Cisco IG30R Rugged Series Cloud IoT Gateway

Contents

Simply connect all your assets to gain operational insights with the Cisco IG30R Rugged Series IoT Gateways.

Figure 1.
Solution Highlights

Product overview

The Cisco® IG30R Rugged Series IoT Gateways provide simple, essential connectivity for assets in industrial environments at mass scale. Real-time connectivity provides insights that help organizations increase efficiencies, reduce downtime, and improve the user experience.

The IG30R Rugged Series offers low upfront costs with an affordable monthly cloud subscription. The gateways take just a few minutes to deploy with minimal IT support. Day-0 setup is fast: Plug in and power on, with no staging required. The SIM provisioning is automated, requiring no manual intervention. The gateways have essential security built in to secure the hardware, interfaces, and all communications between the gateway and the data center.

The IoT Gateways are centrally managed through the easy-to-use Cisco IoT Operations Dashboard. You can remotely deploy, monitor, and troubleshoot the gateways at scale. With IoT Operations Dashboard, you can gain insights into network usage and carry out updates remotely without sending anyone onsite.
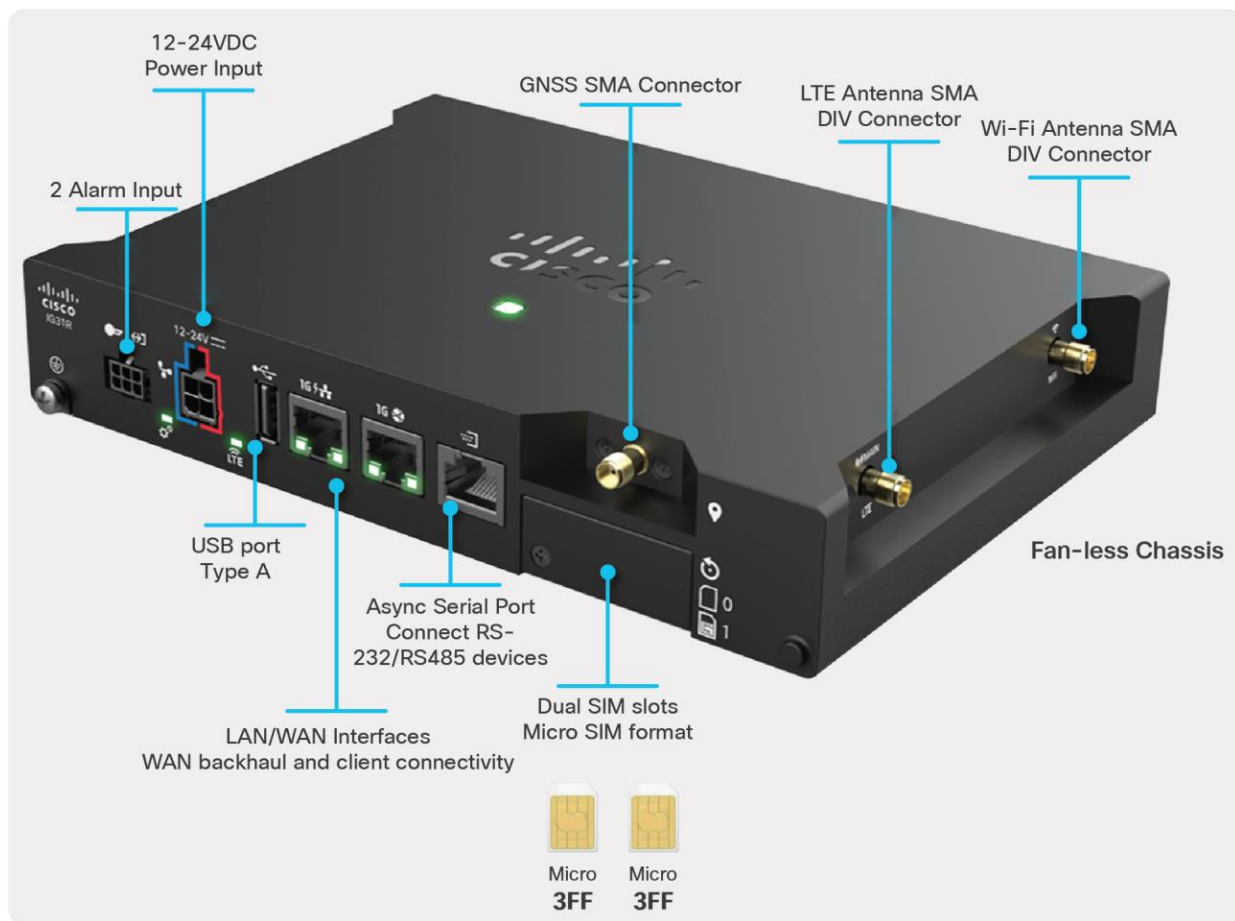
Figure 2.
Cisco IG30R Rugged Series IoT Gateway with LTE and Wi-Fi

