# Auto Sunrise-Sunset Dimmer Manual


## Specifications

| | |
|---|---|
| Supply voltage: | 12V/24V DC (MakeMyLed systems are 24V) |
| Output: | 5 channels @ 4A (60W@12V 96W@24V Max per channel) |
| Programming: | From Windows PC/Laptop |
| Model: | TC420 |
| Battery Backup: | CR1220 Button Battery (Included), If power goes out, the unit will continue it's program when power is restored. |

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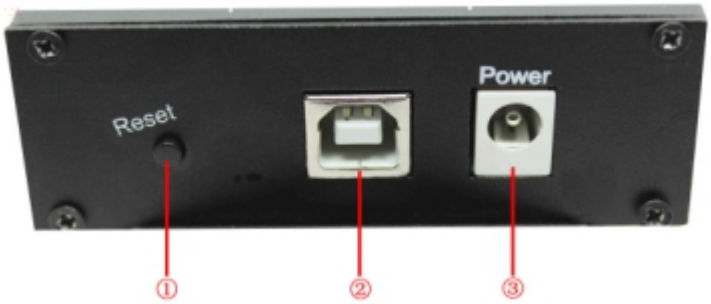
## Connections




1. Reset button — To reset the unit
2. USB socket: — To upload timing patterns from Windows PC/Laptop or to run simulations, also used to power the device for programming.
3. Power — **This 5.5/2.5 power jack is not used for MakeMyLed lighting systems**, power should be applied via the V+/V- terminals on the other side of the controller.

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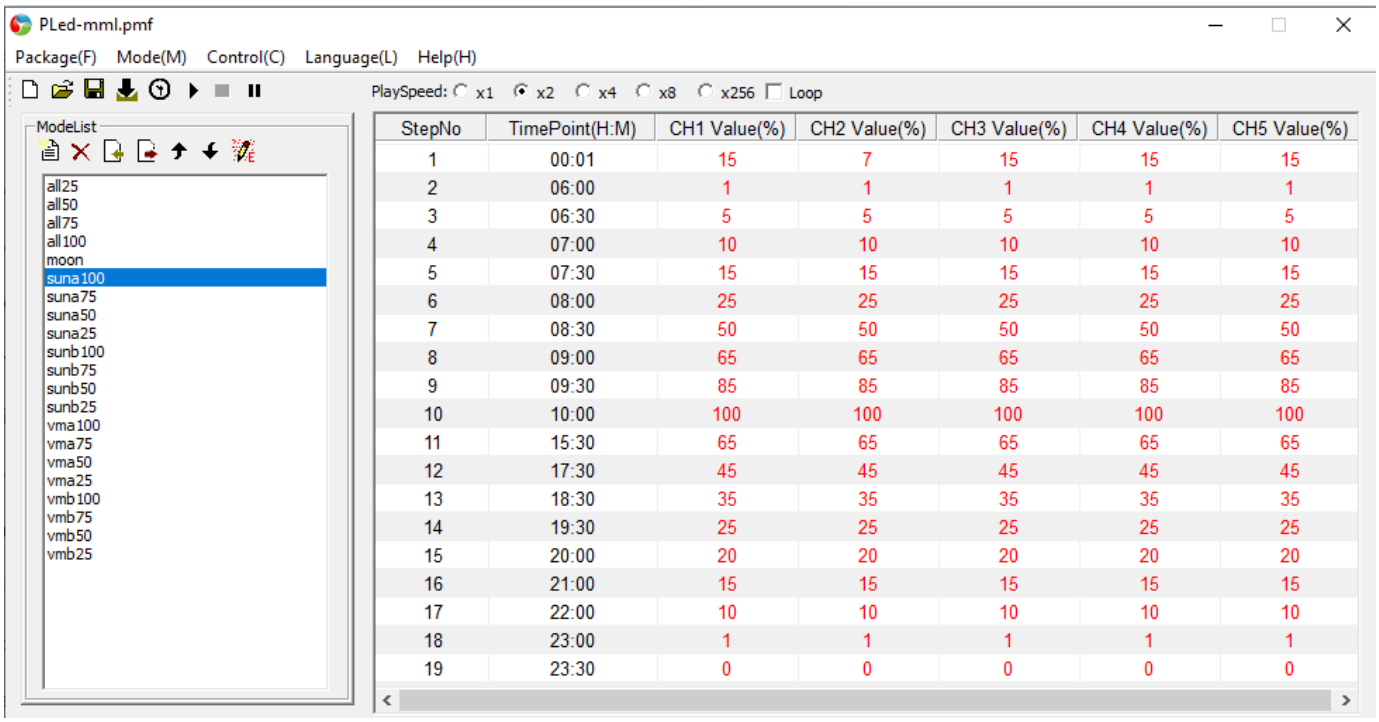
## General Information

