

netFIELD Compact X8M

Industrial edge computing platforms for digital services

- ARM-processor-compatible embedded computer that suits industrial needs
- Preloaded 64-bit operating system, web front-end and container engines
- Open for any containers based on ARM32/64 architecture
- Reliable platform due to secure booting
- Central device/container management possible via cloud portal



Edge Gateway with remote management option

The netFIELD Edge devices are intelligent data routers between the operating (OT) and the information technology (IT) level of automated systems. They autonomously aggregate, process, or transmit IIoT information alongside established production and control processes utilizing freely loadable software packed in containers.

The devices' basis builds a secured Linux, a web configuration interface, and two independently operating container engines. Each device and one of the container engines can optionally be managed remotely over a platform. The digital workspace allows the 24/7 life cycle engineering of your distributed units and the containers from a central location. It reduces the management complexity to simple

clicks of UI controls that allow you to face each of your upcoming remote IIoT projects with confidence.

The flexibility of the devices is suitable for all kinds of IoT-supported industrial applications - whether you deploy your data mining code directly to the devices or shift data intelligence to any cloud in forwarding scenarios. In either case, those logics enable you to better understand plant patterns and relationships for optimization purposes or anomaly recognitions. Challenges like building digital twins and implementing downstream predictive maintenance and condition monitoring solutions can be accomplished with minimum effort in the shortest time.



→ netFIELD Compact X8M
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Product Information

Technical Data

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Temperature (Operation | Storage)

+20 ... +60 °C | -40 ... +85 °C

Relative humidity (Operation | Storage)

10 ... 90 % | 5 ... 95 %

Operating Voltage

+8 ... +30 V DC IN (typical: +24 V DC)

5.5 × 2.5 mm coaxial input jack with “bajonet” lock

Voltages above 30 V may cause damage to the device.

Voltages below 8 V may cause a shutdown of the device.

Consumption without USB (typical)

110 mA at 24 V DC, 220 mA at 12 V DC

Consumption with USB (typical)

350 mA at 24 V DC with two USB ports (at 5 V and 500 mA per port, resulting in additional 120 mA per port)

max. load over all three USB ports is 1 A

Dimensions (L x W x H)

112 × 84 × 25 mm (without plugs and mounting bracket)

approx. 167 × 118 × 27 mm (with plugs and mounting bracket)

Weight

approx. 350 g (with mounting bracket)

Housing, Degree of protection

Aluminium, IP20

DIN top hat rail mounting or wall mounting (with two M4 screws)

Certification

CE Sign, UKCA, FCC, RoHS

Processor / CPU

1,8 GHz Quad-Core-ARM Cortex-A53 64 Bit (NXP i.MX8M Mini)

Ethernet LAN interfaces

- ETH1: 1 Gbit/s Ethernet port (eth0 in netFIELD OS)
- ETH2: 100 Mbit/s Ethernet port (eth1 in netFIELD OS)
- 2x RJ45

Operating system

netFIELD OS, based on „Security Enhanced YOCTO Linux“

Memory

2 GB LPDDR4 RAM, 32 GB eMMC Flash,
approx. 50 TBW (Terabytes Written)

Technical Data

Docker

- IoT Edge Docker: for remote and automatic deployment and maintenance of containers from the netFIELD Cloud
- Standard Docker: for manual and local deployment and maintenance of container

Local Device Manager

Web-based GUI for local device parameterization

USB

3 x USB 2.0 ports, type-A connector

max. allowed output current over all USB ports is 1 A

Serial

RS-232 or RS-485 (2-wire/half-duplex),
terminal block connector

Console

Serial UART-to-USB interface, Mini USB connector

Compliance

- EN 55032/5, EN 61000-6-2, EN 61000-6-3
- EN/UL/IEC 62368-1

Security

“High Assurance Boot” of signed software only,
Access via HTTPS, TLS
TPM(Optional) - Trusted Platform Module, 2.0 compatible

Additional interfaces

- CAN(option): CAN 2.0A/B, CAN FD interface, galvanically isolated
- DIO(option): 4 digital 24V-compatible inputs, current-limited and galvanically isolated, 4 digital 24V-compatible solid-state relay outputs, galvanically isolated

Real-time clock

On-board battery with 3V and 120mAh: SBR1632 Lithium Fluorocarbons coin cell, RoHS compliant, 10 years service interval

LED indicators

- Edge LED: User-programmable yellow/green duo LED (labelled “LED” on the device)
- Ethernet-LAN: LINK (green): Ethernet Link status, ACT (yellow): Ethernet Activity status
- Power-on: Orange LED indicating on/off state of the device

Note: All technical data may be changed without further notice.

Product Overview

Product ID	Part Number	Description
NFX8M-D2-N32-010	1918.010	netFIELD Compact X8M – Edge computing platform, basic device
NFX8M-D2-N32-012	1918.012	netFIELD Compact X8MC – Basic device with options CAN, DIO, TPM



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