



EV Supply Equipment (EVSE)

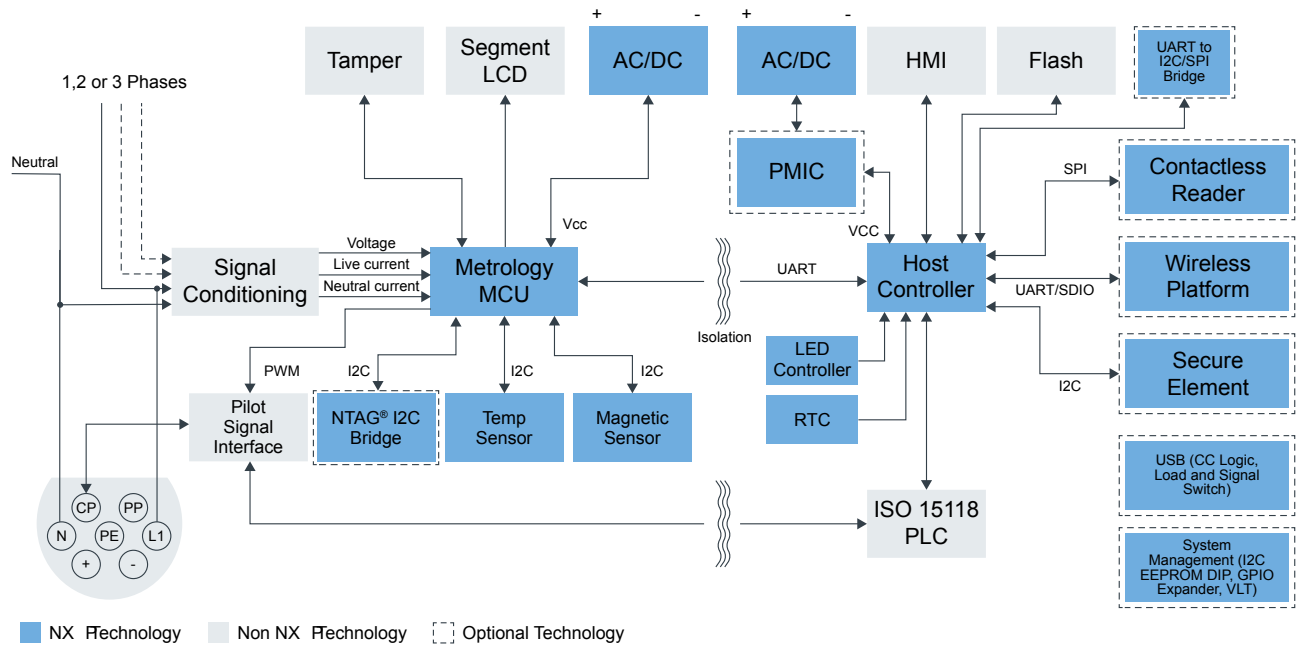
Last Updated: May 30, 2025

An Electric Vehicle (EV) charging station supplies power for recharging electric vehicles. Typical EV charging stations are made up of at least one smart controller board and one power socket board. The smart controller manages security, services and connectivity to a remote server and the power socket board distributes and measures energy.

EV charging stations require high levels of efficiency, accuracy, connectivity and security. NXP solutions meet the requirements with accurate power measurement, device management and data security. Our rich enablement supports faster time to market with less complexity and reduced cost, and NXP's product longevity program supports longer product lifecycles.