The Auto Sunrise Sunset dimmer is a versatile and programmable set and forget controller that can control up to five output lines independently. Switch it on, select the auto dimming pattern you want and sit back and relax. Great for busy people or those that want simplicity in their lives.

The unit features battery backup so that it will automatically continue it's program after a power outage. Pre-programmed ready to go and re-programmable from a Windows PC/Laptop via the supplied USB cable if you want to create your own dimming patterns.

## suna100 example




| StepNo | TimePoint(H:M) | CH1 Value(%) | CH2 Value(%) | CH3 Value(%) | CH4 Value(%) | CH5 Value(%) |
|---|---|---|---|---|---|---|
| 1 | 00:01 | 15 | 7 | 15 | 15 | 15 |
| 2 | 06:00 | 1 | 1 | 1 | 1 | 1 |
| 3 | 06:30 | 5 | 5 | 5 | 5 | 5 |
| 4 | 07:00 | 10 | 10 | 10 | 10 | 10 |
| 5 | 07:30 | 15 | 15 | 15 | 15 | 15 |
| 6 | 08:00 | 25 | 25 | 25 | 25 | 25 |
| 7 | 08:30 | 50 | 50 | 50 | 50 | 50 |
| 8 | 09:00 | 65 | 65 | 65 | 65 | 65 |
| 9 | 09:30 | 85 | 85 | 85 | 85 | 85 |
| 10 | 10:00 | 100 | 100 | 100 | 100 | 100 |
| 11 | 15:30 | 65 | 65 | 65 | 65 | 65 |
| 12 | 17:30 | 45 | 45 | 45 | 45 | 45 |
| 13 | 18:30 | 35 | 35 | 35 | 35 | 35 |
| 14 | 19:30 | 25 | 25 | 25 | 25 | 25 |
| 15 | 20:00 | 20 | 20 | 20 | 20 | 20 |
| 16 | 21:00 | 15 | 15 | 15 | 15 | 15 |
| 17 | 22:00 | 10 | 10 | 10 | 10 | 10 |
| 18 | 23:00 | 1 | 1 | 1 | 1 | 1 |
| 19 | 23:30 | 0 | 0 | 0 | 0 | 0 |

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**The Pre-Programmed dimming patterns (modes)**

| | |
|---|---|
| suna100 | Starts at 6am at 1%, progressively ramps up to 100% by 10am, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| suna75 | Starts at 6am at 1%, progressively ramps up to 75% by 10am, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| suna50 | Starts at 6am at 1%, progressively ramps up to 50% by 10am, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| suna25 | Starts at 6am at 1%, progressively ramps up to 25% by 10am, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| sunb100 | Starts at 6am at 1%, progressively ramps up to 100% by 12pm, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| sunb75 | Starts at 6am at 1%, progressively ramps up to 75% by 12pm, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| sunb50 | Starts at 6am at 1%, progressively ramps up to 50% by 12pm, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| sunb25 | Starts at 6am at 1%, progressively ramps up to 25% by 12pm, at 3pm progressively ramps down to 1% by 9:30pm, off at 10pm |
| All100 | Turn all channels on 100% intensity |
| All75 | Turn all channels on 75% intensity |
| All50 | Turn all channels on 50% intensity |
| All25 | Turn all channels on 25% intensity |
| moon | Turn all channels on 1% intensity |
| vma100 | For VividMax panels. Works like suna100 but green channel is 50% lower |
| vma75 | For VividMax panels. Works like suna75 but green channel is 50% lower |
| vma50 | For VividMax panels. Works like suna50 but green channel is 50% lower |
| vma25 | For VividMax panels. Works like suna25 but green channel is 50% lower |
| vmb100 | For VividMax panels. Works like sunb100 but green channel is 50% lower |
| vmb75 | For VividMax panels. Works like sunb75 but green channel is 50% lower |
| vmb50 | For VividMax panels. Works like sunb50 but green channel is 50% lower |
| vmb25 | For VividMax panels. Works like sunb25 but green channel is 50% lower |

