

**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!**
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- Mounting: It is critical to the performance of this device that the antenna be oriented vertically. The antenna must point straight up or down for proper operation. Straight up is preferred.
- If you are unsure about any part of these instructions, consult Synapse Customer Support. (877-982-7888)

**INSTALLATION GUIDE****DESCRIPTION**

The Fixture Antenna Kit helps ensure that the wireless lighting controller's signal is amplified and propagated to other devices. There are currently 6 Fixture Antenna Kits:

Part Number	Description
KIT-ANT18-13-2.0	Indoor, Articulating, Black, 2.0 dBiGain
KIT-ANT18-13-3.2	Indoor, Articulating, Black, 3.2 dBiGain
KIT-ANT18-01	Outdoor Kit, Right-angled Antenna
KIT-ANT18-02	Outdoor Kit, Straight Antenna
KIT-ANT18-03	Outdoor Kit, Straight Stubby Antenna, -5dBi Gain
KIT-ANT18-04	Outdoor Kit, Right-angled Stubby Antenna, -5dBi Gain

**CAUTION**

- The fixture antenna 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

**INSTALLATION INSTRUCTIONS**

1. After installing the Lighting Controller, determine where the fixture antenna will be mounted.

**Notes:**

- In order to ensure best RF transmission, please ensure that the antenna is mounted in a vertical alignment.
- KIT-ANT18-03 and KIT-ANT18-04 use monopole antennas. Monopole antennas require an associated ground plane counterpoise (4"x4") for proper RF operation.

2. Attach the RP-SMA Bulkhead to the desired location on the fixture.

**Note:** Static can damage the SNAP RF Module which will create poor RF connectivity. It is the installer's responsibility to protect the RF module from high static charges.

**KIT CONTENTS**

- Antenna\*
- 18" Cable, Male RP-SMA to
- Female RP-SMA
- Built in bulkhead gasket for sealing connection through fixtures
- Includes extra long bulkhead for installation in thick walls of fixtures

\* NOTE: Antenna type depends on Fixture Antenna Kit

## INSTALLATION GUIDE

### 3. Attach the cable to the Fixture

Touch your hand to the metal fixture case to discharge any built-up static charge then connect the loose end of the cable to the SNAP bulkhead connector on the Lighting Controller. Hand tighten the cable and then use a pair of needle nose pliers to tighten the cable jack 1/4 turn. If a torque wrench is available, tighten cable to 10 inch pounds.

**Note:** Do not over tighten or you can damage the internal pin of the cable jack. Damage to the internal pin will cause poor RF connectivity.

### 4. Attach the cable to the Lighting Controller

Touch your hand to the fixture to discharge any built-up static charge. Attach the end of the cable to the Lighting Controller. Hand tighten the cable and then use a pair of needle nose pliers to tighten the cable jack 1/4 turn. If a torque wrench is available, tighten cable to 10 inch pounds.

#### Notes:

- Do not over tighten or you can damage the internal pin of the cable jack. Damage to the internal pin will cause poor RF connectivity.
- Do not substitute cables. Synapse uses 50 Ohm RF cables that are double-shielded, low-loss, and flexible. The double-shielding is a major factor in the higher quality of this cable, which translates into lower loss/better performance.
- When routing the RF cable do not create hard ninety degree turns. Instead use a gentle turn to prevent damage to the RF cable.
- Be sure to create a drip loop in the coax cable to prevent water ingress into the device. The drip loop needs to be lower than the connection to the device and the antenna.

### 5. Secure the cable and Strain Relief

It is important to avoid any sharp turns or kinks in the cable. Avoid pinching the cable or smashing the cable flat. Leave enough slack so the cable does not have tension on the connection to the Lighting Controller bulkhead or the connection to the antenna bulkhead. Using straps or cable ties, secure the cable to provide strain relief and keep the cable secure. It is important to keep any unnecessary pressure or strain off the cable connections.