AC Charging Station (Level 1,2 or 3) Block Diagram

AC Charging Station Solutions



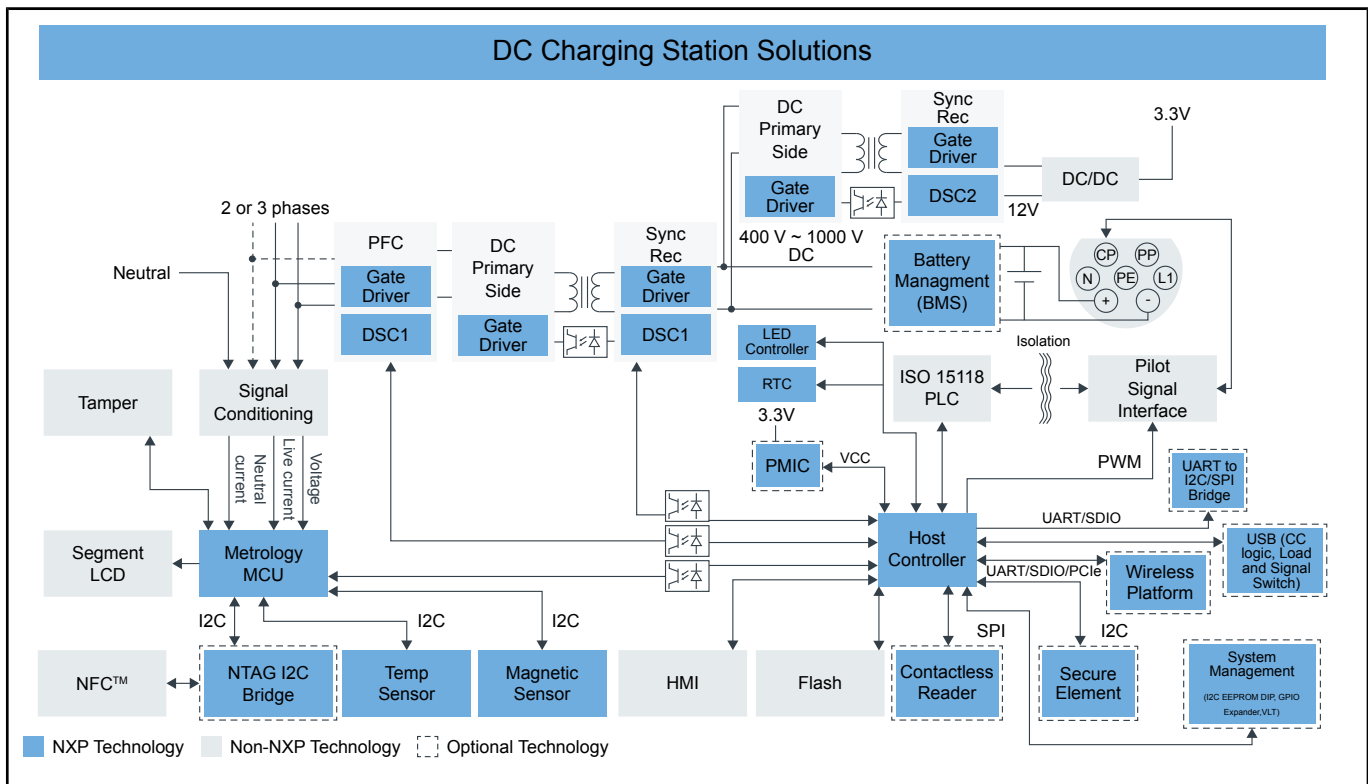
Recommended Products for AC Charging Station (Level 1,2 or 3)

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| AC Charging Station Solutions | <ul style="list-style-type: none"> • EasyEVSE EV Charging Development Platform (i.MX RT1060/i.MX RT1064, FreeRTOS, Wi-Fi 4) • EasyEVSE EV Charging Station Development Platform (MCU, RTOS) • NXP EasyEVSE Development Platform (i.MX 93, Linux OS, Wi-Fi 6) |
| Metrology MCU | <ul style="list-style-type: none"> • LPC553x: LPC553x/S3x: Advanced Analog Arm®Cortex®-M33-Based MCU Family • KM1x: 50 MHz, Mainstream Precision Metrology Microcontrollers based on Arm® Cortex®-M0+ • MCX-A13X-A14X-A15X: MCX A13x, 14x, 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 • KM3x: 50–75 MHz Precision Metrology MCUs with Segment LCDs Based on Arm® Cortex®-M0+ |
| Contactless Reader | <ul style="list-style-type: none"> • PN7160: NFC Plug and Play Controller with Integrated Firmware and NCI Interface • PN5180: Full NFC Forum-Compliant Frontend IC |

