

**LPG** **TECH**  
GAS INNOVATIONS

TECH SYMBIO



# TECH SYMBIO

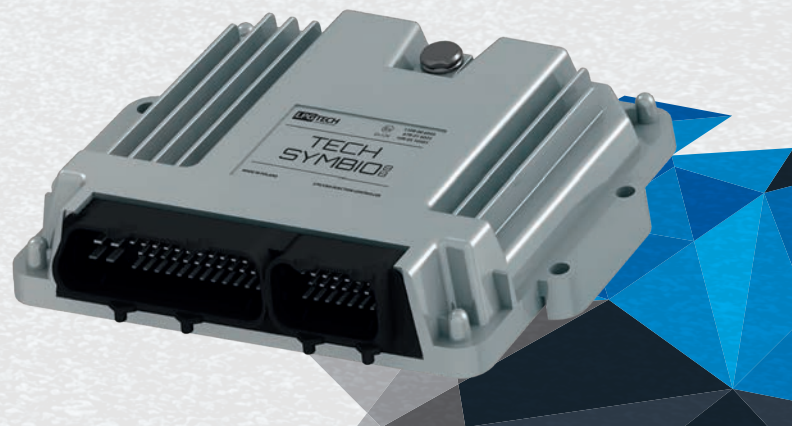
autogas system dedicated  
to direct injection engines

The new controllers platform was created to meet the latest requirements set by engineers designing engine fuel systems. Today TECH SYMBIO - as the only Polish controller has the ability to work with two injection systems without additional electronic devices. Thanks to this, it is possible to install gas in cars with combined injection, i.e. based petrol injectors direct and indirect injection. The controller supports naturally aspirated, turbocharged engines as well as Valvetronic or Multiair systems.

The control unit is based on a 32-bit microprocessor designed specifically for the automotive industry which guarantees stable operation in the temperature range from -40 to 120 °C. It has a built-in OBD module with CAN data bus, thanks to which tuning is not only simple and fast, but above all precise. The installation of the system has been simplified thanks to the possibility of any pairing of input channels and output injectors. The use of dedicated automotive electrical wires suitably matched to the current load ensures long-term, trouble-free operation of the system in adverse conditions prevailing in the engine compartment.

## THE CONTROLLERS ARE AVAILABLE IN THREE VARIANTS:

- 4 cylinders with a 56 pin connector
- 6 cylinders with a 80 pin connector
- 8 cylinders with a 80 pin connector





The use of an innovative, proprietary work algorithm and tuning resulted in the universality of the controller. User corrections and advanced corrections for gas injectors including correction from the supply voltage guarantee the precision of the fuel dose selection. The service of petrol and multiple injection means that the engine's operation in the full temperature and load range is the same as in the case of petrol. Semiconducting injector emulators and an integrated, configurable fuel pressure emulator allow a wide selection of the pilot dose when working on gas. Thanks to these features, TECH SYMBIO systems easily meet the EURO 6 emission standards, and their assembly guarantees minimal combustion of gas-line while maintaining the maximum protection of gasoline injectors against thermal damage.



# GasSetting 2.0

Microsoft Windows desktop app



- » TECH and Standard tuning algorithm
- » 3D map of fuel injection times
- » Corrections of gas temperature, reducer pressure, gas pressure and engine rpm
- » Autodiagnosis of faults and defects
- » AFR read
- » Oscilloscope
- » Read the parameters and faults in OBD system of the vehicle
- » Leak test of the autogas installation

GasSetting is an user-friendly and intuitive software, which gives the user ability to calibrate the TECH autogas installation. Automatically performs the calibration and adaptation of an operation parameters to succesfully supply the vehicle with the LPG/CNG fuel.

# GasDroid 2.0

Google Android App



- » Available for Android from version 4.0.3
- » Compatible with BlueTECH<sup>XT</sup> module
- » Quick and easy tuning of LPG/CNG system
- » Intuitive interface
- » Oscilloscope
- » Available for free on Google Play

GasDroid 2.0 is an official version of GasSetting software, which allows the user to calibrate the TECH. It is dedicated for devices with the Android system installed (version 4.0.3 and later). GasDroid 2.0 support all the LPGTECH communication modules, which are: BlueTECH, OptoTECH, and the latest one - TECHConnect.

