



PRELIMINARY DATASHEET



# Digi IX40

## 5G edge computing industrial IoT cellular router solution, purpose-built for Industry 4.0

**Digi IX40** is a 5G edge computing industrial IoT router solution, integrated with **Digi Remote Manager**® (Digi RM) to empower rapid processing, analysis, and integration of industrial asset data.

Purpose-built for Industry 4.0, Digi IX40 supports the 5G connectivity and edge intelligence needed to enable numerous use cases ranging from predictive maintenance and asset monitoring to machine learning and advanced robotics. It seamlessly connects multiple machines, whether wired or wireless, in the most demanding environments, optimizing integration of cloud-delivered operational technology (OT) services with information technology (IT) to streamline complex operations and scale IT infrastructure.

With its all-in-one design, strong computing power and integrated memory, Digi IX40 offers substantial capabilities for real-time data processing, edge computing and advanced precision while reducing complexity and total cost of ownership. **Digi Containers** facilitate potent and cost-effective applications, providing additional flexibility and scalability for Industry 4.0, energy, smart cities and other uses.

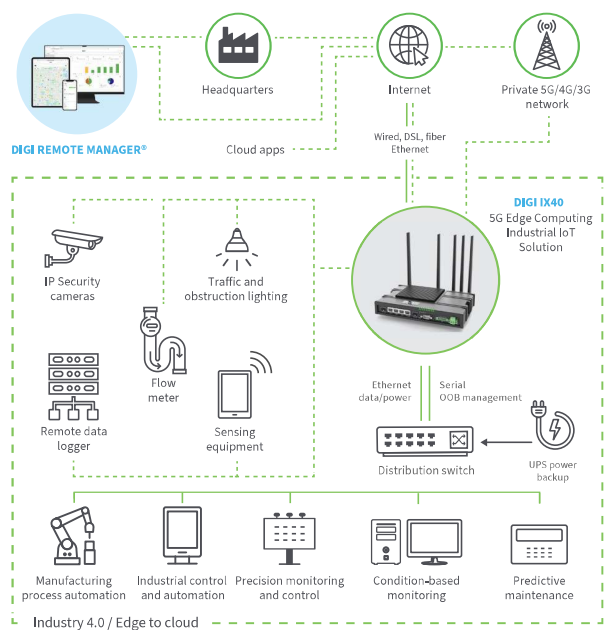
The Digi IX40 solution offers **FirstNet Capable**™ models designed to meet the demands of critical applications where reliability is essential for industrial use cases and emergency response. Additional use cases for Digi IX40 include manufacturing process automation, precision monitoring and control, industrial automation, utilities and traffic management.

Gain critical insights and manage your network with Digi RM — the cloud-based command center for your deployment. Digi RM also provides secure terminal access for out-of-band management of edge devices via serial port and command-line interface.

### Key features, benefits and applications

- Global 5G and LTE support and certification on major carriers
- **Digi Containers** to enable powerful, cost-efficient applications
- Integrated edge computing capabilities for hosting containerized applications and custom solutions
- Ethernet, SFP, serial, I/O and Modbus bridging
- Extremely resilient cellular connection through Digi's patented **SureLink**®, VRRP+ protocol and dual SIM slots
- GNSS receiver supporting GPS, GLONASS, BeiDou and Galileo
- License-free enterprise software: VPN, firewall, logging and authentication
- **Digi Remote Manager** platform for easy setup, mass configuration and management
- Rugged enclosure with options for DIN rail or shelf mounting
- **Digi WAN Bonding** for WAN aggregation and immediate failover

### APPLICATION EXAMPLE



### Related Digi industrial IoT software and solutions



## DIGI IX40

# Management

## Hardware-enabled, software-defined

### DAL OS

**DAL OS** is Digi's standard operating system integrated into Digi **Enterprise (EX)**, **Industrial (IX)** and **Transportation (TX)** routers, console servers and **USB-connected devices**. Developed for speed and simplicity, DAL OS enables advanced capabilities that support today's demanding applications.

Learn more at [www.digi.com/DAL](http://www.digi.com/DAL).

### DIGI REMOTE MANAGER

**Digi Remote Manager (Digi RM)** is a proven technology platform that brings networks to the next level, empowering networks — and the people who manage them — to work smarter. Digi RM transforms a multitude of dispersed IoT devices into a dynamic, intelligent network. It's easy to deploy, monitor and diagnose thousands of mission-critical devices from a single point of command on a desktop, tablet or phone. All the while, software-defined security diligently safeguards your entire Digi ecosystem.

Learn more at [www.digi.com/digi-remote-manager](http://www.digi.com/digi-remote-manager).

