AZAPA PF-ECU

A bridge to endless possibilities through our ECU

Our ECU has been developed with the next generation of EV mobility at its core.

It has the same safety and security features as those found in regular vehicles. It also has the ability to communicate through an IT connection. For that purpose, with the combination of IT and Control, we create a high degree of freedom for cooperative control, allowing anyone to easily create value for new cars.

PF-ECU Control Function Example Uses (Supplying to OEM)

Examples of development possible at AZAPA using the new functional system.

- Skid control (traction control)
- Stability control (power distribution)
- Assent control
- Power limiting control
- Energy optimization control
- etc.

Benefits

/ CAN Communication
The unit is compatible with the CAN communication standard. It is also compatible with off-the-shelf CANopen motor controllers as well.

/ Safety function
It was designed by through a deep understanding of motor characteristics, and implements a high degree of safety.

/ OBD Fault Diagnosis Mode
Thanks to self-aware breakdown logic, the unit is able to quickly detect failures.

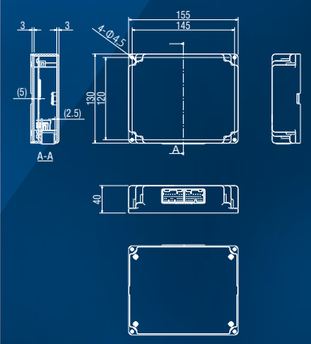
/ IT Collaborative Control Linking
Through the combination of IT and Control we can implement systems to create the car that can “think”.

/ Expansion Sensing
Using sensing devices like accelerometers, light sensors, ultrasonic sensors, etc., we can implement driving control and safety functions.

/ Multi-Monitor Display
Any information requested for user feedback including battery level, driving range, and EcoDrive diagnostics, etc. can be displayed.

AZAPA PF-ECU

CPU: 32-bit Micron (120MHz)
OS: OSEK
Operating Temperature: -40℃ to 125℃
Outputs:
Analog / Pulse Input / Digital In-Out / CAN Bus / RC-232C
Control:
Driving Power Control / Smart Device Link, etc.



Communication Module (Optional)

Our PF-ECU is equipped with a variety of communication modules to connect to internal and external environments of the car, etc. By using the connected vehicle the customer is able to create new services.

	Bluetooth (FUJITSU Component)	Wifi-Direct (AZAPA)	CDMA 1X (KDDI Module Inside)
			
Features	iOS/Android Smart Device Compatible (Bluetooth Specification Ver. 2.1 + EDR Standard class 2)	Hi-speed linking / Wi-Fi Intercommunication (IEEE 802.11 b/g/n standard)	au Web (CDMA 1x packet exchange)
Signal Range	Short Distance (~10m)	Medium range (~110m) P2P Capable	Wide area coverage (~10km) Population coverage 99.9%
Communication Speed	11Mbps	11 ~ 250Mbps	Downstream: Max 144k ~ 2.4Mbps Upstream: Max 64k ~ 144kbps
Uses	Cellphone & Smart Device Connection/ In-house device / Accessory Linking / Car GPS Linking	Mobility server / Car-to-Car communication / Digital signage linking / Car sharing service	Telematics / Big Data Analysis / ITS Linking
Cost	No Additional Cost	No additional cost	Additional cost

“AZMS” Model Base

Control Function Development

AI auto-modeling AZAPA

Control model architecture support tools reduce feature development costs

Control Structure Optimization

AI matrix AZAPA

Plans with a large number of controls tend to become complicated.
Our structure optimization tools reorganize for a manageable structure.

Control + Physics Simulation

AI models AZAPA

In the simulation environment you can test your product before production. Improve quality and development speed.

Measurement and Control Parameter Optimization

AI opt-DoE AZAPA

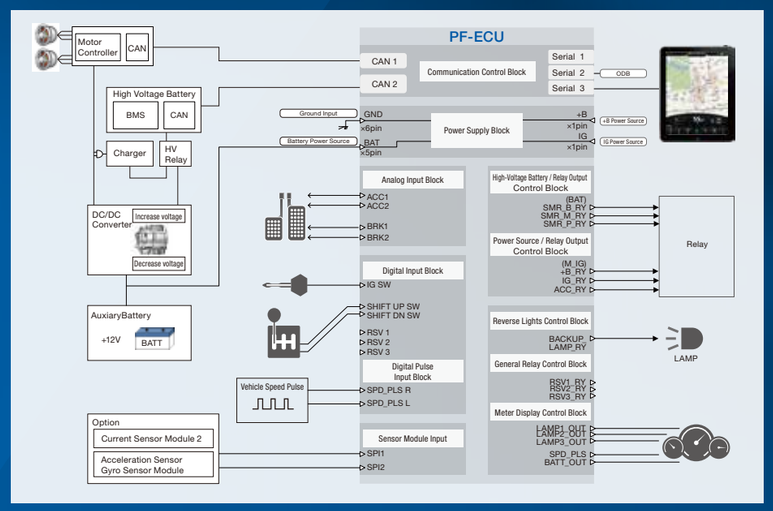
Use live measurement data as a base for control parameter development.

AZMS (AZAPA Model-based development suite) is a Model Base development environment offered with the aim of being a de facto standard for open and standardized architecture for EV development.
A usable model library ranging from concrete spec requirement definitions of the planning stage, through a running vehicle’s control optimization state, as well as freely combinable tools can be implemented for rapid development.

AZMS AZAPA Model Based Development Suite

azapa-business.com

PF-ECU Interface Configuration Diagram



New business possibilities through our PF-ECU

Connecting IT & Control

Through cooperative control using built-in communication modules to connect to the cloud and various other services, the future vehicle “Thinking Car” can become a reality.

New Functional System

With new sensing technology built in, it is possible to easily construct a car’s functional system.

Platform
(Benefits of functions described come standard)

AZAPA’s PF-ECU can be matched to your company’s needs, whether selling to OEMs or as customized applications.

AZAPA Original EV「LSEV」

Consortium

About activity using AZAPA’s Functional System

Co-creation of New Functional System

SIM-Drive

Formed by participating like-minded business members of SIM-Drive. To implement the “New Car Functional System”, various multipurpose consortiums were formed for powertrain, telematics, etc.
Using a Model Base, a development environment is put in place, where full-scale model experiments are carried out, creating real value for the vehicle.

http://sim-drive.com/

SIM-Drive

Alliance

Bringing About a Transformation in the Car Development Process

iSiD

Through using a Model Base for Front Loading implementation, we are actively seeking ways to support breakthrough technology development, production cost reduction, etc., through the use of "MBSE Utilization", "Connected Model Technology Architecture", "Data Management", etc. for creating a new process of automotive development.

http://www.isid.co.jp/

iSiD

Auto Motive — Automotive Industry

Model Base Development (Control, Simulation, Measurement) /
AZMS & New Development Process / Engine Software (standardization)
Vehicle System Layout / Energy Conformation

Communication Solution & Service — Communication & Solution Services Industry

Telematics / Web Systems / Social Technology

Info Tech — InfoTech Industry

Next Generation Communications / VR & Imaging Technology

ENERGY — Energy Industry

Energy Technology / Smart Grid Technology

R&D AZAPA RESEARCH & DEVELOPMENT — R&D Industry

Next Generation Mobility Technology / ECU & New Functional System Development

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Branch Companies	ADEA Co., Ltd. / AZAPA Beijing Technology Limited / AZAPA R&D Americas, Inc. / AIZAC Inc.
URL	http://azapa.co.jp/

AZAPA

AZAPA
EV PLATFORM CONTROL UNIT
PROFILE

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