Features and benefits

Simplicity

Cloud managed with simplified workflows for onboarding, monitoring, and troubleshooting capabilities.
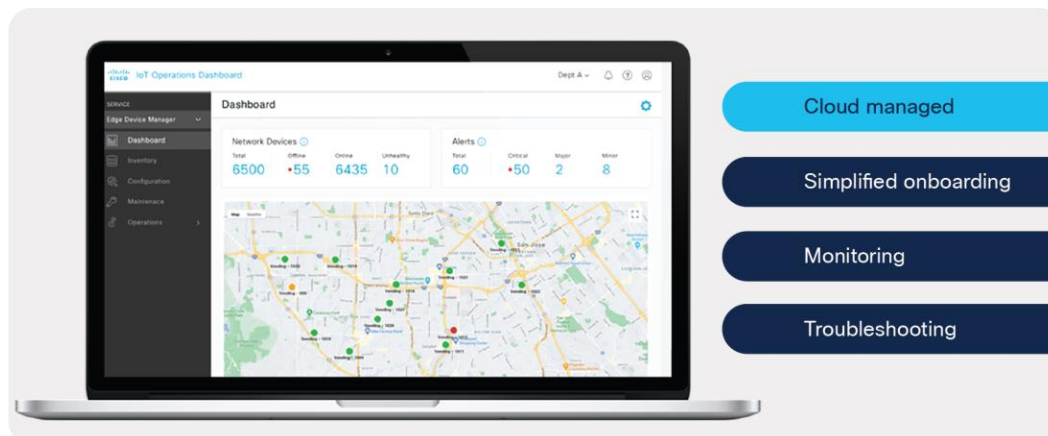

Figure 3.
Cisco IoT Operations Dashboard

Scalability

Scale to thousands of locations and connect assets to monitor remotely.
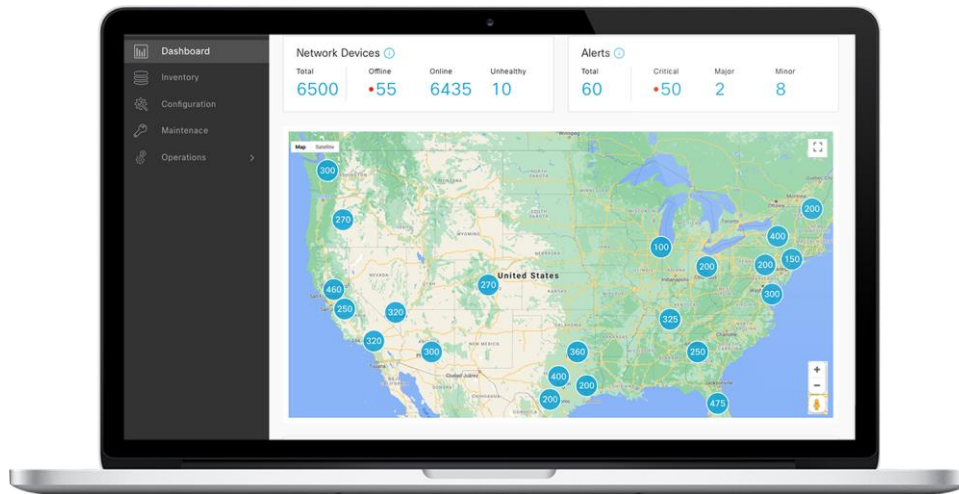

