









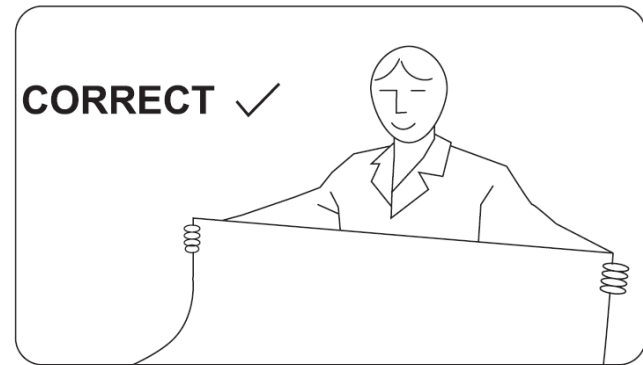
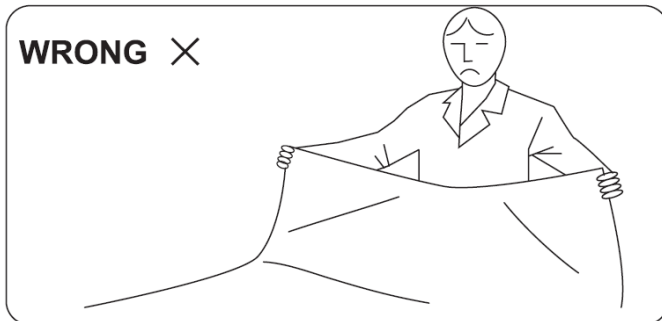
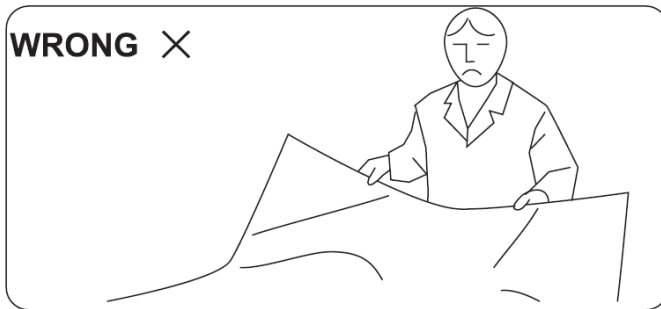
# UCPR Smart Film Installation

Installation



## UCEF Smart Film Installation Precautions

1. Please ensure the working environment is clean and dust free.
2. Never fold, bend or curve smart film. Always keep the film flat and straight as shown below.



3. Do not remove the protective liner (cling side) until you are ready to install smart film. The protective liner (Non-cling side) should remain until installation is completed.
4. When handling smart film always be careful with the edges to avoid delamination.
5. Never use any chemicals or abrasive cleaners on smart film surface. We recommend either anhydrous alcohol or mild glass polish and soft lint-free cloth.

### ※ Important

For installation of large smart film, always employ two or more persons to prevent back injuries.

## Equipment Required



- Self-adhesive Switchable Film
- Window scraper / blade
- Hard rubber roller
- Soft edge squeegee
- Nitrile protective gloves
- Cleaning cloths
- Liquid glass polish
- IPA / Soft cloths
- 1.5mm electrical cable
- Cable strippers
- Soldering iron / solder
- Scissors / sharp blade
- Specific Silicon Sealant
- Plastic cover trim / clear double sided tape

### PLEASE NOTE

- Switchable Film is a dry install application. Please do NOT use water under any circumstances other than for cleaning the glass.
- We recommend the outer dimensions of the self-adhesive Switchable film are 2 - 3mm shorter than the visual area of the glass, then sealing all sides with non-acid sealant (caulk).
- The bus bar (electrical contact strip) should never come into contact with any metal frame / trim.

Preparation is the key to a successful install.

## Step 1

### Installation



Place the film in a safe clean place, preferably on a table.

## Step 2

Make sure the cling surface is facing up.





### Step 3

Spray water mist in the ambient air to remove fugitive dust completely.