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| | <ul style="list-style-type: none"> • PN7220: PN7220: High-Performance, One-Chip NFC Controller for EMVCo 3.2 and NFC Forum Operation • PN7642: Single-Chip Solution with High-Performance NFC Reader, Customizable MCU and Security Toolbox • PN7462: NFC Cortex®-M0 All-in-One Microcontroller with Optional Contact Interface for Access Control • PN5190: NFC Frontend supporting challenging RF environment for payment, physical access control • CLRC66303HN: CLRC663 plus Family: High-Performance NFC Frontends |
| AC/DC | <ul style="list-style-type: none"> • TEA1723DT: HV Start-up Flyback Controller with Integrated MOSFET for 11 W Applications, F-Burst = 1270 Hz |
| NTAG I2C Bridge | <ul style="list-style-type: none"> • NTAG_I2C: NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface |
| Secure Element | <ul style="list-style-type: none"> • SE050: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility |
| Host Controller | <ul style="list-style-type: none"> • i.MX95: i.MX 95 Applications Processor Family: High-Performance, Safety Enabled Platform with eIQ® Neutron NPU • i.MX93: i.MX 93 Applications Processor Family – Arm® Cortex®-A55, ML Acceleration, Power Efficient MPU • i.MX RT Crossover MCUs: i.MX RT Crossover MCUs • i.MX8MMINI: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video • i.MX8XLite: i.MX 8X Lite Applications Processors for Telematics, V2X and Industrial Control • i.MX8MNANO: i.MX 8M Nano Family - Arm® Cortex®-A53, Cortex-M7 • LPC5500 Arm Cortex-M33: LPC5500 Series: Arm® Cortex®-M33 Based Microcontroller Series for Mass Market, Leveraging 40nm Embedded Flash Technology |
| Magnetic sensor | <ul style="list-style-type: none"> • NMH1000: NMH1000 Ultra-Low Power and Low-Voltage Magnetic Switch |
| Temperature Sensor | <ul style="list-style-type: none"> • P3T1035xUK: I3C, I²C-Bus, ±0.5 °C Accuracy, Digital Temperature Sensor • P3T2030xUK: I3C, I²C-Bus, 2.0 °C Accuracy, Digital Temperature Sensor • P3T1750DP: I3C/I²C-Bus, ±1 °C Accuracy, Digital Temperature Sensor • PCT2075: I²C-Bus Fm+, 1 Degree C Accuracy, Digital Temperature Sensor and Thermal Watchdog • P3T1755DP: I3C/I²C-Bus ±0.5 °C Accurate Digital Temperature Sensor |
| Wireless Platform | <ul style="list-style-type: none"> • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 + 802.15.4 Tri-Radio Solution • K32W041AM-A: K32W041AM/A: High Performance, Secure and Low-Power MCU for Zigbee®, Thread™ and Bluetooth® LE 5.0 with High Tx Power Option • 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 • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • IW611: 2.4/5GHz Dual-band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 Solution |
| PMIC | <ul style="list-style-type: none"> • PCA9451A: PCA9451A Power Management IC for i.MX 93x/91x Application Processor • PCA9450: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus |
| RTC | <ul style="list-style-type: none"> • PCF2131: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal • PCF8563: Real-Time Clock/Calendar • PCF8523: 100 NA Real-Time Clock/Calendar with Battery Backup |
| LED controllers | <ul style="list-style-type: none"> • PCA9632: 4-Bit Fm+ I²C-Bus Low-Power LED Driver • PCA9955BTW: 16-Channel Fm+ I²C-Bus 57 mA/20 V Constant-Current LED Driver • PCA9959: 24-Channel SPI Serial Bus 63 mA/5.5 V Constant Current LED Driver |
| System Management | <ul style="list-style-type: none"> • PCA9555A: Low-Voltage 16-Bit I²C-Bus I/O Port with Interrupt and Weak Pull-Up • PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features • PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features • PCAL6408A: Low-Voltage Translating, 8-Bit I²C-Bus/SMBus I/O Expander • PCAL6416A: Low-Voltage Translating 16-Bit I²C-Bus/SMBus I/O Expander |

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| | <ul style="list-style-type: none"> • NTS0104: Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing) • NTB0104: Dual-Supply Translating Transceiver (Auto-Direction Sensing, Three-State) • PCA9306: Dual Bidirectional I²C-Bus and SMBus Voltage-Level Translator |
| Bridge | <ul style="list-style-type: none"> • Bridges: Bridge IC Solutions • SC18IM704: UART to I²C-Bus Bridge • SC18IS606: I²C-Bus to SPI Bridge • SC18IS604: SPI to I²C-Bus Bridge |
| USB or analog switch | <ul style="list-style-type: none"> • NX5P3090UK: USB PD and Type-C Current-Limited Power Switch • NX3P1108UK: Logic-Controlled High-Side Power Switch • NX20P0477: USB Type-C CC Smart Protection • NX3DV221: High-Speed USB 2.0 Switch with Enable • NX3DV642GU: Three-Lane High-Speed MIPI-Compatible Switch • NX5L2750CGU: Analog Switch with Negative Swing Audio Capability • PTN5150: CC Logic for USB Type-C Applications |

DC Charging Station (DC Fast, DC Rapid or DC Ultra) Block Diagram



Recommended Products for DC Charging Station (DC Fast, DC Rapid or DC Ultra)