Figure 4.
Remote monitoring of thousands of locations

Security

Simple, secure connectivity: The IoT Gateways provide end-to-end security with Advanced Encryption Standard (AES) encrypted IPsec tunnel.

Figure 5.
Secure connectivity

Secure remote access to operational assets: Remotely monitor and diagnose the assets connected to the IoT Gateway, minimizing the need for truck rolls.
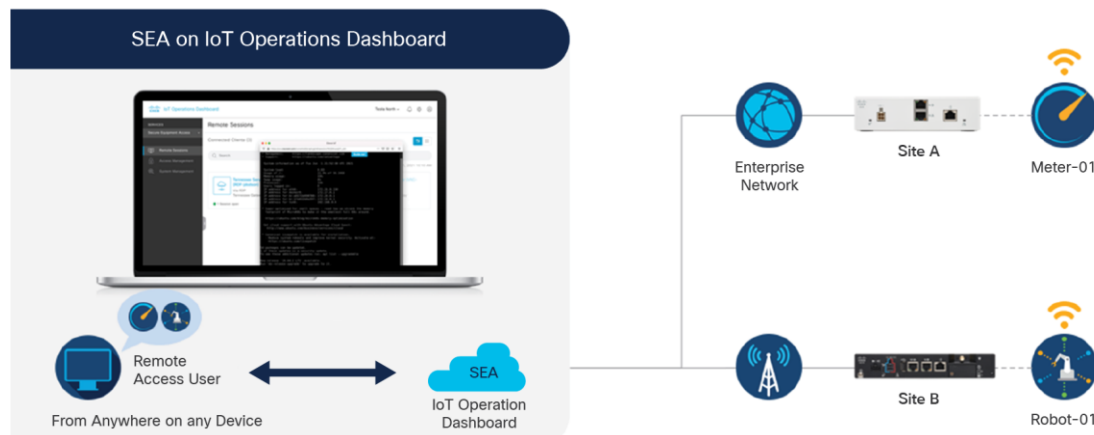

Figure 6.
Ability to monitor and diagnose operational assets remotely

Rugged

Ruggedized design allows you to deploy the IoT Gateways in industrial environments. The IG30R Rugged Series has an IP 30 rating and can be operated at an extended temperature range from -4° to 140°F (-20°C to 60°C) (up to 70°C with atleast 200 LFM airflow).

Prominent feature

Fast and simple day-0 setup

Provisioning

The IG30R Gateways are centrally managed by the Cisco IoT Operations Dashboard. The dashboard automatically activates the SIM card with your service provider account as part of the day-0 gateway provisioning, for a true zero-touch experience . [1]No staging is required, reducing your deployment timelines.
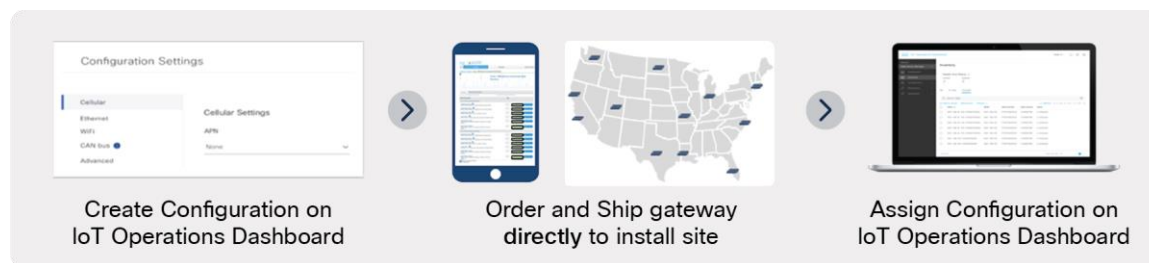

