

**cradlepoint**

# ARC CBA850 Spec Sheet



Cradlepoint ARC CBA850 LTE Adapter is sold as part of an all-inclusive branch networking solution in a NetCloud Solution Package.

**NetCloud Solution Packages for branch include:**

- LTE to Ethernet adapters for branch
- Award-winning remote cloud management and network intelligence with **NetCloud Manager**
- Secure IoT networking with **NetCloud Perimeter** for perimeter-secured overlay networks
- **24x7 support and limited lifetime warranty**

## WHAT TO BUY

Description	Part Numbers
<b>North America (U.S., Canada)</b>	
+ NetCloud Essentials for Branch LTE Adapters (Standard) with CBA850LP6	BBx-0850LP6-NON
+ NetCloud Essentials for Branch LTE Adapters (Standard) with CBA850LP4	BBx-0850LP4-NON
<b>U.S.</b>	
+ NetCloud Essentials for Branch LTE Adapters (Standard) with CBA850LPE	BBx-0850LPE-VON
<b>Europe (EU)</b>	
+ NetCloud Essentials for Branch LTE Adapters (Standard) with CBA850LP6-EU	BBx-0850LP6-EOM
<b>Asia-Pacific (Australia, New Zealand, Singapore)</b>	
+ NetCloud Essentials for Branch LTE Adapters (Standard) with CBA850LP5-AP	BBx-0850LP5-POM
<b>All Regions</b>	
+ NetCloud Advanced for Mobile Routers (Enterprise)	BBx-NCADV

*x = 1, 3, or 5 years*

**NetCloud Essentials** contains all the features and capabilities required for a broad range of mobile or in-vehicle applications. Essentials 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 Advanced** Upgrade can be added to the NetCloud Essentials Package at any time.

See additional details of what is included in the Essential and Advanced NetCloud software:

[cradlepoint.com/branch-networks](http://cradlepoint.com/branch-networks)

For more details on the ARC CBA850 LTE Adapter, included with the NetCloud Solution Packages for mobile, see below.

## WHAT'S IN THE BOX

- CBA850 with integrated MC400 Multi-Carrier Software-Defined Radio modem
- Universal 3G/4G/LTE antennas with dedicated active GPS antenna port
- 12 V DC / 1.5 A power adapter (1.5 meter cord)
- Ethernet cable
- Quick Start Guide
- Mounting hardware
- Warranty and regulatory information

## KEY FEATURES

### WAN

- LP6: LTE Advanced LTE/DC-HSPA+ (SIM-based Auto-Carrier Selection for all North American carriers and European operators)
- LP5: Cat 6 LTE Advanced for operators in Asia Pacific and Saudi Arabia (SIM-based Auto-Carrier selection)
- LP4: LTE/DC-HSPA+ for AT&T, Verizon, T-Mobile and Canadian carriers (SIM-based Auto-Carrier Selection)
- LPE: 4G LTE/HSPA+/EVDO (multi-carrier, North America)
- LP3: 4G LTE/HSPA+ (Europe, EMEA, and Australia/New Zealand)
- Advanced Modem Failure Check
- IP Passthrough
- Standby
- Ethernet WAN for inline failover

### LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DynDNS
- UPnP
- DMZ
- MAC Address Filtering

### MANAGEMENT

- Cradlepoint NetCloud Manager
- Web UI, API, CLI, SSH
- Data Usage Alerts (router and per client)
- Advanced Troubleshooting (support)
- Device Alerts
- SNMP
- SMS control

### ROUTING

- Routing Rules
- NAT-less Routing
- Virtual Server/Port Forwarding
- IPv6

### SECURITY

- RADIUS and TACACS+ support\*
- 802.1x authentication for Ethernet
- ALGs
- MAC Address Filtering
- Advanced Security Mode (local user management only)
- Per-Client Web Filtering
- IP Filtering
- Content Filtering (basic)
- Website Filtering

\*-Native support for authentication. Authorization and accounting support through hotspot/captive portal services.

