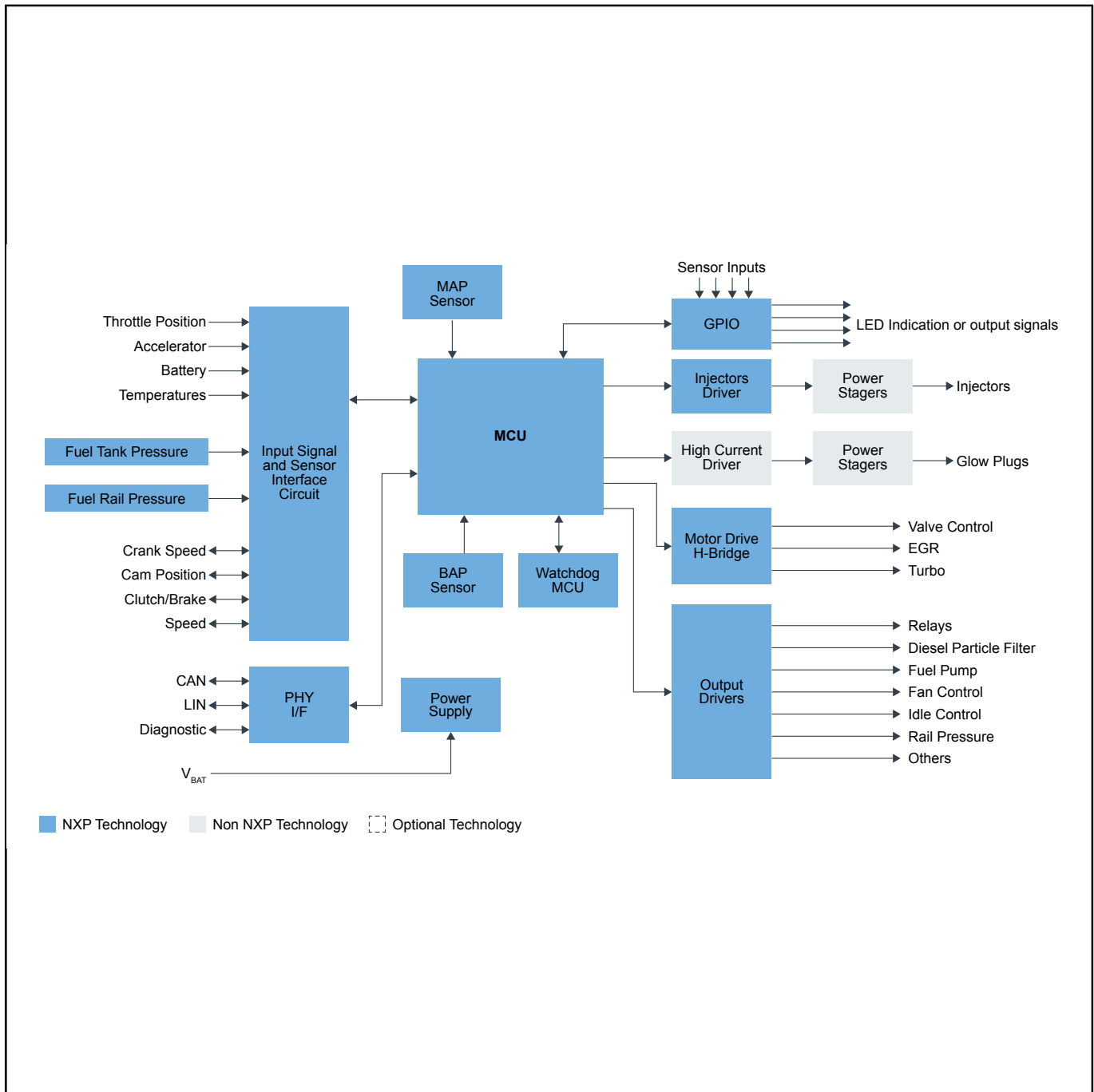# Diesel Engine Management

Last Updated: Feb 26, 2025

Today's diesel engines offer better performance, improved fuel efficiency, reduced noise and lower smoke emissions.

NXP provides a full range of MCUs, barometric pressure sensors (BAP), and analog/mixed-signal IC drivers for improving diesel vehicle fuel economy, enhancing performance and meeting emissions requirements.

Diesel Engine Management Block Diagram

Recommended Products for Diesel Engine Management	
Microcontrollers (MCU)	• S32K1: S32K1 Microcontrollers for Automotive General Purpose • MPC5777C: Ultra-Reliable MPC5777C MCU for Automotive and Industrial Engine Management • MPC5746R: Automotive and Industrial Engine Management MCU
GPIO	• PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features • PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features
Watchdog Microcontrollers (MCU)	• S08SG: 8-bit Small Package SG MCUs
Output Drivers	• MC33800: Engine Control Integrated Circuit • MC33879: Configurable Octal Serial Switch • GD3000: 3-Phase Brushless Motor Pre-Driver • MC33937: 3-Phase Field Effect Transistor Pre-Driver
PHY Interface	• TJA1120: TJA1120, ASIL B Compliant Automotive Ethernet 1000BASE-T1 PHY Transceiver • TJA1103: TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1021: ISO17987 LIN 2.1/SAE J2602 Transceiver • TJA1044: High-Speed CAN Transceiver with Standby Mode - Mantis Family • TJA1462: CAN Signal Improvement Capability Transceiver with Standby Mode
Input Signal and Sensor Interface Circuits	• MC33975: MSDI with 32 mA Suppressed Wakeup
Safety SBC	• FS23: Safety System Basis Chip (SBC) Family with Power Management, CAN and LIN • FS24: Safety Mini CAN FD SBC for Automotive Applications Fit for ASIL B • FS6600: Safety System Basis Chip for S32S2 Microcontroller, Fit for ASIL D • FS86: Safety System Basis Chip For Domain Controller, Fit For ASIL B and D • FS4500: Grade 1 and Grade 0 Safety Power System Basis Chip with CAN Flexible Data Transceiver • FS26: Safety System Basis Chip with Low Power, for ASIL D Systems • FS6500: Grade 1 and Grade 0 Safety Power System Basis Chip with CAN Flexible Data Transceiver
Injectors Drivers	• PT2000: Programmable Solenoid Controller Gate Driver • PT2001: Programmable Gate Driver for Solenoid Control
Motor driver H-Bridge	• MC33931: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 11 kHz • MC33926: H-Bridge, Brushed DC Motor Driver, 5-28 V, 5 A, 20 kHz • HB2000: SPI Programmable 10 A H-Bridge Brushed DC Motor Driver • HB2001: SPI Programmable 10 A H-Bridge Brushed DC Motor Driver
BAP Sensor	• MPXHZ6130A: Absolute, Integrated Pressure Sensor (15 to 130 kPa)
MAP Sensor	• MPX4250: Differential, Gauge and Absolute Integrated Pressure Sensor (0 to 250 kPa)
Fuel Tank and Rail Pressure	• FXPS7xx0A4: Analog Absolute Pressure Sensor (20 to 550 kPa) • FXPS7xx0D4: Digital Absolute Pressure Sensor (20 to 550 kPa)
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View our complete solution for Diesel Engine Management.

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