DTD Controller Instructions

1 LED Indicators

Power ON LED — (Flashing = UPS/battery Solid = mains power)

Orange Ramp Up LED

Blue Ramp Down LED — (Flashing = cycle ramping Solid = cycle complete)

2 User Switch Control

DTD Controller
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Channel A and Channel B: automatic off manual modes

AUTO
OFF
MAN

CH
A

CH
B

AUTO
OFF
MAN

Adjust brightness manual mode only
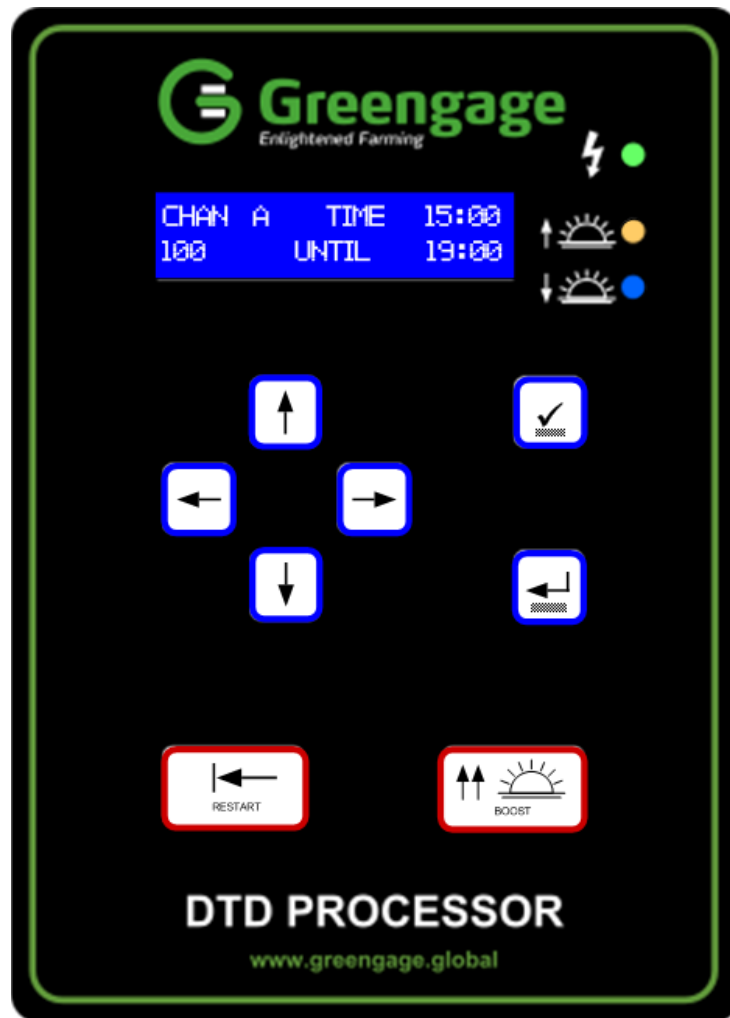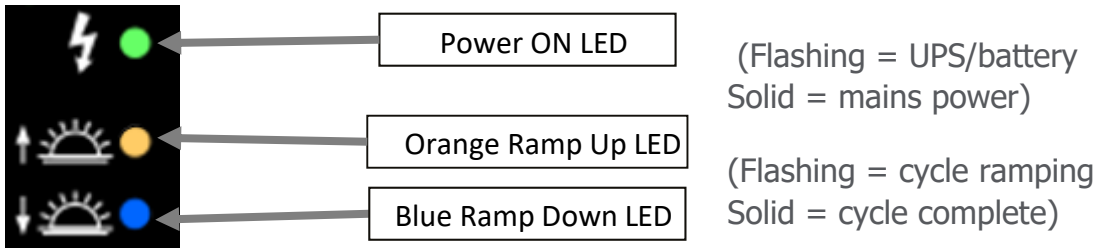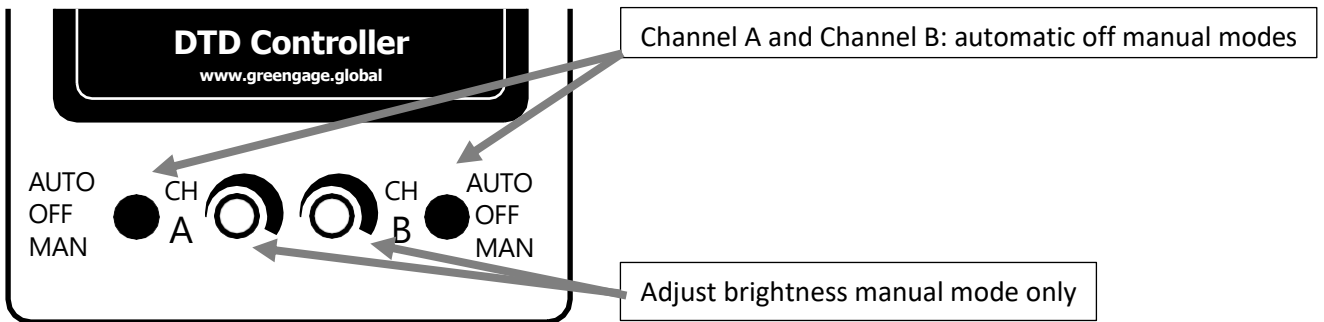
3 Programming Instructions

