

Under Cabinet Lighting

Installation Inside the Under Cabinet Cavity

Cavity Depth: 3/8" minimum



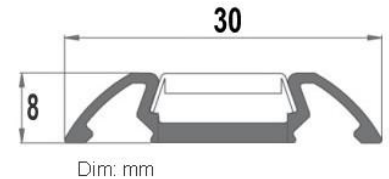
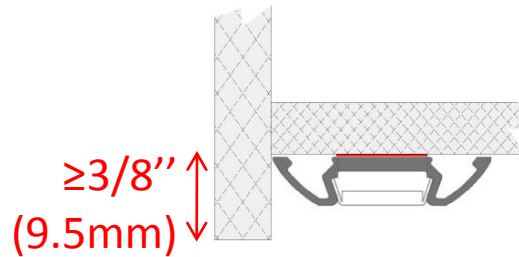
Cavity

In this project, we'll use the UC2A Series from iLuXx Lighting. This Series is specifically designed to be installed inside the under cabinet cavity or behind a bottom trim. Ideal for cavity depth (or trim height) between 3/8" and 1".

UC2A Series



Installing the luminaire behind the cavity wall is a great way to conceal the light source. UC2A should be your first choice for cabinets having a cavity depth of at least 3/8" (9.5mm).

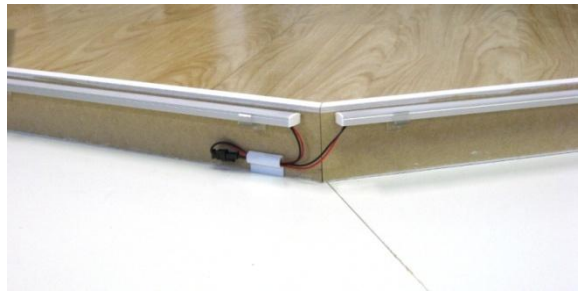


Other mounting options

UC1 Series



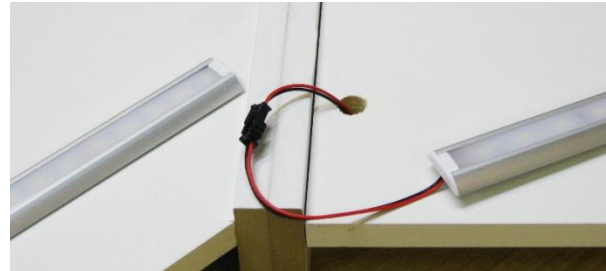
Installation on the bottom trim – Trim width \geq 1"



UC2 Series



Surface mount - Ideal for cabinet manufacturer using a dual bottom panel



UC3 Series



Recessed mount - Ideal for cabinet manufacturer using a dual bottom panel



UC2A Series

Installation instructions

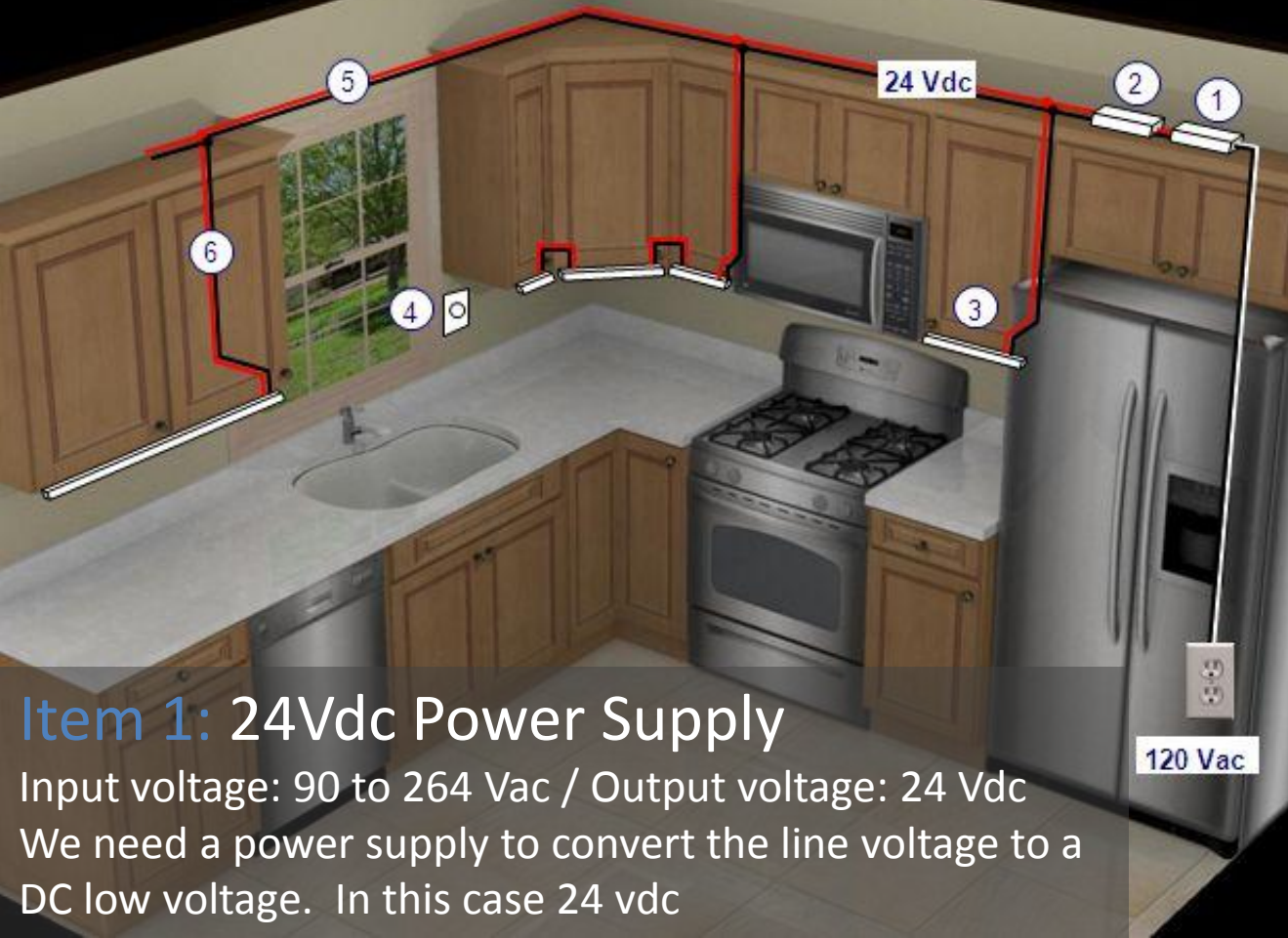
Every kitchen is unique and therein lies the challenge. The installation process is simple but requires some planning.

