



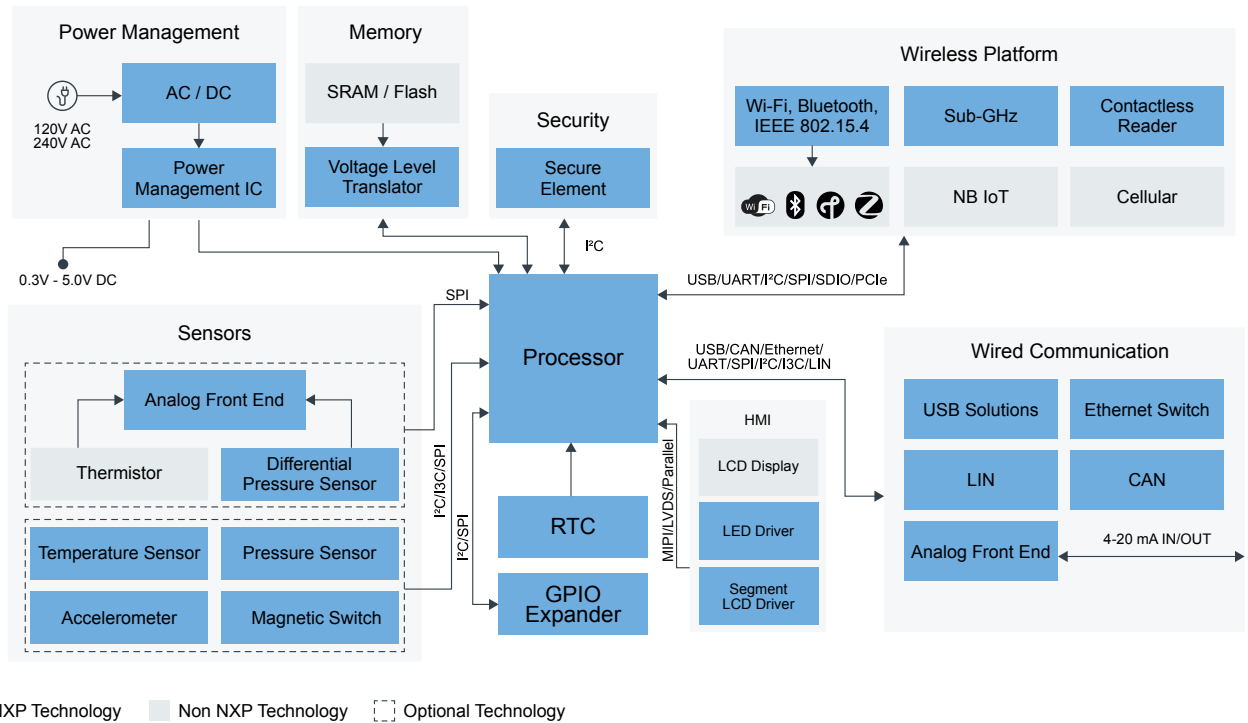
# Building Energy Management Controller

Last Updated: Dec 10, 2024

To achieve better service and smarter, streamlined processes, energy providers require reliable, real-time access to data. NXP® products help data concentrators or energy gateways create the necessary infrastructure to gather data from different sensors and utility meters, upload it to the central utility server, and show it to the user. The energy gateway synchronizes time and date data of utility meters to the central utility server and enables secure data transfer of user authentication and encryption information.

Communication to sensors uses RF technology such as ZigBee and Bluetooth Low Energy.

