



Electronic Engine Control System for GE 7FDL Locomotive



Locomotive Control System



Electronic Pump-Pipe-Nozzle Control

Estonia Railway Project

In March 2019 HEINZMANN implemented an Electronic Engine Control System on a GE 7FDL Locomotive. The complete solution consists of two subsystems: the PEGASOS Locomotive Control System and LAVINIA, a system for electronic pump-pipe-nozzle control. The retrofit kit further offers optional systems for monitoring and safety. A fuel injection control valve was adapted to the 7FDL.

The system is currently under validation by comprehensive performance and emission tests. No visible black smoke under all operating conditions, the overall operation is much smoother.



Project Data

Customer

AS EVR Cargo

Locomotive

GE-C36-7i, built in 1985

Application

Freight transportation, shunting service within Estonia

Retrofit

Performed in March 2019 on a 16 V 7FDL

- *Control*
- *Monitoring*
- *Safety*

Customer Benefits

- ▶ Improved performance and engine safety
- ▶ Reduced fuel consumption
- ▶ High reliability of a proven design
- ▶ Reduced maintenance
- ▶ Significant savings in total cost of ownership and short ROI
- ▶ Complete retrofit kit from one source
- ▶ 25 years of experience in electronic fuel injection

Implemented HEINZMANN Solutions

- Complete turnkey engine control solution dedicated and proven for the GE 7FDL
- Mounting kit included
- Electronic fuel injection control by HEINZMANN E-PPN based on latest control strategies
- Speed/load and dedicated locomotive control with low idle speed function
- Extended monitoring and safety functions



HEINZMANN Retrofit Solutions

HEINZMANN develops, produces and delivers the full range of locomotive engine control solutions. For the Estonia Railway project the PEGASOS Traction Control System and LAVINIA, a system for electronic pump-pipe-nozzle control have been implemented.

PEGASOS Locomotive Control Systems

HEINZMANN PEGASOS Locomotive Control Systems meet the specific requirements of the railway market for both diesel-hydraulic and diesel-electric drives.

The speed and load control has galvanically isolated inputs and outputs and power supply to protect the internal control electronics from the adverse locomotive electrical environment. The combined speed/load control ensures maximum traction efficiency with its variable excitation control.

The HEINZMANN PEGASOS solutions are available for conventional fuel injection as well as for EFI systems in connection with a complete common rail solution, E-PPN or PNU.

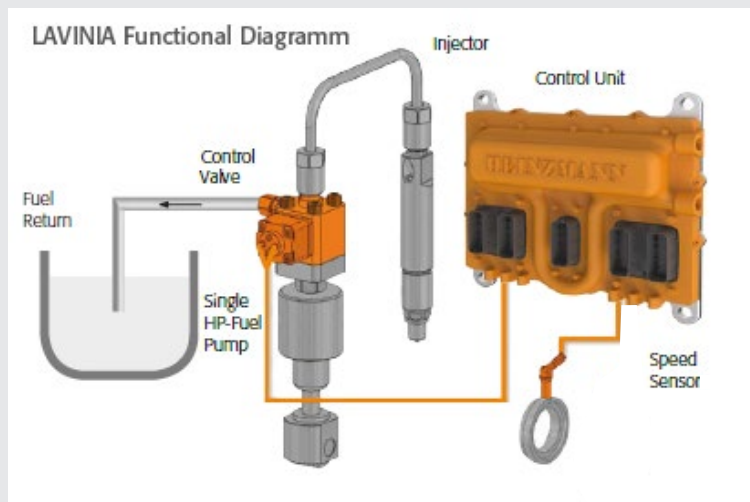
LAVINIA E-PPN System

Main component of the electronically controlled HEINZMANN E-PPN System is the solenoid activated injection control valve. The unit is located in the high-pressure fuel line of diesel engines. It provides a precise and speed/load dependent fuel

injection timing for optimised combustion under all operating conditions.

The LAVINIA E-PPN system extends the existing fuel system.

Application is possible for retrofit of diesel engines in field as well as for factory upgraded engines (OEM). Controlled by a HEINZMANN EFI control it offers the benefits of electronic fuel control.



For further information refer to the leaflets PEGASOS and LAVINIA or our website www.heinzmann.com.



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