The following will show the different steps of a typical installation and help you plan the project.

Presentation Content

- **Project Overview:** required items
- **Electrical Diagram**
- **Step 1:** how to power the system – 3 options
- **Step 2:** luminaires installation
- **Step 3:** getting power to the luminaires
- **Step 4:** test the system
- **Step 5:** remote controller installation
- **How to Order:** luminaires length
- **How to Order:** light output – 2 options
- **How to Order:** light color – 2 options
- **How to Order:** power supply selection
- **How to Order:** controller selection
- **How to Order:** accessories
- **How to Order:** summary

Project Overview: required items



Item 1: 24Vdc Power Supply

Input voltage: 90 to 264 Vac / Output voltage: 24 Vdc
We need a power supply to convert the line voltage to a DC low voltage. In this case 24 vdc

Example



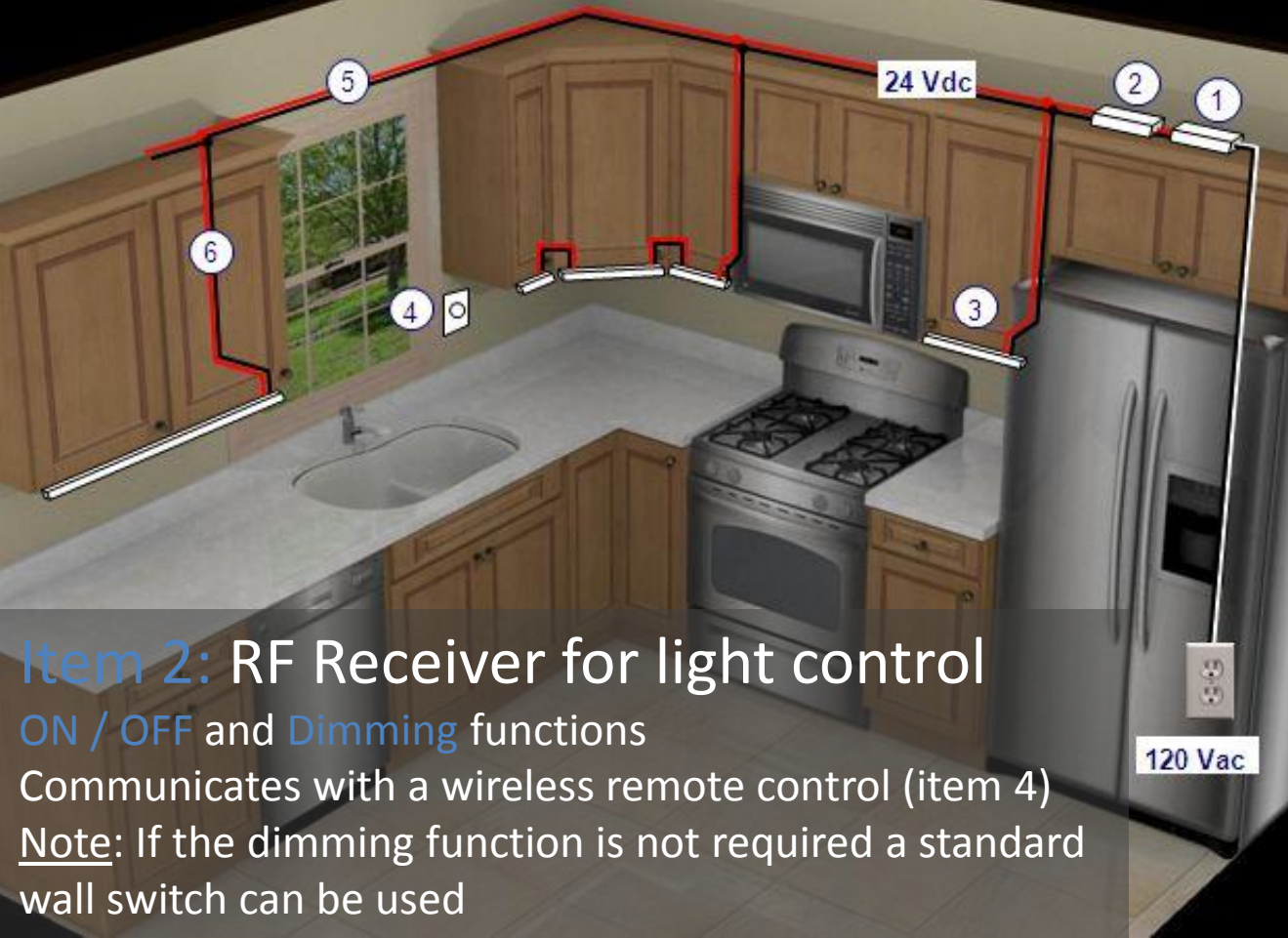
□ LPS CE c **UL** us

LPV Series from Mean Well. Class II power supplies with good quality and low cost.