## SPECIFICATIONS

### WAN:

Integrated LP6 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover), LP5 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover), LP4 Category 4 LTE modem (with DC-HSPA+ failover), LPE 4G LTE modem (with HSPA+ / EVDO/3G and 2G failover) or LP3 4G LTE modem (with HSPA+ and 2G failover)

### LAN:

- Two LAN 10/100/1000 Ethernet ports (default one NAT, one IP Passthrough)
- RJ45 Serial Port for console access or out-of-band management

### TEMPERATURE:

- 0 °C to 50 °C (32 °F to 122 °F) operating
- -20 °C to 70 °C (-4 °F to 158 °F) storage

### HUMIDITY (non-condensing):

- 10% to 85% operating
- 5% to 90% storage

### POWER:

- 12 V DC / 1.5 A adapter
- 802.3af (15 W) or 802.3at (30 W) PoE capable

### POWER CONSUMPTION (Typical)

- Idle: 4.0 W
- Single Modem: 6.0 W

**SIZE:** 4.8 × 4.8 × 1.7 in (122 × 122 × 42 mm)

### HOUSING:

- White plastic, locking compatible
- Wall, desk, or DIN Rail mounting

### CERTIFICATIONS:

- FCC, CE, IC
- Safety: UL/CUL/CB Scheme
- Materials: WEEE, RoHS, RoHS-2, California Prop 65

## ACCESSORIES

- 700 MHz – 2700 MHz Wide Band Directional Antenna (Yagi/Log- Periodic) (Part #: 170588-000)
- 12" Mag-Mount Antenna with SMA Male Connector (Part #: 170605-000)
- 4" Mini Mag-Mount Antenna with SMA Male Connector (Part #: 170606-000)
- Universal 3G/4G/LTE Modem Antenna (Part #: 170649-000)
- GPS Screw-Mount Antenna (Part #: 170651-000)
- GPS Mag-Mount Antenna (Part #: 170652-000)
- Universal 3G/4G multi-band cellular modem antenna (white) – 2 dBi / 3 dBi (Part # 170659-000)
- Multi-Band Omni-Directional Antenna (Part #: 170668-000)
- Indoor/Outdoor Panel Patch (Part #: 170669-000)
- DIN Rail Mounting Bracket (Part # 170656-000)

- Wall/Ceiling Mounting Bracket (Part # 170666-000)
- Rollover Adapter for RJ45 Ethernet cable M/F (Part # 170662-000)
- RJ45 Rollover serial console cable 7 ft (Part # 170663-000)
- RJ45 Rollover serial console cable 14 ft (Part # 170663-001)

See the Cradlepoint [antenna accessories page](#) for more information about antennas. Also see the Antenna Ordering and Installation Guide, available as a PDF in the Resources section of antenna and router product pages.

## BUSINESS-GRADE MODEM SPECIFICATIONS

ARC CBA850 LP6 models include an integrated LTE Advanced Category 6 4G LTE modem. The LP6 modems support SIM-Based Auto-Carrier selection so there is only one model for all of North America. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

The LTE bands certified for each carrier are listed below.