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For example suna100 will ramp up to 100% and stay like that for 5 hours and ramp back down, suna75 will ramp up to 75% and stay like that for 5 hours and ramp back down. Sunb100 will ramp up to 100% and stay like that for 3 hours and ramp back down, sunb75 will ramp up to 75% and stay like that for 3 hours and ramp back down. All50 will turn all leds on the 50% intensity and stay like that.

If you are not sure which “sun” pattern to use on your tank, start with suna100 and if you get algae due to excessive light you can switch down to suna75 and further switch down if required. You can also switch to the sunb dimming patterns which have only 3 hours of peak lighting.

The vm series dimming patterns are for VividMax panels. They work exactly the same as the suna and sunb series dimming patterns, the only difference being that the green channel is 50% lower for a better viewing experience.

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**Software Installation and operation for Windows**

You can run the pre-programmed patterns without using a PC/Laptop but if you want to add or remove patterns you'll need to install software on your PC to do so.

Software for PC/Laptop and the pre-programmed modes are available for download from https://makemyled.com.au/downloads/auto-sunrise-sunset.zip

Unzip the software to your PC or Laptop and run the **Pled** software.

This unit come pre-programmed, no need to use the software to program it unless you want to create your own dimming patterns or modify the factory pre-loaded ones.

**Loading the factory pre-loaded dimming patterns to your PC/Laptop**

The controller has factory pre-programmed dimming patterns onboard, if you want to change them you first need to get them onto your PC/Laptop.

1. On a Windows PC/Laptop download software from https://makemyled.com.au/downloads/auto-sunrise-software.zip
2. unzip the software. Run pled, click Package then New
3. Change the package path to the folder you unzipped the software to.
4. Ensure Channelnum is set to 5
5. Make up a name for the package, keep it short 8 letters or less.
6. Click Mode then Input and select the first .tmf file in the list, repeat for the other .tmf files.
7. Click Package then Save
8. Connect the controller to your Windows PC/Laptop using the USB cable.
9. Then use the Control/Download menu option to upload all modes in the package to the controller

**NOTE:** Dimming patterns (called Modes) are contained inside a project, think of a Project as a folder and the modes are the files in the folder.