### Step 4



Spray the glass with liquid glass polish and use a window scraper or blade to remove any dirt / blemishes from the glass surface. **The glass surface where adhesive film is to be applied must be free of any imperfections.** Repeat this procedure until you are happy the surface is smooth.

## Step 5

### Installation



Spray the glass with liquid glass polish and clean with a soft lint-free cloth. Repeat this process until you are sure that the surface is completely clean.

## Step 6



Installation

Using a lint free cloth, wipe the glass surface with IPA (Isopropyl Alcohol) and leave to evaporate.

## Step 7



Wipe down the protective liner on the cling side of the self-adhesive Switchable Film to remove any dust.

Using the edge tab of the label remove the first 100mm (4") of the protective liner covering the cling side on the bus-bar edge. Make sure that you do this in a clean dust free environment.

## Step 8

### Installation



Align the bus-bar edge of the self-adhesive Switchable Film with the top edge of the glass. When in position remove the first 100mm (4") of the protective liner covering the cling side on the bus-bar edge. Make sure that you do this in a clean dust free environment and run your finger along the bus-bar to fix the top edge (the adhesive strip will hold the film in position).

## Step 9



Installation

Gradually pull away the protective liner and allow the film to slowly adhere to the glass surface under its own pressure. Using the roller move down the film working in horizontal lines left to right to disperse any air bubbles. If any small bubbles are visible, carefully lift the film and let it sit back down under its own pressure. At this point any persistent bubble is an indication of a spec of dust on the glass or on the adhesive surface, remove it carefully and continue with a bubble-free installation.

## Step 10



\Repeat the above process until you have a bubble-free complete installation.

## Step 11

### Installation



Use the soft edge squeegee to work any small bubbles at the edges of the film.

Please note that if any edges are lifting slightly these will relax down once the protective liner is removed from the non-cling side.

## Step 12



Once the film is installed on the glass you can then start work on wiring the bus-bar. Carefully solder the electrical cable to the mesh tags. There are two tags on the left hand side and two tags on the right hand side. Solder a cable to one tag on the left (positive connection) and one tag on the right (negative connection). The other tags are only there as spares. At this stage it would be good to connect the cables to a switch / transformer and test the switching from frosted to clear.

Once you have tested the switching you can then trim off the spare mesh tags.

### Step 13



You can now lift the protective liner tag and carefully remove the protective liner.

### Step 14



Run some clear double sided tape along the bus-bar edge to hold your electrical cables in place while you prepare the cover trim.

## Step 15

### Installation



Use specific **non-acid non-conductive silicone sealant / caulk** along the bus-bar edge to hold the protective cover trim in place. We recommend you use a plastic cover trim. If you wish to use a metal trim we would suggest that you reserve the services of an electrician.

## Step 16



Your installation is now complete and you can clean the film using either liquid glass polish or IPA cleaner and a soft lint-free cloth. For most installations we would recommend that you use a thin cover trim on all edges of the film after sealing them with sealant.



## Step 17



The end result.