Available at

www.iluxxinc.com

Project Overview: required items



Example



The no 1 reason to choose RF technology in this application:

Flexibility of installation

- No wiring between receiver and remote
- The remote is battery operated
- The RF signal goes through walls, doors, furnitures, etc

Available at www.iluxxinc.com

Item 2: RF Receiver for light control

ON / OFF and Dimming functions

Communicates with a wireless remote control (item 4)

Note: If the dimming function is not required a standard wall switch can be used

Project Overview: required items



UC2A Series



Features

- Hi-Output (126 or 70leds/meter)
 - Many lengths available
 - Fully dimmable
 - Available in warm white (3000K) and neutral white (4000K)
 - Super efficient
 - Long lasting (50 000 hours +)
 - Built with UL certified LED engine
- Available at www.iluxxinc.com

Item 3: UC2A Series Luminaires

Solid State LED device built to provide plenty of light on the work surface

Project Overview: required items



Item 4: Wireless RF Remote Controller

ON / OFF and Dimming functions

Communicates with the receiver (item 2)

Example



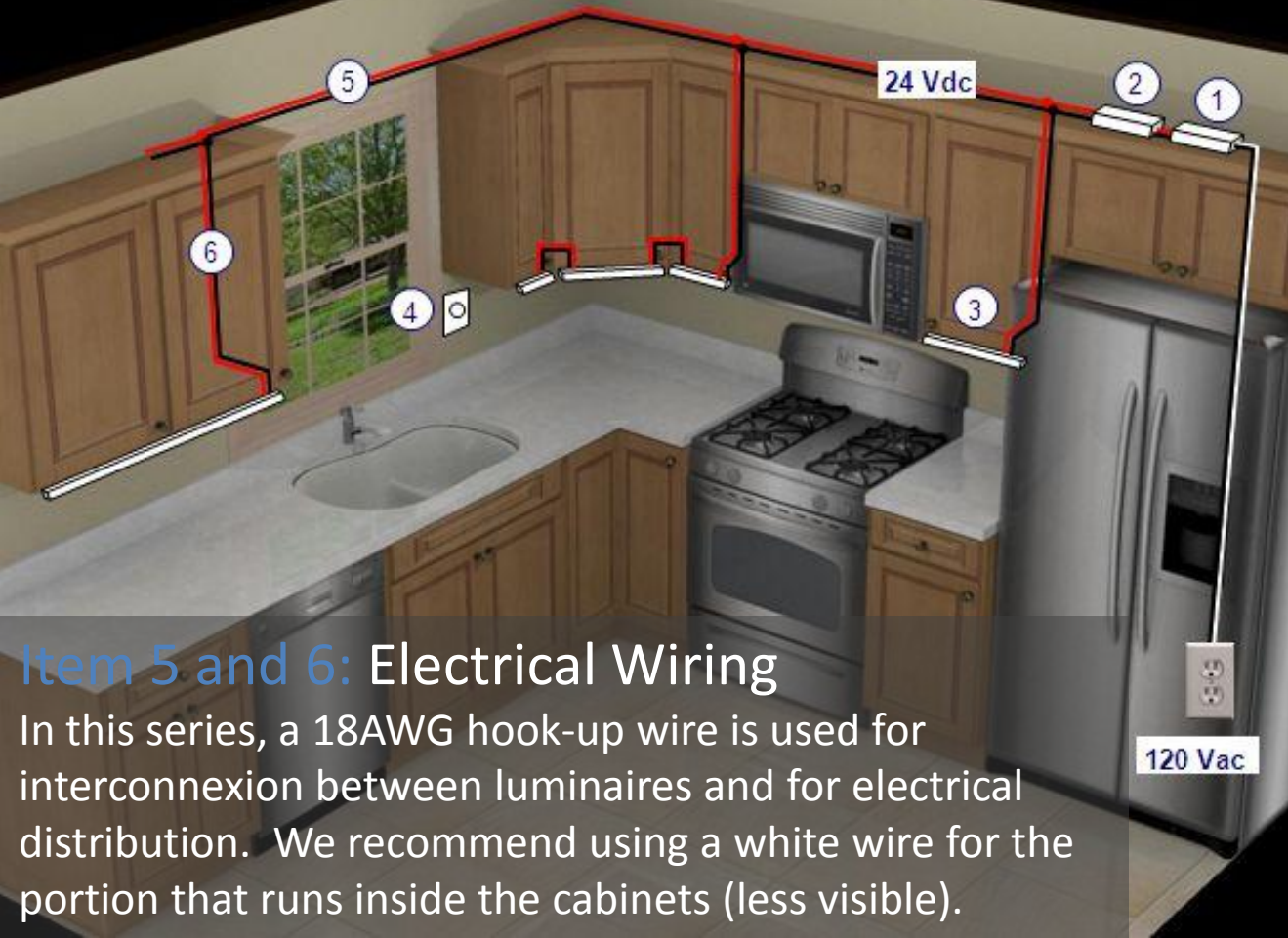
The no 1 reason to choose RF technology in this application:

Flexibility of installation

- No wiring between receiver and remote
 - Battery operated
- The RF signal goes through walls, doors, furniture, etc

Available at www.iluxxinc.com

Project Overview: required items



Item 5 and 6: Electrical Wiring

In this series, a 18AWG hook-up wire is used for interconnexion between luminaires and for electrical distribution. We recommend using a white wire for the portion that runs inside the cabinets (less visible).

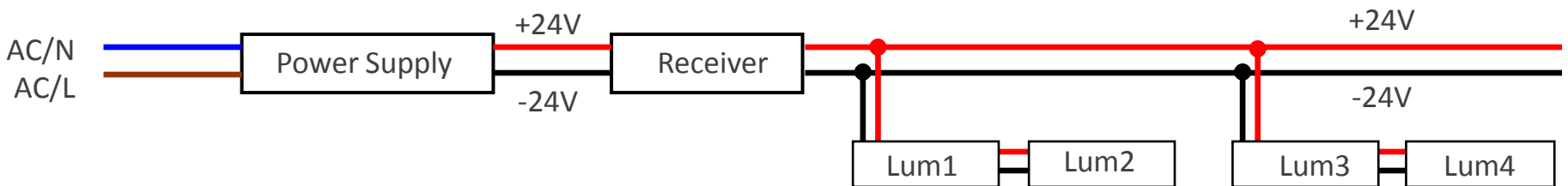
Examples



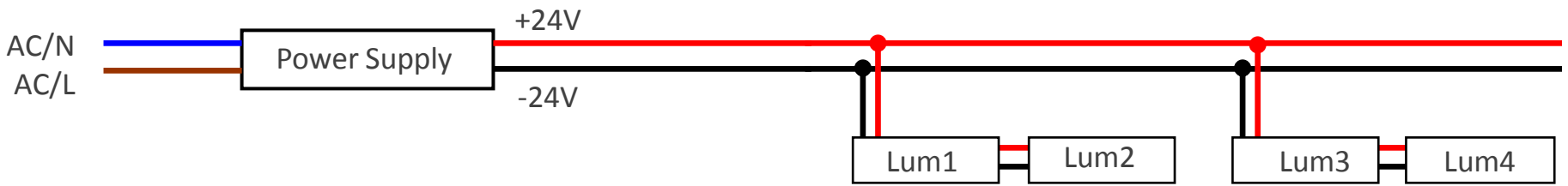
Both items available at
www.iluxxinc.com

Electrical Diagram

With optional receiver



Without receiver



Working with low DC voltage

Being exposed to a voltage of 24Vdc constitute a minimal risk to humans however, under certain conditions, you may be exposed to an electrical shock. Disconnect the power supply before making any electrical connections.