- Event Numbering

SET LIGHTS	
EVENT 10	CHAN A

Event 1-10 = channel A

SET LIGHTS	
EVENT 11	CHAN B

Event 11-20 = channel B

- Button Meanings

↓	**Decrease**	→	**Forward one screen**	✓	**Confirm**
↑	**Increase**	←	Back one screen		
←‖ RESTART	**Home**	↵	Top menu screen		

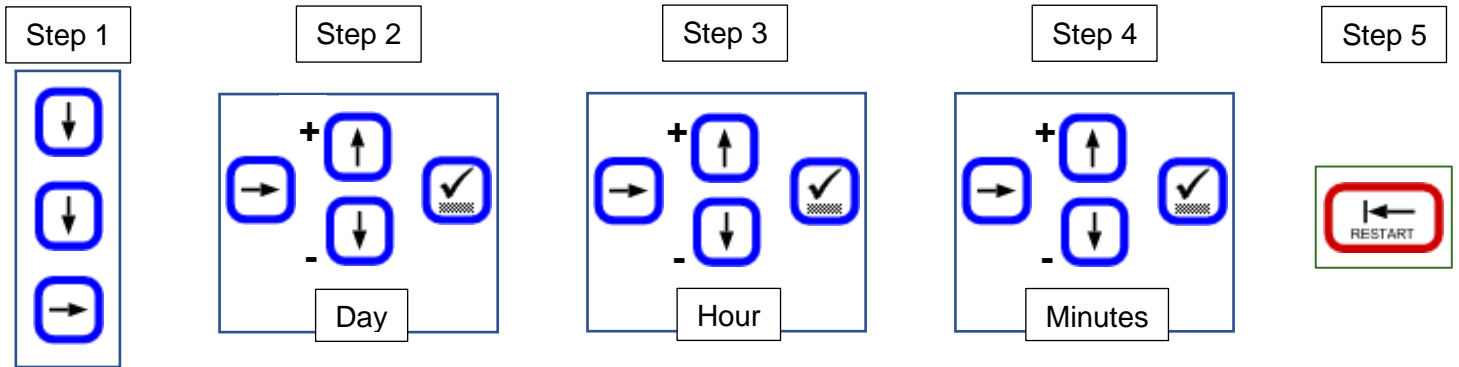| ↑↑ BOOST	**Immediate max light for 10 minutes. Hold for 10 seconds and confirm.** **Press ENTER again to add an additional 10 mins**

