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 : 12.6" x 10.6" x 7.6" (320 x 270 x 193 mm)
Input Power : 110-277VAC, +/- 10%; 11W max; 6kV surge protection
Operating Temperature : -40°C to +54°C
Radios : SNAP 2.4GHz 802.15.4; Wi-Fi 2.4Ghz 802.11 b/g/n; Cellular 4G LTE

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" diameter screw or bolt), use all six (6) 0.310" diameter mounting holes to mount the unit

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

Needle-nose Pliers: For tightening antenna cable connections if external 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" 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" 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 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 external 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© YH-121006 enclosure.
4. Using six (6) 0.25" diameter screws that can fit the 0.310" diameter mounting holes and capable of supporting 50 lbs. 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

   White is Neutral

   Green is Ground

   NOTE: To ensure safety and surge protection connect the green ground wire to an earth ground.

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

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

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 LSP10277S.

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)

NOTE: To program the button for a different behavior please contact your commissioning agent, refer to any training material you received, or open a support ticket at-
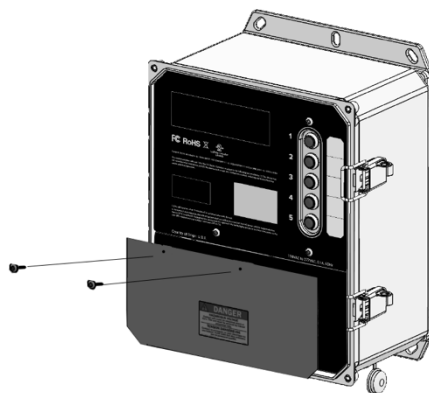
https://support.synapsewireless.com/

Figure 1

Note: Door image removed for clarity.

INSTRUCTIONS FOR INSTALLING EXTERNAL ANTENNA KIT - OPTIONAL

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

Note: For more Details on outdoor antenna installation instructions please see the Outdoor Antenna Install Guide https://help.synapsewireless.com/Lighting/Assets/Hardware_Guides/Outdoor Antenna Install Guide.pdf

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).
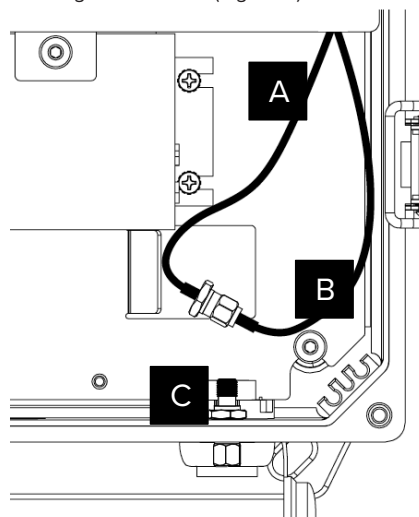

Figure 2

2. Unscrew the connectors on cable A and B to disconnect cable A from cable B.
3. Screw on and hand tighten the connector on cable B to connector C as shown below. (Figure 3)
4. Tighten a ¼ 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.
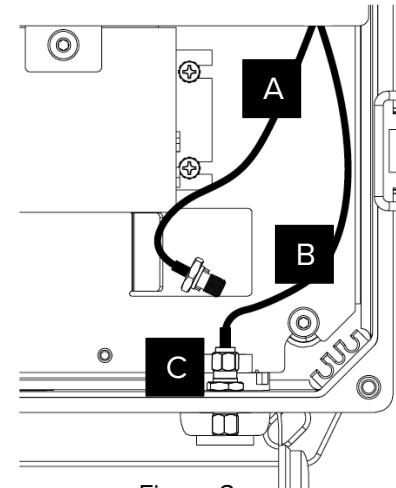

Figure 3

REGULATORY INFORMATION AND CERTIFICATIONS

RF Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada (IC) certifications: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicable aux appareils numeriques de la class B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

FCC certifications and regulatory information (USA only)