Make sure the polarity is respected when making electrical connections. Failure to do so may damage the luminaires or receiver.

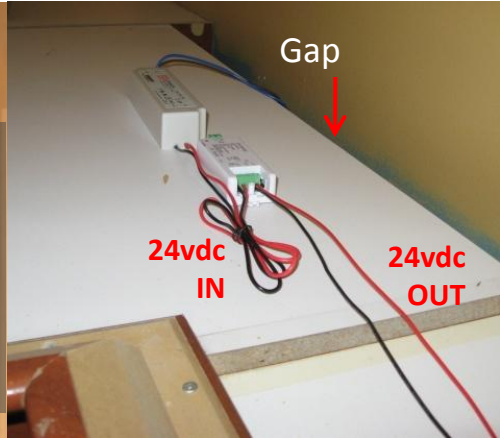
Step 1: How to power the system – 3 options for an existing kitchen

Power supply + Receiver

Option 1

Use the free outlet behind the fridge and hide the power supply (+ receiver) on top of the cabinets over the fridge. Usually there's a gap behind the cabinets located over the refrigerator. Use that to run the wires.

Free outlet



Variant:
Power supply and receiver installed directly on the wall behind the refrigerator.



Step 1: How to power the system – 3 options for an existing kitchen

Power supply + Receiver

Free outlet



To be as flexible as possible, the power supply comes with cables only, implying that a standard electrical plug must be installed.

Example

Brown wire = line = narrow tab



Blue wire = neutral = wide tab

Available at any hardware store

Step 1: How to power the system – 3 options for an existing kitchen

Option 2

Inside a cabinet. You'll still be able to use this cabinet. The power supply is very efficient and does not generate a lot of heat. Just make sure air can circulate around the power supply.



Step 1: How to power the system – 3 options for an existing kitchen

Option 3

if you replace an existing lighting system like fluorescent, it's most likely that you already have access to an AC feed without using a wall outlet. Here's an example:

Important: Be sure to remove the power before connecting the power supply to the AC. You can use regular marettes.

Note: the fluorescent system you're replacing is most likely linked to a standard wall switch. That switch will now control the power supply. *In this case, you don't have to install the RF receiver and remote control if all you need is the ON / OFF function.*



Step 2: Luminaires installation

Basic Concept

These luminaires use push-in connectors and standard hook-up wire for the interconnexion. This is a very flexible system that let's you choose the distance between each luminaire.

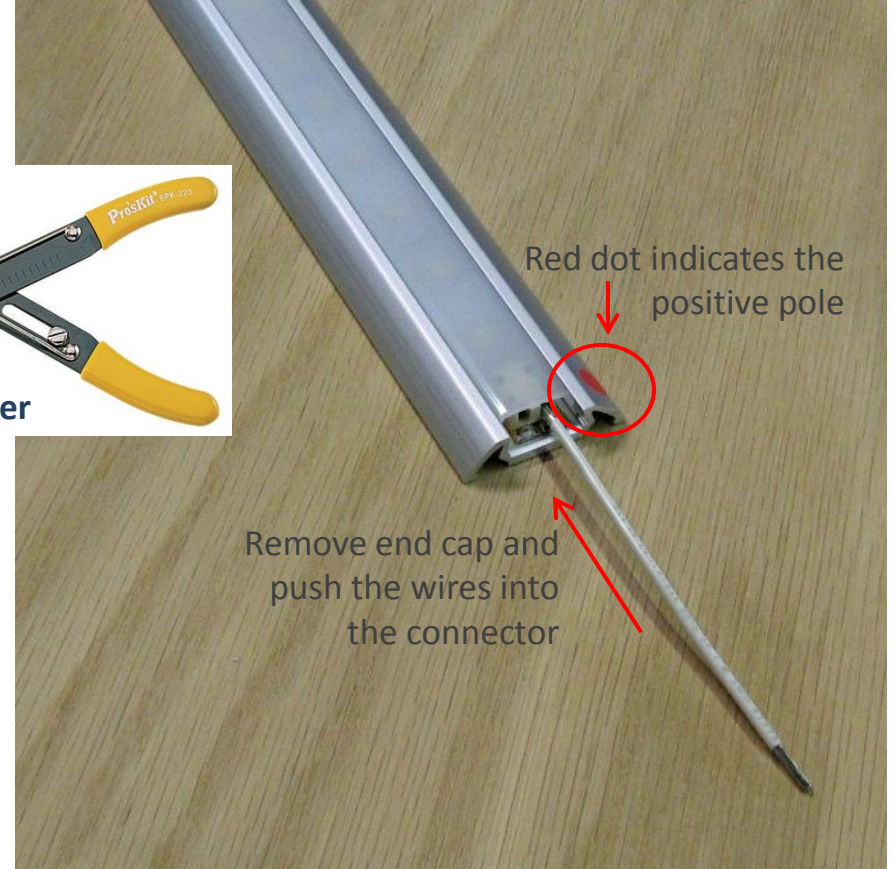
Wire types and sizes accepted:

- 18, 20, 22 AWG solid wires
- 18 AWG stranded wire (16 strands construction required)
- Max insulation OD: 0.083" or 2.1mm