To program the DTD please follow these sequences from the home screen:
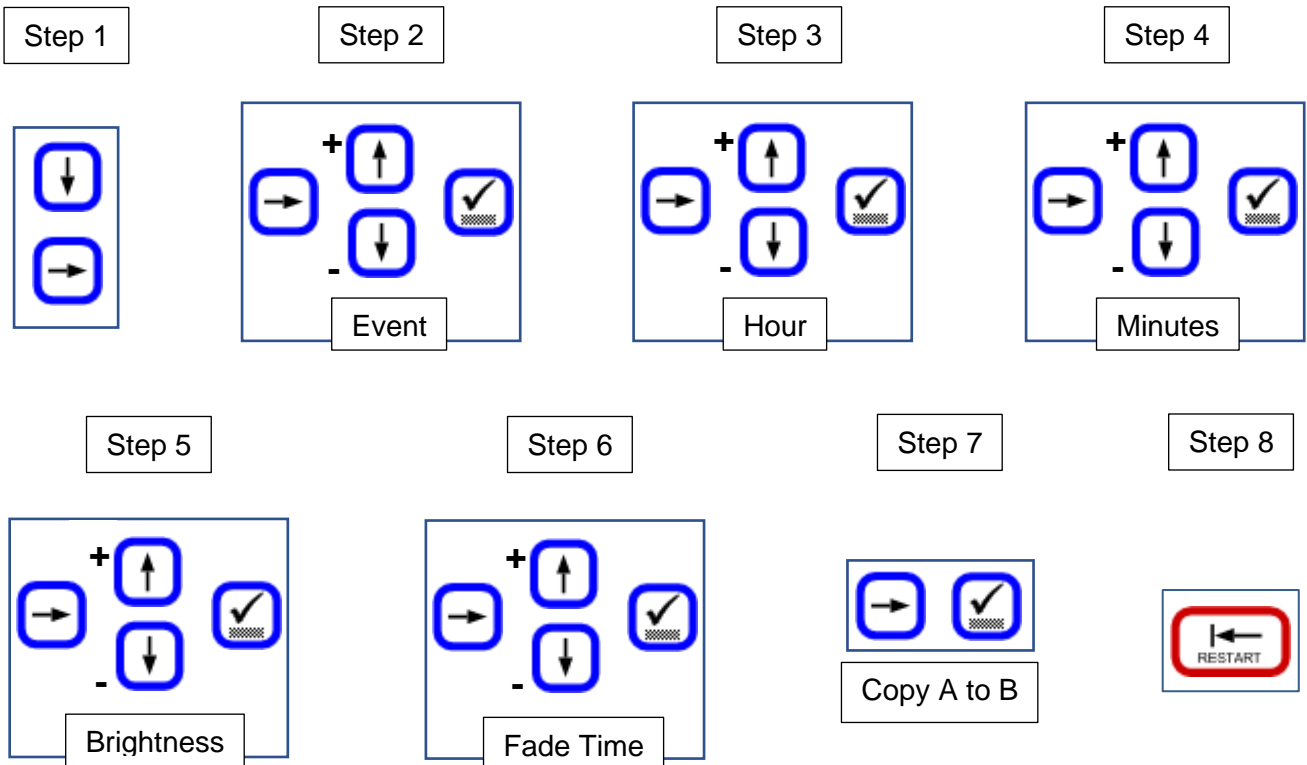
```
CHAN  A    TIME  15:00
100        UNTIL  19:00
```

- ## Set Clock

```
SET CLOCK
```

Step 1	Step 2	Step 3	Step 4	Step 5
	Day	Hour	Minutes	RESTART

- ## Set Lights

```
SET LIGHTS
```

Step 1	Step 2	Step 3	Step 4
	Event	Hour	Minutes

Step 5	Step 6	Step 7	Step 8
Brightness	Fade Time	Copy A to B	RESTART

- **Must repeat for all available events.** See section 4 for details.

4 Working Out the Light Events

Creating a table of events helps keep track of what should be happening.

- Important Points

Events must be programmed in order between 00:01 and 23:59.

Event 1 is the first change to occur after 00:00.

Any unused events must be programmed to match the last used event to ensure the correct patten of lighting. This can be seen in the tables below.

In this example there are only 2 events, out of a total of 10 possible events.

Ch A	Time	Brilliance	Fade Time
Event 1	21:00	0%	5
Event 2	22:00	100%	15
Event 3	22:00	100%	15
Event 4	22:00	100%	15
Event 5	22:00	100%	15
Event 6	22:00	100%	15
Event 7	22:00	100%	15
Event 8	22:00	100%	15
Event 9	22:00	100%	15
Event 10	22:00	100%	15

Event 1 - 9pm the lights go off, with a fade down time of 5 minutes.

Event 2 - 10pm the lights come on, with a fade up time of 15 minutes.

In this example there are 4 events, out of a total of 10 possible events.

