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Data Sheet

E100 Series Enterprise Router

2024 - 01 - 15

The E100 Series Enterprise Router provides small footprint locations with the same networking, optimization, security, and ease of management that supports larger locations. The all-in-one endpoint includes full-featured routing, switching, and Wi-Fi, making it easy to connect and maintain connectivity to the Internet for supporting crucial business applications. Additional capabilities for Zero Trust security and SD-WAN are available through NetCloud Exchange to provide confidence in connecting and securing peripheral devices such as IoT and point of sale (PoS). The embedded 5G or LTE modem means that reliable, connectivity is always available from day one without waiting for a wired connection.

Ideal for Small Branch Wireless WAN

For organizations requiring a Wireless WAN in small offices, the E100 offers the ability to pair 5G or LTE with a wired link and use a cellular link as a failover connection, hybrid WAN or a primary connection. The E100 combines this reliable routing with integrated switching and Wi-Fi to securely connect local devices for an all-in-one network. Combined with the scalable NetCloud, which makes managing cellular networks intuitive and insightful.

5G, SD-WAN, and Security Integration

The E100 router adds a 5G modem with the latest 5G standards to offer agile and reliable connections on an essential WAN infrastructure. Cellular intelligence and NCX SD-WAN make it easy to deploy 5G-enabled networks while optimizing both cellular and wired traffic to enhance application performance. Security postures can be reinforced, and attack surfaces minimized with zero trust privileged access, protected IP addresses, detailed security policies and consolidated authentication usage.
Additionally, the E100 router can serve as the user equipment router for private cellular networks that provide reliable local area network connectivity where wireless LAN fails to meet the network needs due to large areas or excessive congestion.

Product Page

NetCloud Service

Quick Start Guide

Notable Benefits

— Connect to the internet or applications anywhere with all-wireless 5G using the latest standards or LTE connectivity.

— Open small offices, pop-ups and temporary locations without compromising security or reliability with a secure all-in-one design and compact form factor.

— Maximize uptime with both onboard failover from wired to wireless as well as optional battery backup in case of a power failure.

— Gain confidence in deploying communications, IoT and point of sale (POS) devices in small offices - much like what's expected in larger offices with 5G SASE.

— Reduce network attack surface, build encrypted tunnels, and incorporate zero trust principles with NCX Secure Connect and NCX ZTNA.

— Define policies through centralized, cloud-based management for easy deployment at scale.

— Use zero-touch deployment with pre-configured router and pre-inserted SIM to speed installation.

Key Software Capabilities

Cradlepoint NetCloud Service for Small Branch provides everything needed to connect the small offices to corporate applications and services from virtually any location. The NetCloud Service includes cloud-based management for optimizing routing, VPN, traffic steering, and security capabilities. The cloud capabilities include defining and applying policies, at-a-glance status insights, reports, troubleshooting, and analytics dashboards. The service includes a warranty for as long as there is an active subscription on the router, online training, live and online support, and all software and firmware updates.
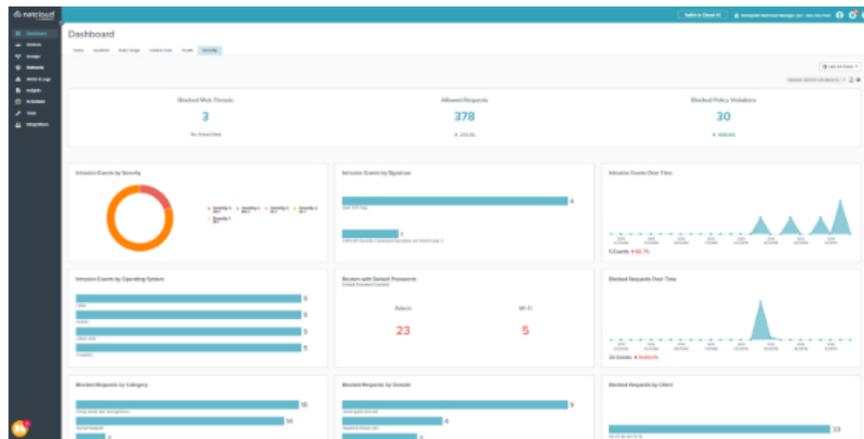
Deployment Capabilities

Zero-touch deployment features allow pre-configured and pre-activated equipment to arrive on location, so an employee can power up an E100 Series Router, locate the best cellular connection path, and instantly setup the pre-established office parameters through the NetCloud Service, upon authentication.