The LPGTECH company has been specializing in providing comprehensive services in the field of electronics production for almost 10 years. In 2017, we took care of our professional SMD and THT assembly along with comprehensive production preparation in the field of material technology. We also provide the necessary tests.

We make production on the most modern production line, which is the AIMEX IIIc assembly machine from FUJI. The line also includes a fully automatic Speedline MPM100 screen printer and a soldering machine with 10 heating zones. Soldering of sub-assemblies is carried out using the Pillarhouse JADEs-200 MKII selective wave. The entire soldering process takes place in a nitrogen blanket which affects positively the quality and reliability of the connections.

A qualified and experienced staff supervises the execution of orders. We guarantee the confidentiality of entrusted documentation. We assemble the assembly based on the IPC-A-610 standard. We operate in accordance with the requirements of ISO 3001-2015-10 issued by Isocert.

# CONTRACTED PRODUCTION OF ELECTRONICS



+48 506 784 395

## WE INVITE YOU TO COOPERATION



- » Built-in microprocessor
- » Ability to adjust a color of LED backlight according to RGB
- » Integrated buzzer
- » Ability to adjust the buzzer loudness
- » 3-pin plug connector with no need of soldering wires
- » Centrally located connector
- » Possibility to fit in the vehicle's dashboard
- » Auto-adjusted brightness of the LED backlight according to environment



compatible with:

**TECH-204**

**TECH ONE**

**TECH DUO**

# RGB Switch

gas/petrol switch

The digital RGB switch allows to choose the fuel on which an engine has to work. It is equipped with LEDs which indicates the gas level in a tank and a so-called buzzer - the beep indicating such parameters as: The moment of switching fuel / Alert - low gas level in the tank / Alert - no gas in the tank.



COMPATIBLE WITH  
RGB SWITCH

socket

48-pin

support

up to 4 cyl.

# TECH-200

LPG/CNG injection controller series

TECH-204, TECH-224

- » TECH-224 - cooperation with external Scanner TECH-OBd
- » Precise gas dose calculation based on built-in corrections
- » TECH and Standard tuning algorithm
- » Self diagnosis of faults and defects
- » Full short circuit and overload protection
- » Compatible with Valvetronic and Rotary engines
- » Additional corrections of gas temperature, reducer pressure, gas pressure and engine rpm

TECH-200 controller series - a modern microprocessor controllers with the 48-pin bundle, for up to 4-cylinders engines. It combines advanced technology with ergonomics. A processor which controls calibration, autotuning and continuous monitoring system is locked in a small body made of tecamid.

# TECH DUO

LPG/CNG injection controller

socket  
32-pin

support  
up to 4 cyl.

COMPATIBLE WITH  
RGB SWITCH

- » Corrections based on gas and reducer temperature, gas pressure and engine RPM
- » Self-diagnosis , detecting for errors and installation faults
- » New hardware platform based on fast CPU
- » Extra petrol injection function
- » Automatic detection for petrol injection type
- » Reading for RPM signal from petrol injectors



TECH DUO is a new controller of the family dedicated to 4-cylinder engines with indirect fuel injection. The controller works with a new touch switch RGB, which allows for any color configuration. All enclosed in a small and compact housing with a 32-pin connector that allow the installer to fit in the place that suits us most.



socket

24-pin

support

up to 4 cyl.

COMPATIBLE WITH  
RGB SWITCH



- » Fast, simplified installation
- » 3 wires, digital control panel
- » Semiconductor petrol injectors emulators
- » 3D map of fuel injection times
- » Precise gas dose calculation based on built-in corrections
- » TECH and Standard tuning algorithm
- » Self diagnosis of faults and defects
- » Full short circuit and overload protection
- » Additional corrections of gas temperature, reducer pressure, gas pressure and engine rpm

# TECH ONE

LPG/CNG injection controller

TECH ONE is dedicated for the most popular 4-cylinder engines which does not requires the use of gas injection controller that supports the car OBD. Due to a small, compact cover and 24-pin connector the fitting is much easier and faster.

