

Nextriv Hub Compact

DIN-rail industrial radio gateway

NX-GW-CPT

Nextriv Hub

An industrial indoor radio gateway in a metal housing, mounted on a desktop, wall or DIN rail. It handles approx. 2,000 sensors on 8 radio channels, and its internet connectivity rests on a triple backhaul — Ethernet with PoE, Wi-Fi and optional 4G LTE — with automatic failover. A built-in network server with a codec library, multicast and over-the-air sensor updates enables local network management, while BACnet/IP and Modbus TCP feed data straight into a BMS or SCADA. A quad-core 1.3 GHz processor plus a Python SDK and Node-RED leave headroom for your own edge logic.



~2,000

supported sensors

-140 dBm

receiver sensitivity

3×

backhaul links with failover

1.8 W

typical power draw

Key features

- Industrial metal housing and desktop, wall or DIN-rail mounting — a gateway designed for the telecom cabinet
- Approx. 2,000 sensors on a single unit — 8 radio channels (half-duplex) and receiver sensitivity down to -140 dBm
- Quad-core 1.3 GHz industrial processor (64-bit ARM), 512 MB RAM, 8 GB eMMC + micro SD slot
- Built-in network server: codec library, multicast, over-the-air sensor firmware updates and gateway fleet mode
- Building-automation integration: BACnet/IP, BACnet/SC, Modbus TCP, Modbus RTU over TCP plus MQTT(s) and HTTP(s)
- Triple backhaul with automatic WAN failover: Ethernet (PoE powered), 2.4 GHz Wi-Fi, optional 4G LTE
- Enterprise-grade security: VPN (OpenVPN/IPsec/WireGuard and more), firewall, IP/domain filtering, multi-level permissions
- Radio noise analyser for picking clean channels, plus a Python SDK and Node-RED for your own edge logic

Technical specification

Radio — sensor side	
Technology	long-range, low-power radio (LPWAN)
Radio band	EU868 (EU); regional variants: US915, AU915, AS923, IN865, KR920, RU864
Channels	8 (half-duplex)
Receiver sensitivity	down to -140 dBm (at 292 bps)
Tx power	up to 27 dBm
Listen before talk (LBT)	yes [1]
Network capacity	approx. 2,000 sensors (at one uplink every 10 min)
Antenna	external magnetic, 50 Ω SMA connector
Gateway–sensor range	up to approx. 2 km in built-up areas / approx. 15 km in open terrain
Communication	two-way — readings to the platform, remote configuration via downlink

Internet link (backhaul)	
Ethernet	1× RJ45 WAN, 10/100 Mbps (auto-sensing), auto MDI/MDIX, 1.5 kV RMS isolation
Power over Ethernet	802.3af PoE PD
Wi-Fi	IEEE 802.11 b/g/n, 2.4 GHz, internal antenna; access point (AP) or client mode
Wi-Fi — power and security	Tx power up to 18 dBm; WPA-PSK/WPA2-PSK (AP), plus WPA/WPA2-Enterprise (client); WEP/TKIP/AES encryption
Cellular modem (optional)	4G LTE, Tx power class 3 (23 dBm $\pm$ 2 dB), 1× mini SIM (2FF), external magnetic antenna (SMA)
Reliability	automatic WAN failover between links

Interfaces	
Antenna connector — sensor radio	1× 50 Ω SMA (centre pin: SMA female)
Antenna connector — 4G	1× 50 Ω SMA (modem variant)
USB	1× USB-C — power supply and service console
Card slots	1× micro SD (internal); 1× mini SIM 2FF (modem variant)
Indicators	2× LED — system and radio status
Button	1× reset (internal)
Hardware supervision	watchdog, timer

Processor and memory

CPU	quad-core 1.3 GHz, 64-bit ARM Cortex-A35
RAM	512 MB DDR3
Flash storage	8 GB eMMC
Extendable storage	1× micro SD slot (internal)

Device features

Built-in network server	local sensor registration and handling directly on the gateway
Codecs	built-in codec library for Nextriv devices + custom codec setup
Multicast	group downlink — one command to many devices at once
Sensor updates	over-the-air sensor firmware updates (FUOTA)
Gateway fleet mode	acts as the network server for Nextriv infill gateways
Integrations	MQTT(s), HTTP(s), BACnet/IP, BACnet/SC, Modbus TCP, Modbus RTU over TCP
Radio noise analyser	scans frequency noise levels for channel selection
Packet filter	whitelist and blacklist packet filtering
Data retransmission	re-transmits data packets after network recovery [2]
Network protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNMP, Telnet, SSH and more

Security and management

VPN tunnels	OpenVPN, IPsec, PPTP, L2TP, GRE, DMVPN, WireGuard
Firewall	access control, DMZ, port mapping (DNAT), MAC binding, IP and domain filtering
Permissions	multiple levels of user authority
DDNS	over 16 providers + manual configuration
Configuration	web UI, CLI (SSH/Telnet), SMS, SNMP, HTTP API, MQTT API, the Nextriv platform
Gateway updates	via the web UI or remotely from the Nextriv platform
Event alarms	power on, network up/down, VPN up/down and more
Diagnostics	ping, traceroute, tcpdump, log server
Developer environment	Python SDK, Node-RED — your own edge logic on the gateway

Power

Power input	802.3af PoE (Ethernet port) or 5 V / 2 A via USB-C
Power consumption	typical 1.8 W, max 6.9 W

Enclosure and operating environment

Operating temperature	-20...60 °C (-4...140 °F)
Storage temperature	-40...85 °C (-40...185 °F)
Ambient humidity	0...95 % RH, non-condensing (at 25 °C)
Ingress protection	IP30 (indoor use)
Housing	metal, black
Dimensions	110 × 75 × 24 mm (4.33 × 2.95 × 0.94 in)
Weight	186 g
Mounting	desktop, wall or DIN rail [3]

Compliance and approvals

Approvals	CE, CE (RED), RCM, FCC, ISED
Environmental	RoHS

Ordering information

Product code (SKU)	NX-GW-CPT
Variants	with a 4G LTE modem (SIM slot + magnetic 4G antenna) or modem-free — specify the variant when ordering
In the box	magnetic radio antenna, wall-mounting bracket with screws, mounting kit
Optional accessories	USB-C cable & power adapter, AC/DC-DC power converter kit, DIN-rail clip kit
Works with	Nextriv Sense / Probe / Weather sensors

[1] Listen before talk (LBT) is not available in the US915 and AU915 bands.

[2] Data retransmission is available in selected packet-forwarder operating modes.

[3] DIN-rail mounting applies to the current hardware revision and requires the optional mounting kit.

Specifications are subject to change without notice. The latest document versions are available in the download centre: nextriv.com/files. Questions: nextriv.com/contact.