

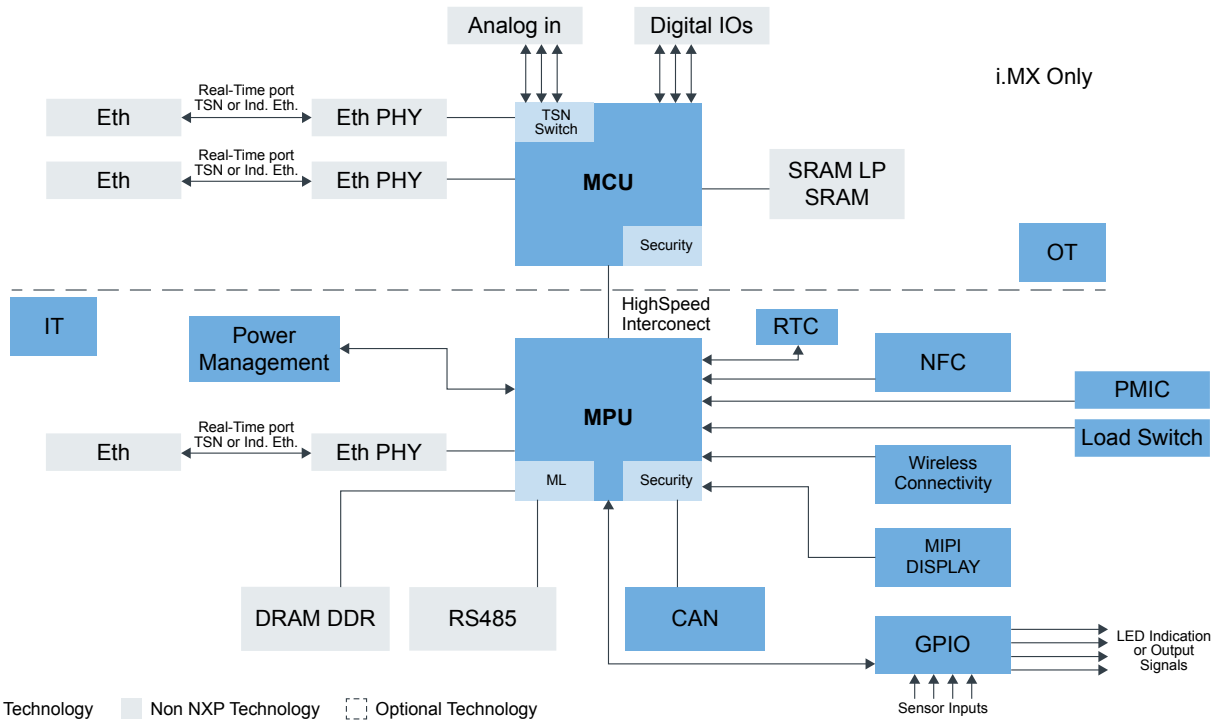


# Industrial HMI

Last Updated: Apr 18, 2024

Powered by an industrial grade i.MX microprocessor, NXP provides HMI solutions for harsh industrial environments. These devices are power-on tested to emulate years of 24/7 operation for critical applications where accuracy, performance, and operational longevity are important factors. When coupled with industrial grade microcontrollers and interface peripherals, NXP HMI solutions offer industrial temperature grades compliance and noisy environment resiliency. This allows for HMI interfaces that are robust and proven to work in suboptimal conditions.