Create Configuration on IoT Operations Dashboard

Order and Ship gateway **directly** to install site

Assign Configuration on IoT Operations Dashboard

Figure 7.
Day-0 onboarding

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[1] Automated SIM provisioning available on ATT

Easy Installation

Simply plug it in and turn it on to install the gateway. The green LED indicates that the gateway is fully provisioned.

Field personnel   Mount the gateway   Power ON – Wait
                                                     for the green light!

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Figure 8.
Installing and verifying the gateway

Cloud management of IoT Gateway and attached devices

You can monitor all the gateways remotely and get alerts for any critical events. Monitoring is extended to all clients connected to the gateway. Graphs and other visuals for the metrics make it easy for you to identify issues and take corrective actions immediately.
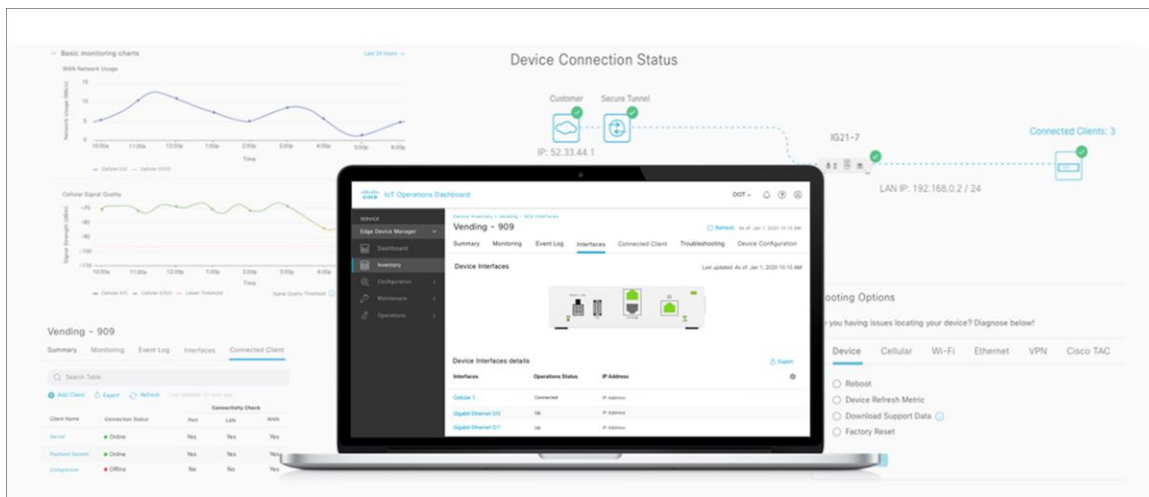