- » Cooperation with external Scanner TECH-OBD
- » Precise gas dose calculation based on built-in corrections  
TECH and Standard tuning algorithm
- » Self diagnosis of faults and defects
- » Full short circuit and overload protection
- » Compatible with Valvetronic and Rotary engines
- » Additional corrections of gas temperature, reducer pressure,  
gas pressure and engine rpm

socket

**56-pin**

support

**up to 8 cyl.**



# TECH-320

**LPG/CNG injection controller series**

**TECH-326, TECH-328**

TECH-320 controllers series - a microprocessor controllers with a traditional 56-pin bundle. It's designed for up to 8 cylinders engines, depending on the version. It is also possible to connect two controllers simultaneously, allowing to control the gas supply even for 16 cylinders engines.

# TECH-320 OBD

LPG/CNG injection controller series

TECH-324 OBD, TECH-326 OBD, TECH-328 OBD

- » Automatic, intelligent OBD data trouble codes erasing
- » Automatic, real time LPG/CNG injection time correction based on petrol ECU parameters readed via OBD bus
- » OBD mapping while driving without PC connection need
- » OBD scanner function – OBD parameters, data trouble codes reading and erasing
- » Additional corrections of gas temperature, reducer pressure, gas pressure and engine rpm
- » TECH and Standard tuning algorithm
- » Self diagnosis of faults and defects
- » Full short circuit and overload protection
- » Compatible with Valvetronic and Rotary engines

socket

56-pin

support

up to 8 cyl.



TECH-320 OBD series provide the same functions and security features as TECH 320 series – ensuring excellent quality and performance. Connection with the vehicles OBD system uses only two wires, regardless of the used protocol. Another advantage is the possibility to use the controller to read, erase diagnostic trouble codes and read all the engine parameters, like using a standard OBD scanner.



# PTS 01

pressure and temperature sensor



- » Supply voltage range: 10 to 16 [V]
- » Resistance temperature sensor: 10 [kOhm]
- » Pressure range from 20 [kPa] and 450 [kPa]
- » Temperature range from -20 [°C] to 120 [°C]

PTS01 from LPGTECH is the only sensor on the market today in which the measurement of the gas temperature accrues directly at the gas current. This is the only method today to assure the most accurate measurement.

# TECHLevel 2.0

gas level sensor



- » No mechanical parts
- » Hall effect measure technology
- » 12V power supply
- » Wiring loom supplied

TECHLevel 2.0 is mounted in a multivalve and measures level of the gas in a tank . Correct reading is displayed in a switch.

## EmuTECH Pb-Pressure-02

petrol pressure emulator



## EmuTECH Pb-Level-02

petrol level emulator



## OptoTECH

wired connection



Emulates the correct value of the fuel injection rail pressure, as it would be when running on petrol. The emulator is equipped with a function of controlling the fuel pump, which ensures the constant pressure of the injection rail while driving on gas and ensures trouble-free switching to petrol, no matter under what load the vehicle will operate.

Dedicated for all the vehicles, in which the fuel level indicator falls down while driving on gas and doesn't return to the correct level after re-starting the vehicle. Emulator restores the correct position of petrol level indicator after every car starting.

OptoTECH - wire interface allowing for communication with all Tech controllers and most of other autogas controllers. OptoTECH provide solid communication with electronic devices.

