

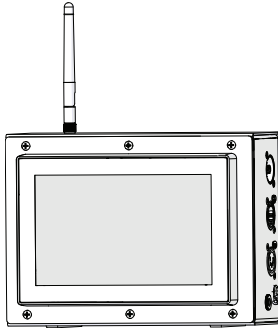
# RAYN Installation Guide

## RAYN Touch Controller

---

### Overview

RAYN Touch is an all-in-one, real-time controller for multi-waveband luminaires in addition to other devices such as dimmers and relays.



The graphic touchscreen controller provides fine spectral control and is compatible with the built-in library of luminaire personalities, or new fixture profiles that can be requested by contacting your RAYN Growing Systems provider.

### Accessories

The following items are included with your RAYN Touch:

Power Supply Kit (part number SGPS1088)	Required to power the touchscreen.
Antenna (part number N1075)	An optional use accessory included for your use as needed. Field install this when wireless communication to sensors is required.
Glare Shield (part number 7437A3001)	An optional use accessory included for your use as needed. Field install when environmental conditions require its use.

# RAYN Growing Systems

## RAYN Touch

### Inputs and Outputs

The RAYN Touch input and output connections are conveniently located on the right side of the enclosure.

- USB Port for configuration upload/download, and [firmware update](#)
- 5-pin XLR for DMX-512A and RDM control
- Neutrik etherCON RJ45 for Ethernet connectivity and control (inc. sACN and Art-Net)
- 24 VDC power input and a strain relief clip for securing the power input cord in place



### Specifications

#### Ambient Environment

For indoor use only. 0°C–40°C (32°F–104°F) operating temperatures in 5-95% non-condensing humidity (non-corrosive).

#### Electrical

RAYN Touch ships with an approved AC to DC power supply with a selection of regional adapters.



**Note:** This product is intended for use with a UL Listed power source (LPS) marked "Class 2", or LPS rated 24 VDC, maximum 1 A. Use only the provided power supply (part number SGPS1088).

### Mounting

The RAYN Touch is designed for either tabletop use, or for installation on a vertical surface.

	Length		Width		Height	
	mm	in	mm	in	mm	in
With Antenna	213	8.4	97	3.8	267	10.5
Without Antenna	213	8.4	97	3.8	159	6.25

# RAYN Growing Systems

## RAYN Touch

---

### Location

The installation location of the RAYN Touch is important for successful wireless transmissions to and from compatible RAYN Growing Systems sensors. RAYN Growing Systems recommends that you install the RAYN Touch within line of sight, and within 24 m (80 ft) of the wireless sensors.

---



**Note:** *Wireless range can be increased by the use of optional wireless repeaters. Please contact your RAYN Growing Systems provider with your site specific requirements.*

---

### Compliance

For additional regulatory compliance information, see the RAYN Touch Controller datasheet at [rayngrowingsystems.com](http://rayngrowingsystems.com).

**Compliance:** FCC Part 15.231 The RAYN Touch Controller complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (I.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Any modifications or changes to this product not expressly approved by RAYN Growing Systems, LLC. could void the user's authority to operate the product. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device contains a wireless module with the following identification numbers:

902 MHz models only: FCC ID: SCV-STM300U, contains IC: 5713A-STM200U

868 MHz models only: CE Marking

928 MHz models only: Complies with the Japanese radio law and is certified according to ARIB STD-T108.

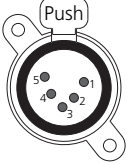
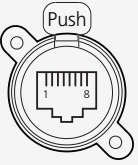
End of life: Must be taken apart to recycle: Remove battery / Remove PCB assembly and glass display

# RAYN Growing Systems

## RAYN Touch

### Control Wiring Specification

RAYN Touch provides support for DMX-512A (ANSI E1.11) and RDM (ANSI E1.20) over the 5-pin XLR connection, and sACN (ANSI E1.31) and Art-Net control over the etherCON RJ45 connection.

Control	Wire Type / Termination Guide
 <p>DMX/RDM</p>	<p>Use Belden 9729 (or equivalent) with a 5-pin XLR connector.</p> <p>Pin 1 - Common (shield) Pin 2 - Data - (typically black wire) Pin 3 - Data + (typically red wire) Pins 4 and 5 - not connected</p> <p>The maximum recommended length of the wire run is 487 m (1,600 ft).</p>
 <p>Ethernet</p>	<p>Use Category 5 (or better) cable with an RJ45 connector.</p> <p>sACN and Art-Net control is over a network using the Ethernet RJ45 connection to a gateway or network switch.</p>



**Note:** *Wiring should only be installed and terminated by a qualified technician and should follow standard wiring installation practices.*

### Configuration

This document guides you through the installation of the RAYN Touch controller. For more detailed information about graphic configuration options available, see the integrated help system after power up. Press the Help icon, and then choose an on-screen tab title or button to see a description of that function or display. Areas that provide help text are highlighted.

# RAYN Growing Systems

## RAYN Touch

### Installation

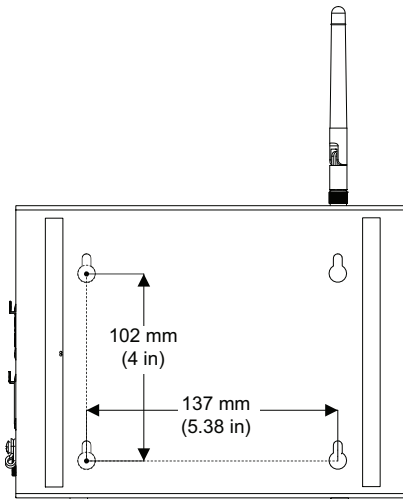
Controller is an all-in-one enclosure that can be positioned for use on a tabletop or surface-mounted.