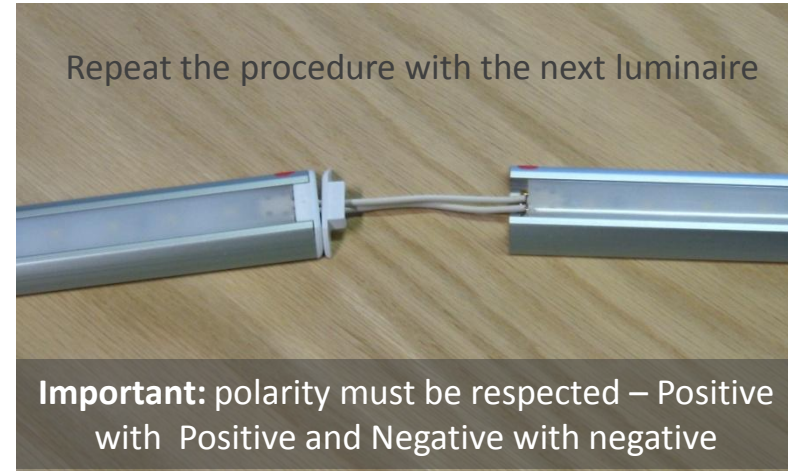


- Strip length: between 1/4" and 5/16" (6 and 8mm)
- We favor the 18 AWG stranded wire for its flexibility and greater current carrying capacity. Available on the online store

Wire stripper



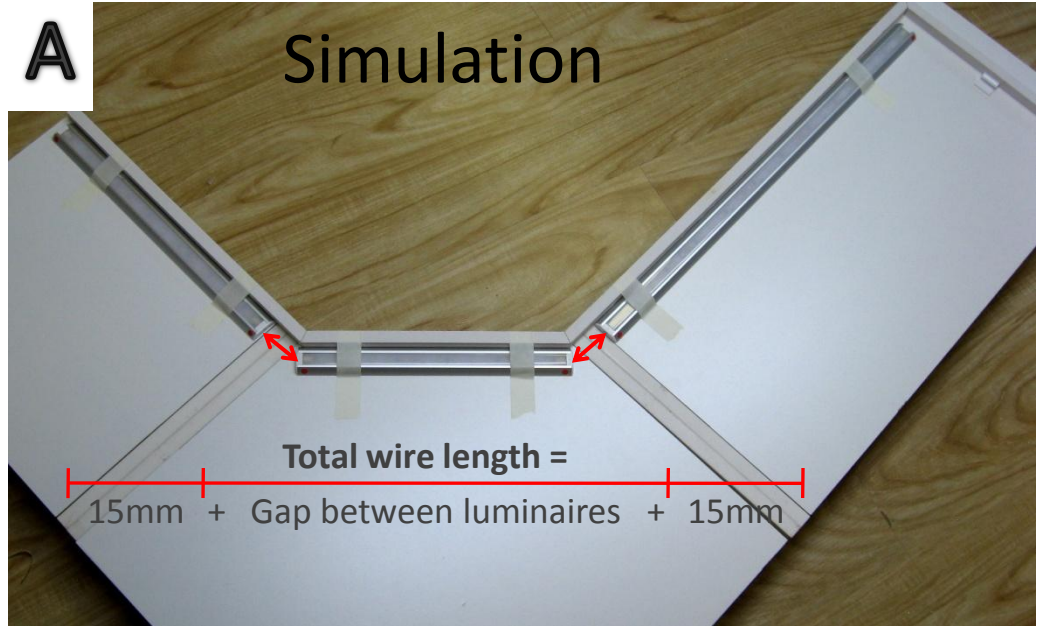
Step 2: Luminaires installation



Step 2: Luminaires installation

Luminaires from the UC2A Series are equipped with a UHB double-sided tape for a simple installation without screws.

Before fixing the luminaires permanently we'll do a simulation to calculate the wire lengths we need for the interconnexion between luminaires.



A- Hold in place the luminaires temporarily with masking tape and measure the gap between each luminaire. Cut and strip the wires.

Step 2: Luminaires installation

B



B- It's easier to do the complete assembly on a table and then fixing the luminaires permanently.