FCC Part 15 Class B: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) These devices may not cause harmful interference, and (2) These devices must accept any interference received, including interference that may cause harmful operation.
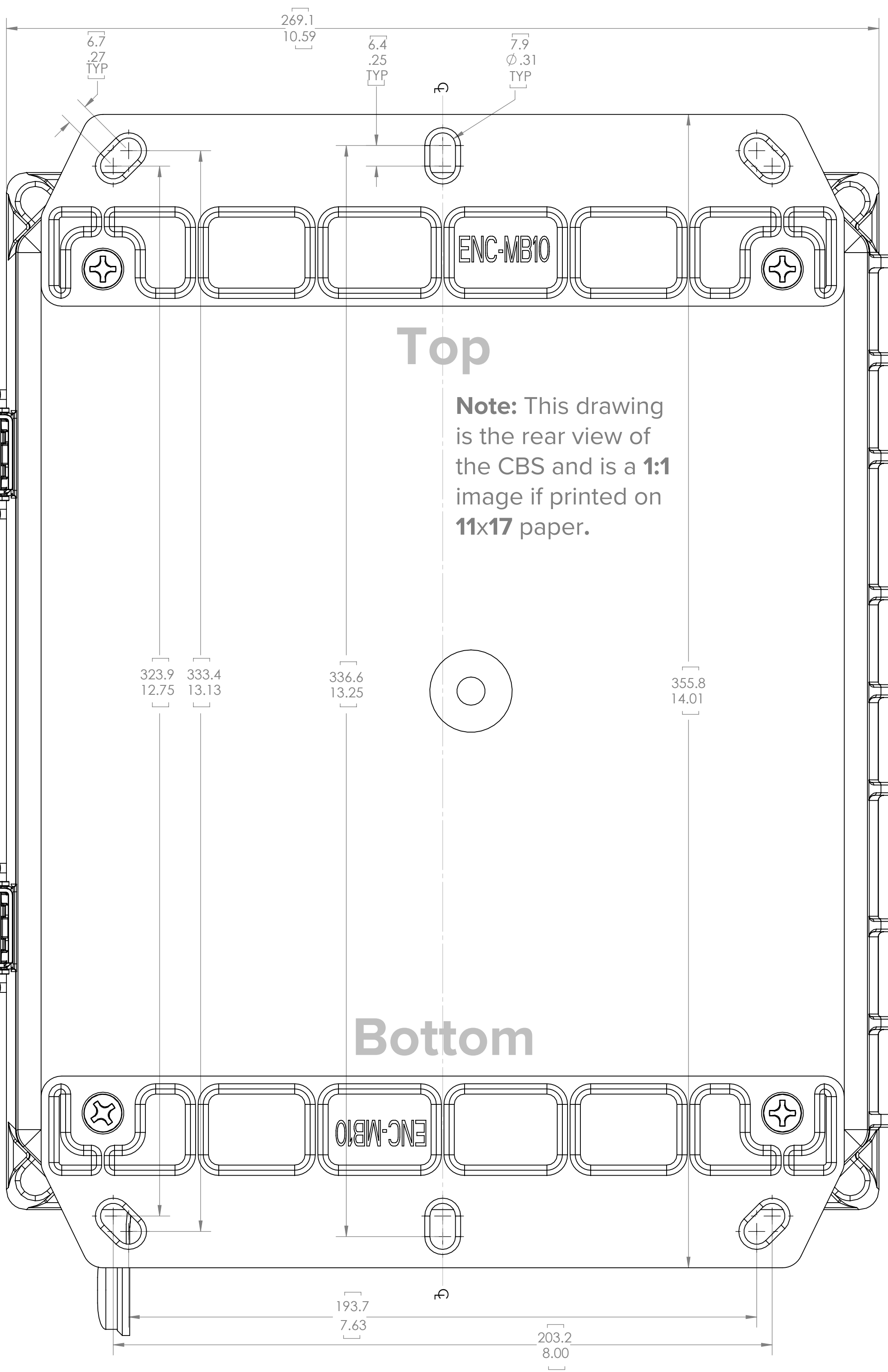
RADIO FREQUENCY INTERFERENCE (RFI) (FCC 15.105): This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Re-orient or relocate the receiving antenna; (2) Increase the separation between the equipment and the receiver; (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; (4) Consult the dealer or an experienced radio/TV technician for help.

CERTIFICATIONS
Model	: CBSSW-450-002
Contains FCC ID	: U9O-SM220
Contains IC	: 7084A-SM220
UL File No	: E346690
ROHS	: 3:2011/65/EU(2015/863)

For Support-
Please contact your commissioning agent or installer, or open a support ticket at-
https://support.synapsewireless.com/

269.1
10.59

6.7
.27
TYP

6.4
.25
TYP

7.9
Ø.31
TYP

ENC-MB10

Top

Note: This drawing is the rear view of the CBS and is a **1:1** image if printed on **11**x**17** paper.

323.9
12.75

333.4
13.13

336.6
13.25

355.8
14.01

Bottom

ENC-MB10

193.7
7.63

203.2
8.00