**Note:** *Ensure the installation location meets the requirements in [Ambient Environment on page 2](#) and [Location on page 3](#).*

### Surface-mount

Surface-mount the RAYN Touch on a vertical surface, such as a wall, with the display at an optimal height for use.



The rear panel includes four mounting keyholes compatible with 5 mm (3/16 in) mounting hardware (not provided).

# RAYN Growing Systems

## RAYN Touch

### Make Connections

1. Assemble the power supply and connect it to the enclosure and to the power source.
  - a. The provided power supply kit ships with a selection of adapters. Assemble the regional specific adapter to the power supply, connect the roundpin connector to the enclosure 24 VDC input, and then to the power source.
  - b. Secure the power supply cord to the enclosure using the provided strain relief.
2. Connect the DMX cable (5-pin XLR) to the receptacle on the enclosure and the other end to the first luminaire on the control run.



**Note:** *The last luminaire in the DMX control run must be terminated to prevent signal reflections. Signal reflections cause noise on the data line resulting in corrupted data between the RAYN Touch and the luminaire. This can result in random flashing of the luminaires on that control run. To terminate the control run, install a DMX termination plug (RAYN Growing Systems part number SGE1507) on the DMX Thru connector on the last luminaire on that run.*

3. Connect the Ethernet cable (optional) to the receptacle on the enclosure and the other end to the system network switch for sACN or Art-Net control.

### Attach Antenna

The RAYN Touch is fitted with a radio for wireless communication with compatible sensors.

When using the wireless features, install the antenna (part number N1075) provided to the top of the enclosure. Simply screw the antenna to the receptacle located on the top of the enclosure.

# RAYN Growing Systems

## RAYN Touch

---

### Update Firmware

RAYN Touch ships with firmware installed. If a new firmware version has been provided to you by RAYN Growing Systems, please follow the instructions below to update your controller.

1. Copy the firmware update file on the root directory of a USB drive that has been formatted to FAT32. The file will be named similarly to ETC\_RAYNTouch\_#.#.#.#.fw, where # will be replaced with the version numbers.



**Note:** *Please make sure the software file is not inside any other folder or sub-directory as this will hide it from the update function.*

---

2. With the unit powered on, insert the USB drive into the USB receptacle located on the top right side of the enclosure.
3. Access the front of the touchscreen and navigate to Setup >Files >Advanced >Update Firmware. A confirmation message will display. Select “Yes” to continue with the update.



**CAUTION:** *The update process may take a few minutes. Do not shutdown or remove power from the touchscreen until the update process has finished. When prompted, restart the touchscreen.*

---

4. When the touchscreen has booted, navigate to the Preferences tab in Settings to verify the updated software version number is displayed.
5. Remove the USB drive from the unit.

### Replace the Battery

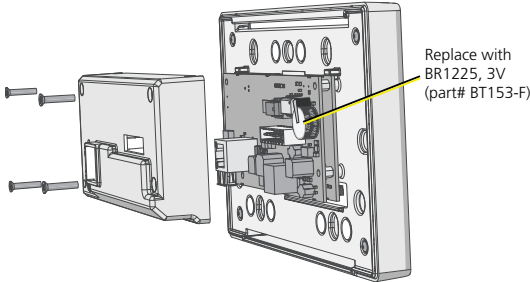
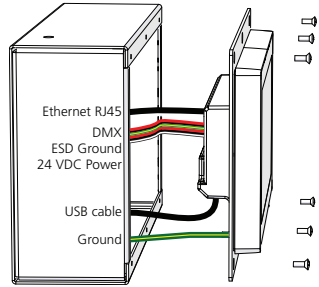
The RAYN Touch includes an onboard battery which powers the real-time clock when the touchscreen itself is not powered. The battery should last approximately five years under normal usage.

When the controller no longer maintains its set time, you will need to replace the battery. Replace with battery type BR1225, 3 V (part number BT153-F).

# RAYN Growing Systems

## RAYN Touch

1. Disconnect power from the enclosure.
2. Remove the six screws securing the touchscreen front panel to the enclosure.
3. Carefully disconnect the eight-position connector, RJ45 connector, and the USB cable from the touchscreen. The ground can remain attached for this procedure.
4. Place the touchscreen, glass side down, on a clean flat surface.
5. As shown, remove the four screws securing the rear cover to the touchscreen.



6. Locate, remove, and then replace the battery with the same type.
7. Replace the rear cover.
8. Reconnect all connections including the eight-position connector, RJ45 connector, and the USB cable to the touchscreen.
9. Reinstall the touchscreen to the enclosure.
10. See the integrated help system for information to set the time.

## Install Glare Shield

In certain installations, the RAYN Touch may be subject to screen glare. In those conditions, RAYN Growing Systems recommends that you install the provided glare shield (part number 7437A3001).

1. Temporarily remove the top three screws from the front plate.
2. Align the glare shield to the unit.
3. Replace the screws, securing the glare shield and the front plate to the enclosure.