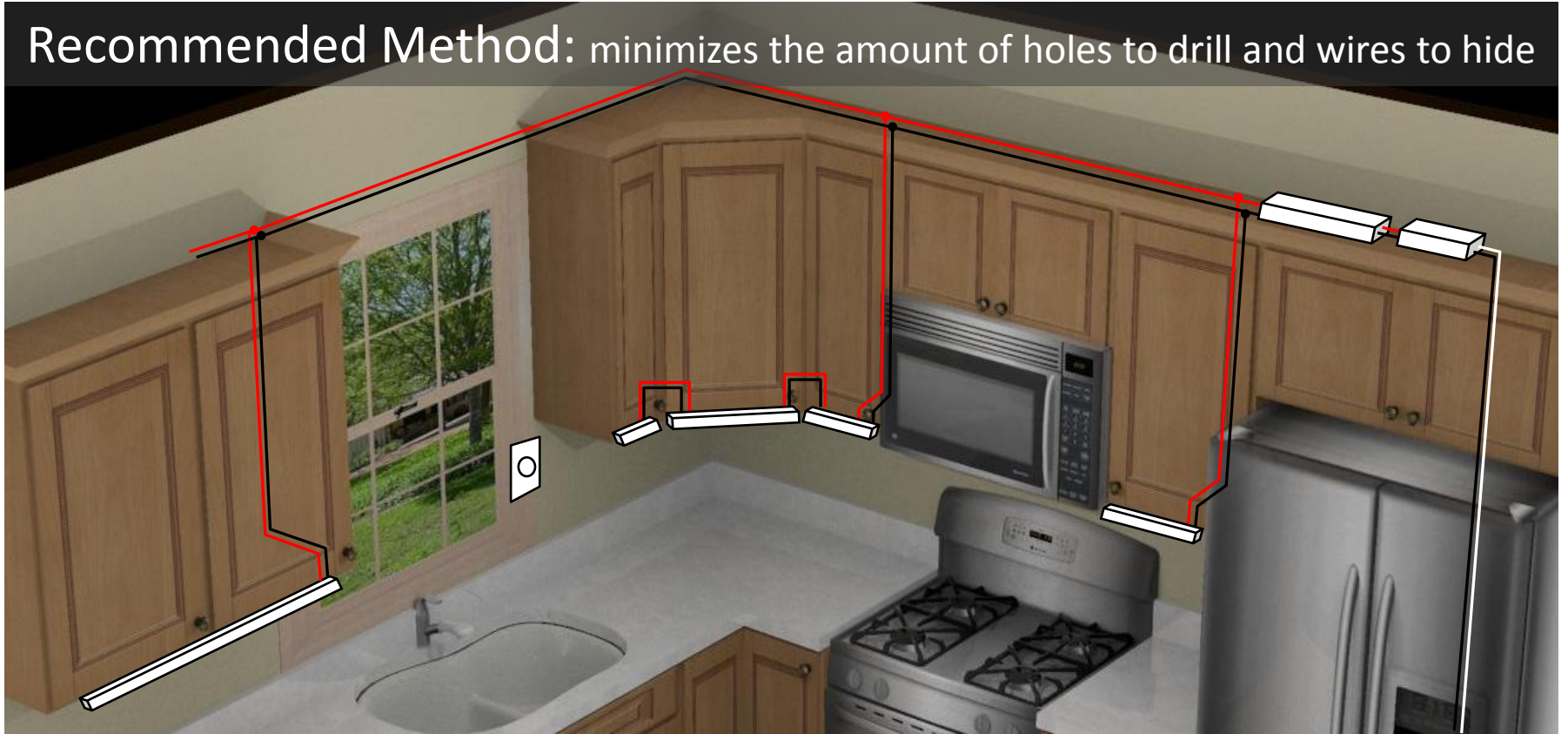
C



C- Remove the red liner from the double-face tape and stick. Note that each luminaire includes a wire holder to keep the wiring in place.

Step 3: Getting power to the luminaires

Recommended Method: minimizes the amount of holes to drill and wires to hide



Step 3: Getting power to the luminaires

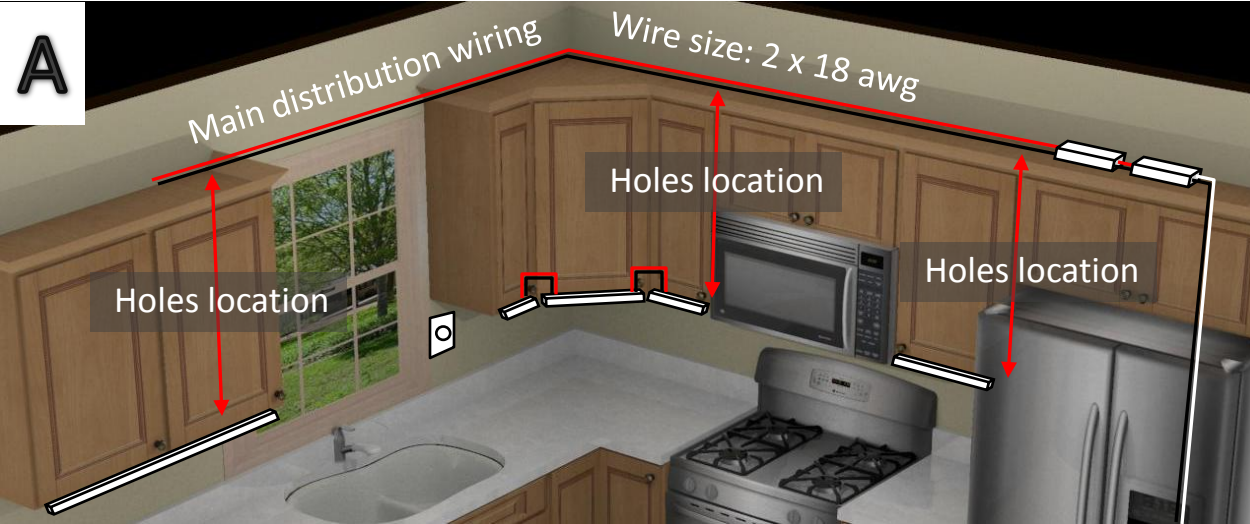
Alternative: less desirable because more holes to drill and wires to hide



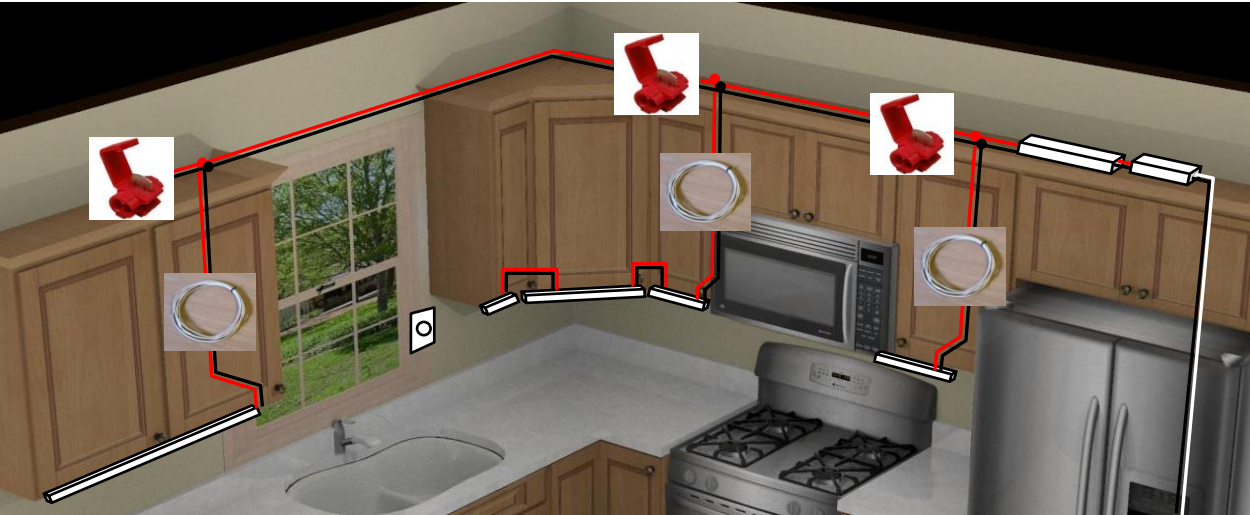
Step 3: Getting power to the luminaires

A- Install the main distribution wiring

B- Drill the top and bottom panels of the cabinets (usually not necessary to drill the shelves). The hole diameter must accommodate 2 x 18 awg wires.