Security Services

NetCloud Service includes integrated security features to optimize an E100 Series Router to scale to the security needs of distributed environments. The service includes stateful zone-based and application-aware firewall, IDS/IPS, and authenticated wireless connection that is fully isolated from the surrounding networks.

Hardware Specifications

The following features are delivered through the hardware.

	PERFORMANCE[†]
Stateful Firewall Throughput:	850 Mbps
IPS Throughput:	250 Mbps
Application Aware Services & Analytics:	250 Mbps
IPSec VPN Throughput:	40 Mbps
Concurrent VPN Tunnels:	20
Concurrent Sessions (TCP):	32,000
Typical Client Count:	25 (up to 248 Wi-Fi connections[††])

INTERFACES

Modem:	One of the following: — Embedded 5G FR1 NSA/SA 3GPP release 16 and 4G LTE Category 19 modem, including 4 x SMA cellular antenna connectors — Embedded Cat 4 LTE modem, including 2 x SMA cellular antenna connectors — Embedded Cat 7 LTE modem, including 2 x SMA cellular antenna connectors
Ethernet:	5 x GbE RJ45 (LAN/WAN switchable)
Wi-Fi:	Dual-radio, dual-band, concurrent operation (2.4 GHz and 5 GHz) — 2x2 MU-MIMO 802.11ac Wi-Fi 5 with DFS — 300 Mbps (2.4 GHz) and 867 Mbps (5 GHz) — Up to 248 Wi-Fi connections (124 per radio - 2.4 GHz and 5 GHz) — Internal 2x2 antenna — WPA/WPA2/WPA3 Personal, WPA/WPA2/WPA3 Enterprise, Open — Wi-Fi Alliance Certified
Expansion:	1 x USB 2.0 Type A (Output: 5 V, 500 mA, 2.5 W)
GNSS/GPS:	E100-5GC — Passive GNSS (muxed with external cellular antennas) E100-C4D and E100-C7C — 1 x SMA GNSS antenna connector

ENVIRONMENTAL

Temperature:	— Operating: 0 °C to 40 °C (32 °F to 104 °F) — Storage: -20 °C to 70 °C (-4 °F to 158 °F)
Humidity:	— Operating: 10% to 90% — Storage: 5% to 95%

POWER

Required:	External power supply (included)
	— Input: 100-240 VAC 1 A — Output: 12 VDC 3 A
Backup:	E100-5GC
	— Up to 1 optional backup battery
	E100-C4D and E100-C7C
	— Up to 2 optional backup batteries
Consumption:	E100-5GC
	— Idle: 4 W — Idle Charging 1 Battery: 10 W — Typical Usage with Charging 1 Battery: 19.5 W — Heavy Usage with Charging 1 Battery: 22 W
	E100-C4D and E100-C7C
	— Idle: 4 W — Idle Charging 1 Battery: 10 W — Idle Charging 2 Batteries: 16 W — Typical Usage with Charging 2 Batteries: 18 W — Heavy Usage with Charging 2 Batteries: 20 W

PHYSICAL

Size:	135 × 270 × 48 mm (5.3 × 10.6 × 1.9 in)
Weight:	E100-5GC
	— .83 kg (1 lb 13 oz)
	E100-C4D and E100-C7C
	— .68 kg (1 lb 8 oz)

RELIABILITY

Calculated MTBF:	— E100-5GC: 527,789 hours (Telcordia SR332 at 25 °C) — E100-C4D and E100-C7C: 673,341 hours (Telcordia SR332 at 25 °C)

CERTIFICATIONS

Safety:	— UL/cUL 62368-1 — IEC 62368-1 — CB Scheme

Materials:	— California Prop 65
	— REACH
	— RoHS
	— TSCA
	— WEEE
Security:	Secureboot

CLOUD SERVICES

Service Plans:	NetCloud Service for Small Branch
Service Add-Ons:	NetCloud Exchange, NetCloud Advanced
Support:	NetCloud Packages include support for the full subscription term.
Warranty:	All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active NetCloud Service Plan.
Device Management:	NetCloud Manager for the full subscription term.
Software Updates:	NetCloud Manager for the full subscription term.

