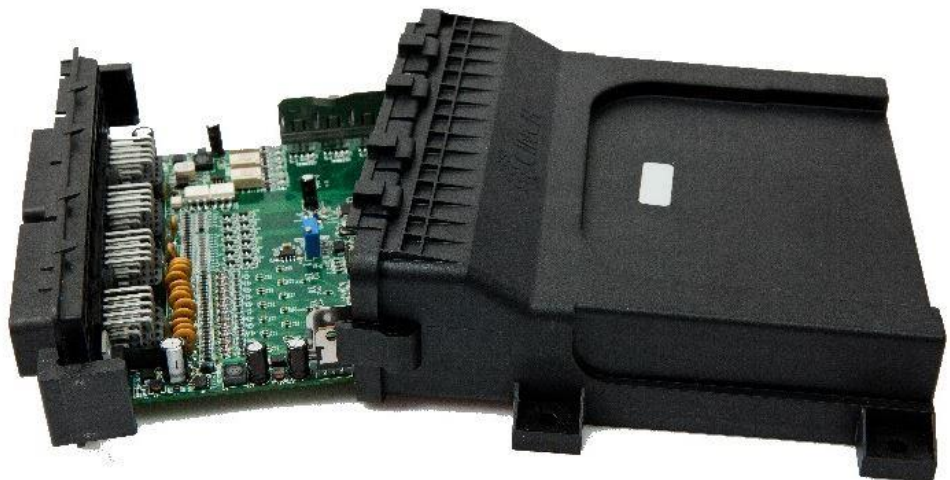
We follow the maxim "Life is too short to do boring things".

Areas of focus

The company's primary scope of activity embraces full spectrum of possible applications of modern highly-efficient battery supply systems able to operate in diverse environmental conditions which are exquisite for their reliability and long life.

The major areas of focus include:

- Telecommunication
- Power industry
- Energy storage systems
- Electric buses and trucks
- Mining
- Automation and robotics



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The product of R&D of universal electronic control unit for electric and hybrid vehicles

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S REGIONAL DEVELOPMENT FUND.



The purpose of the project is to develop a world-new, innovative, universal, intelligent, and scalable electronic control unit for electric and hybrid vehicles. Electronic Control Unit boasts a wide spectrum of application areas at the same time keeping low production costs level for a batch below 100 pieces. The enterprise is aimed at constructing a universal platform for HEV (hybrid) and EV (electric) type vehicles to be implemented at various stages of project development (e.g. during prototype creation or as a replacement for already existing solution). Under control of other on-board computer the module may realise Door Control Unit (DCU) or Distributed Computer-Controlled System (DCCS) functions. PEV- (Plug-in electric vehicle) and PHEV- (plug-in hybrid electric vehicle) dedicated applications of ECU are also intended. The device is to enable the optimisation of energy consumption, higher power performance, and vehicle range extension.

The project realisation includes the phases of industrial research, development works, the resulting invention's patenting, as well as its introduction.

SPECIFICATION (PRE-RELEASE)

ECU	EV/HEV Electronic Control Unit as a programmable electronic control unit for full EV/HEV subsystem management. A 50/100MHz* Freescale S12XE integrated microprocessor with a virtual peripheral coprocessor supplying the necessary processing power.	
Interfaces	4 x CAN 2.0B (partially isolated*), 12,5kbit/s up to 1 Mbit/s	
	1 x LIN serial port	
	1 x RS-232/RS-485	
Safety	SD card reader as a main data storage (for user and system purposes)	
	Functional safety tested by the LDRA Toolkit compliant with MISRA C:2012 source code	
	All I/Os and interfaces are protected against short circuit to GND	
	Board temperature, sensors, and supply voltage are monitored by software	
Number of inputs	Digital IN	40 (8 with configurable pull-up)
	Digital Timer IN	0.1 Hz – 10kHz
	Analog IN	8 (0-10V DC/ min. 12bit / 1kSPS)
Number of outputs	Digital OUT	16 (include PWM output and OC function)
	Analog OUT	4 (0-10V / 100mA / 100SPS)
	Relay OUT	8 (1A – max. 4 minutes)
RTC	1 x Real-Time Clock	
Operating temperature	-40°C – 85 °C	
Dimensions	189 mm x 185 mm x 58 mm @ Weight <1kg	
Standards	Ingress protection	IEC 60529 from IP10 to IP67
	Climatic	ISO 16750-4
	Mechanical	ISO 16750-3
	Environmental	IEC 60068-2-6,38
	CE Mark	2004/108/EC
	EMC	IEC 61000
	ESD	ISO 7637
Supply voltage	9 - 32V DC (42V DCmax in a short period of time) Idle current at 12V DC not exceeding 200mA	
Features	Drive control	Sevcon, Eltec, Semikron SKAI
	Communication standard	CAN Open used for diagnostics and control
	Li-Ion battery packs	ICPT BP support, interface fully configurable to gain CAN data from other systems
	Vehicle data view	Freely selectable by user (for example Opus touch displays with ICPT Synoptic)
	Software	C-Programming Environment Vector CANoe Environment for CANopen management

* more details will be described in a full product specification

