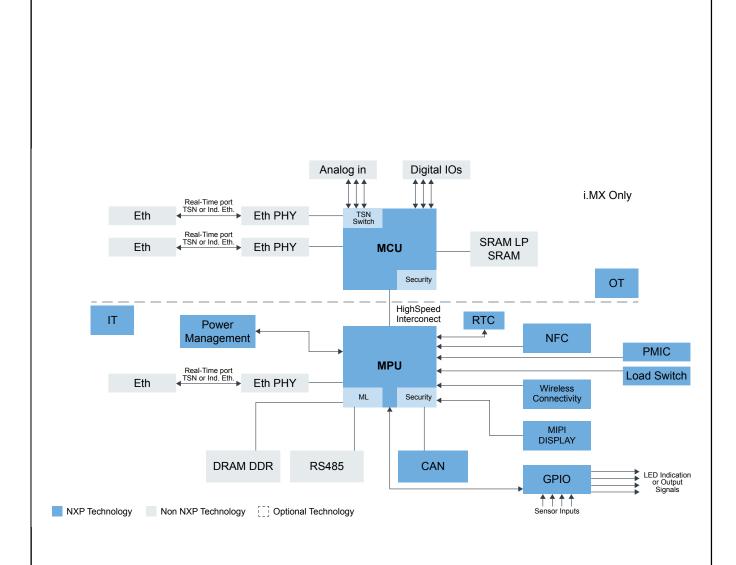


Industrial HMI

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

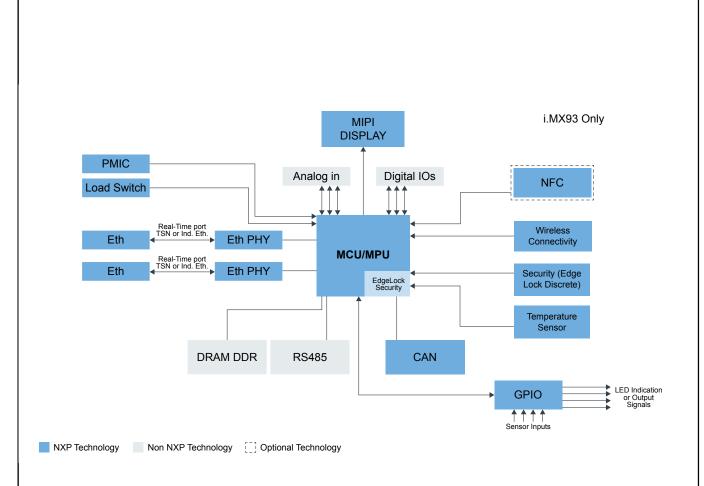


Recommended Products for HMI High Tier		
MPU	IMX8MPLUS: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT Layerscape Processors: Layerscape® Processors LX2160A: Layerscape® LX2160A, LX2120A, LX2080A Processors LX2162A: Layerscape® LX2162A, LX2122A, LX2082A Processors	
MCU	 MCX-A14X-A15X: MCX A14x/15x MCUs with Arm[®] Cortex[®] M33, Scalable Device Options, Low Power and Intelligent Peripherals MCX-N94X-N54X: MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security i.MX-RT1170: i.MX RT1170: 1 GHz Crossover MCU with Arm[®] Cortex[®] Cores 	

Power Management	PF1550: PMIC with 1A Li+ Linear Battery Charger for Low Power Processor Systems
USB Power switch	NX5P2090UK: Logic-Controlled High-Side Power Switch SE050: EdgeLock [®] SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility
Security (EdgeLock Discrete)	* SE050: EdgeLock [®] SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility
Wireless Connectivity	88MW32X 802.11n Wi-Fi [®] Microcontroller SoC IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi [®] 4 (802.11n) + Bluetooth [®] 5.2 Solution 88W8987: 2.4/5 GHz Dual-Band 1x1 Wi-Fi [®] 5 (802.11ac) + Bluetooth [®] 5.2 Solution QN9090-30: QN9090/30: Bluetooth Low-Energy MCU with Arm [®] Cortex [®] -M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option KW39-38-37: KW39/38/37: 32-Bit Bluetooth 5.0 Long-Range MCUs with CAN FD and LIN Bus Options, Arm [®] Cortex [®] -M0+ Core Ultra-Wideband (UWB): Ultra wideband (UWB)
CAN	CAN with Flexible Data Rate: High Speed CAN with Flexible Data Rate (CAN FD) CAN Signal Improvement: CAN Signal Improvement Capability (SIC) Secure CAN Transceivers: Secure TJA115x CAN Transceiver Family
RTC	PCF85053A: Bootable CPU RTC with Two I ² C Buses, 128 Byte SRAM and Alarm Function
Air Conditioning GPIO	PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features
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HMI Entry Tier Block Diagram



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	• i.MX-RT1060: i.MX RT1060: Crossover MCU with Arm® Cortex®-M7 • i.MX-RT1170: i.MX RT1170: 1 GHz Crossover MCU with Arm® Cortex® Cores • i.MX8MMINI: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video • i.MX93: i.MX 93 Applications Processor Family – Arm® Cortex®-A55, ML Acceleration, Power Efficient MPU	
RTC	PCA8565: Real-Time Clock/Calendar	

Power Management	PF1550: PMIC with 1A Li+ Linear Battery Charger for Low Power Processor Systems PCA9460: 13-Channel Power Management Integrated Circuit (PMIC) for Ultra Low Power Application
USB Power Switch	NX5P2090UK: Logic-Controlled High-Side Power Switch
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View our complete solution for Industrial HMI.

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