Step 3: Getting power to the luminaires



C- Route the power harness inside the cabinet. Pull the shelves a little to make way for the wires.

D- Connect the power harness to the first luminaire of a series. The positive wire should be marked.



C

Routing of power harness behind the shelves. Make sure the positive wire is marked.

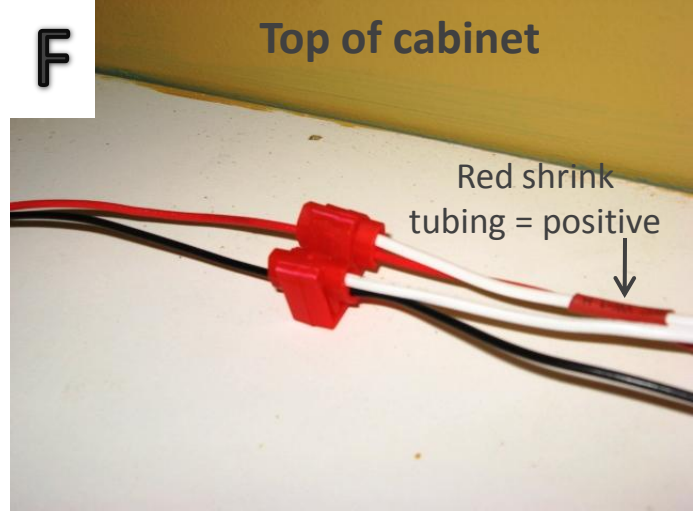
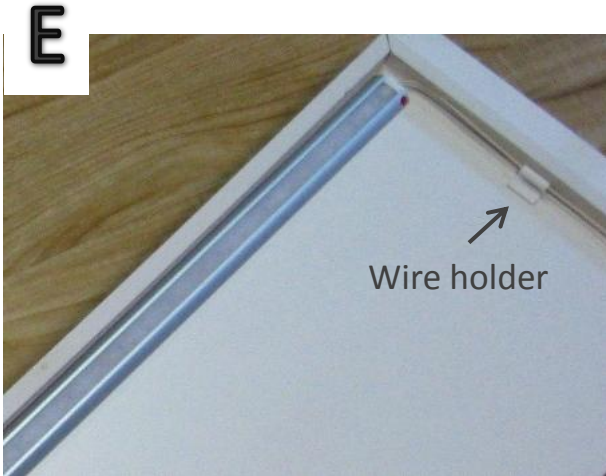


Step 3: Getting power to the luminaires

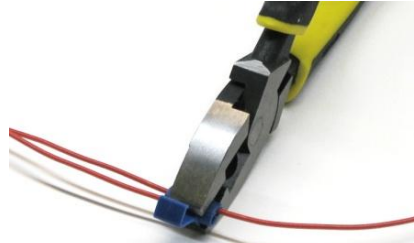
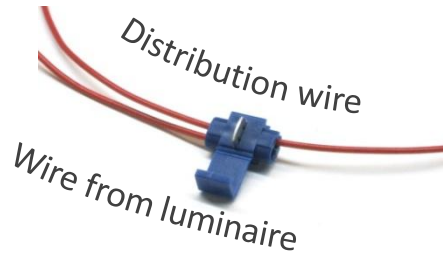
- E- Pull on the wires to remove slack and secure the wiring with a wire holder.
- F- Connect the other side with main distribution wires using wire taps.

Important:

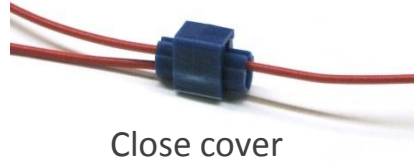
- 1) Make sure the polarity is respected. The wire identified with a red shrink tubing is the positive and the other one is the negative.
- 2) Do not make electrical connections while the power is ON. Unplug the power supply.



How to use wire taps



Press tab through the wire insulation



Close cover

Step 4: Test the system

Once the first luminaire is connected, check that the system is working. Make sure the polarity is correct throughout the system before proceeding.

System without receiver / remote control

1. Apply power to the power supply (probably via the wall switch)
2. The light should be ON

System with receiver / remote control

1. Apply power to the power supply
2. Use the remote control to turn on the light

Note: Each remote controller must be paired to a receiver in order to work. This operation was carried out for you in our factory. If need be, please refer to the controller datasheet for the pairing / unpairing procedure.

Step 5: Remote controller installation

iLuXx is offering remote controllers based on the RF technology. It means that the device is wireless (no electrical connections is required – battery operated). So basically it means that you find a location and stick it to the wall. Please refer to your controller datasheet for more details.

How to order: Luminaires length

Many standard lengths available

iLuXx offers a wide selection of standard lengths. That level of flexibility is unique and an important advantage over other solutions. Dim A is the overall length.

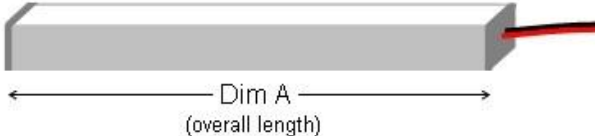
Table 1: Very High Output

Dim A (in/mm)	Power (Watt)	Part Number (1)
UC2A 126 LED / meter version		
5,5 / 140	2,2 W	UC2A-12624x-140
7,7 / 195	3,2 W	UC2A-12624x-195
9,8 / 250	4,3 W	UC2A-12624x-250
12,0 / 305	5,4 W	UC2A-12624x-305
14,2 / 360	6,5 W	UC2A-12624x-360
16,3 / 415	7,6 W	UC2A-12624x-415
18,5 / 470	8,6 W	UC2A-12624x-470
20,7 / 525	9,7 W	UC2A-12624x-525
22,8 / 580	10,8 W	UC2A-12624x-580
25,0 / 635	11,9 W	UC2A-12624x-635
27,2 / 690	13,0 W	UC2A-12624x-690
29,3 / 745	14,0 W	UC2A-12624x-745
31,5 / 800	15,1 W	UC2A-12624x-800
33,7 / 855	16,2 W	UC2A-12624x-855
35,8 / 910	17,3 W	UC2A-12624x-910
38,0 / 965	18,4 W	UC2A-12624x-965

