

# IOT-DIN-IMX8PLUS IoT Edge Gateway

## Specifications



### Modular DIN-rail gateway

Ideal for industrial control and monitoring  
Extensive wireless and wired connectivity  
Industrial build quality and reliability

- NXP i.MX8M-Plus CPU, quad-core Cortex-A53
- Up to 8GB RAM and 128GB eMMC
- Worldwide LTE/4G modem, 2x LAN
- USB3.0, RS485, RS232, CAN, 2x DI + 2x DO
- Secure boot, TPM and Hardware Watchdog

### Stackable I/O Expansion Modules

- Stack up-to 8 I/O modules
- Serial ports – up-to 12x RS485 | RS232
- Digital I/O – up-to 32x DO + 32x DI
- ADC – up-to 8 channels
- Wireless - WiFi 802.11ax, BT 5.3
- Automatic detection and configuration



### Optimized for Industrial Use

- Designed for reliability and 24/7 operation
- Wide temperature range of -30C to 70C
- 5 year warranty and 15 year availability
- Customer O/S and application imaging service
- ODM rebranding with custom logo and labeling



### Debian Linux and Yocto BSP

- Fully Open Software Architecture
- Docker, MS Azure IoT and Node-RED
- Support for OTA updates with Mender
- Modbus RTU, Modbus TCP and MQTT
- Support for BalenaOS platform



## IOT-DIN-IMX8PLUS IoT Edge Gateway: Specifications and Models

IOT-DIN-IMX8PLUS		
CPU, Memory and Storage		Option
CPU	NXP i.MX8M Plus QuadLite, quad-core ARM Cortex-A53, 1.8GHz	C1800Q
	NXP i.MX8M Plus Quad, quad-core ARM Cortex-A53, 1.8GHz	C1800QM
NPU	AI/ML Neural Processing Unit, up to 2.3 TOPS	C1800QM
Real-Time Co-processor	ARM Cortex-M7, 800Mhz	+
RAM	1GB – 8GB, LPDDR4	D
Storage	16GB – 128GB eMMC flash, soldered on-board	N
Network		
LAN	2x Gbit Ethernet, RJ45 connectors	+
Cellular	4G/LTE CAT4 cellular module, Quectel EG25G Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage	JEG25G
	SIM card socket	+
GNSS	GPS Implemented with JEG25G module	JEG25G
I/O		
USB	1x USB3.0 port, type-A connector	+
Serial Ports	1x RS485, 2-wire half-duplex Isolated, terminal-block connector	+
	1x RS232, Rx/Tx Isolated, terminal-block connector	+
CAN bus	1x CAN bus port Isolated, terminal-block connector	+
Digital I/O	2x digital outputs + 2x digital inputs Isolated, 24V compliant with EN 61131-2, terminal-block connector	+
Debug	1x serial console via UART-to-USB bridge, micro-USB connector	+
	NXP SDP programming port, micro-USB connector	+
I/O Expansion Modules		
Wireless	802.11ax WiFi and Bluetooth 5.3 BLE Implemented with Intel WiFi 6E AX210 module 2x RP-SMA connectors Stacking restrictions: one wireless module	FAWB
RS485	4x RS485, two-wire Isolated, terminal-block connector Stacking restrictions: up-to 3 RS485 RS232 modules	FxRS4
RS232	4x RS232, Rx/Tx Isolated, terminal-block connector Stacking restrictions: up-to 3 RS485 RS232 modules	FxRS2
Digital I/O	8x digital outputs + 8x digital inputs Isolated, 24V compliant with EN 61131-2, terminal Stacking restrictions: up-to 4 digital I/O modules	FxDI808
ADC	8x analog inputs, 0...10V / 4...20mA Isolated, terminal block connector Stacking restrictions: one ADC module	FxADC8

"Option" column specifies the configuration code required to have the particular feature.  
 "+" means that the feature is always available

