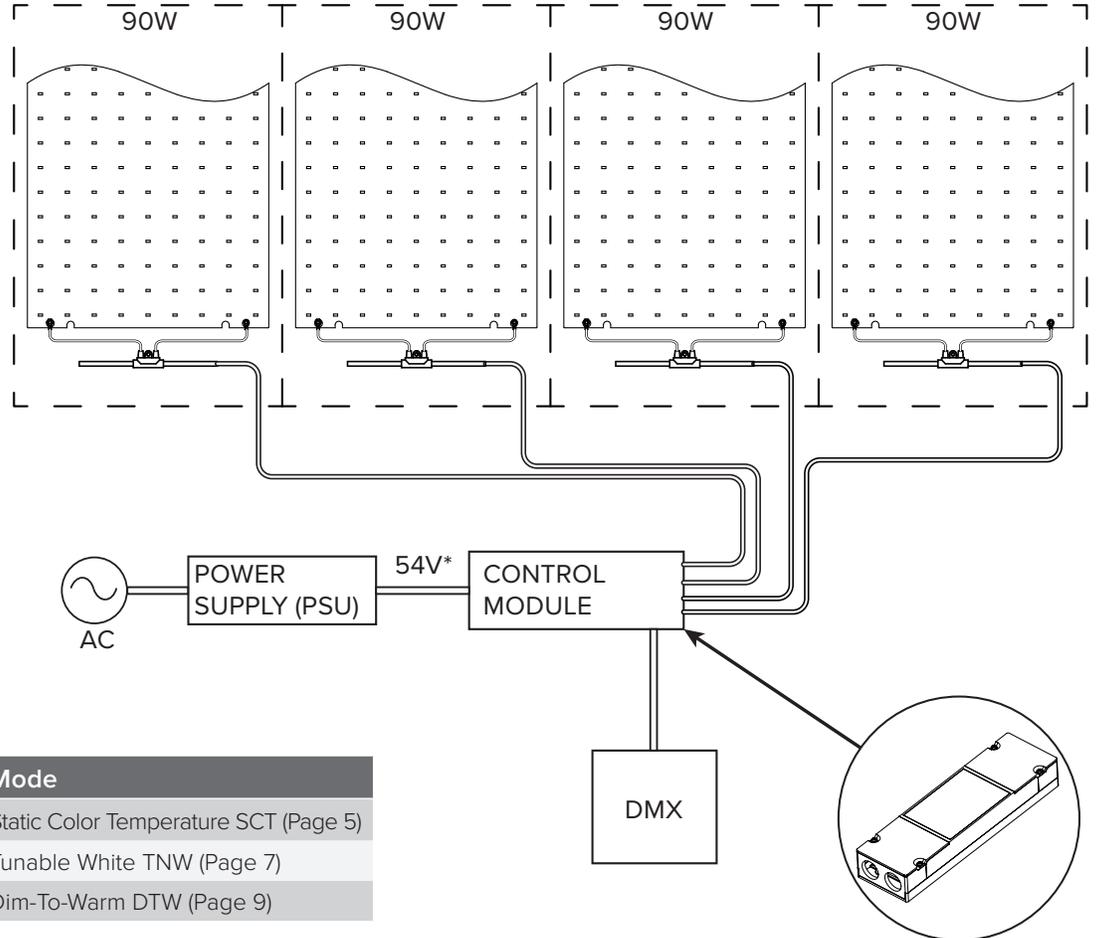


COOLEEDGE™

NOTE: This illustration shows a Static Color Temperature system. A Tunable White or Dim to Warm Lighting Control Module will be limited to a maximum of 2 channels of 90W each.



* For use with 54VDC power supplies ONLY.

Compatible Part No's	Mode
CTR-SCT-DMX/010-48/58V	Static Color Temperature SCT (Page 5)
CTR-TNW-DMX/010-48/58V	Tunable White TNW (Page 7)
CTR-DTW-DMX/010-48/58V	Dim-To-Warm DTW (Page 9)

Control Module is suitable for use in dry locations only (IP20).

Damage to Control Module and/or light sheets may occur if wired incorrectly.

Control Module and Power Supply must be installed by a qualified electrician.

FCC STATEMENT:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

All devices should always be disconnected from mains power supply and verify its absence prior to installation/maintenance.

(1) This device may not cause harmful interference.

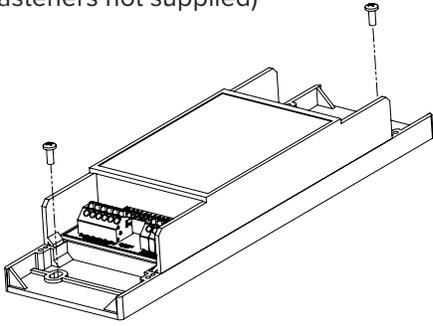
(2) This device must accept any interference received, including interference that may cause undesired operation.