Ch A	Time	Brilliance	Fade Time
Event 1	02:00	100%	15
Event 2	04:00	0%	5
Event 3	06:00	100%	15
Event 4	22:00	0%	5
Event 5	22:00	0%	5
Event 6	22:00	0%	5
Event 7	22:00	0%	5
Event 8	22:00	0%	5
Event 9	22:00	0%	5
Event 10	22:00	0%	5

Event 1 - 2am the lights come on, with a fade up time of 15 minutes.

Event 2 - 4am the lights go off, with a fade down time of 5 minutes.

Event 3 - 6am the lights come on, with a fade up time of 15 minutes.

Event 4 - 10pm the lights go off, with a fade down time of 15 minutes.

If you require further assistance, please contact support@greengage.global

5 Dip Switch Settings

There are a total of 3 dip switches within the DTD.

- Dimmer Configuration Settings

2 of the dip switches are easily located on the circuit board positioned near the bottom of inside of the cover.

These dip switches are set based on the number of dimmers connected.

The DTD Panel is designed to work with up to 4 dimmers joined in parallel on both channel A and B, totalling 8 over both channels.

On install the dip switches are required to be set to match the dimmer quantity on both channel A and B.
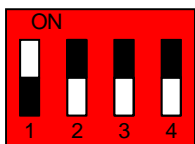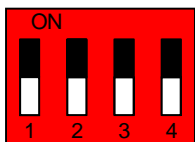
 1 dimmer per channel

 2 dimmers per channel

3 dimmers = 1, 2 and 3 "ON"

4 dimmers = 1, 2, 3 and 4 "ON"

- Event and Ramp Control

The third dip switch is located on the main circuit board, housed inside the metal enclosure inside the cover.

 In the basic setting, with all switches down, Channel A and B have 10 events each to set up, 5 ramps up and 5 ramps down.

Normal ramp speed from zero to one hundred percent.

1% is 0.07V

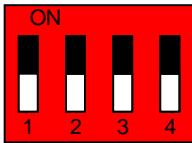The Greengage DTD should be set with switches 1-3 down and switch 4 on.

 Channel A and B have 10 events to set up, 5 ramps up and 5 ramps down.

Fast ramp to 1.9v signal output, followed by normal ramp to one hundred percent.
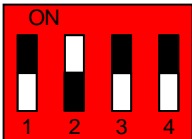
1% is 2.06V

For additional information on this dip switch and its settings please see Appendix 1.

Appendix 1: DTD Dip Switch Settings

MODE 1
With all switches in the down position the unit is set to single channel basic mode. This provides one relay output and one 0-10v output. The ramp up/down settings remain the same as set regardless of which day the unit is on.
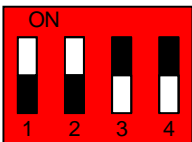
MODE 2
With switch 2 in the up position and all other switches in the down position the unit is set to two channel basic mode. This provides two relay outputs and two 0-10v outputs. The ramp up/down settings remain the same as set regardless of which day the unit is on.
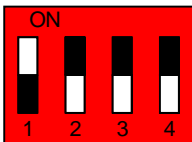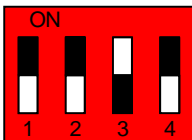
MODE 3
With switch 1 in the up position and all other switches in the down position the unit is set to one channel cycle mode. This provides one relay output and one 0-10v output. Cycle mode allows the user to have 5 successive lighting patterns i.e., cycle 1 run for 5 days at one preset on/off time and maximum brilliance setting, then cycle 2 for the next 3 days at a new preset on/off time and maximum brilliance and so on up to cycle 5.

MODE 4
With switches 1 and 2 in the up position and all other switches in the down position the unit is set to two channel cycle mode. This provides two relay outputs and two 0-10v outputs. Cycle mode allows the user to have 5 successive lighting patterns i.e., cycle 1 run for 5 days at one preset on/off time and maximum brilliance setting, then cycle 2 for the next 3 days at a new preset on/off time and maximum brilliance and so on up to cycle 5.

MODE 5
With switch 3 in the up position and all other switches in the down position the unit is set to single channel basic mode with sunset delay. This provides one relay output and one 0-10v output. The Ramp up/ down settings remain the same as set regardless of which day the unit is on.
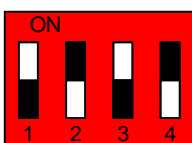
MODE 6
With switches 1 and 3 in the up position and all other switches in the down position the unit is set to single channel cycle mode and sunset delay. This provides one relay output and one 0-10v output. The ramp up/down settings remain the same as set regardless of which day the unit is on. Cycle mode allows the user to have 5 successive lighting patterns i.e., cycle 1 run for 5 days at one preset on/off time and maximum brilliance setting, then cycle 2 for the next 3 days at a new preset on/off time and maximum brilliance and so on up to cycle 5.

