

CBSSW-420-CEE Central Base Station

Power Ratings: 110-240 VAC; 11W max

Operating Temperature: -40 to +55 C

SYNAPSE

WARNING AND CAUTIONS:

- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!**
- **Risk of Electric Shock** - Local codes may require more than one disconnect switch. De-energize all disconnect switches before servicing the equipment.
- Use this device with copper or copper clad wire only.
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.

WARNINGS AND CAUTIONS:

- Disconnect power at circuit breaker or fuse when servicing, installing, or removing fixture or changing lamps.
- **Mounting:** It is critical to the RF performance of this device that the enclosure be oriented vertically. Enclosure must be mounted with door latch/lock on the right.
- Metal conduit and connector must be grounded.

INSTALLATION GUIDE

SPECIFICATIONS

Dimensions : 13.3" x 11.3" x 7.7" (338 x 287 x 196 mm)

Input Power : 110-240VAC, +/- 10%; 11W max; 6kV surge protection

Operating Temperature : -40°C to +55°C

Radios : SNAP 2.4GHz 802.15.4; Wi-Fi 2.4Ghz 802.11 b/g/n

CAUTION

- The Central Base Station must be installed in accordance with national, state, and local electrical codes and requirements
- All work must be performed by qualified personnel
- Disconnect all power before installation or service
- Metal conduit and connector must be grounded

NEEDED MATERIALS

Mounting Hardware: Using hardware appropriate for the installation and mounting surface (0.25" (6mm) diameter screw or bolt), use all six (6) 0.310" (8mm) diameter mounting holes to mount the unit

Screwdriver: A 1/8 (3.5mm) Hex screwdriver or Allen key is required to remove the wiring/bottom compartment cover

Needle-nose Pliers: For tightening antenna cable connections if outdoor antenna kit is used

Conduit

- **For indoor installations:** 3/4" conduit fitting with a cable strain relief or cable clamp is needed for indoor installations. The power entry point is sized for a 3/4" NPT (1.12" (28.5mm) diameter).
- **For outdoor installations:** A liquid rated (IP65/NEMA 4X) 3/4" conduit fitting is needed for outdoor installations. The power entry point is sized for a 3/4" NPT (1.12" (28.5mm) diameter).

Note: To maintain IP rating of the unit, it **must** be installed with a IP65/NEMA 4X fitting at the power and ethernet entry points.

WARNING: TO AVOID FIRE, SHOCK, OR DEATH: TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND VERIFY THAT POWER IS OFF BEFORE WIRING!

INSTALLATION INSTRUCTIONS

WARNING: DO NOT INSTALL THE CENTRAL BASE STATION INSIDE A METAL ENCLOSURE. A metal enclosure will obstruct the RF signals.

WARNING: DO NOT INSTALL THE CENTRAL BASE STATION IN DIRECT SUNLIGHT. If installing the Central Base Station outdoors, ensure that the Central Base Station is provided some means of shading from direct sunlight. Installing the unit in direct sunlight will substantially reduce maximum operating temperature. Please install unit in shaded area or provide a non-metallic sunshade that will not obstruct RF signals.

1. Select an installation location for the Central Base Station. The best location provides direct line of sight between the Central Base Station or the optional outdoor antenna and at least two other lighting controllers in the network. The antennas inside the Central Base Station rely on free space around them for best RF performance so avoid an installation near network cabling, AC power lines or metal pipes.
2. There are two ways to mount the Central Base Station (CBS): using a pole strap (step 3) or screwing the CBS to a wall with the screw holes (step 4).

WARNING: The CBS must be mounted vertically with the conduit coming out of the bottom of the unit, or the wireless signals may be compromised. DO NOT install the CBS horizontally.

3. You can mount the CBS to a pole using any Polycase pole straps that are compatible with the Polycase© ZH-121006 enclosure.
4. Using six (6) 0.25" (6mm) diameter screws that can fit the 0.310" (8mm) diameter mounting holes and capable of supporting 50 lbs. (23kg) of weight, screw the CBS to the wall.
5. Remove the two screws and lower cover to access the bottom wiring compartment. (Figure 1). A flathead screwdriver may be used to help lift and remove the cover.

6. Once the CBS is mounted and the wiring compartment cover is removed, you must have a licensed electrician connect power into the CBS's wiring compartment according the national, state, and local electrical codes and requirements. The three connection points in the wiring compartment are as follows:

Black is Line (labeled L)

White is Neutral (labeled N)

Ground Lug Screw is Ground (labeled )

(See Figure 2)

Note: Select wire strip length such that no bare live wire parts are exposed outside of the WAGO terminal.

To ensure safety and surge protection connect the ground lug screw to an earth ground. Use wire size 6 – 14 AWG (4.11 mm – 1.63 mm DIA)

7. If you are using an outdoor antenna kit, please refer to the "INSTRUCTIONS FOR INSTALLING OUTDOOR ANTENNA KIT – OPTIONAL" section in this guide for the necessary configuration steps.
8. If you are not using an outdoor antenna kit, place the lower cover back into position and tighten the two screws. (Figure 1)

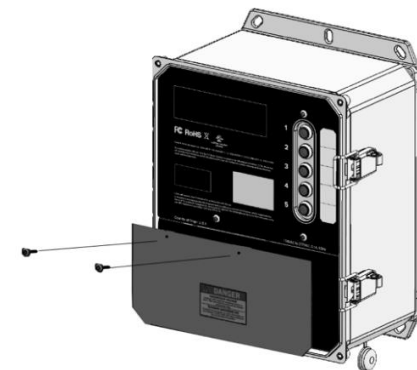


Figure 1

Note: Door image removed for clarity

NOTE: The Power entry cable is not provided. The power entry hole is 3/4" knockout (1.12" (28.5mm) diameter).

