



Discover the **Direct LiquiMax-2.0 system**

Advanced calibration possibilities **Optimal integration with the OEM systems**

Parallel to the OEM fuel system, the Prins Direct LiquiMax-2.0 system has been designed for bi-fuel or mono-fuel LPG operation on vehicles with Direct Fuel Injection technology.

The Direct LiquiMax-2.0 system is designed for engines with direct fuel injection systems, which means that fuel is injected under high pressure (20-250 bar) directly into the cylinder instead of being injected into the manifold (port injection).

Taking advantage of the existing OEM-DI components, the Direct LiquiMax-2.0 performance is equal to that of petrol. With the Direct LiquiMax-2.0 system the driver will experience no difference between LPG and petrol.

Important to know:

- Adjustable LED colours for integration with dashboard
- Extensive diagnostic functions, diagnostic software is divided in Basic and Advanced tabs
- Integrated checklist for switch over procedure, so fast diagnostic
- Modular Plug & Play wiring loom
- Freeze frame information of the first 2 errors
- 32-bits ECU of OEM quality
- One diagnostic tool for all Prins systems
- Tank level of LPG tank also visible when driving on petrol
- No RPM module necessary
- Sleep current ECU < 1 mA
- Complies with R67-01 and R115 regulations
- Direct start on LPG
- 2 years warranty

Components



Fuel Module

- Multivalve Fuel Module; includes 80% filler restriction, non-return valve, excess flow valve, pressure relief valve, tank level sensor, lock-off valve, remote filler valve connection, fuel supply and return connections
- Gas tight sealing of tank unit by means of an O-ring
- LPG Turbine pump; fitted with gas filter to protect the fuel injection system from pollution
- Swirl pot; which prevents the pump from running dry during dynamic driving behaviour



Pump Driver

- Controlled by the AFC by means of PWM signal (Pulse Width Modulation)
- Enables full linear control of the pump
- Fault code detection and feedback to the ECU
- Run dry detection
- Voltage limiter by means of compensation PWM signal
- Integrated current limiter
- Reduces the output current when it detects high temperature and turns off when the temperature gets too high

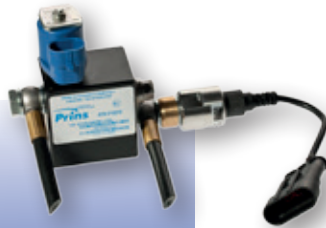


Fuel Supply Unit (FSU)



- Makes it possible to switch between LPG and petrol
- Complete with electronic lock off valve controlled by the AFC
- Compact design for easy installation

Fuel Return Unit (FRU)



- Controls the return of LPG to the LPG tank
- Makes it possible to switch between LPG and petrol
- Equipped with electronic lock-off valve controlled by the AFC
- Lock off valve will shut off the LPG return line during petrol mode
- Equipped with a pressure sensor
- Compact design for easy installation

Boost Pump



- Special petrol turbine pump
- Installed in series with the OEM petrol fuel pump
- Multiplying the petrol pressure during switch over procedure above LPG pressure, for smooth switch over
- High Boost pump capacity
- Complete with electronic lock-off valve which blocks the petrol flow.
- Compact design for easy installation

AFC-2



- The AFC-2 computer is the heart of the system and controls all the functions of the Direct LiquiMax-2.0 system for safety, switch over strategy, fuel injection and diagnostics
- Controls the fuel module, pump driver, boost pump, FSU, FRU and fuel selector switch
- OEM watertight case with ventilation plug
- One 81-pins connector for the master wiring loom and a small 40-pins connector for the specific engine configurations wiring loom
- A number of different communication interfaces for more advanced OEM engine integration.
- High performance 32-bits automotive controller combined with full diagnostic and self protected power-output circuits for high reliability and durability
- Diagnostics, service and parameter-load software operates from Windows XP/Vista/7/8 applications

Fuel selector switch



- Small and compact design suits all cab interiors
- Fuel selection via smart touch control. Informs operator of LPG tank contents, audible buzzer to alert low level switching or fault codes plus illuminated fault code warning with LED
- Self programmable LED colours

Tank dimensions



- Cylindrical and toroidal tanks available:
- Center Filled Toroidal tanks diameter 600, 630 and 650mm with height of 230, 250-and 270 mm.
- Cylindrical; tanks with diameter 320, 360 and 450 with different lengths.

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DIRECT LIQUI max-2.0

HIGH PRESSURE
LIQUID LPG INJECTION