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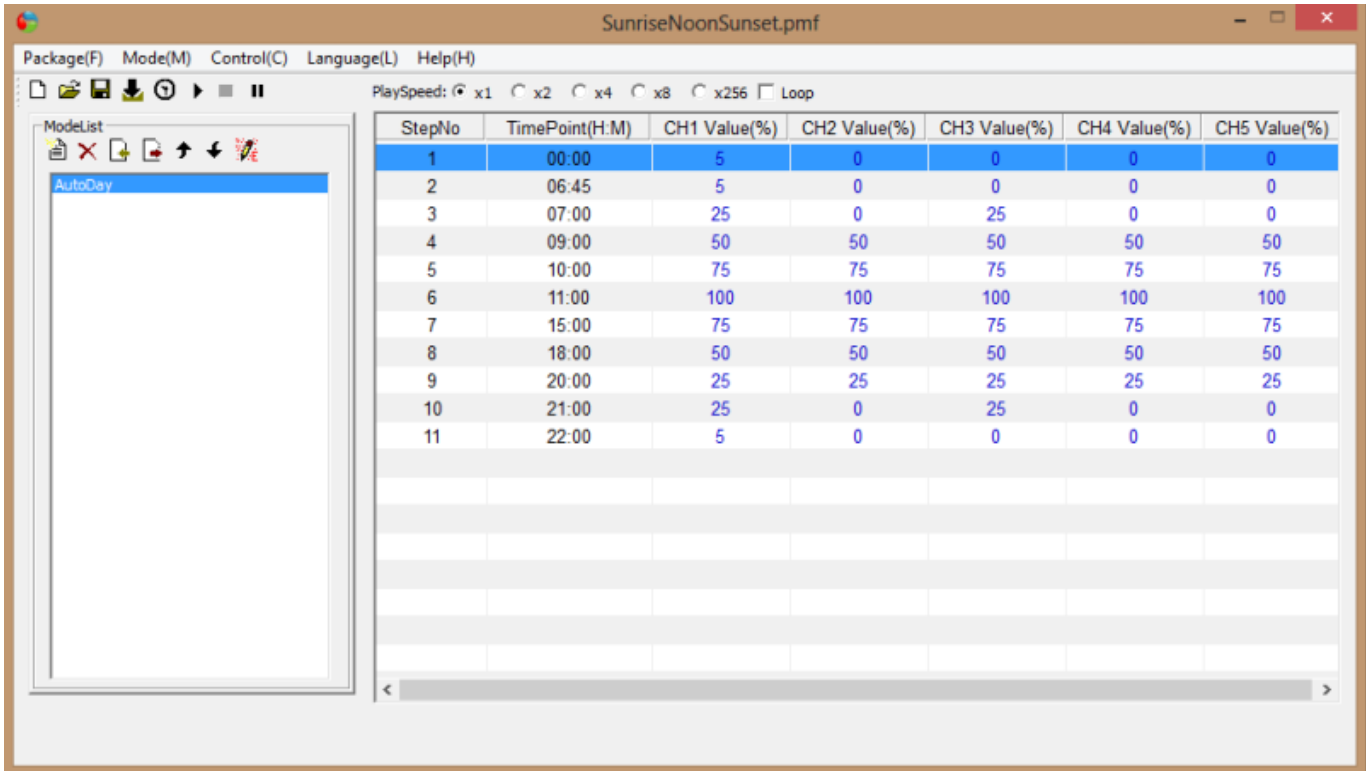
## Adding/Changing/Modifying dimming pattersns (modes)




## Package Menu option

| | |
|---|---|
| **New** | Create a new lighting package |
| **Open** | Open a pre saved lighting package |
| **Save** | Save the current lighting package |
| **Exit** | Close the program |

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**Mode menu option**

| | |
|---|---|
| **Insert** | use it to create a new mode which can contain up to 50 time points. |
| **Load** | to load an existing mode for editing |
| **Edit** | Change the loaded mode. You can also enable edit by double clicking the display frame. |
| **Export** | save the current mode to a file |
| **Delete** | delete the current mode |
| **MoveUp** | move up to the next mode in the list |
| **MoveDown** | mode down to the next mode in the list |
| **Rename** | rename the current mode |
| **Empty** | Remove all modes in the current package |

**Control menu option**

| | |
|---|---|
| **Download** | download the current package to the smart controller |
| **Synctime** | Download the PC time to the smart controller |
| **Clearall** | Clear all modes stored in the smart controller |
| **OnlinePlay** | Play the current mode, good for previewing before downloading. |
| **Stop** | Stop online play |
| **Pause** | Pause online play |