### ARC CBA850LP6-NA, CBA850LP6-EU:

- Technology: LTE Advanced, DC-HSPA+
- Downlink Rates: LTE 300 Mbps, DC-HSPA+ 42.2 Mbps
- Uplink Rates: LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- Frequency Bands:
  - LTE Bands 1–5, 7, 8, 12, 13, 20, 25, 26, 29, 30, 41
    - Verizon: 2, 4, 5, 13 (XLTE support w/carrier aggregation)
    - AT&T: 2, 4, 5, 12, 29, 30
    - Sprint: 25, 26, 41 (LTE Plus Support)
    - T-Mobile: 2, 4, 12 (T-Mobile Wideband LTE Support)
    - Generic: all
- Carrier Aggregation:
  - 1+ 8
  - 2+ 2/5/12/13/29
  - 3+ 7/20
  - 4+ 4/5/12/13/29
  - 5+ 2/4/30
  - 7+ 3/7/20
  - 8+ 1
  - 12+ 2/4/30
  - 13+ 2/4
  - 20+ 3/7
  - 30+ 5/12
  - 41+ 41
- Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1–5, 8
- Power: LTE: 23 dBm ± 1; DC-HSPA+: 23 dBm ± 1
- Antennas: two SMA male
- GPS: active GPS support
- SMS: SMS support
- Industry Standards & Certs: CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon
- Modem Part Number: MC400LP6

**ARC CBA850 LP5 models** include an integrated LTE Advanced Category 6 4G LTE modem, and support Asia Pacific and Saudi Arabia. The LP5 modems support SIM-Based Auto-Carrier selection. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

**CBA850LP5-AP:**

- Technology: FDD/TDD (Category 6) LTE Advanced, DC-HSPA+
- Downlink Rates: LTE 300 Mbps, DC-HSPA+ 42.2 Mbps
- Uplink Rates: LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- Frequency Bands:
  - LTE Bands: 1, 3, 5, 7, 8, 11, 18, 19, 21, 28, 38, 39, 40, 41
  - TD-SCDMA 39
- Carrier Aggregation:
  - 1+ (8, 18, 19, 21)
  - 3+ (5, 7, 19, 28)
  - 7+ (5, 7, 28)
  - 19+ 21
  - 38+ 38
  - 39+ 39
  - 40+ 40
  - 41+ 41
- Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 5, 6, 8, 9, 19
- Power: LTE: 23 dBm  $\pm$  1; DC-HSPA+: 23 dBm  $\pm$  1
- Antennas: two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- SMS: SMS support
- Industry Standards & Certs: CE, GCF-CC, RC Australia, others pending
- Modem Part Number: MC400LP5

**ARC CBA850 LP4 models** include an embedded LTE Advanced Category 4 4G LTE modem. The LP4 modems support SIM-Based Auto-Carrier selection so there is only one model for North America. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

**CBA850LP4:**

- Technology: Category 4 LTE, DC-HSPA+
- Downlink Rates: LTE 150 Mbps, DC-HSPA+ 42.2 Mbps
- Uplink Rates: LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- Frequency Bands:
  - LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz)
  - DC-HSPA+/UMTS Rel. 9, Cat 24: Bands 5 and 2 (850/1900 MHz)
- Power: LTE: 23 dBm  $\pm$  1; DC-HSPA+: 23 dBm  $\pm$  1
- Antennas: two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- Industry Standards & Certs: FCC, Verizon, AT&T, PTCRB, carrier Private Networks, IC
- SIM: two 2FF slots (secured)
- Modem Part Number: MC400LP4

**ARC CBA850LPE models** include an integrated 4G LTE modem – specific model names include a specific modem (e.g., the ARC CBA850LPE-VZ includes a Verizon LTE modem). Please note that LPE models are flexible and support bands for multiple cellular providers; however, only the frequency bands in bold below are supported by the listed provider.

**ARC CBA850LPE-VZ – 4G LTE/EVDO for Verizon:**

- Technology: LTE, EVDO Rev A
- Downlink Rates: LTE 100 Mbps, EVDO 3.1 Mbps (theoretical)
- Uplink Rates: LTE 50 Mbps, EVDO 1.8 Mbps (theoretical)
- Frequency Bands:
  - LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
  - GSM/GPRS/EDGE: (850/900/1800/1900 MHz)
  - CDMA: EVDO Rev A/1xRTT (800/1900 MHz)
- Power: LTE: 23 dBm  $\pm$  1; EVDO: 24 dBm +0.5/-1 (typical conducted)
- Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- Industry Standards & Certs: FCC, Verizon
- Modem Part Number: MC400LPE-VZ
- SIM: two 2FF SIM slots