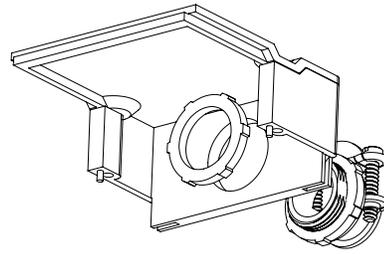
5 Year Limited Warranty:
Parts and workmanship

MOUNTING COOLEdge CONTROL MODULE

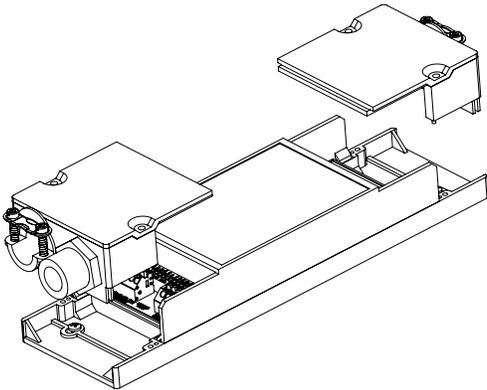
1) Fasten module in position by using the two mounting slots. (Fasteners not supplied)



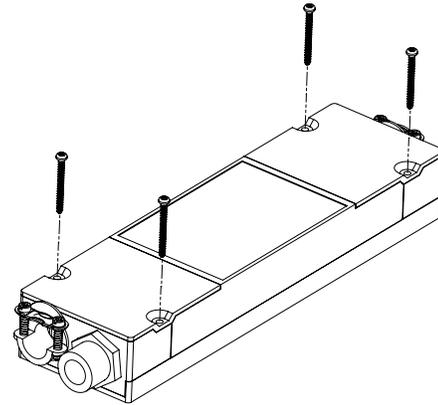
2) Terminal covers support 1/2" strain relief of conduit. Conduit or armoured cable must be used on power input cable.



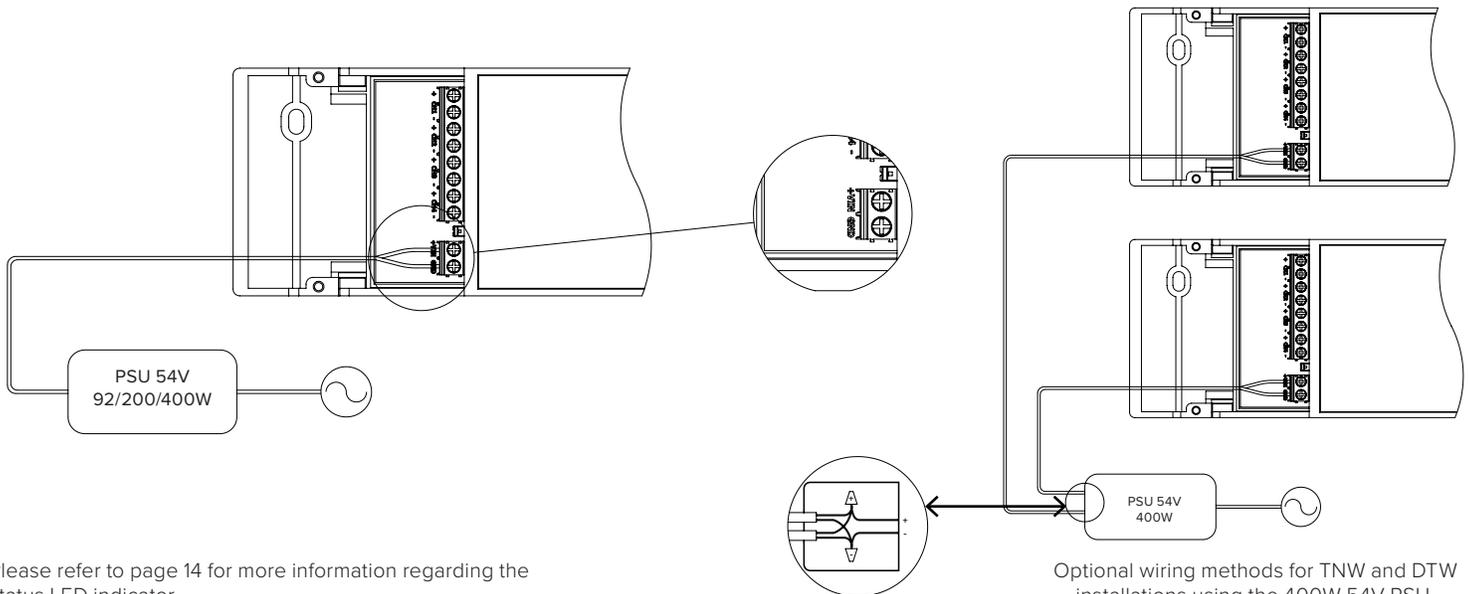
3) Thread cables through conduit/strain reliefs and covers; then make connections as required.



4) Snap covers in position and secure with provided fasteners. Tighten screws for strain reliefs.