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| Metrology MCU | <ul style="list-style-type: none"> • LPC553x: LPC553x/S3x: Advanced Analog Arm®Cortex®-M33-Based MCU Family • KM1x: 50 MHz, Mainstream Precision Metrology Microcontrollers based on Arm® Cortex®-M0+ • MCX-A13X-A14X-A15X: MCX A13x, 14x, 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 • KM3x: 50–75 MHz Precision Metrology MCUs with Segment LCDs Based on Arm® Cortex®-M0+ |
| Temperature Sensor | <ul style="list-style-type: none"> • P3T1035xUK: I3C, I²C-Bus, ±0.5 °C Accuracy, Digital Temperature Sensor • P3T2030xUK: I3C, I²C-Bus, 2.0 °C Accuracy, Digital Temperature Sensor • P3T1750DP: I3C/I²C-Bus, ±1 °C Accuracy, Digital Temperature Sensor • PCT2075: I²C-Bus Fm+, 1 Degree C Accuracy, Digital Temperature Sensor and Thermal Watchdog • P3T1755DP: I3C/I²C-Bus ±0.5 °C Accurate Digital Temperature Sensor |

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| NTAG I2C Bridge | <ul style="list-style-type: none"> • NTAG_I2C: NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface |
| Mag + Accel Sensor | <ul style="list-style-type: none"> • FXLS8974CF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer |
| Contactless Reader | <ul style="list-style-type: none"> • PN7160: NFC Plug and Play Controller with Integrated Firmware and NCI Interface • PN5180: Full NFC Forum-Compliant Frontend IC • PN7220: PN7220: High-Performance, One-Chip NFC Controller for EMVCo 3.2 and NFC Forum Operation • PN7642: Single-Chip Solution with High-Performance NFC Reader, Customizable MCU and Security Toolbox • PN7462: NFC Cortex[®]-M0 All-in-One Microcontroller with Optional Contact Interface for Access Control • PN5190: NFC Frontend supporting challenging RF environment for payment, physical access control • CLRC66303HN: CLRC663 plus Family: High-Performance NFC Frontends |
| Secure Element | <ul style="list-style-type: none"> • SE050: EdgeLock[®] SE050: Plug and Trust Secure Element Family – Enhanced IoT Security with High Flexibility |
| Host Controller | <ul style="list-style-type: none"> • i.MX95: i.MX 95 Applications Processor Family: High-Performance, Safety Enabled Platform with eIQ[®] Neutron NPU • i.MX93: i.MX 93 Applications Processor Family – Arm[®] Cortex[®]-A55, ML Acceleration, Power Efficient MPU • i.MX RT Crossover MCUs: i.MX RT Crossover MCUs • i.MX8MMINI: i.MX 8M Mini - Arm[®] Cortex[®]-A53, Cortex-M4, Audio, Voice, Video • iMX8XLite: i.MX 8X Lite Applications Processors for Telematics, V2X and Industrial Control • i.MX8MNANO: i.MX 8M Nano Family - Arm[®] Cortex[®]-A53, Cortex-M7 • LPC5500 Arm Cortex-M33: LPC5500 Series: Arm[®] Cortex[®]-M33 Based Microcontroller Series for Mass Market, Leveraging 40nm Embedded Flash Technology • S32G2: S32G2 Processors for Vehicle Networking |
| Wireless Platform | <ul style="list-style-type: none"> • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 + 802.15.4 Tri-Radio Solution • K32W041AM-A: K32W041AM/A: High Performance, Secure and Low-Power MCU for Zigbee[®], Thread[™] and Bluetooth[®] LE 5.0 with High Tx Power Option • 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 • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi[®] 4 (802.11n) + Bluetooth[®] 5.2 Solution • OL2385AHN: Low-Power Multi-Channel UHF RF Wireless Platform • IW611: 2.4/5GHz Dual-band 1x1 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.4 Solution |
| DSC1 | <ul style="list-style-type: none"> • MC56F83xxx: Performance Level Digital Signal Controllers, USB FS OTG, CAN FD |
| DSC2 | <ul style="list-style-type: none"> • MC56F81xxx: Up to 100MHz Digital Signal Controllers with DSASS and Operational Amplifier |
| RTC | <ul style="list-style-type: none"> • PCF2131: Nano-Power Highly Accurate RTC with Integrated Quartz Crystal • PCF8563: Real-Time Clock/Calendar • PCF8523: 100 NA Real-Time Clock/Calendar with Battery Backup |
| BMS | <ul style="list-style-type: none"> • Battery Management System (BMS): Battery Management System (BMS) |
| Gate Driver | <ul style="list-style-type: none"> • GD3160: Advanced High Voltage Isolated Gate Driver with Segmented Drive for SiC MOSFETs |
| PMIC | <ul style="list-style-type: none"> • PCA9451A: PCA9451A Power Management IC for i.MX 93x/91x Application Processor • PCA9450: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus |

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View our complete solution for [EV Supply Equipment \(EVSE\)](#).

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