**ARC CBA850LPE-AT – 4G LTE/HSPA+/EVDO for AT&T:**

- Technology: LTE, HSPA+, EVDO Rev A
- Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- Frequency Bands:
  - LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
  - HSPA+/UMTS: (850/900/1900/2100 MHz, AWS)
  - GSM/GPRS/EDGE: (850/900/1800/1900 MHz)
  - CDMA: EVDO Rev A/1xRTT (800/1900 MHz)
- Power: LTE: 23 dBm  $\pm$  1; HSPA+: 23 dBm  $\pm$  1; EVDO: 24 dBm +0.5/-1 (typical conducted)
- Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- Industry Standards & Certs: FCC, PTCRB, AT&T
- Modem Part Number: MC400LPE-AT
- SIM: two 2FF SIM slots

**ARC CBA850LPE-SP – 4G LTE/HSPA+/EVDO for Sprint:**

- Technology: LTE, HSPA+, EVDO Rev A
- Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)

- Frequency Bands:
  - LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
  - HSPA+/UMTS: (850/900/1900/2100 MHz, AWS)
  - GSM/GPRS/EDGE: (850/900/1800/1900 MHz)
  - CDMA: EVDO Rev A/1xRTT (800/1900 MHz)
- Power: LTE: 23 dBm  $\pm$  1; HSPA+: 23 dBm  $\pm$  1; EVDO: 24 dBm +0.5/-1 (typical conducted)
- Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- Industry Standards & Certs: FCC, Sprint
- Modem Part Number: MC400LPE-SP
- SIM: two 2FF SIM slots

**ARC CBA850LP3-EU – 4G LTE/HSPA+ for Europe:**

- Technology: LTE, HSPA+
- Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
- Frequency Bands:
  - LTE: Band 1 (2100 MHz), Band 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 20 (800 MHz)
  - HSPA+/UMTS: (800/850/900/1900/2100 MHz)
  - GSM/GPRS/EDGE: Quad-Band (850/900/1800/1900 MHz)
- Power: LTE Band 1/3/8/20: 23 dBm  $\pm$  1; LTE Band 7–22: dBm  $\pm$  1; HSPA+: 23 dBm  $\pm$  1 (typical conducted)
- Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- Industry Standards & Certs: CE, GCF-CC
- Modem Part Number: MC400LP3-EU
- SIM: two 2FF SIM slots

**ARC CBA850LPE-GN – 4G LTE/HSPA+/EVDO for Canada, T-Mobile & US Cellular in the U.S.:**

- Technology: LTE, HSPA+, EVDO Rev A
- Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- Frequency Bands:
  - LTE: Band 2 (1900 MHz), Band 4 (AWS), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)
  - HSPA+/UMTS: (850/900/1900/2100 MHz, AWS)
  - GSM/GPRS/EDGE: (850/900/1800/1900 MHz)
  - CDMA: EVDO Rev A/1xRTT (800/1900 MHz)
- Power: LTE: 23 dBm  $\pm$  1; HSPA+: 23 dBm  $\pm$  1; EVDO: 24 dBm +0.5/-1 (typical conducted)
- Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: active GPS support
- Industry Standards & Certs: FCC, IC, PTCRB
- Modem Part Number: MC400LPE-GN
- SIM: two 2FF SIM slots



