
GIONIX
Company presentation

About Us

Gionix was founded in 2006 as a company aimed at the development and production of automotive electronics. We believe that the development and production of control units is an art and pay special attention to quality and cost-effectiveness of our products. Attention to detail allows us to create control units offering excellent engine performance, driveability, high reliability, quality and low price.

We provide complete turnkey solutions for automotive manufacturers, including engine control unit, calibration system, in-vehicle calibration services and advanced diagnostic software. We provide efficient support to our customers, which allows you to forget about any problems with control units at all stages of your product life-cycle.

Gionix also offers wide range of services to help You design, develop and manufacture electronic devices for consumer, industrial and automotive markets.

Company history

2006	Gionix SMC, LLC was established as automotive electronics development and manufacturing company. Started development of innovative engine control strategy and modern ECU hardware
2008	The first launch of a real engine with Gionix ECU. Development of specialized software for analysis and optimization of calibration. Development of specialized automated calibration software.
2010	First and successful emission tests and certification for Euro-4 in Ukraine emission laboratory E46. Start of approval procedure for ZAZ manufacturing plant.
2012	Confirmation of Certification in Russian Federation laboratory. Certification for EMC according to UN ECE R10.
2013	First car with Gionix MZ1 ECU assembled on ZAZ manufacturing plant conveyor . Start of calibration process for two new engines.
2015	Certification of conformity to the Euro-5 of bi-fuel vehicles and a single ECU for five car models. Start of serial supplies of the new generation multi-fuel ECU Gionix MZ2. Certification of ECU Gionix MZ2 for UN ECE R10 for five car models.
2016	Supply of engine control units is carried out on seven car models and five different engines for conveyors of three customers. The five car models have modern bi-fuel control units Gionix MZ2. Successful Euro-5 certification in Motor Transport Institute, Warsaw, Poland.
2017	Beginning of Euro-6 certification

Our capabilities

Our company has experience in development of safety related products, from concept to design ready for mass-production with respect to all actual safety standards for automotive and avionics. We have engineers with given capabilities:

- Requirements development and product design at the system level
- Software development
- Schematics development
- PCB development
- Development of production testing systems
- Development of production tools

Our services

Product development

We provide complete turnkey solutions for automotive manufacturers, including engine control unit supply, engine calibration services and advanced diagnostic software. We provide efficient support to our customers, which allows you to forget about any problems with control units at all stages of your product life-cycle. We also offer wide range of services to help you design, develop and manufacture electronic devices for consumer, industrial and automotive markets.

Hardware development

Gionix offers a wide range of services on hardware design and production:

- schematics and PCB design
- enclosure mechanical design
- design according to ISO 26262
- PCB fabrication and assembly
- prototyping and testing
- product certification
- technical support throughout the life cycle of the product

Our services

Software development

With over 10 years of experience in development for industrial and automotive markets, we at Gionix are ready to develop embedded software for your hardware platform that runs reliably and delivers maximum performance and functionality.

Main embedded software development services that we offer:

- real-time control applications development
- AUTOSAR software components, BSW and MCAL development
- ISO14229, ISO15031, etc. and OTA protocol stacks implementation
- development according to ISO 26262
- web-based diagnostics applications
- software porting to new hardware platforms
- technical support and consulting

Design can be made from scratch based on your requirements, or based on existing solutions and our experience, in order to minimize costs and time to market.

To achieve maximum quality standards for automotive solutions we use development processes based ISO 26262 and Automotive SPICE.

Electronics design capabilities

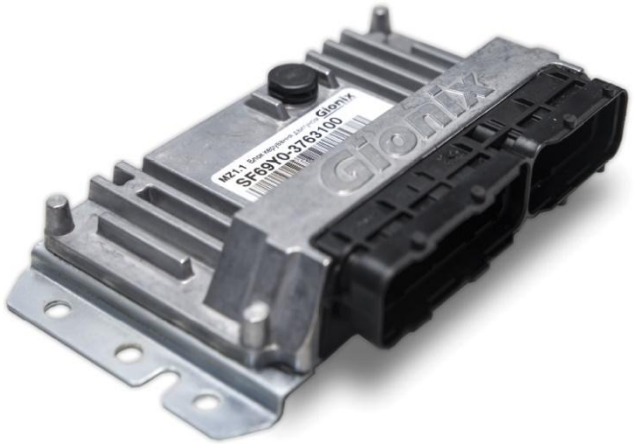
Schematic and Printed circuit board design:

- High-speed design up to 3GBps LVDS.
- Optimizations of current flows and thermal resistance.
- High temperature design for under the hood and on engine mounting.
- Rigid-Flex PCB design for high density and high reliable designs.
- Design for Manufacture.
- Thermal and Mechanical Stresses modeling.

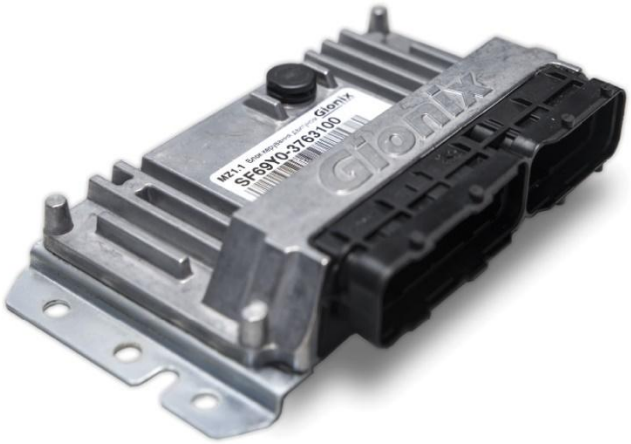
Mechanical design capabilities

Enclosure and mechanical design:

- Electronic equipment enclosure design with plastic parts, die cast parts and stamping parts.
- Production tooling design soldering carriers, conveyor holders and etc.
- Test tooling.
- Molds and stamps design.
- Thermal and Mechanical Stresses modeling.



MZ-series engine control units



- 4 to 8-cylinder engines
- gasoline & bi-fuel ready
- up to Euro-6 and ready for future emission standards
- interior or engine compartment placement
- EOBD support

Benefits

- Flexible configuration of the unit to meet client requirements
- High level of hardware performance and efficient software allows to meet latest emission requirements
- Small body size, the use of FR4 PCB and sealed enclosure offers significant installation flexibility
- Highly sensitive knock detection channel can significantly reduce fuel consumption and CO2 emissions
- Integrated Peak & Hold driver for bi-fuel LPG control strategy
- Wide-band oxygen sensor channel
- Calibration using high performance equipment ETAS ETK and cheap CAN XCP

MZ-series engine control units

Software

- Model-based high precision air-charge estimation and torque control
- Linear EGR control strategy
- In-house designed OSEK compatible RTOS
- Fixed-point and floating-point math libs
- Modular design
- Secure Bootloader with OTA update support

Basic specifications

- Dimensions: 205x105x41 mm
- Weight: 550 g
- Environment protection: IP50 or IP6K9K
- Connector: 121 pin
- Microcontroller: 16/32-bit with FPU & up to 1.5 Mb Flash
- CAN: x2
- KLINE: x2
- Injectors: up to x8
- Ignition coils: up to x8

Gionix MZ series engine control units are the first and only Ukrainian ECU`s that comply to European emission standards up to Euro-5 (ongoing Euro-6 certification) and delivered on conveyor of JSC “Zaporozhye Automobile Building Plant”.

Thank you

GIONIX SMC, LLC

69057 Ukraine, Zaporizhzhia

6, Adm. Nakhimova str.

Tel/Fax: +380 61 2395239

www.gionix.com

info@gionix.com