INPUT POWER

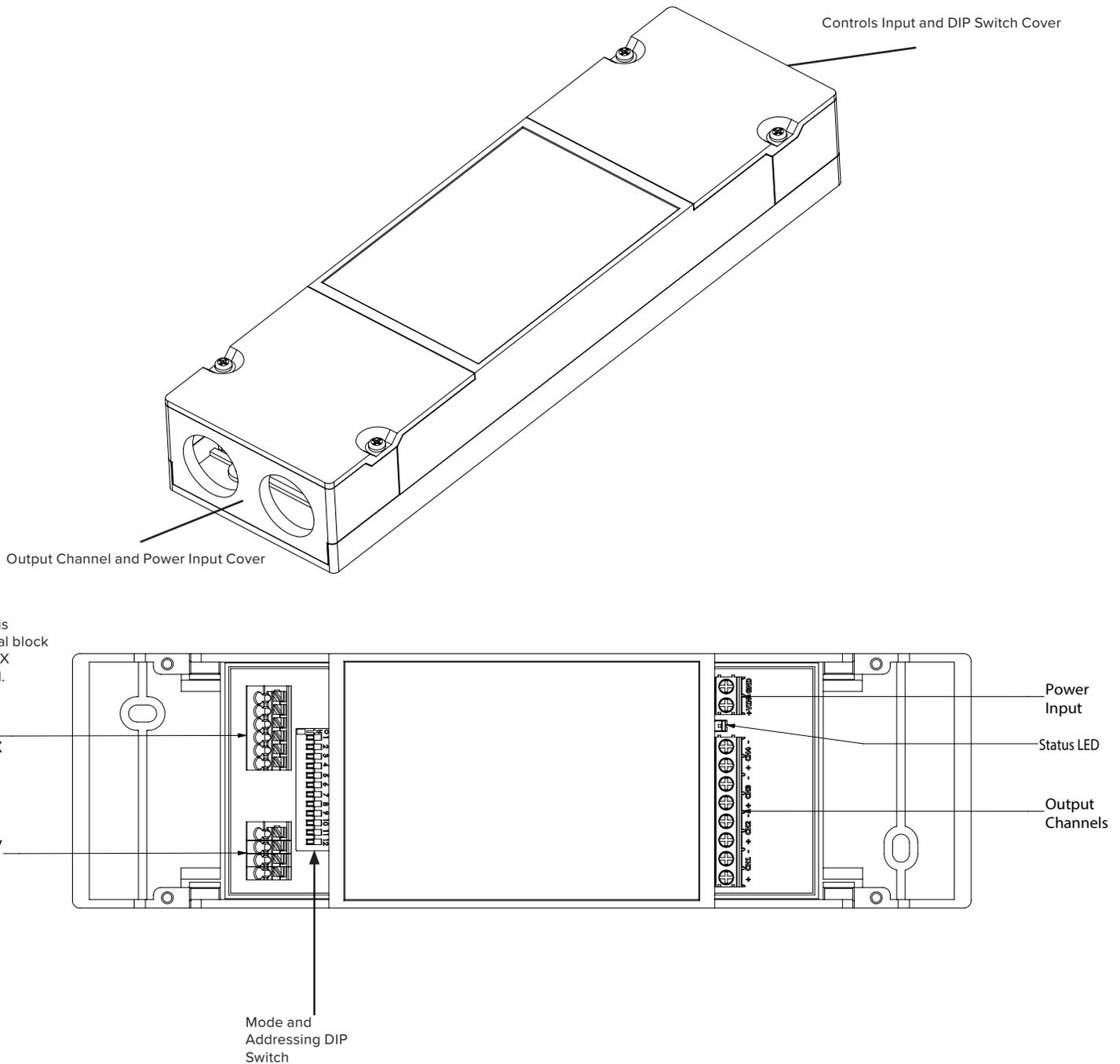


Please refer to page 14 for more information regarding the status LED indicator.

cUL Listed 54V	Control Module	92W PSU	200W PSU	400W PSU
Dimensions (in)	9.4 x 2.7 x 1.4	15.9 x 3.0 x 1.5	15.9 x 3.0 x 1.5	15.9 x 3.0 x 1.5
CE Compliant 54V	Control Module	92W PSU	200W PSU	400W PSU
Dimensions (mm)	240 x 68 x 36	404 x 77 x 39	404 x 77 x 39	404 x 77 x 39

INTRODUCTION TO COOLEGE CONTROL MODULE

The Cooledge Control Module receives a single DC power input from a constant voltage Power Supply 54V and supplies it to up to 4 controlled output channels of max. 90W each. Input signals from 3rd party control interfaces are used to control dimming. The control protocol required to interface with the controller determines which Control Module product model is required: DALI (0/1-10V), DMX, or Wireless (Casambi). This guide will reference the DMX model only.