AVAILABLE VERSIONS

## TECH-YETI *plus* TECH-YETI *S*

130l/min flow

removable repair kit

- » Available : single or 2,3,4 cyl rail
- » Fluoropolymer coating
- » Coil Resistance 1,9  $\Omega$
- » Opening time: <2.0 ms
- » Closing time: <1.0 ms
- » Maximum operating pressure: 4.5 bar
- » Max. gas flow: 115 l / min
- » Temperature range: -40 ° to 120 ° C

FUNCTIONING  
EVEN AT -40°C



# TECH-YETI

LPG/CNG injectors

TECH-YETI is the latest injector by LPGTECH. As one of few available on the market it has approvals for temperatures to -40 ° C! The fluoropolymer coating applied in the injector makes it extremely resistant to fuel contamination. Wide configurability of injectors and vertical power supply provides installers with opportunities in terms of selection and arrangement under the hood of a vehicle.



# TECH-DRAGON

## LPG/CNG injectors

- » Available : single or 2,3,4 cyl rail
- » Fluoropolymer coating
- » Coil Resistance 2  $\Omega$
- » Max hold current: 2.8 A
- » Temperature range: -40 ° to 120 ° C
- » The compact stainless steel casing
- » Adjusting flow through the nozzle calibration

### GOLD

- » Opening time: <2.1 ms
- » Closing time: <1.0 ms
- » Max. gas flow: 170 l / min

### SILVER

- » Opening time: <2.0 ms
- » Closing time: <1.0 ms
- » Max. gas flow: 130 l / min



TECH-DRAGON is an injection rail of LPG/CNG volatile gas phase. It can be easily installed in hard to reach places under the bonnet because of small diameters. Application of fluoropolymer coating prevents the moving injector parts from sticking of contaminants. This allows faultless operation and precise gas dosage. Reduction of friction significantly extends injector lifespan.

# PERFECT BLUE

## LPG volatile phase filter

- » Exchangeable fiber glass filter insert
- » Separation of the particles and liquid fractions
- » Protection against injectors oily substances
- » Improves the efficiency of the gas supply system
- » 99% filtration efficacy for particles of 1  $\mu\text{m}$
- » Max. pressure: 4,5 bars
- » Temperature range: -20°C – +120°C
- » Gas outlets:  $\varnothing$  10,6/12 mm
- » Dimensions: 120 mm x 110 mm x  $\varnothing$  68 mm



## SUCCESSFULLY FILTERS PARTICULATES

**Beta coefficient and adequate filter efficiency is:**

**200 = 99,50% at 9,0  $\mu\text{m}$     1000 = 99,90% at 11,5  $\mu\text{m}$**

The volatile phase filter Perfect Blue efficiently separates all the impurities in the gas LPG. Assembly of the Perfect Blue filter effectively protects against oily substances and solid particles increasing the reliability of the whole gas installation.

# ELECTRONIC LUBRIFICATION KIT

## TECH lubrication kit

- » Microprocesor control unit
- » High precision dosing of lubricant
- » Dosing parameters enabled from application
- » Construction based on proven solutions
- » Compatible with all LPG/CNG controllers



Lubrification TECH - is a vacuum system of lubrication with electronic dosing control, dedicated to all LPG/CNG powered engines.



LPGTECH Sp. z o.o. is one of the leading manufacturers of modern LPG and CNG autogas systems in Poland and worldwide. For almost 10 years, a team of specialists has been working on the creation of microprocessor controllers, gas injectors and many other innovative solutions for autogas installations, valued and known under the TECH brand.

Thanks to the policy of continuous improvement and qualitative differentiation, LPGTECH has gained a group of loyal customers around the world. It is growing every year thanks to innovative solutions proposed by the Research and Development Department of the company. In 2019, LPGTECH has the pleasure to launch a gas injection system for direct injection engines TECH SYMBIO.

The aim of LPGTECH is to provide customers with a range of products for the installation of autogas systems, which outperform the most-valued global brands. All processes in our company are carried out and audited in accordance with ISO 9001: 2015-10 and customer requirements. Particular attention is paid to the input control of materials, testing of products at every stage of production and key processes, i.e. SMD and THT.

**JOIN TO OUR BUSINESS**  
**PARTNERS FROM ALL OVER**  
**THE WORLD**







**LPGTECH Sp. z o.o.**  
Dojnowska 67, 15-557 Białystok, Poland  
[www.lpgtech.com](http://www.lpgtech.com)