## Energy Management Controller - Advanced Block Diagram



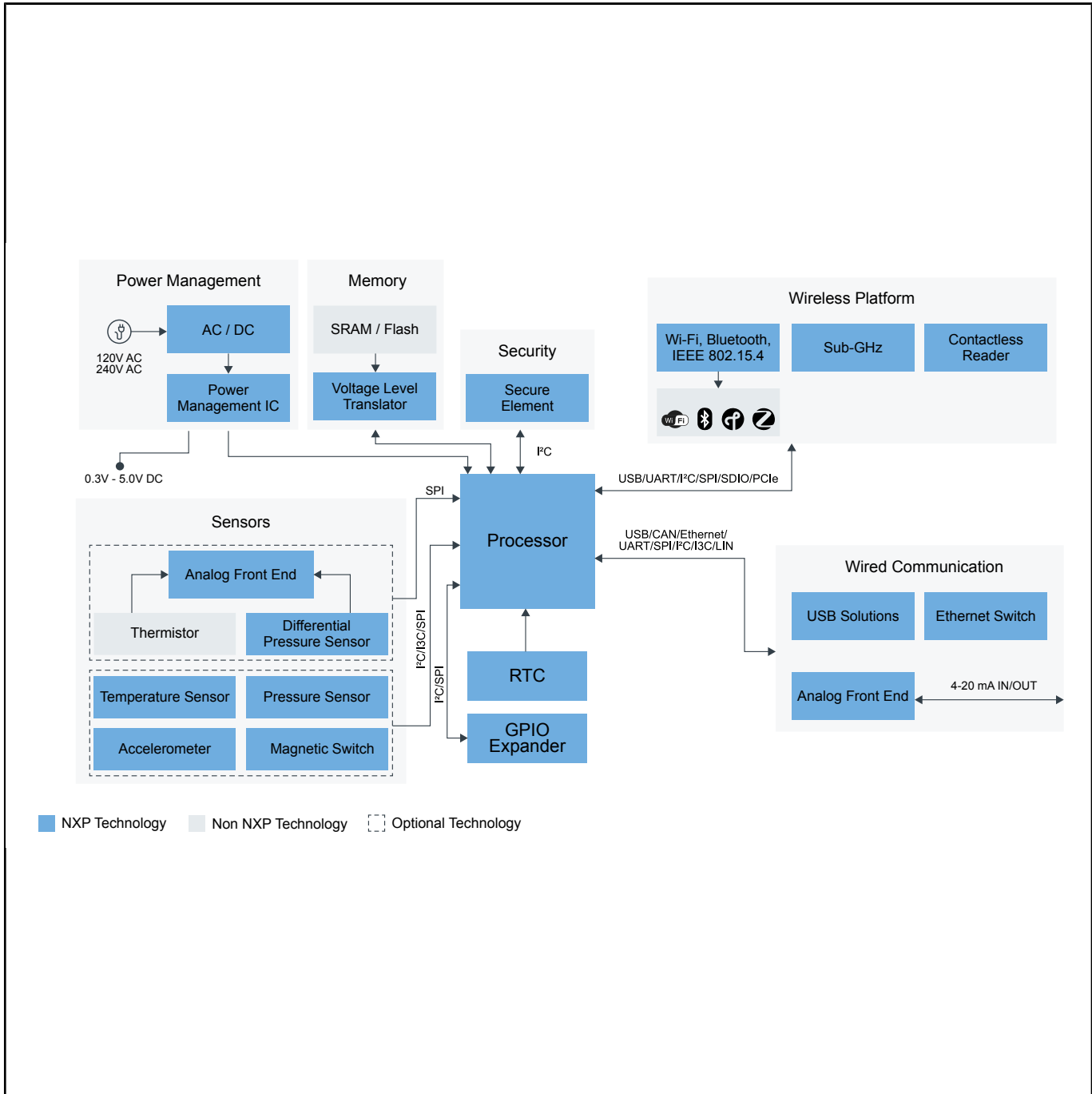
### Recommended Products for Energy Management Controller - Advanced

AC/DC	<ul style="list-style-type: none"> <li>• <a href="#">TEA1723DT</a>: HV Start-up Flyback Controller with Integrated MOSFET for 11 W Applications, F~Burst = 1270 Hz</li> </ul>
Power Management IC	<ul style="list-style-type: none"> <li>• <a href="#">PF09</a>: 9-Channel PMIC for High-Performance Applications, ASIL D and SIL-2</li> <li>• <a href="#">PCA9451A</a>: PCA9451A Power Management IC for i.MX 93x/91x Application Processor</li> <li>• <a href="#">PCA9450</a>: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus</li> </ul>
Voltage Level Translator	<ul style="list-style-type: none"> <li>• <a href="#">NTS0304E</a>: 4-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li> <li>• <a href="#">NTS0308E</a>: 8-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li> <li>• <a href="#">NTS0302JK</a>: 2-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing)</li> </ul>
Secure Element	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility</li> </ul>