Figure 9.
Dashboard metrics

Simple to troubleshoot

The dashboard provides end-to-end visibility and remote troubleshooting. It allows you to visualize the deployment, so that you can diagnose potential problems. You can then identify the problems with a few clicks using the troubleshooting options.
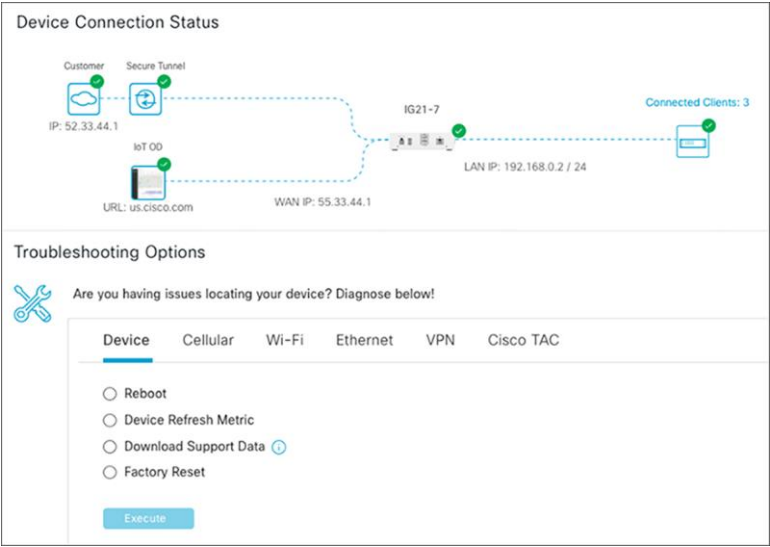

Figure 10.
Troubleshooting workflow

Product specifications

Table 1.   IG31R LTE with Wi-Fi models

	IG31R-VZ-B-K9	IG31R-NA-B-K9	IG31R-EU-E-K9
Region and service provider	Verizon US	ATT US and Canada	Europe
Cellular bands[2]	LTE: B4, B13	LTE: B2, B4, B5, B12; UMTS: B2, B4, B5	LTE: B1, B3, B7, B8, B20, B28; UMTS: B1, B8; eGSM: DCS 1800

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[2] Please refer to table 4 for LTE and UMTS bands supported

Table 2. Product specifications

	IG31R-VZ-B-K9 IG31R-NA-B-K9 IG31R-EU-E-K9
Recommended use cases	Ruggedized IoT asset connectivity
Recommended clients	10
LTE	Cat 4
SIM slots	2
Cellular modem	1
LAN interface	1x Gigabit Ethernet RJ45
LAN/WAN interface	1x Gigabit Ethernet RJ45
Serial RS232/RS485	1 RJ45 DCE
External antenna port	2x SMA(f) for LTE 2x RP-SMA(jack) for Wi-Fi 1x SMA(f) for GPS[3]
Global Navigation Satellite System (GNSS)	Yes, GPS L1
USB 2.0 (Type A)	1
Wi-Fi (2x2) 2.4 GHz	802.11b/g/n
IP rating	IP30
Operating temperature	–22° to 140°F (–30° to 60°C) (without air flow) –22° to 158°F (–30°C to 70°C) (with air flow).200 LFM of airflow required for 70°C operation.
Storage temperature	–40° to 158°F (–40° to 70°C)
Operating altitude	3048 meters / 10000 feet
Mounting	Bracket, DIN rail

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[3] +3.3V DC bias for external antenna, 30 mA max

	IG31R-VZ-B-K9 IG31R-NA-B-K9 IG31R-EU-E-K9
Dimensions (w x d x h)	8.0 x 5.69 x 1.38 in. (203.2 x 144.7 x 35.1 mm)
Weight	797 grams
Power input	12-24VDC
Power load (idle/max)	4.8W/8.52W
Humidity	10% to 90% (Non-condensing)
Memory	1GB DDR3L (x8)
Bulk flash	2 GB eMMC (pSLC)
LEDs	3
Digital (I/O)	2

Table 3. Compliance

	IG31R-VZ-B-K9 IG31R-NA-B-K9 IG31R-EU-E-K9
Radio	EN 301 489-1, 19, 52 EN 301 908-1, 2, 13 EN 303 413 EN 300 328 CFR 47 Part 22H, 24E, 27, 90 CFR 47 Part 15.247 RSS 130, 132, 133, 139 (cell) RSS 247

	IG31R-VZ-B-K9
	IG31R-NA-B-K9
	IG31R-EU-E-K9
EMC emissions	CISPR 32
	EN 55032
	CFR 47 Part 15 subpart B
	ICES-003
EMC immunity	EN 300 386
	CISPR 35/ EN 55035
Safety	IEC/EN/UL/cUL 60950-1
	IEC/EN/UL/cUL 62368-1 with CB with all deviations
RF Exposure	EN 62311
	CFR 47 Part 2.1091
	RSS 102