Table 2: High Output

Dim A (in/mm)	Power (Watt)	Part Number (1)
UC2A 70 LED / meter version		
4,9 / 125	1,3 W	UC2A-7024x-125
8,9 / 225	2,6 W	UC2A-7024x-225
12,8 / 325	4,0 W	UC2A-7024x-325
16,7 / 425	5,3 W	UC2A-7024x-425
20,7 / 525	6,6 W	UC2A-7024x-525
24,6 / 625	7,9 W	UC2A-7024x-625
28,5 / 725	9,2 W	UC2A-7024x-725
32,5 / 825	10,6 W	UC2A-7024x-825
36,4 / 925	11,9 W	UC2A-7024x-925

(1) x = Color



How to Order: Light Output – 2 Options

Select your light output

We deliver more light than anyone out there. Both versions will do a great job but there's a Wow! factor with the 126 Led /meter version that you won't find anywhere else.

Very High Output

- Best results
- 126 Led / meter
- 494 Lumen / feet
- 5.4 Watt / feet

High Output

- Very good results - economical
- 70 Led / meter
- 334 Lumen / feet
- 3.8 Watt / feet

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20,7 / 525	9,7 W	UC2A-12624x-525
22,8 / 580	10,8 W	UC2A-12624x-580
25,0 / 635	11,9 W	UC2A-12624x-635
27,2 / 690	13,0 W	UC2A-12624x-690
29,3 / 745	14,0 W	UC2A-12624x-745
31,5 / 800	15,1 W	UC2A-12624x-800
33,7 / 855	16,2 W	UC2A-12624x-855
35,8 / 910	17,3 W	UC2A-12624x-910
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24,6 / 625	7,9 W	UC2A-7024x-625
28,5 / 725	9,2 W	UC2A-7024x-725
32,5 / 825	10,6 W	UC2A-7024x-825
36,4 / 925	11,9 W	UC2A-7024x-925

(1) x = Color

How to Order: Light Color – 2 Options

Select your nuance of white

Because white is not always the same as white.

Neutral White – 4000K

Close to natural light. A good match for cooler colors, whites, stainless steel, modern style kitchens.

Warm White – 3000K

Close to soft white incandescent lighting. A good match for warmer colors, wood, more traditional style kitchens.



Neutral White	Warm White
4000K	3000K

How to Order: Power supply selection

Power supply selection

Type: 24Vdc Constant Voltage

Power:

1. Calculate the total lighting power that will be connected to the power supply. (see table 1 or 2 for wattage according to luminaire length)
2. Select a power supply that covers your total lighting power and keep a safety margin of about 10%.

Example:

- Total lighting power: 55W
- Choose a power supply of 60W or more



How to Order: Controller selection

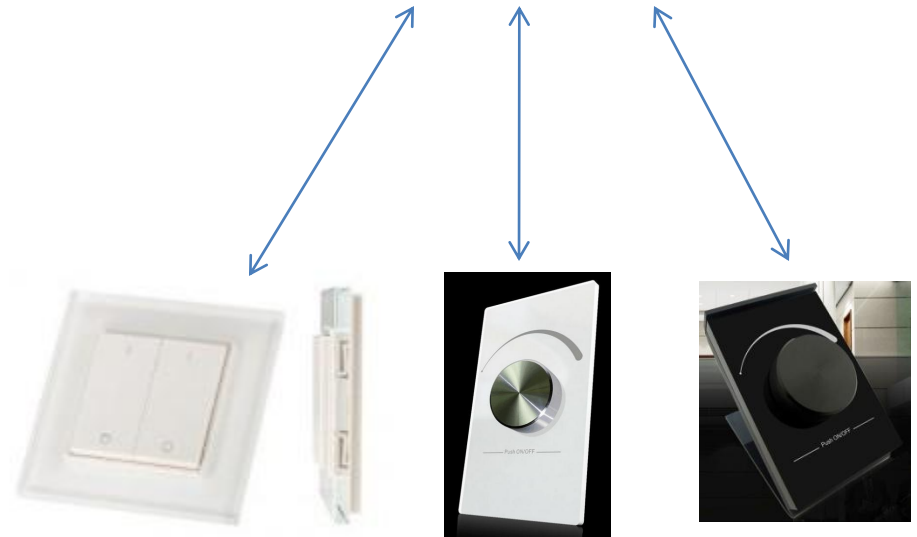
Controlling the light

The controller is composed of a PWM type receiver and a remote control that can be permanently fixed to the wall. Controller characteristics:

1. Switch ON or Off the lights
2. Adjust the lighting level - Dimming.
3. Can handle a total of 192W @ 24vdc

Note that you can also use a standard wall switch if the dimming function is not required.

Receiver example



Remote Control examples ; more on website

How to Order: **Accessories**

Accessories

These accessories are meant to make your job easier. Most are common items you can get at your local hardware store but for added convenience we make them available at www.iluxxinc.com.

18 awg Stranded Wire



Inline Wire Tap



How to Order: Summary

In summary here are the required items for a typical project.

1- Luminaires



- Determine the required lengths
- 2 light output options
- 2 light color options

2- Power Supply



- Determine luminaires total wattage
- Select the power supply that covers the total wattage.

3- Controller



- Optional
- Required for the dimming function

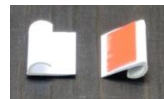
4- Accessories



18 awg stranded wire for 24vdc power distribution and interconnexion between luminaires. White wire for the portion that runs inside the cabinets.



« Wire Tap » for simple electrical connections.



Wire holder – Included with luminaires.

Required tools



Wire stripper



Tell us about your project

iLuXx provides
under cabinets
lighting solutions.

www.iluxxinc.com