## HMI High Tier Block Diagram



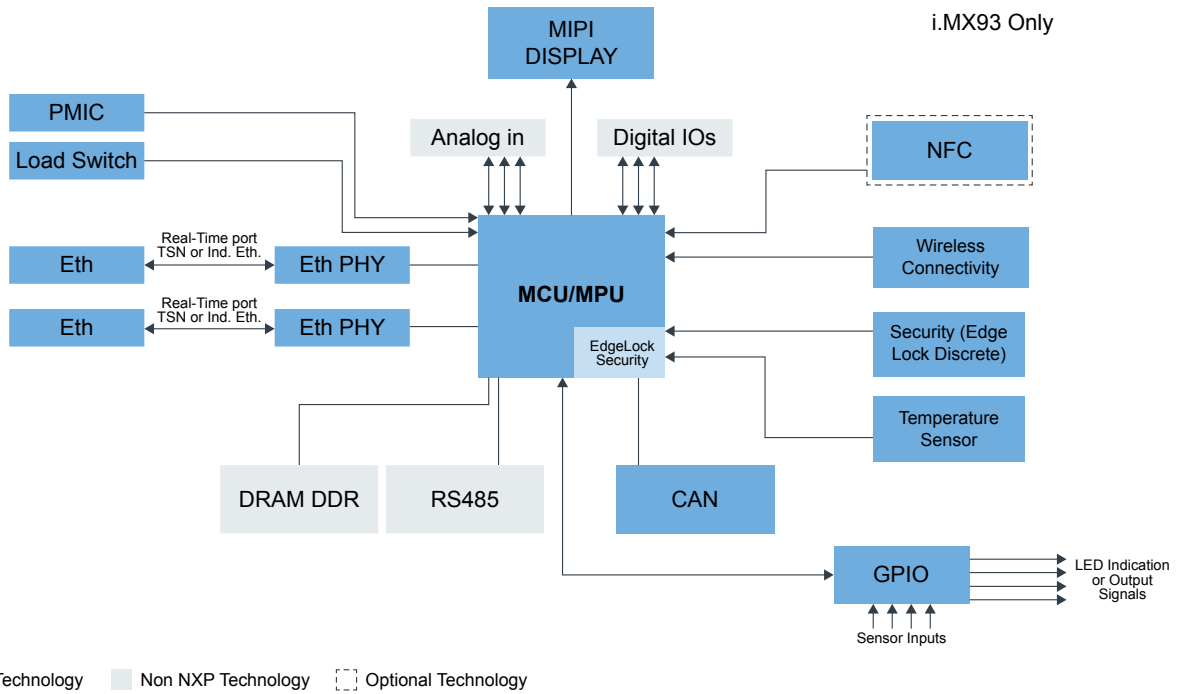
### Recommended Products for HMI High Tier

MPU	<ul style="list-style-type: none"> <li>• <b>IMX8MPLUS</b>: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT</li> <li>• <b>Layerscape Processors</b>: Layerscape® Processors</li> <li>• <b>LX2160A</b>: Layerscape® LX2160A, LX2120A, LX2080A Processors</li> <li>• <b>LX2162A</b>: Layerscape® LX2162A, LX2122A, LX2082A Processors</li> </ul>
MCU	<ul style="list-style-type: none"> <li>• <b>MCX-A14X-A15X</b>: MCX A14x/15x MCUs with Arm® Cortex® M33, Scalable Device Options, Low Power and Intelligent Peripherals</li> <li>• <b>MCX-N94X-N54X</b>: MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security</li> <li>• <b>i.MX-RT1170</b>: i.MX RT1170: 1 GHz Crossover MCU with Arm® Cortex® Cores</li> </ul>



Air Conditioning GPIO	<ul style="list-style-type: none"> <li>• <a href="#">PCAL9714</a>: 14-Bit SPI I/O Expander with Agile I/O Features</li> <li>• <a href="#">PCAL9722</a>: 22-Bit SPI I/O Expander with Agile I/O Features</li> </ul>
Air Conditioning GPIO	<ul style="list-style-type: none"> <li>• <a href="#">PCAL9714</a>: 14-Bit SPI I/O Expander with Agile I/O Features</li> <li>• <a href="#">PCAL9722</a>: 22-Bit SPI I/O Expander with Agile I/O Features</li> </ul>
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## HMI Entry Tier Block Diagram



### Recommended Products for HMI Entry Tier

MPU	<ul style="list-style-type: none"> <li>• <a href="#">MCX-A14X-A15X</a>: MCX A14x/15x MCUs with Arm® Cortex® M33, Scalable Device Options, Low Power and Intelligent Peripherals</li> <li>• <a href="#">MCX-N94X-N54X</a>: MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security</li> <li>• <a href="#">i.MX-RT1050</a>: i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core</li> <li>• <a href="#">i.MX-RT1060</a>: i.MX RT1060: Crossover MCU with Arm® Cortex®-M7</li> <li>• <a href="#">i.MX-RT1170</a>: i.MX RT1170: 1 GHz Crossover MCU with Arm® Cortex® Cores</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>
RTC	<ul style="list-style-type: none"> <li>• <a href="#">PCA8565</a>: Real-Time Clock/Calendar</li> </ul>



Air Conditioning GPIO	<ul style="list-style-type: none"> <li>• <a href="#">PCAL9714</a>: 14-Bit SPI I/O Expander with Agile I/O Features</li> <li>• <a href="#">PCAL9722</a>: 22-Bit SPI I/O Expander with Agile I/O Features</li> </ul>
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View our complete solution for [Industrial HMI](#).

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

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