### DIGI RM INFRASTRUCTURE

- Hosted in a commercial-grade cloud server environment that meets SOC 1<sup>®</sup>, SOC 2<sup>®</sup> and SOC 3<sup>®</sup> standards
- Superior availability, operating at 99.9% or greater uptime
- Open APIs are available to support application development

### DIGI RM SECURITY

- Comprehensive security controls to protect your data
- Member of the Center for Internet Security<sup>®</sup> (CIS<sup>™</sup>)
- Enables compliance with security frameworks like ISO27002, HIPAA, NIST and more
- Earned Skyhigh's CloudTrust<sup>™</sup> Program highest rating of Enterprise-Ready



### CAPABILITIES

- **DAL OS with Digi Remote Manager:** Remote console access, Configuration Manager, HTTP proxy, device event logs, configurable maintenance window
- **Serial:** Digi RealPort<sup>®</sup>, Modbus, serial-over-TCP/UDP
- **Customization:** Python 3, Python pip, PyCharm integration, shell scripting, containers, MQTT client
- **Troubleshooting tools:** iPerf and nuttcp bandwidth testing, Find Me tool
- **GNSS:** NMEA/TAIP location forwarding to multiple servers, geo-fencing
- Activate, monitor and diagnose your mission-critical devices through a single portal
- Schedule key operations — including firmware updates and file management — on a single device or on a group of devices, keeping your network functionality up-to-date and maintaining compliance standards
- Manage edge devices out-of-band via console terminal access
- Monitor equipment health and connectivity across deployments of any size
- Create detailed reports and enable real-time alerts for specified conditions
- Integrate device data through open APIs to gain deeper insights and control with third-party applications
- Report and alert on performance statistics, including connection history, signal quality, latency, data usage and packet loss

## DIGI IX40

# Security and Value-Added Services

## Digi TrustFence



### BUILT-IN SECURITY. DELIVERED.

Designed for mission-critical applications, **Digi TrustFence®** enables users to easily integrate device security, device identity, and data privacy capabilities into product design. Digi TrustFence security for IoT devices is designed to grow and adapt with new and evolving threats.

Learn more at [www.digi.com/trustfence](http://www.digi.com/trustfence).

**Digi TrustFence is a device security framework that simplifies the process of securing multiple connected devices.**

- **Secure boot:** Programs and code running on the device are validated to be from an approved source or manufacturer.
- **Protected hardware ports:** Internal and external I/O ports are hardened and access-controlled to prevent unwanted intrusion.
- **Authentication:** TrustFence provides data authentication and device identity management options and ensures that products are not shipped with default user and password settings.
- **Secure connections:** These connections utilize the latest encryption protocols for data in motion and over-the-air (OTA) transmissions to ensure the integrity of network data.
- **Ongoing monitoring and support:** Digi provides ongoing threat measurement and monitoring services and performs external security audits.

## Digi Containers

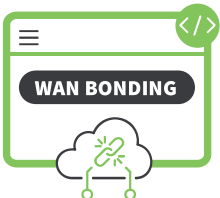


### DIGI REMOTE MANAGER ENABLES DEPLOYMENT OF CUSTOM APPLICATIONS VIA CONTAINERS

**Digi Containers** simplify and centralize the process of building, deploying and running custom applications on devices managed with **Digi Remote Manager** as the central portal. Containers with custom programs or Python applications can be loaded via Digi RM on any device running the **Digi Accelerated Linux** operating system (DAL OS).

As an add-on service to Digi Remote Manager, Digi Containers are a powerful capability implemented via Lightweight Linux Containers (LXC). LXC tools enable developers to package up a custom application, with its dependencies and configuration, into a lightweight, portable bundle that shares only the running kernel with the host device.

## Digi WAN Bonding



### RESILIENT CONNECTIVITY AND MAXIMUM PERFORMANCE ACROSS MULTIPLE CONNECTIONS

**Digi WAN Bonding** combines multiple connections into a seamless and resilient connectivity solution that ensures optimal performance and maximum uptime anywhere around the world.

Digi devices provide a range of connectivity options including cellular failover with features such as **Digi SureLink**, policy-based routing and interface bonding. These features are excellent at preventing any external network failures from causing downtime.

\*Digi Containers and Digi WAN Bonding are available as a subscription added to Digi Remote Manager Premier.