	<ul style="list-style-type: none"> <li>• <a href="#">EDGELOCK-A5000</a>: EdgeLock® A5000 Plug and Trust Secure Authenticator: Authentication Made Secure, Scalable and Easy</li> </ul>
Wi-Fi, Bluetooth	<ul style="list-style-type: none"> <li>• <a href="#">IW612</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 + 802.15.4 Tri-Radio Solution</li> <li>• <a href="#">RW612</a>: Wireless MCU with Integrated Tri-radio: 1x1 Wi-Fi® 6 + Bluetooth® Low Energy 5.4 / 802.15.4</li> <li>• <a href="#">MCX-W71X</a>: MCX W71x Secure and Ultra-Low-Power MCUs for Matter, Thread, Zigbee and Bluetooth LE</li> <li>• <a href="#">MCX-W72X</a>: MCX W72x Secure and Ultra-Low-Power MCUs for Matter, Thread, Zigbee and Bluetooth LE</li> </ul>
Sub Gig Transceiver	<ul style="list-style-type: none"> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> </ul>
Contactless Reader	<ul style="list-style-type: none"> <li>• <a href="#">PN7220</a>: PN7220: High-Performance, One-Chip NFC Controller for EMVCo 3.1 and NFC Forum Operation</li> </ul>
Analog Frontend	<ul style="list-style-type: none"> <li>• <a href="#">NAFEx3388</a>: Highly Configurable 8/4 Channel 24/16 bits ±25 V Universal Input Analog Front-End with Excitation Sources</li> </ul>
Processor	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT1160</a>: i.MX RT1160 Crossover MCU Dual-Core Arm® Cortex®-M7 and Cortex-M4</li> <li>• <a href="#">i.MX8MPLUS</a>: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT</li> <li>• <a href="#">i.MX8MMINI</a>: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video</li> <li>• <a href="#">i.MX93</a>: i.MX 93 Applications Processor Family – Arm® Cortex®-A55, ML Acceleration, Power Efficient MPU</li> </ul>
Differential Pressure Sensor	<ul style="list-style-type: none"> <li>• <a href="#">MPXx5004</a>: Differential and Gauge, Integrated Pressure Sensor (0 to 3.92 kPa)</li> </ul>
Temperature Sensor	<ul style="list-style-type: none"> <li>• <a href="#">P3T1084UK</a>: I3C/I<sup>2</sup>C-Bus ±0.4 °C Accurate Digital Temperature Sensor</li> <li>• <a href="#">P3T1755DP</a>: I3C/I<sup>2</sup>C-Bus ±0.5 °C Accurate Digital Temperature Sensor</li> </ul>
Pressure Sensor	<ul style="list-style-type: none"> <li>• <a href="#">MPL3115A2</a>: Absolute Digital Pressure Sensor (20 to 110 kPa)</li> <li>• <a href="#">NBP8-9x</a>: Highly Integrated Battery Pressure Monitor Sensor</li> </ul>
Magnetic Switch	<ul style="list-style-type: none"> <li>• <a href="#">NMH1000</a>: NMH1000 Ultra-Low Power and Low-Voltage Magnetic Switch</li> </ul>
Accelerometer	<ul style="list-style-type: none"> <li>• <a href="#">FXLS8974CF</a>: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer</li> <li>• <a href="#">FXLS8971CF</a>: ±2g/±4g/±8g/±16g, Low Power 12-Bit Digital Accelerometer</li> </ul>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCF2131</a>: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal</li> </ul>
GPIO Expander	<ul style="list-style-type: none"> <li>• <a href="#">PCAL6416AHF</a>: Low-voltage translating 16-bit I<sup>2</sup>C-bus/SMBus I/O expander</li> <li>• <a href="#">PCAL9722</a>: 22-Bit SPI I/O Expander with Agile I/O Features</li> </ul>
USB Solutions	<ul style="list-style-type: none"> <li>• <a href="#">USB Interfaces</a>: USB Interfaces</li> </ul>
LED Driver	<ul style="list-style-type: none"> <li>• <a href="#">PCA9552</a>: 16-Bit I<sup>2</sup>C-Bus LED Driver with Programmable Blink Rates</li> </ul>
LIN	<ul style="list-style-type: none"> <li>• <a href="#">TJA1020</a>: LIN Transceiver</li> </ul>
Ethernet Switch	<ul style="list-style-type: none"> <li>• <a href="#">TJA1103</a>: TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver</li> <li>• <a href="#">TJA1120</a>: TJA1120, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver</li> </ul>

	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT1180</a>: i.MX RT1180: Crossover MCU with TSN Switch and EdgeLock®</li> </ul>
CAN	<ul style="list-style-type: none"> <li>• <a href="#">TJA144x</a>: Automotive CAN FD Transceiver Family</li> <li>• <a href="#">TJA1043</a>: High-Speed CAN Transceiver with Standby and Sleep Mode</li> </ul>
Segment LCD Driver	<ul style="list-style-type: none"> <li>• <a href="#">PCF8531U</a>: 34 X 128 Pixel Matrix Driver</li> <li>• <a href="#">PCF2119X</a>: LCD Controllers/Drivers</li> </ul>

## Energy Management Controller - Basic Block Diagram



### Recommended Products for Energy Management Controller - Basic

AC/DC	<ul style="list-style-type: none"> <li>• <a href="#">TEA1723DT</a>: HV Start-up Flyback Controller with Integrated MOSFET for 11 W Applications, F~Burst = 1270 Hz</li> </ul>
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Ethernet Switch

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View our complete solution for [Building Energy Management Controller](#).

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

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