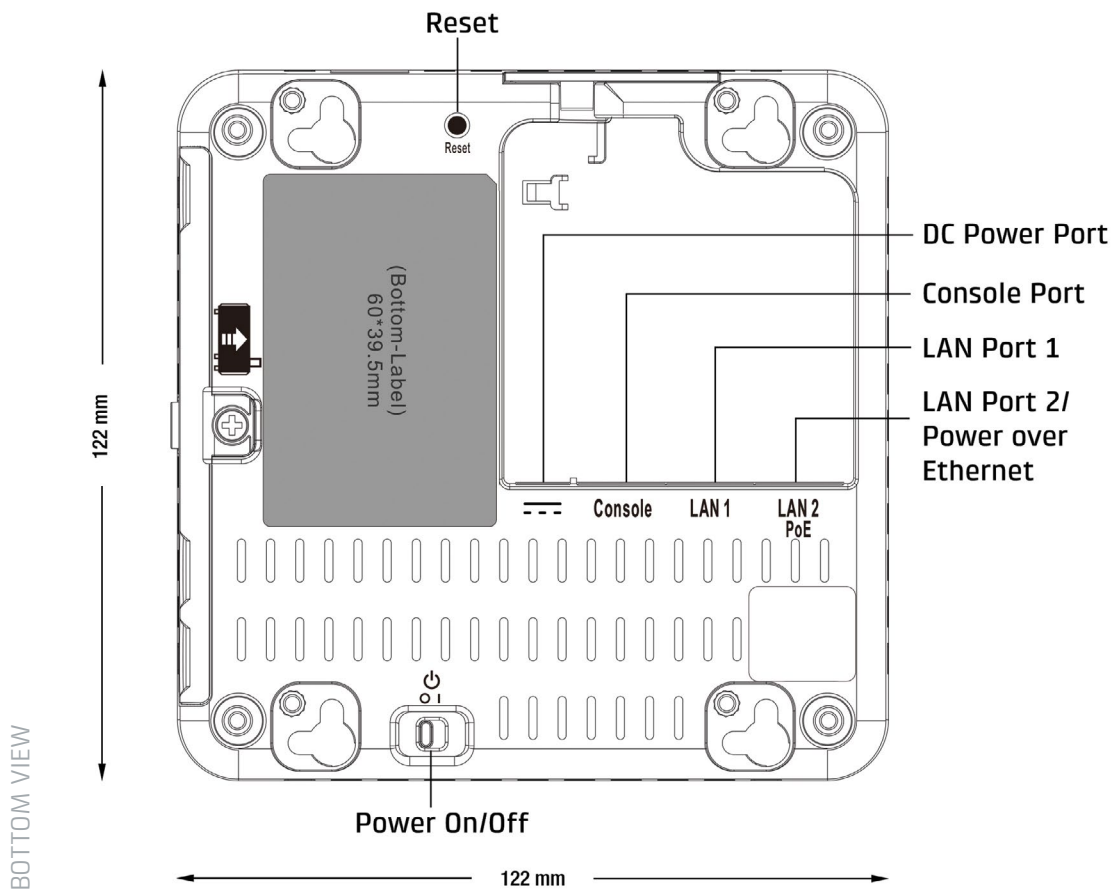
## SUPPORT & WARRANTY

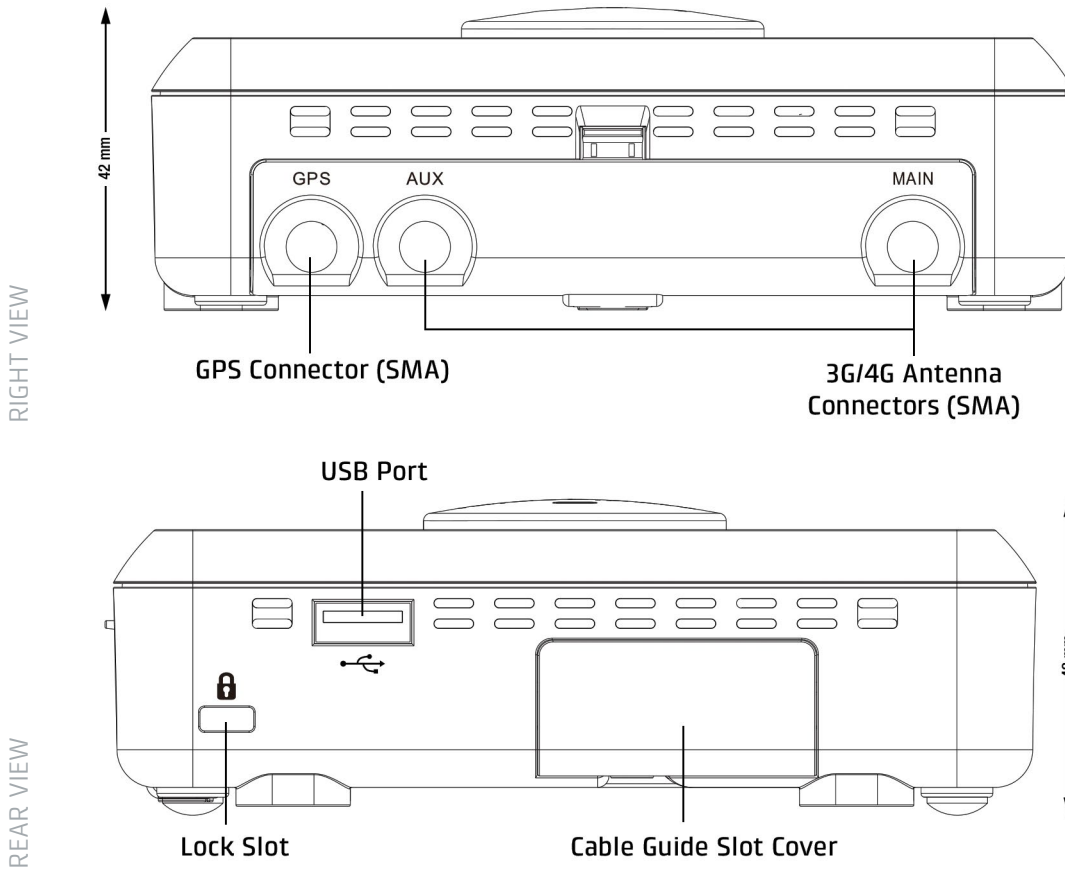
The CBA850 is only sold as a component of NetCloud Solution Packages.

- NetCloud Solution Packages include support for the full subscription term.
- All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they are under a NetCloud Solution Package subscription.




The CBA850 includes a minimum three-year hardware warranty when purchased from an authorized Cradlepoint Partner.

## HARDWARE





## LEDS

INDICATOR	BEHAVIOR
<p><b>On top of router</b></p>	<p><b>POWER</b> The Cradlepoint CBA850 must be powered using an approved 12 V DC power source.</p> <ul style="list-style-type: none"> <li>• Blue = Powered ON: 4G.</li> <li>• Green = Powered ON: 3G.</li> <li>• Amber = Attention.</li> <li>• No Light = Not receiving power. Check the power switch and the power source connection.</li> </ul>
	<p><b>INTEGRATED MODEM</b> Indicates information about the integrated modem.</p> <ul style="list-style-type: none"> <li>• Green = Modem has established an active connection.</li> <li>• Blinking Green = Modem is connecting.</li> <li>• Amber = Modem is not active.</li> <li>• Blinking Amber = Data connection error. No modem connection possible.</li> <li>• Blinking Red = Modem is in the process of resetting.</li> </ul>
	<p><b>EXTERNAL USB MODEM</b> Indicates information about an attached USB modem.</p> <ul style="list-style-type: none"> <li>• Green = Modem has established an active connection.</li> <li>• Blinking Green = Modem is connecting.</li> <li>• Amber = Modem is not active.</li> <li>• Blinking Amber = Data connection error. No modem connection possible.</li> <li>• Blinking Red = Modem is in the process of resetting.</li> </ul>
	<p><b>SIGNAL STRENGTH</b> Blue LED bars indicate the active modem's signal strength.</p> <ul style="list-style-type: none"> <li>• 4 Solid Bars = Strongest signal.</li> <li>• 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)</li> </ul>