Datasheet

Table 4. LTE and UMTS bands supported

LTE bands			
Band	**Frequency (MHz)**	**Uplink frequencies (MHz)**	**Downlink frequencies (MHz)**
1	2100	1920 – 1980	2110 – 2170
2	1900	1850 – 1910	1930 – 1990
3	1800	1710 – 1785	1805 – 1880
4	1700	1710 – 1755	2110 – 2155
5	850	824 – 849	869 – 894
7	2600	2500 – 2570	2620 – 2690
8	900	880 – 915	925 – 960
12	700	698 – 716	728 – 746
13	700	777 – 787	746 – 756
20	800	832 – 862	791 – 821
28	700	703 – 748	758 – 803

UMTS bands			
UTRA band	**Frequency (MHz)**	**Uplink frequencies (MHz)**	**Downlink frequencies (MHz)**
1	2100	1920 – 1980	2110 – 2170
2	1900	1850 – 1910	1930 – 1990
4	1700	1710 – 1755	2110 – 2155
5	850	824 – 849	869 – 894
8	900	880 – 915	925 – 960

Datasheet

Table 5. Wi-Fi radio specifications

	IG31R-VZ-B-K9	IG31R-NA-B-K9	IG31R-EU-E-K9
Channels supported	1 – 11 (2412 – 2462 MHz)	1 – 11 (2412 – 2462 MHz)	1 – 13 (2412 – 2472 MHz)
Maximum conducted transmit power	21 dBm total with both antennas active	21 dBm total with both antennas active	14 dBm total with both antennas active
Typical receiver sensitivity	CCK 1 Mbps: -99 dBm HT20 MCS0: -93 dBm HT20 MCS15: -72 dBm	CCK 1 Mbps: -99 dBm HT20 MCS0: -93 dBm HT20 MCS15: -72 dBm	CCK 1 Mbps: -99 dBm HT20 MCS0: -93 dBm HT20 MCS15: -72 dBm

Ordering information

Table 6. Ordering information

Model	Description
IG31R-VZ-B-K9	Cisco IoT IG31R with LTE and WiFi for Verizon in USA
IG31R-NA-B-K9	Cisco IoT IG31R with LTE and WiFi for North America
IG31R-EU-E-K9	Cisco IoT IG31R with LTE and WiFi for Europe

Table 7.   Included in the box

Package contents	Model
Gateway	Model of gateway ordered
AC power adapter	PWR-18W-AC
Power Cord	AC power cord (when ordered)
LTE antennas	Qty 2, IG-LTE-SMA-D LTE dipole antennas
Wi-Fi antennas	Qty 2, IG-WIFI-SMA-D, WiFi dipole antennas
Quick Start Guide	IoT Gateway Quick Start Guide card

Table 8.   Optional Accessories

Accessory	Description
PWR-18W-AC=	Power adapter for IoT Gateway, worldwide compliance
CAB-PWR-15-MF4 =	Power cable when directly connecting to a DC source
IG-R-DINRAIL=	DIN rail for IG31R/IG21R
IG-WALLMNT=	Wall mount for IG21, IG21R and IG31R
IG-GPS-SMA=	GPS Antenna, 17ft (5m) integrated cable, SMA(m)
CAB-L195-10-SM-SF=	10ft LMR195, SMA(m) to SMA(f)
CAB-L240-20-SM-SF=	20ft LMR240, SMA(m) to SMA(f)
CAB-IO-MF6=	Mating connector with 8-inch cable for Alarm-In / Digital IO port (6pin)

Figure 11.
Mounting options

Warranty information

The Cisco IG30R Rugged Series IoT Gateways have a 1-year limited liability warranty.