- For indoor installations use a proper sized conduit fitting with a cable strain relief or cable clamp.
- For outdoor installations use a proper sized conduit and a sealed power entry connector in order for the box to meet NEMA 4X standards.

NOTE: The Central Base Station holds a rating of IP65 for outdoor when the door is latched, and all entry ports (power and ethernet) are properly sealed. Failure to properly seal entry ports and latch the door will void the IP65 rating.

SURGE PROTECTION OPERATION

Lights will come on after 15 minutes of no communication with the unit.

In the event of a strong surge, this unit will protect itself and will be disconnected from AC power until the surge protection device (SPD) is replaced. Surge protection device must be replaced if the facility lights remain on and there is no power to the unit. Inside the connection compartment, if the green LED on the SPD is off, replace with part number SPD-20HP-277S.

WARNING: THERE ARE NO SERVICEABLE COMPONENTS INSIDE THE CENTRAL BASE STATION, except for the Surge Protection Device which should only be replaced by a licensed electrician. The Surge Protection Device replacement part number is SPD-20HP-277S.

OPERATION INSTRUCTIONS FOR PUSH BUTTONS

The default behavior for the 5 buttons are as follows:

1. 100% Light Level (Zone All)
2. 75% Light Level (Zone All)
3. 50% Light Level (Zone All)
4. 25% Light Level (Zone All)
5. Off (Zone All)

INSTRUCTIONS FOR INSTALLING OUTDOOR ANTENNA KIT - OPTIONAL

The Central Base Station includes an external connector on the bottom of the unit for use with the Outdoor Antenna Kit. This external antenna and cable help ensure that the gateway signal is amplified and propagated to other devices. This is important on large sites or sites with large physical obstructions between the gateway and lighting controllers.

If you are using an outdoor antenna kit, follow the instructions below to prepare the Central Base Station for connection using the external connector on the bottom of the unit.

1. With the lower cover of the wiring compartment removed, find the cable A and B and connector C as shown below in the bottom right of the unit. (Figure 2).

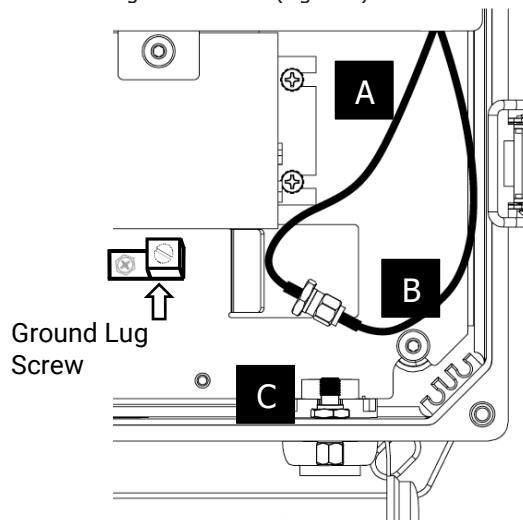


Figure 2

2. Unscrew the connectors on cable A and B to disconnect cable A from cable B.
3. Screw on and hand tighten the connect on cable B to connector C as shown below. (Figure 3)
4. Tighten a 1/4 turn with a pair of needle nose pliers. Do not over tighten or the RF pin in the bulkhead will crack, creating poor RF link quality.
5. Place the lower cover back into position and tighten the two screws. (Figure 1)
6. Connect the external cable and antenna according to the install guide included with the Outdoor Antenna Kit.

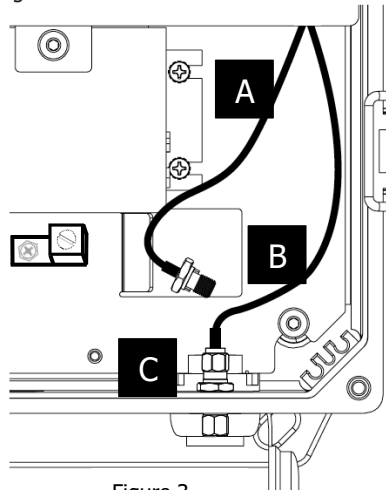


Figure 3

REGULATORY INFORMATION AND CERTIFICATIONS

RF Exposure Statement: This equipment complies with EN 62311:2020 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 2cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment also complies with the following EN and IEC standards:

- IEC 60730-1
- IEC 61000-4-2
- EN 300 328 V2.2.2
- EN 301 489-1 v2.2.3:2019-11
- EN 301 489-17 v3.2.4:2020-09
- EN 55032:2015 + AC:2016
- EN 55035:2017
- EN 61000-3-2:2014
- EN 61000-3-3:2013

CERTIFICATIONS

- Model** : CBSSW-420-CEE
- Contains FCC ID** : U90-SM220
- Contains IC** : 7084A-SM220
- UL File No** : E346690
- ROHS** : 3:2011/65/EU(2015/863)
- UKCA**
- CE**