Manage this device with  
Digi Remote Manager

## SPECIFICATIONS

## DIGI IX40

## WIRELESS INTERFACES

## CELLULAR / WWAN

|  |  |
|--|--|
| IX40-05: 5G NSA, 5G SA, 4G LTE-ADVANCED PRO CAT 19 | 5G NR bands: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n71, n75, n76, n77, n78, n79<br>4G LTE-Advanced Pro bands: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14 FirstNet®, B17, B20, B25, B26, B28, B29, B30, B32, B38, B40, B41, B42, B43, B46, B48, B66, B71<br>3G bands: B1, B2, B3, B4, B5, B6, B8, B19 |
| IX40-04: 4G LTE-ADVANCED PRO CAT 12, 3G HSPA+      | 4G LTE-Advanced Pro bands: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14 FirstNet®, B17, B18, B19, B20, B25, B26, B28, B29, B30, B38, B39, B40, B41, B42, B43, B48, B66, B71<br>3G bands: B1, B2, B4, B5, B6, B8, B9, B19  |
| CONNECTORS   | (2) or (4) 50 Ω SMA center pin: female   |
| SIM SLOTS  | (2) SIM Nano-SIM (4FF) holders   |
| SIM SECURITY                                       | SIM slot cover plate included  |

## GNSS

|            |  |
|------------|--|
| TECHNOLOGY | GNSS Gen 9 with band L1 LNA for passive antenna use  |
| ANTENNA    | Upper L-band: GPS L1; Glonass G1; Beidou B1; Galileo E1<br>IX40-04: supports passive GNSS antennas rated at 1.5 to 3 dBi only<br>IX40-05: supports passive GNSS antennas rated at 1.5 to 3 dBi or active antennas with 7.5 to 26 dB gain |
| PROTOCOL   | NMEA 4.11 and TAIP   |
| CONNECTOR  | (1) 50 Ω SMA center pin: female  |

## WIRED INTERFACES

## ETHERNET

|                   |   |
|-------------------|---|
| PORTS / CONNECTOR | (4) RJ-45; 10/100/1000 Mbps Base-T (auto-sensing); IEEE 802.3; configurable as WAN or LAN |
|-------------------|---|

## I/O

|                   |   |
|-------------------|---|
| PORTS / CONNECTOR | (2) Digital input/outputs; (2) analog inputs (0 - 10 V; 4 - 20 mA; 12-bit resolution) |
|-------------------|---|

## SFP

|                   |                              |
|-------------------|------------------------------|
| PORTS / CONNECTOR | (2) 1 Gb capable SFP sockets |
|-------------------|------------------------------|

## SERIAL

|                   |                                     |
|-------------------|-------------------------------------|
| PORTS / CONNECTOR | (1) RS-232/422/485; DB-9 male (DTE) |
|-------------------|-------------------------------------|

## SOFTWARE AND MANAGEMENT

|                   |   |
|-------------------|---|
| REMOTE MANAGEMENT | Digi Remote Manager (cloud based); SNMP v1/v2c/v3 (user installed/managed), SMS |
| LOCAL MANAGEMENT  | Web UI (HTTPS); CLI (SSH, serial)   |
| MANAGEMENT TOOLS  | SFTP, SCP; protocol analyzer with PCAP for Wireshark; event logging with Syslog |

## PROCESSOR

|                       |   |
|-----------------------|---|
| APPLICATION PROCESSOR | 1.6 GHz quad-core i.MX 8M Plus ARM® Cortex®-A53 processor |
|-----------------------|---|

## MEMORY

|             |             |
|-------------|-------------|
| RAM / FLASH | 1 GB / 8 GB |
|-------------|-------------|

## PHYSICAL

|                    |  |
|--------------------|--|
| DIMENSIONS         | 234 mm x 154 mm x 41 mm (9.21 in x 6.06 in x 1.61 in)                        |
| WEIGHT             | 1.14 kg (2.51 lb)  |
| STATUS LEDS        | Power, WWAN, Ethernet (link, activity)                                       |
| ENCLOSURE / RATING | Glass-filled polyphenylene sulphide; IP30 -40 °C to 85 °C (-40 °F to 185 °F) |

## DIGI IX40

# Specifications, Partners and Technologies

| SPECIFICATIONS            | DIGI IX40  |
|---------------------------|--|
| <b>POWER REQUIREMENTS</b> |  |
| POWER INPUT               | 9 to 30 VDC  |
| POWER CONNECTOR           | Screw down removable terminal block                          |
| POWER CONSUMPTION         | 4.5 W (light traffic), 8 W (peak data), 3.5 W (idle traffic) |
| <b>ENVIRONMENTAL</b>      |  |
| OPERATING TEMPERATURE     | -30 °C to 70 °C (-22 °F to 158 °F)                           |
| STORAGE TEMPERATURE       | -45 °C to 85 °C (-49 °F to 185 °F)                           |
| RELATIVE HUMIDITY         | 0% to 95% (non-condensing) at 25 °C (77 °F)                  |
| <b>APPROVALS</b>          |  |
| CELLULAR                  | PTCRB, AT&T, FirstNet Capable™, T-Mobile                     |
| SAFETY                    | IEC 62368-1, CB scheme                                       |
| EMISSIONS / IMMUNITY      | FCC Part 15 Subpart B, ISED, CE, RED, UKCA                   |
| <b>WARRANTY</b>           |  |
| PRODUCT WARRANTY          | 3-year   |

\*Expected in 2023; visit [www.digi.com/resources/certifications](http://www.digi.com/resources/certifications) for latest certifications