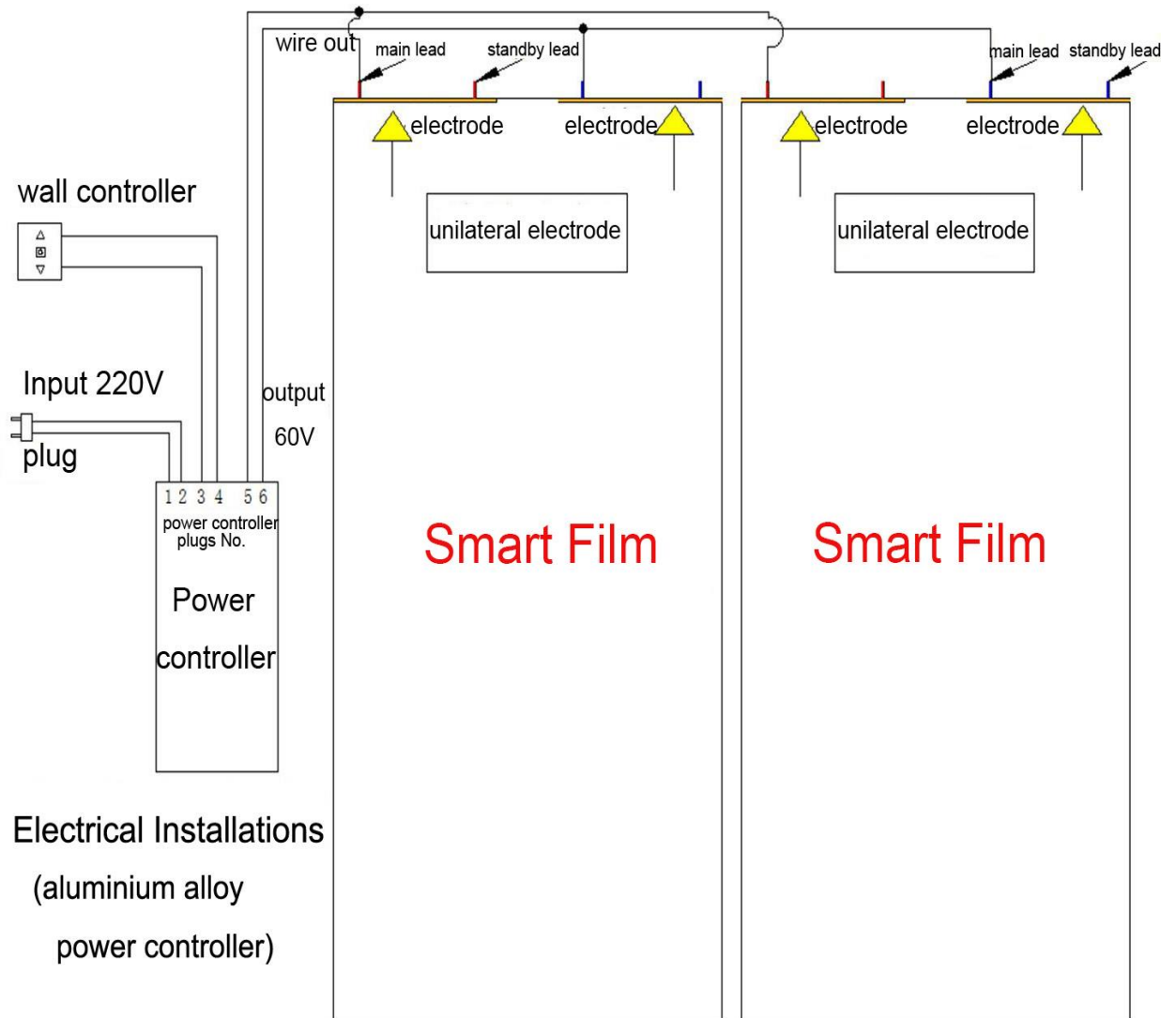
Installation

# Electrical Installations

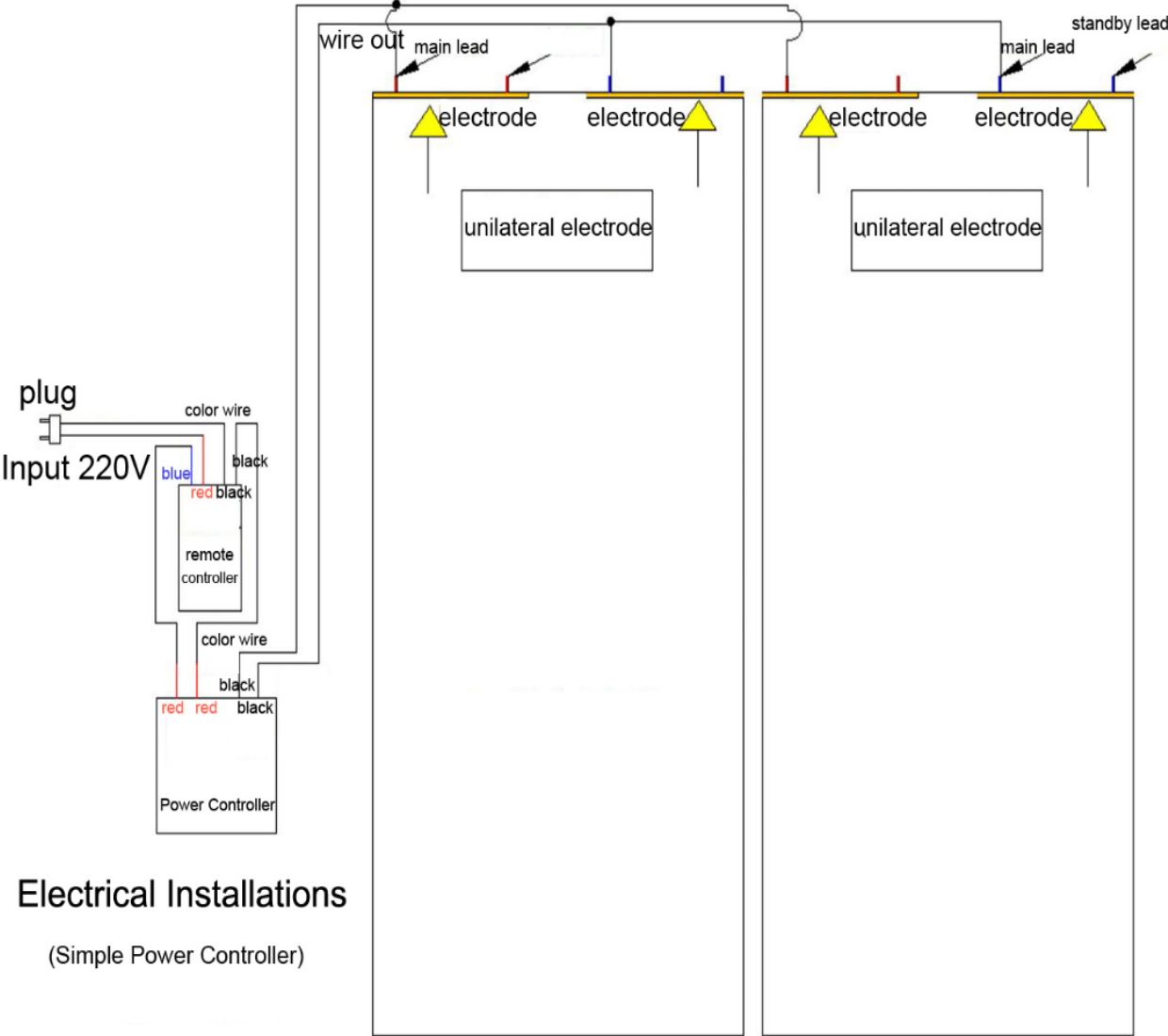
## Aluminium Alloy Power Controller

In USA & Canada we ship 110V power controller

Electrical



# Simple Power Controller



Electrical Installations  
(Simple Power Controller)

## Tech Specs

### Specification

Product	Smart Film
Color	Milky White
Thickness	0.45 ± 0.02mm
Dimension	Self Cling: Up to 1200 * 3500mm
	Non-adhesive: max 1800*3500mm
Operation	Transparent at power on Opaque at power off
Light Transmittance	>78% (ON) <1% (OFF)
Haze Coefficient	<7% (ON) >90% (OFF)
UV Absorption Index	>90% (ON) >99% (OFF)
IR Absorption Index	>30% (ON) >90% (OFF)
Switching Time	<40 milliseconds
Driving Voltage	≤ 60VAC
Frequency	50/60Hz
Consumption	<5W/m <sup>2</sup> (ON)
Operating Temperature	-30 °C - 60 °C
Storage Temperature	-30°C - 70 °C, <70% RH
Product Life	Over 50,000 hrs (if used indoors away from UV)

NB: We reserves the right, without notification, to make changes to these product specification or performance as technology advances.