WI-FI POWER

FCC:	— 2412-2462 MHz (2.4 GHz): 29.4 dBm EIRP
	— 5150–5250 MHz (5 GHz band 1): 29.85 dBm EIRP
	— 5250-5350 MHz (5 GHz band 2a): 27.91 dBm EIRP
	— 5470-5725 MHz (5 GHz band 2c): 27.62 dBm EIRP
	— 5745–5850 MHz (5 GHz band 3): 29.91 dBm EIRP
IC:	— 2412-2462 MHz (2.4 GHz): 29.4 dBm EIRP
	— 5150–5250 MHz (5 GHz band 1): 25.46 dBm EIRP
	— 5250-5350 MHz (5 GHz band 2a): 22.94 dBm EIRP
	— 5470-5725 MHz (5 GHz band 2c): 27.59 dBm EIRP
	— 5745–5850 MHz (5 GHz band 3): 29.91 dBm EIRP
CE:	E100-5GC
	— 2412-2472 MHz (2.4 GHz): 19.94 dBm EIRP
	— 5180–5240 MHz (5 GHz band 1): 22.22 dBm EIRP
	— 5260-5320 MHz (5 GHz band 2a): 22.57 dBm EIRP
	— 5500-5700 MHz (5 GHz band 2c): 26.26 dBm EIRP
	E100-C4D and E100-C7C
	— N/A

LEDs

See the E100 Router Quick Start Guide or the E100-5GC Enterprise Router Quick Start Guide.

E100 BATTERY (OPTIONAL)

Size:	120.5 x 81 x 24.5 mm (4.7 x 3.2 x 1.0 in)
Weight:	.35 kg (12.2 oz)
Chemistry:	Lithium-ion

Capacity:	7800 mAh
Voltage:	— Nominal: 7.2 V — Maximum: 8.4 V
Estimated Runtime:	E100-5GC — Single Battery: Up to 8 hours E100-C4D and E100-C7C — Single Battery: Up to 8 hours — Dual Batteries: Up to 16 hours

†Performance testing conducted based on requirements as defined in RFC2544 using fixed-frame 1518-byte packets. Throughput results reflect uni-directional UDP traffic with less than 1% packet loss as tested with wired connections. Results do not reflect performance of the cellular wireless operator networks.
††Wi-Fi connections refer only to client association with the Wi-Fi radios and do not reflect overall endpoint performance and scale.

Enterprise-Class Modem Specifications

SPECIFICATION	E100-C4D
Technology:	Cat 4 LTE (3GPP Rel. 11) — Dual SIM slots, 2FF form factor — SIM-based auto-carrier selection
3G:	WCDMA/UMTS/HSPA+
Carrier Aggregation:	N/A
Peak Download Rates:	— LTE: 150 Mbps — WCDMA: 42.2 Mbps
Peak Uplink Rates:	— LTE: 50 Mbps — WCDMA: 5.76 Mbps
MIMO:	2x2 MIMO
Modulation:	Up to 64 QAM
4G/LTE Bands:	LTE FDD — B2 (1900), B4 (1700), B5 (850), B12 (700), B13 (700), B14 (700), B66 (1700), B71 (600)
5G NR Bands:	N/A
3G Bands:	B2, B4, B5
Power:	LTE 23 dBm ± 1; HSPA+ 23 dBm ± 1 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)
GNSS/GPS:	Active GNSS
SMS:	Yes
Regulatory:	FCC (U.S.), IC (Canada)

Network Operator Standards:	PTCRB (U.S., Canada)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html[†]
PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications:	AT&T, Verizon[†]
Public Safety Network Certifications:	N/A
Private Cellular Network:	N/A

[†]*Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.*

SPECIFICATION	E100-C7C
Technology:	Cat 7 LTE (3GPP Rel. 11) — Dual SIM slots, 2FF form factor — SIM-based auto-carrier selection
3G:	WCDMA/UMTS/HSPA+
Carrier Aggregation:	Up to 2 x CA downlink, 2 x CA uplink See the Modem Carrier Aggregations article.
Peak Downlink Rates:	— LTE: 300 Mbps — WCDMA: 42.2 Mbps
Peak Uplink Rates:	— LTE: 150 Mbps — WCDMA: 5.76 Mbps
MIMO:	2x2 MIMO
Modulation:	Up to 64 QAM
4G/LTE Bands:	LTE FDD — B2 (1900), B4 (1700), B5 (850), B7 (2600), B12 (700), B13 (700), B14 (700), B25 (1900), B26 (850), B66 (1700), B71 (600) LTE TDD — B41 (2500), B42 (3500), B43 (3700), B48 (3500)
5G NR Bands:	N/A
3G Bands:	B2, B4, B5
Power:	LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)
GNSS/GPS:	Active GNSS
SMS:	Yes
Regulatory:	FCC (U.S.), IC (Canada)
Network Operator Standards:	PTCRB (U.S., Canada)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html[†]