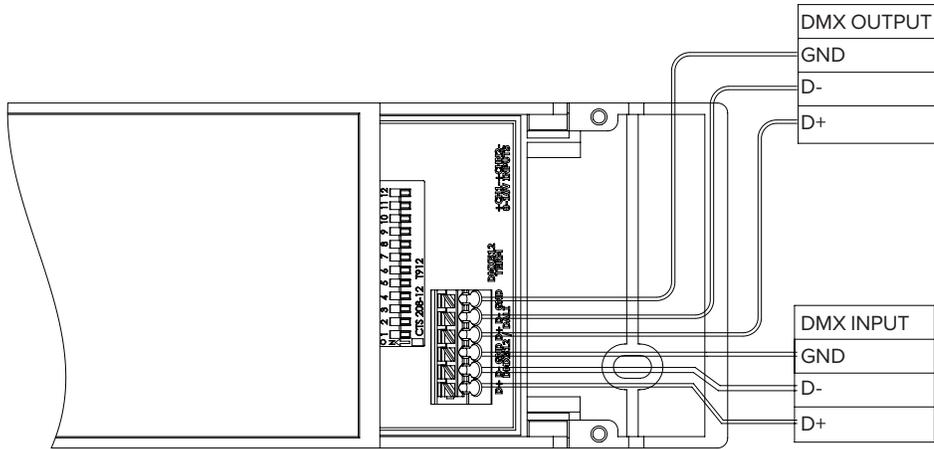
To access the DIP switches for selecting the operational mode, remove controls input cover. Positions 1-3 are used to identify the controller mode. Settings for each mode are explained in each section.



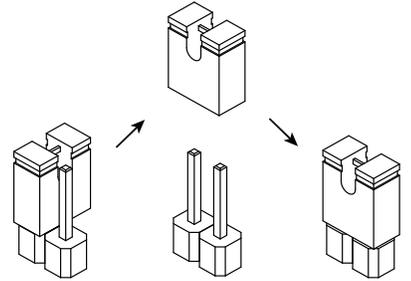
Note: The Control Module accepts wire gauges in the range of 14-16AWG **ONLY**. Remote electrical connection can still be achieved with 10-12AWG wire if it is spliced onto a section of 14AWG connected directly to the Control Module.



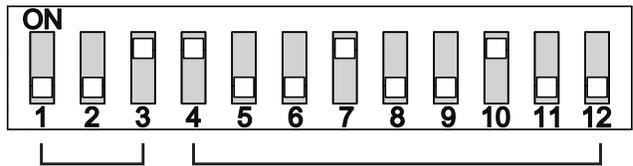
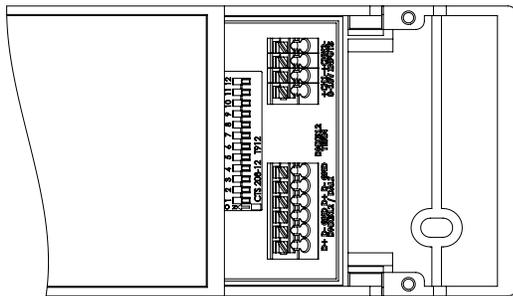
Note: When making electrical connections to the Control Module, **DO NOT** overtorque the set screws in the terminal blocks. Tighten the screws until they offer moderate resistance, using **ONLY** hand tools.



When installing the final controller (termination point) in a DMX network use the provided jumper on the indicated header.



SELECTING DMX ADDRESSES



Switches 1 - 3: Factory set, refer to EXT-0071 for details.
Switches 4 - 12: Addressing switches.

- To access the dip switch for selecting addresses for DMX controls, unfasten the screws for the Controls Input and DIP Switch Cover.

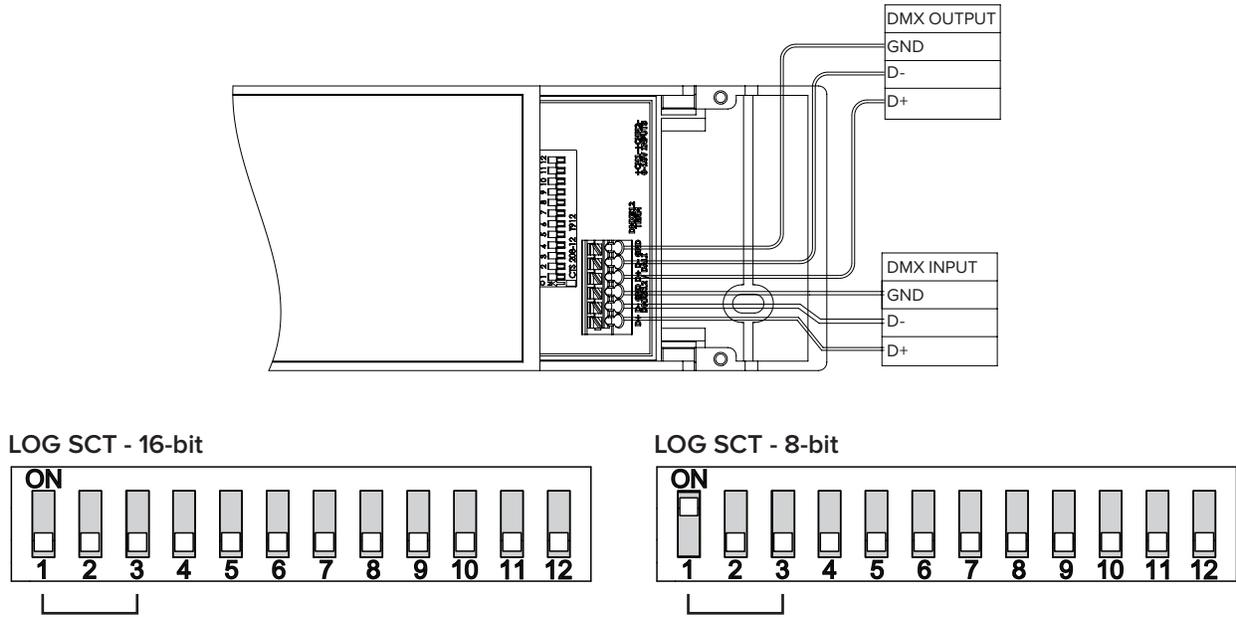
DMX Controllers are factory set to address 1