Appendix 2: Connection Diagram

ETM

All Bus Cable is supplied as a twisted pair and should NEVER be untwisted

Power Hub

Power Hub

VAC 50/60 Hz

VAC 50/60 Hz

0v 10v Dimmer control cable i2 Core screened/shielded signal cable, Stranded Conductor - 16/0.02 - 0.5mm Cross Sectional dia - 22 AWG

13 14 10v 0v

DTD

15 18 10v 0v

On Site Main Power Distribution Panel

Minimum cable requirements per hub, Stranded Conductor - 32/0.02 - 1.0mm Cross Sectional dia - 18 AWG

N ⏚ L

1 2 3 L N

Appendix 3: Template lighting cheat sheet

Lighting Profile Option 1

1hr Darkness

	Time	%	fade	copy to ch b
Event 1	22:00	0%	10mins	copy
Event 2	23:00	100%	10mins	copy
Event 3	00:00	100%	10mins	copy
Event 4	00:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

2hr Darkness

	Time	%	fade	copy to ch b
Event 1	00:00	100%	10mins	copy
Event 2	06:00	0%	10mins	copy
Event 3	08:00	100%	10mins	copy
Event 4	00:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

3hr Darkness

	Time	%	fade	copy to ch b
Event 1	00:01	0%	10mins	copy
Event 2	01:00	100%	10mins	copy
Event 3	22:00	0%	10mins	copy
Event 4	00:00	0%	10mins	copy
Event 5-10	00:00	0%	10mins	copy

4hr Darkness

	Time	%	fade	copy to ch b
Event 1	00:01	0%	10mins	copy
Event 2	02:00	100%	10mins	copy
Event 3	22:00	0%	10mins	copy
Event 4	00:00	0%	10mins	copy
Event 5-10	00:00	0%	10mins	copy

5hr Darkness

	Time	%	fade	copy to ch b
Event 1	00:01	0%	10mins	copy
Event 2	03:00	100%	10mins	copy
Event 3	22:00	0%	10mins	copy
Event 4	00:00	0%	10mins	copy
Event 5-10	00:00	0%	10mins	copy

6hr Darkness

	Time	%	fade	copy to ch b
Event 1	00:01	0%	10mins	copy
Event 2	04:00	100%	10mins	copy
Event 3	22:00	0%	10mins	copy
Event 4	00:00	0%	10mins	copy
Event 5-10	00:00	0%	10mins	copy

Lighting Profile Option 2

1hr Darkness

	Time	%	fade	copy to ch b
Event 1	21:00	0%	10mins	copy
Event 2	22:00	100%	10mins	copy
Event 3	00:00	100%	10mins	copy
Event 4	00:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

2hr Darkness

	Time	%	fade	copy to ch b
Event 1	21:00	0%	10mins	copy
Event 2	23:00	100%	10mins	copy
Event 3	00:00	100%	10mins	copy
Event 4	00:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

3hr Darkness

	Time	%	fade	copy to ch b
Event 1	01:00	0%	10mins	copy
Event 2	02:00	100%	10mins	copy
Event 3	21:00	0%	10mins	copy
Event 4	23:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

4hr Darkness

	Time	%	fade	copy to ch b
Event 1	01:00	0%	10mins	copy
Event 2	03:00	100%	10mins	copy
Event 3	21:00	0%	10mins	copy
Event 4	23:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

5hr Darkness

	Time	%	fade	copy to ch b
Event 1	01:00	0%	10mins	copy
Event 2	04:00	100%	10mins	copy
Event 3	21:00	0%	10mins	copy
Event 4	23:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

6hr Darkness

	Time	%	fade	copy to ch b
Event 1	01:00	0%	10mins	copy
Event 2	05:00	100%	10mins	copy
Event 3	21:00	0%	10mins	copy
Event 4	23:00	100%	10mins	copy
Event 5-10	00:00	100%	10mins	copy

Lighting Profile Option 1

Lighting Profile Option 2

LIGHTS OFF
LIGHTS ON

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