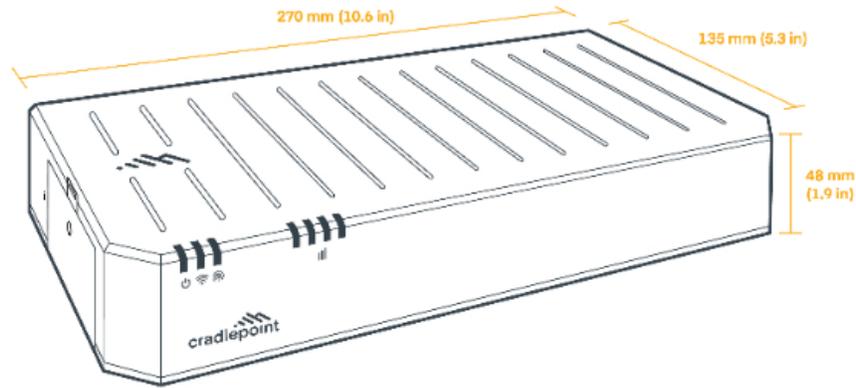| PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications:	AT&T, Verizon, Bell (pending)[†]
Public Safety Network Certifications:	N/A
Private Cellular Network:	Yes, includes FCC Part 96 (CBRS Band 48)

[†]*Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.*

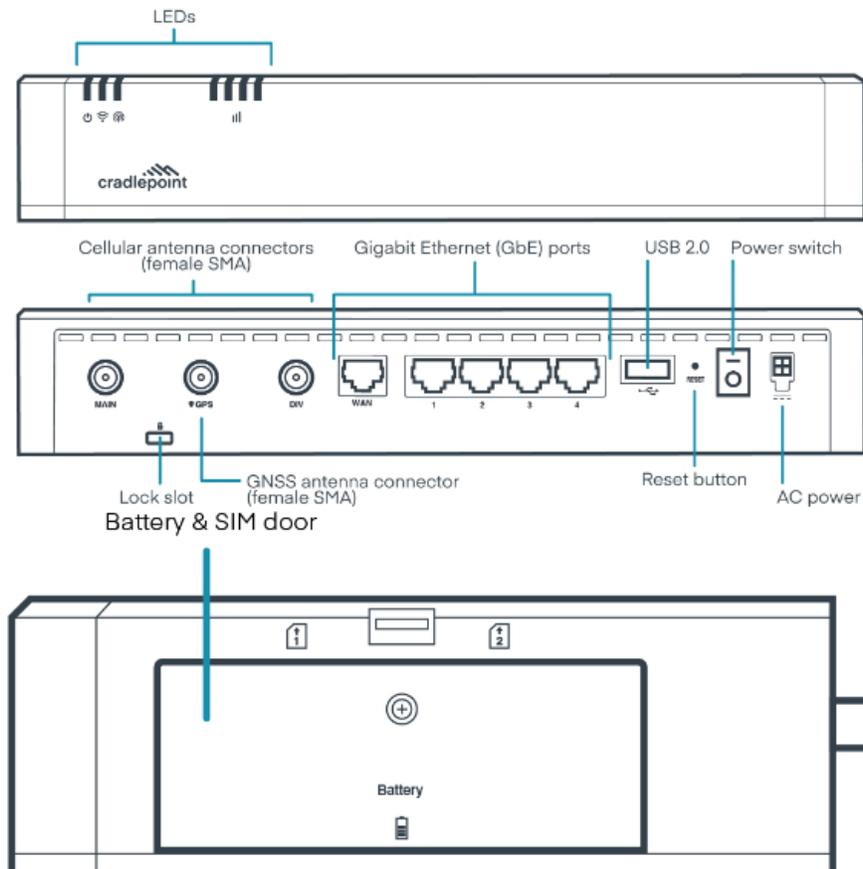| SPECIFICATION	E100-5GC
Technology:	5G FR1 NSA/SA — LTE-ADV-PRO Category 19 fallback — Dual SIM slots, 4FF form factor — 3GPP Release 16
3G:	UMTS/HSPA+
Carrier Aggregation:	LTE Only — Downlink: Up to 5CA — Uplink: Up to 2CA LTE + 5G NR ENDC — Downlink: Up to 4CA (LTE) + Up to 1CA (5G NR) — Uplink: Up to 2CA (LTE) + Up to 2CA (5G NR) 5G NR Only — Downlink: Up to 2CA — Uplink: Up to 1CA See the Modem Carrier Aggregations article.
Peak Rates:	NSA — Downlink: Up to 3.4 Gbps — Uplink: Up to 550 Mbps SA — Downlink: Up to 2.4 Gbps — Uplink: Up to 450 Mbps LTE — Downlink: Up to 1.6 Gbps — Uplink: Up to 200 Mbps