- Each of the 9 switches (4-12) represents a bit in binary representation for the address. For example, when switch 12 is 'ON' address 1 is set, if switch 12 & 11 are 'ON' then address 3 is set. The address is set by the sum of the values of each 'ON' switch. Addresses 1 through 511 are possible.

Switch:	4	5	6	7	8	9	10	11	12
Address:	256	128	64	32	16	8	4	2	1

STATIC COLOR TEMPERATURE (SCT)

Static color temperature mode allows the control and dimming of 4 output channels, each up to 90W using the following Cooledge products: TILE Interior and TILE Exterior. Two dimming curves are available and can be selected using DIP Switches: 16-bit or 8-bit. Fully Compliant with USITT DMX512-A (E1.11-2008 (R2013)).



Switches 1 - 3: Control Module MODE

See APPENDIX A for details on Dimming Curves.

Warning! Changing DIP Switch Setting must be performed only after unit is powered down

For LOG SCT 16-bit Mode each Output Channel uses 2 DMX Channels:

1 for DIM Coarse

1 for DIM Fine

In total, each controller occupies 8 DMX channels, assigned as below:

DMX CH1 – DIM Coarse Output CH1

DMX CH2 – DIM Fine Output CH1

DMX CH3 – DIM Coarse Output CH2

DMX CH4 – DIM Fine Output CH2

DMX CH5 – DIM Coarse Output CH3

DMX CH6 – DIM Fine Output CH3

DMX CH7 – DIM Coarse Output CH4

DMX CH8 – DIM Fine Output CH4

Example of addressing units for LOG SCT 8-bit Mode on DMX bus:

Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-8 with DIP settings 000 000000001

Unit 2 takes DMX Address = 9 and unit occupies DMX Channels # 9-16 with DIP settings 000 000001001

Unit 3 takes DMX Address = 17 and unit occupies DMX Channels # 17-24 with DIP settings 000 000010001

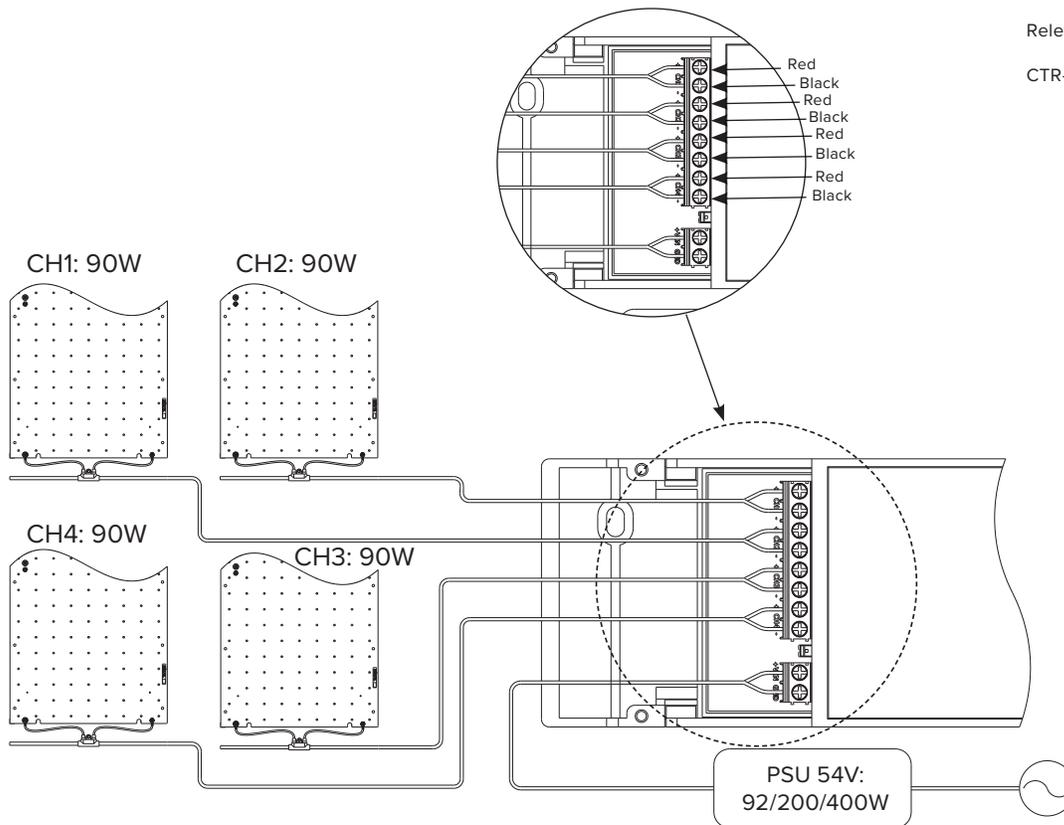
For LOG SCT 8-bit Mode each Output Channel uses 1 DMX Channels:

