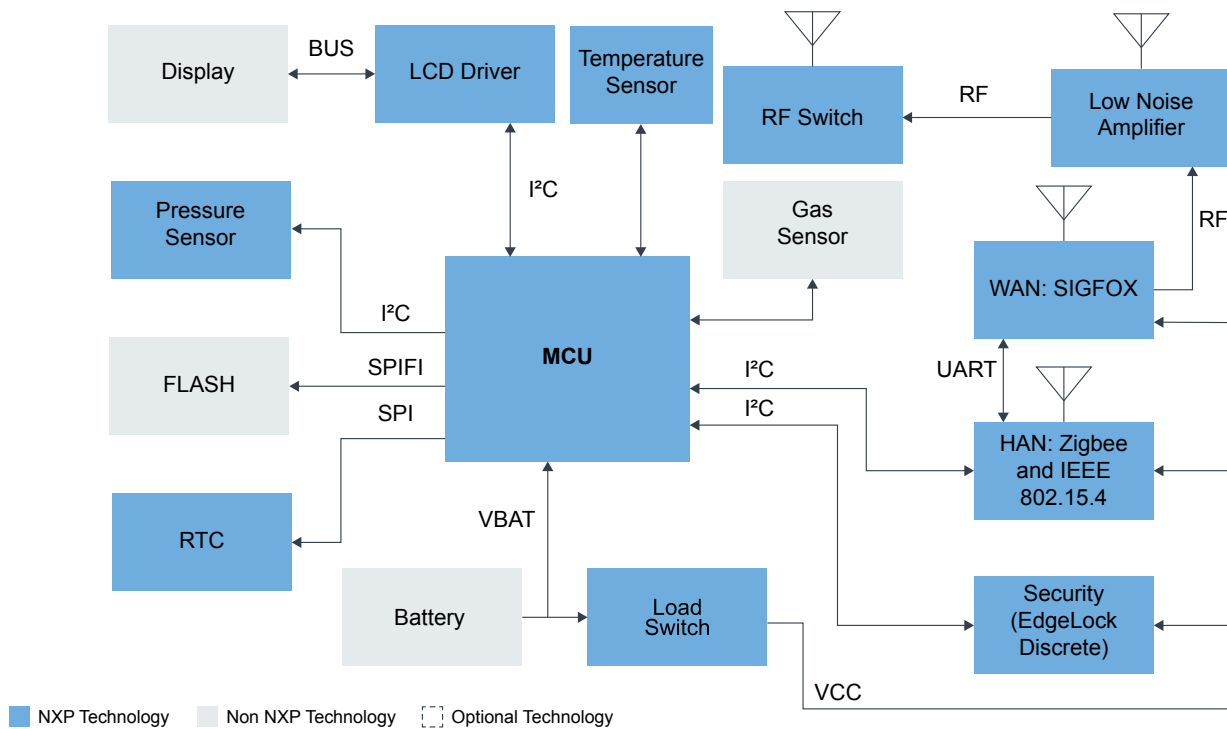# Automotive Gas Meter

Last Updated: Aug 22, 2024

NXP® connectivity solutions for smart metering address the challenges Smart Cities face for reliable, secure communications for remote metering and home energy management. Gas and Water meters are used in every establishment that consumes fuel gas and with water supply such as commercial, residential, and industrial.

Flow meters help Smart Cities measure the volume of gas at a specific time or over a long period. The measurement is then displayed on low-power segment LCDs, often driven by segment LCD drivers on an MCU.

Advanced flow meters incorporate RF communication interfaces for connecting to one-way or two-way RF meter reading systems.

Automotive Gas Meter Block Diagram

| Display | ←BUS→ | LCD Driver | Temperature Sensor | RF Switch | ←RF← | Low Noise Amplifier |

Pressure Sensor

I²C

FLASH ←SPIFI

RTC ←SPI

MCU

Gas Sensor

WAN: SIGFOX

HAN: Zigbee and IEEE 802.15.4

Security (EdgeLock Discrete)

Battery → Load Switch → VCC

VBAT

UART

RF

I²C

■ NXP Technology ☐ Non NXP Technology ⌐ ⌐ Optional Technology

Recommended Products for Automotive Gas Meter
MCU	• LPC546XX: Power-Efficient Microcontrollers (MCUs) With Advanced Peripherals Based on Arm® Cortex®-M4 Core
Pressure Sensor	• NBP8-9x: Highly Integrated Battery Pressure Monitor Sensor • FXPS7xx0D4: Digital Absolute Pressure Sensor (20 to 550 kPa) • FXPS7xx0A4: Analog Absolute Pressure Sensor (20 to 550 kPa) • MPXx6115: Gauge and Absolute Pressure Sensor (-115 to 115 kPa)
RTC	• PCF2123: SPI Real-Time Clock/Calendar • PCF2131: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal

LCD Driver	• PCF85133U: Universal LCD Driver for Low Multiplex Rates
Load Switch	• NX3P2902BUK: Logic-Controlled High-Side Power Switch
Security (EdgeLock Discrete)	• SE050: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility
Home Area Network	• JN5169: ZigBee and IEEE802.15.4 Wireless Microcontroller with 512 KB Flash, 32 KB RAM • K32W061_41: K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option
Wide Area Network	• OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform
Low noise amplifier	• BGS8L2: SiGe:C Low-Noise Amplifier MMIC with Bypass Switch for LTE
RF Switch (LTE)	• NX3P2902BUK: Logic-Controlled High-Side Power Switch
Load Switch	• NX3P2902BUK: Logic-Controlled High-Side Power Switch
Temperature Sensor	• P3T1035xUK: I3C, I²C-Bus, ±0.5 °C Accuracy, Digital Temperature Sensor • P3T2030xUK: I3C, I^{2}C-Bus, 2.0 °C Accuracy, Digital Temperature Sensor • P3T1750DP: I3C/I^{2}C-Bus, ±1 °C Accuracy, Digital Temperature Sensor • P3T1755DP: I3C/I²C-Bus ±0.5 °C Accurate Digital Temperature Sensor • P3T1085UK: I3C/I²C-Bus ±0.5 °C Accurate Digital Temperature Sensor • P3T1084UK: I3C/I^{2}C-Bus ±0.4 °C Accurate Digital Temperature Sensor

View our complete solution for Automotive Gas Meter.

Note: The information on this document is subject to change without notice.