MIMO:	4x4 MIMO
Modulation:	Up to 256 QAM
4G/LTE Bands:	LTE FDD — B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B7 (2600), B8 (900), B12 (700), B13 (700), B14 (700), B17 (700), B18 (850), B19 (850), B20 (800), B25 (1900), B26 (850), B28 (700), B29 (700), B30 (2300), B32 (1500), B66 (1700), B71 (600) LTE TDD — B34 (2000), B38 (2600), B39 (1900), B40 (2300), B41 (2500), B42 (3500), B43 (3700), B46 (5200), B48 (3500)
5G NR Bands:	NSA and SA — n1 (2100), n2 (1900), n3 (1800), n5 (850), n7 (2600), n8 (900), n12 (700), n13 (700), n14 (700), n18 (850), n20 (800), n25 (1900), n26 (850), n28 (700), n29 (700), n30 (2300), n38 (2600), n40 (2300), n41 (2500), n48 (3500), n66 (1700/2100), n70 (2000), n71 (600), n75 (1500), n76 (1500), n77 (3700), n78 (3500), n79 (4900)
3G Bands:	B1, B2, B4, B5, B8, B19
Power:	LTE — LTE bands: 23 dBm ± 2 (typical conducted) — LTE HPUE bands: 26 dBm ± 2 (typical conducted) 5G NR — 5G NR bands: 23 dBm ± 2 (typical conducted) — 5G NR HPUE bands: 26 dBm ± 2 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4, included)
GNSS/GPS:	Passive GNSS (multiplex with antenna ports 2 and 4) — GPS, GLONASS, BeiDou, Galileo, QZSS
SMS:	Yes
Regulatory:	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ), UKCA (UK)
Network Operator Standards:	PTCRB (U.S., Canada), GCF (Worldwide)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html[†]
PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications:	AT&T, T-Mobile, Verizon[†]
Public Safety Network Certifications:	N/A
Private Cellular Network:	Yes, includes FCC Part 96 (CBRS Band 48)

Physical Measurements & Features

Features — E100-C4D/C7C

Features — E100-5GC

LEDs

Cellular antenna connectors (female SMA)

Gigabit Ethernet (GbE) ports

USB 2.0 Power switch

WAN 1 2 3 4

Lock slot

Reset button

AC power

Battery slot
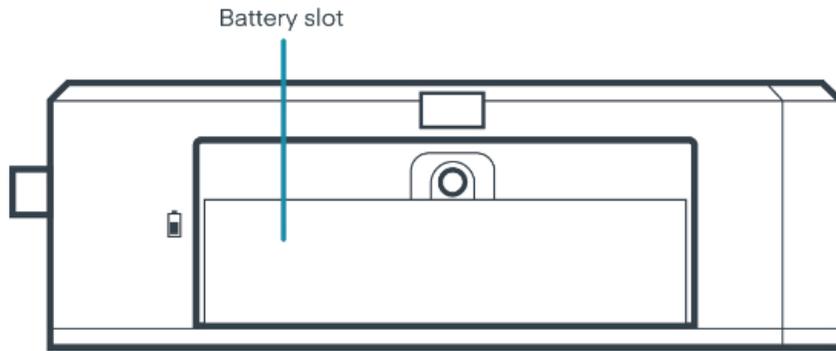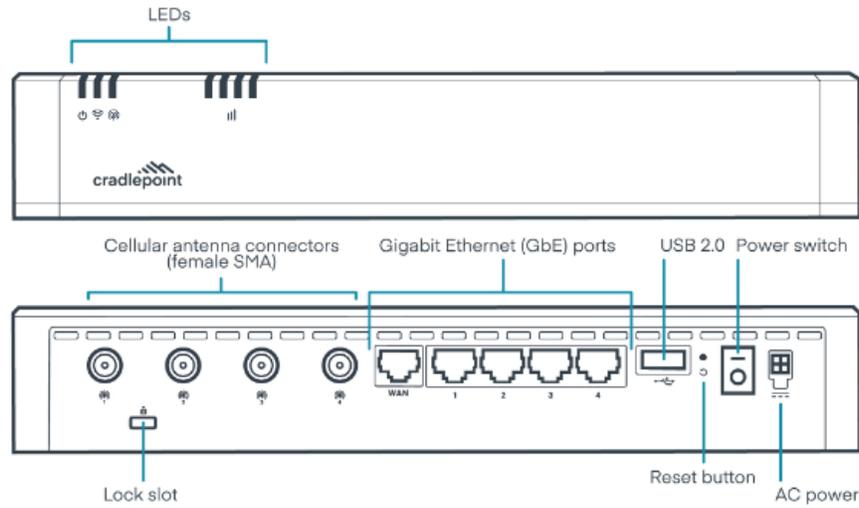
Battery door removed