In total, each controller occupies 4 DMX channels, assigned as in the example below:

- DMX CH1 – DIM Output CH1
- DMX CH2 – DIM Output CH2
- DMX CH3 – DIM Output CH3
- DMX CH4 – DIM Output CH4

Example of addressing units for LOG SCT 8-bit Mode on DMX bus:

- Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-4 with DIP settings 100 00000001
- Unit 2 takes DMX Address = 5 and unit occupies DMX Channels # 5-8 with DIP settings 100 00000010
- Unit 3 takes DMX Address = 9 and unit occupies DMX Channels # 9-12 with DIP settings 100 000001001

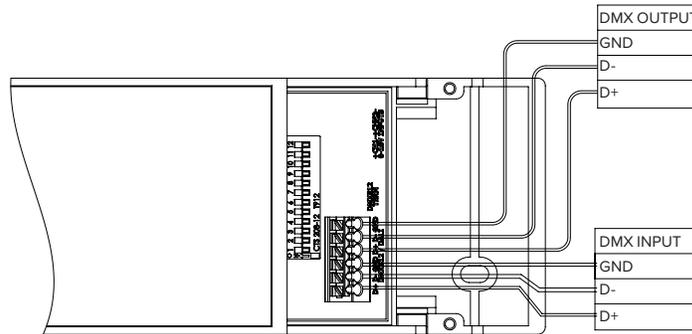


Relevant Part No's:

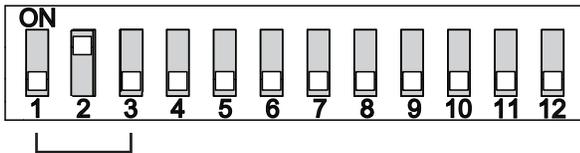
CTR-SCT-DMX/010-48/58V

TUNABLE WHITE (TNW)

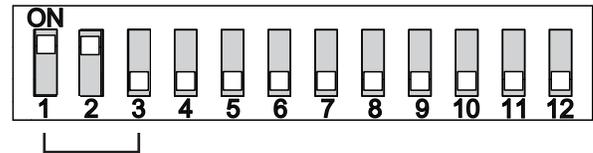
Tunable White is a mode in the Control Module to be used in conjunction with TILE Tunable White. Powering a single Control Module in this mode can be done with 54V 92W/200W power supplies. A 400W Power Supply can be used, but must be connected to 2 Control Modules to avoid violating the 90W Class 2 power rating. Refer to the diagram on the bottom of page 2. Two dimming curves are available and can be selected using DIP Switches: 16-bit or 8-bit. Fully Compliant with USITT DMX512-A (E1.11-2008 (R2013)).



TNW - 16-bit



TNW - 8-bit



Switches 1 - 3: Control Module MODE

See dimming curve for Tunable White Mode in APPENDIX B for details on Dimming Curves.

Warning! Changing DIP Switch Setting must be performed only after unit is powered down

For TNW 16-bit Mode each Tunable Output Channel uses 4 DMX Channels:

1 for DIM Coarse

1 for DIM Fine

1 for CCT Coarse

1 for CCT Fine

In total, each controller occupies 8 DMX channels, assigned as below:

DMX CH1 – DIM Coarse TNW Output CH 1 & 2

DMX CH2 – DIM Fine TNW Output CH 1 & 2

DMX CH3 – CCT Coarse TNW Output CH 1 & 2

DMX CH4 – CCT Fine TNW Output CH 1 & 2

DMX CH5 – DIM Coarse TNW Output CH 3 & 4

DMX CH6 – DIM Fine TNW Output CH 3 & 4

DMX CH7 – CCT Coarse TNW Output CH 3 & 4

DMX CH8 – CCT Fine TNW Output CH 3 & 4

Example of addressing units for TNW Mode on DMX bus:

Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-8 with DIP settings 010 00000001

Unit 2 takes DMX Address = 9 and unit occupies DMX Channels # 9-16 with DIP settings 010 000001001