## IOT-DIN-IMX8PLUS IoT Edge Gateway: Specifications and Models

IOT-DIN-IMX8PLUS		
System		Option
RTC	Real time clock operated from on-board coin-cell battery	+
Watchdog	Hardware watchdog	+
Security	Secure boot, implemented with i.MX8M Plus HAB module	+
	TPM 2.0, Infineon SLB9673	+
Indicators	2x programmable dual-color LEDs	+
Electrical Specifications		
Power Supply	12V-24V DC (-20%/+20%) Reverse voltage protection	
Power Consumption	2.5W - 8W, depending on system load and configuration	
Mechanical Specifications		
Housing type	DIN rail housing (for DIN rail version EN 50022)	
Housing material	ABS/PC high endurance	
Cooling	Passive cooling, fanless design	
Dimensions (H x W x D)	Gateway: 110 x 30 x 95 mm I/O modules: 110 x 20 x 95 mm	
Weight	Gateway: 220 gram I/O modules: 110 gram	
Compliance		
Regulatory	FCC, CE, UKCA	
EMC	EN 55032/5, EN 61000-6-2, EN 61000-6-3	
Safety	EN/UL/IEC 62368-1	
Reliability and Environmental		
MTTF	> 200,000 hours	
Warranty	5 years	
Operation Temperature	Commercial: 0° to 50° C Industrial: -30° to 70° C	
Storage Temperature	-40° to 85° C	
Relative Humidity	10% to 90% (non-condensing)	

“+” means that the feature is always available

## IOT-DIN-IMX8PLUS IoT Edge Gateway - Expansion Modules: Specifications

IFM-DI808 - 8x DIN + 8x DOUT	
<b>Interface</b>	8x digital inputs, compliant with EN 61131-2 8x digital outputs, compliant with EN 61131-2 Galvanically isolated from main system
<b>Connectors</b>	2 x 10-pin socket with push-in spring contacts
<b>Power Supply</b>	12 - 24 VDC from external source 4-pin socket with screw-type terminal
<b>Stacking Restrictions</b>	Up-to 4x IFM-DI808 modules



IFM-RS485 - 4x RS485 ports	
<b>Interface</b>	4x RS485 ports, 2-wire Programmable baud rate of up to 4Mbps Galvanically isolated from main unit
<b>Connectors</b>	2 x 10-pin socket with push-in spring contacts
<b>Stacking Restrictions</b>	Up-to 3x IFM-RS485 or IFM-RS232 modules



IFM-RS232 - 4x RS232 ports	
<b>Interface</b>	4x RS232 ports, RX/TX only Programmable baud rate of up to 250kbps Galvanically isolated from main unit
<b>Connectors</b>	2 x 10-pin socket with push-in spring contacts
<b>Stacking Restrictions</b>	Up-to 3x IFM-RS485 or IFM-RS232 modules



IFM-ADC8 - 8x analog inputs	
<b>Interface</b>	8x analog input channels Configurable 4...20mA   0...10 V
<b>Connectors</b>	2 x 10-pin socket with push-in spring contacts
<b>Stacking Restrictions</b>	Up-to 1x IFM-ADC8 module can be installed in stack



## IOT-DIN-IMX8PLUS IoT Edge Gateway - Expansion Modules: Specifications

### Mechanical Specifications

<b>Housing type</b>	DIN rail housing (for DIN rail version EN 50022)
<b>Housing material</b>	ABS/PC high endurance
<b>Dimensions (H x W x D)</b>	110 x 20 x 95 mm
<b>Weight</b>	110 gram

### Compliance

<b>Regulatory</b>	FCC, CE, UKCA
<b>EMC</b>	EN 55032/5, EN 61000-6-2, EN 61000-6-3
<b>Safety</b>	EN/UL/IEC 62368-1

### Reliability and Environmental

<b>MTTF</b>	> 200,000 hours
<b>Warranty</b>	5 years
<b>Operation Temperature</b>	-30° to 70° C
<b>Storage Temperature</b>	-40° to 85° C
<b>Relative Humidity</b>	10% to 90% (non-condensing)