\*\*Standard 3-year warranty upgradeable to 5 years with purchase of a Digi Remote Manager Premier 5-year subscription applicable to the product purchased only at the time of product purchase and with product registration at that time in Digi Remote Manager.

| ENTERPRISE SOFTWARE  | DESCRIPTION  |
|----------------------|--|
| PROTOCOL SUPPORT     | HTTPS, TLS, SCP (client and server), SFTP, SNMP (v3), SSH, Telnet and CLI for web management; remote management via <b>Digi Remote Manager</b> ; protocol analyzer, ability to capture PCAP for use with Wireshark; DynDNS, Dynamic DNS client compatible with No-IP/DynDNS; Captive portal, Intelliflow; Nagios, DNS server, NTP server, Multicast, mDNS, IPerf   |
| SECURITY / VPN       | IP filtering, stateful inspection firewall with scripting, address and port translation; VPN: IPSec with IKEv1, IKEv2, NAT Traversal; SSLv3, FIPS 197, Open VPN client and server; L2TP; VPN tunnels; cryptology: SHA-1, MD5, RSA; encryption: DES, 3DES and AES up to 256-bit (CBC mode for IPsec); authentication: RADIUS, TACACS+, SCEP for X.509; certificates; content filtering (via 3rd party); MAC address filtering; VLAN support |
| ROUTING              | IP pass-through; NAT, NATP with IP port forwarding; Ethernet bridging; GRE; multicast routing; routing protocols: PPP, PPPoE, RIP (v1, v2) OSPF, BGP, iGMP routing (multicast); IP failover: VRRP, VRRP+TM; automatic failover/failback to second GSM network/standby APN; <b>Digi SureLink</b>  |
| EMISSIONS / IMMUNITY | DHCP; Dynamic DNS client compatible with No-IP/DynDNS; QoS via TOS/DSCP; Modbus UDP/TCP to serial; Modbus bridging for connecting diverse field assets   |

## Featured Partners and Technologies



DIGI IX40

Product Photos

Digi IX40 Photos



DIGI IX40 — FRONT



DIGI IX40 — BACK



## DIGI IX40

# Part Numbers

PRELIMINARY

| PART NUMBERS | DIGI IX40   |
|--------------|---|
| IX40-05      | Digi IX40 — 5G with LTE-Advanced Pro Cat 19 4x4 and 3G fallback, quad Ethernet, RS-232/422/485, GNSS, FirstNet Capable™ |
| IX40-04      | Digi IX40 — 4G LTE-Advanced Pro Cat 12 with 3G fallback, quad Ethernet, RS-232/422/485, GNSS, FirstNet Capable™         |

| PART NUMBERS | AVAILABLE ACCESSORIES*   |
|--------------|--|
| 76002147     | Digi IX40 5G Industrial Starter Kit — includes 30 W power supply and 4 wideband cellular antennas  |
| 76002148     | Digi IX40 LTE Industrial Starter Kit — includes 30 W power supply and 2 wideband cellular antennas |
| 76002114     | Antenna — 5G/LTE 600 MHz to 6 GHz, swivel, black   |
| 76000954     | Magnetic GNSS antenna base — SMA, 1 m, RG174   |
| 76002093     | DIN rail mounting bracket kit  |

\*Sold separately, unless otherwise noted.

| PART NUMBERS                      | DIGI REMOTE MANAGER AND VALUE-ADDED SERVICES               |
|-----------------------------------|--|
| DIGI REMOTE MANAGER SUBSCRIPTIONS |  |
| DIGI-RM-STD-1YR                   | Digi Remote Manager Standard — 1-year subscription         |
| DIGI-RM-PRM-1YR                   | Digi Remote Manager Premier — 1-year subscription          |
| DIGI-RM-PRM-3YR                   | Digi Remote Manager Premier — 3-year subscription          |
| DIGI-RM-PRM-5YR                   | Digi Remote Manager Premier — 5-year subscription          |
| VALUE-ADDED SUBSCRIPTIONS         |  |
| DIGI-RM-PRM-CS                    | Digi Containers subscription                               |
| DIGI-SRV-WB-TIER1-1YR             | Digi WAN Bonding subscription with 100 Mbps max throughput |
| DIGI-SRV-WB-TIER2-1YR             | Digi WAN Bonding subscription with 200 Mbps max throughput |
| DIGI-SRV-WB-TIER3-1YR             | Digi WAN Bonding subscription with 1 Gbps max throughput   |

The information provided in this document is preliminary and may be subject to change without notice.

\*FirstNet® and FirstNet Capable™ are registered trademarks and service marks of the First Responder Network Authority.

For more information, please visit [digi.com](https://www.digi.com)



For more information about Digi IX40,  
visit [www.digi.com/ix40](https://www.digi.com/ix40).

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