Unit 3 takes DMX Address = 17 and unit occupies DMX Channels # 17-24 with DIP settings 010 000010001

For TNW 8-bit Mode each Tunable Output Channel uses 2 DMX Channels:

1 for DIM

1 for CCT

In total, each controller occupies 4 DMX channels, assigned as below:

DMX CH1 – DIM Output CH 1 & 2

DMX CH2 – CCT Output CH 1 & 2

DMX CH3 – DIM Output CH 3 & 4

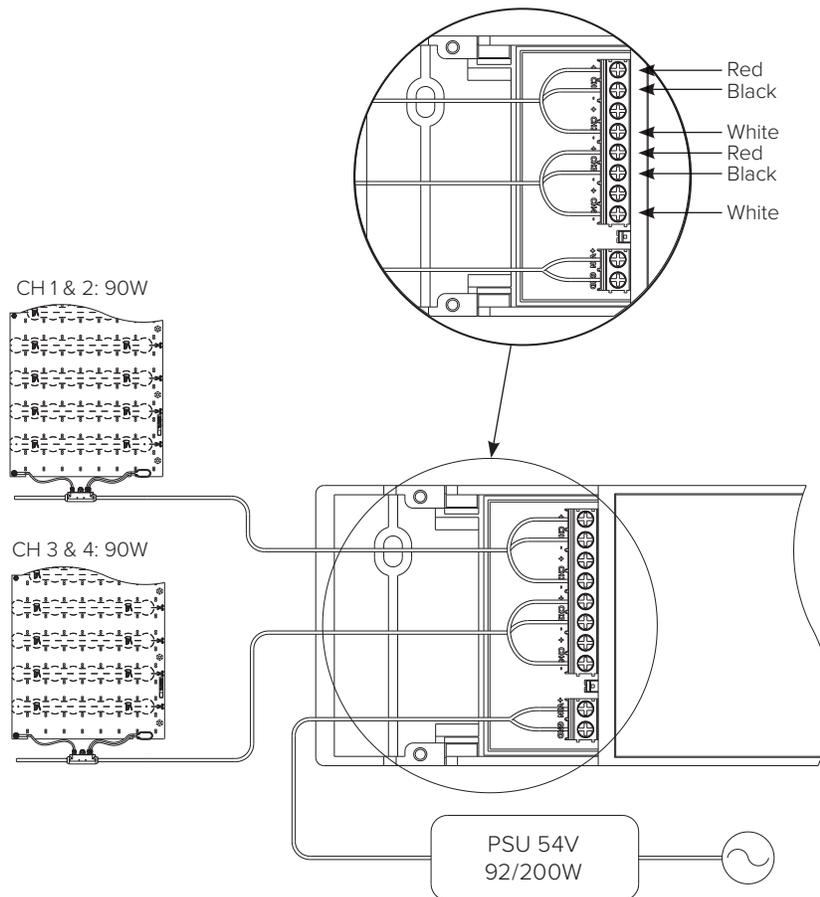
DMX CH4 – CCT Output CH 3 & 4

Example of addressing units for TNW 8-bit Mode on DMX bus:

Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-4 with DIP settings 110 00000001

Unit 2 takes DMX Address = 5 and unit occupies DMX Channels # 5-8 with DIP settings 110 00000101

Unit 3 takes DMX Address = 9 and unit occupies DMX Channels # 9-12 with DIP settings 110 00001001

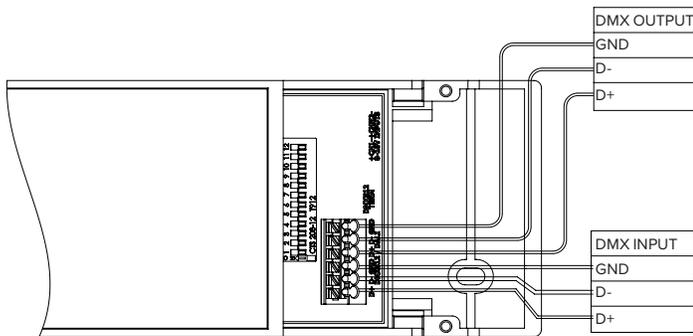


Relevant Part No's:

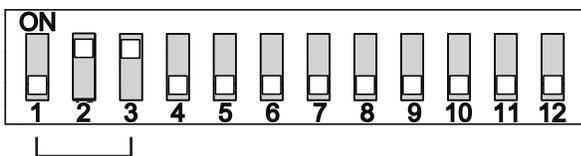
CTR-TNW-DMX/010-48/58V

DIM-TO-WARM (DTW)

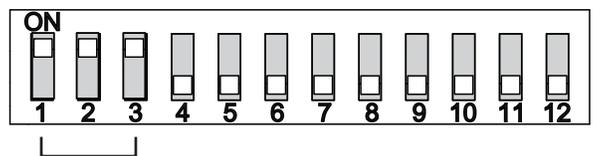
Dim-to-Warm is a mode in the Control Module to be used in conjunction with the Dim-to-Warm option of TILE Tunable White. In this mode the CCT will adjust from 2200K at lowest dim setting to 3500K at the highest dim setting. Powering a single Control Module in this mode can be done with 54V 92W/200W power supplies. A 400W Power Supply can be used, but must be connected to 2 Control Modules to avoid violating the 90W Class 2 power rating. Refer to the diagram on the bottom of page 2. Two dimming curves are available and can be selected using DIP Switches: 16-bit or 8-bit. Fully Compliant with USITT DMX512-A (E1.11-2008 (R2013)).