SIM slot 1

SIM slot 2

SIM door removed

SIM Card Info — E100-C4D/C7C

Nano SIM — 4FF
(12.3x8.8 mm)

Micro SIM — 3FF
(15x12 mm)

Mini SIM — 2FF
(25x15 mm)

SIM Card Info — E100-5GC

Nano SIM — 4FF
(12.3x8.8 mm)

Micro SIM — 3FF
(15x12 mm)

Mini SIM — 2FF
(25x15 mm)

Ordering Guide

NetCloud Small Branch Essentials + Advanced packages and plans contain all the features and capabilities required for remote or virtual workers. NetCloud Packages include 24x7 support (phone support: 24-hour weekdays with emergency response on weekends, web: 24x7, chat: 24x5) and a limited lifetime warranty.

For additional capabilities, a **NetCloud Small Branch Advanced Plan** can be added to the NetCloud Small Branch Essentials Package at any time.

See additional details of what is included in the NetCloud software: cradlepoint.com/netcloud-service

NetCloud Small Branch Packages for the E100 Series Router

REGION	MODEM	PACKAGE PLAN	PART NUMBER
North America: U.S & Canada	5G with Wi-Fi	Essentials	BK0x-01005GC-GN
		Essentials + Advanced	BKAx-01005GC-GN
	Cat 7 (300 Mbps) with Wi-Fi	Essentials	BK0x-0100C7C-GN
		Essentials + Advanced	BKAx-0100C7C-GN
United States: Federal Government	Cat 7 (300 Mbps) with Wi-Fi	Essentials + Advanced	TAA-BKAx-0100C7C-GN
Rest of World: Australia, European Union, New Zealand, & United Kingdom	5G with Wi-Fi	Essentials	BK0x-01005GC-GM
		Essentials + Advanced	BKAx-01005GC-GM

All Regions:	Renewal	
	— Advanced Upgrade (requires Essentials)	BK0x-NCADV
	— Essentials	BK0x-NCESS-R
	— Advanced (requires Essentials)	BK0x-NCADV-R
	— Essentials + Advanced	BKAx-NCEA-R

x = 1, 3, or 5 years
y = 3 or 5 years

Accessories

INCLUDED	PART NUMBER
One of the following:	
— Power Supply, 12 VDC, 2X2 1.5 meters (North America)	170716-001
— Power Supply, 12 VDC, 2x2 1.5 meters (International)	170717-000
Cellular Antenna, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm (Qty 2 or 4)	170801-000
Cable, Ethernet RJ45-to-RJ45, Black, 1.5 meters	170725-000
Small Accessories Kit	N/A
— SIM/battery door screws (Qty 2)	
— Rubber feet (Qty 4)	

OPTIONAL	PART NUMBER
Single Battery Pack for E100 Series Router	170848-000

UNITED STATES FEDERAL GOVERNMENT	PART NUMBER
Cellular Antenna, Charcoal, 600 MHz - 6 GHz, SMA, 180 mm	TAA-170801-000

Support & Warranty

The E100 Series Router is only sold as a component of NetCloud Small Branch Packages.

— NetCloud Packages include support for the full subscription term.

— All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active NetCloud Service Plan.

More Information

Find the most up-to-date information at cradlepoint.com/e100