**Help menu optional**

For online help and software updates

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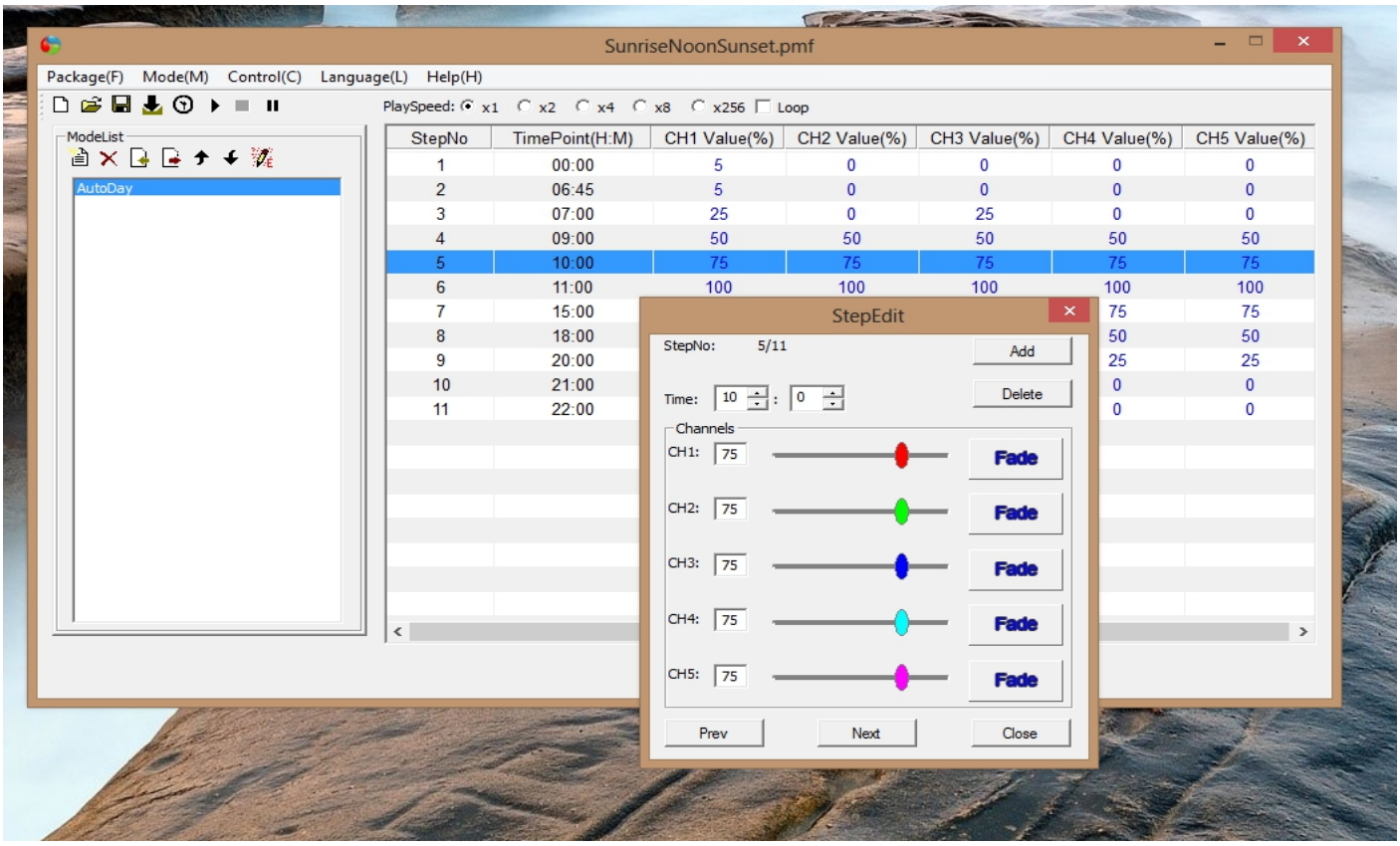
## Adding, Editing and deleting time points in a mode (aka pattern)

You can have up to 50 time points (called steps) programmed into a mode, The mode shown below has 11 time points set.

Double click on the display panel to bring up the Step editor. Click Add to add a new step, delete to delete the current step. For each step you can specify the time and the % intensity of each channel.

The “Fade” button toggles between Fade and Jump. Fade means fade from one time point to the next, Jump means jump from one time point to the next. e.g. Step 1 Channel 1 is 50% brightness, Step 1 channel 1 is 100% brightness, Fade will gradually transition from 50% to 100% until step 2 is reached, Jump will keep the brightness at 50% until step 2 is reached and then the brightness will jump to 100%.



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**Using the buttons on the controller**


1. Menu button – Return the smart controller back to the main menu
2. Enter - Select the currently displayed menu option
3. Up/Down – move up and down the options in the menu

**Mode menu option**

Select which mode (lighting pattern) you want to run

**Setup Menu option**

Options available here are for setting the time, date and enable/disable sound on the smart controller.

**Run menu option**

Options are On or Off. Use the Up/Down buttons to toggle. On means run the selected mode, Off means turn the lights off.