DTW - 16-bit



DTW - 8-bit



Switches 1 - 3: Control Module MODE

See dimming curve for Dim to Warm Mode in APPENDIX C.

Warning! Changing DIP Switch Setting must be performed only after unit is powered down

For DTW 16-bit Mode each Tunable Output Channel uses 2 DMX Channels:

1 for DIM Coarse

1 for DIM Fine

CCT is calculated internally

In total, each controller occupies 4 DMX channels, assigned as below:

DMX CH1 – DIM Coarse DTW Output CH 1 & 2

DMX CH2 – DIM Fine DTW Output CH 1 & 2

DMX CH3 – DIM Coarse DTW Output CH 3 & 4

DMX CH4 – DIM Fine DTW Output CH 3 & 4

Example of addressing units for DTW Mode on DMX bus:

Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-4 with DIP settings 011 00000001

Unit 2 takes DMX Address = 5 and unit occupies DMX Channels # 5-8 with DIP settings 011 000000101

Unit 3 takes DMX Address = 9 and unit occupies DMX Channels # 9-12 with DIP settings 011 000001001

For DTW 8-bit Mode each Tunable Output Channel uses 1 DMX Channel.

In total, each controller occupies 2 DMX channels, assigned as below:

DMX CH1 – DIM DTW Output CH 1 & 2

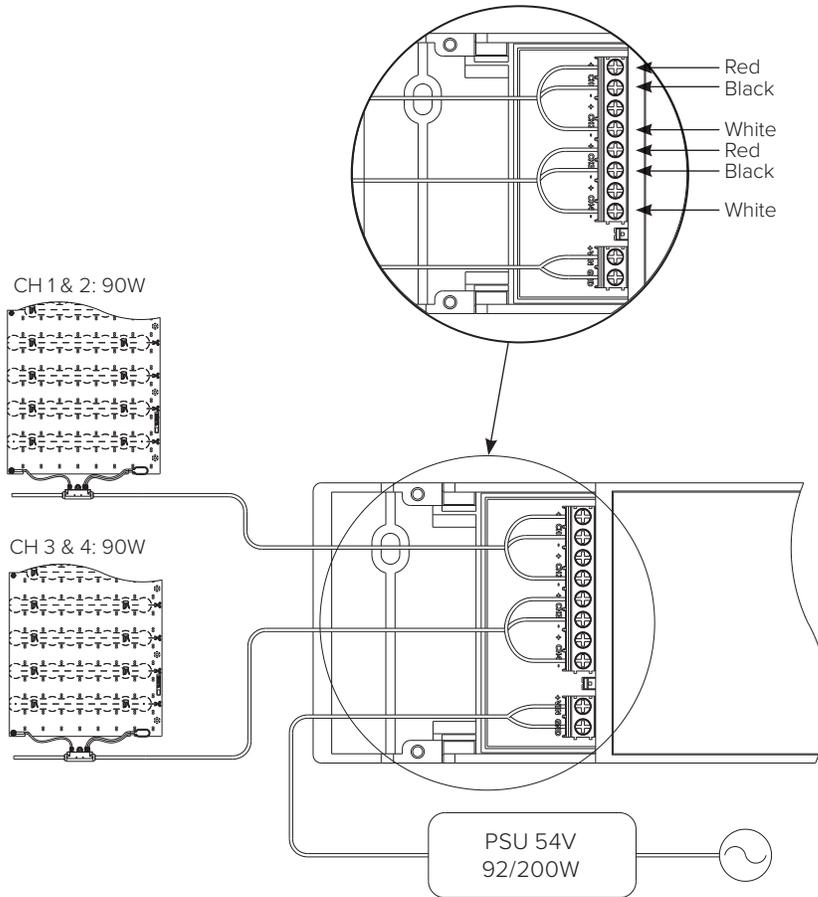
DMX CH2 – DIM DTW Output CH 3 & 4

Example of addressing units for DTW Mode on DMX bus:

Unit 1 takes DMX Address = 1 and unit occupies DMX Channels # 1-2 with DIP settings 111 00000001

Unit 2 takes DMX Address = 3 and unit occupies DMX Channels # 3-4 with DIP settings 111 00000011

Unit 3 takes DMX Address = 5 and unit occupies DMX Channels # 5-6 with DIP settings 111 00000101



Relevant Part No's:

CTR-DTW-DMX/010-48/58V

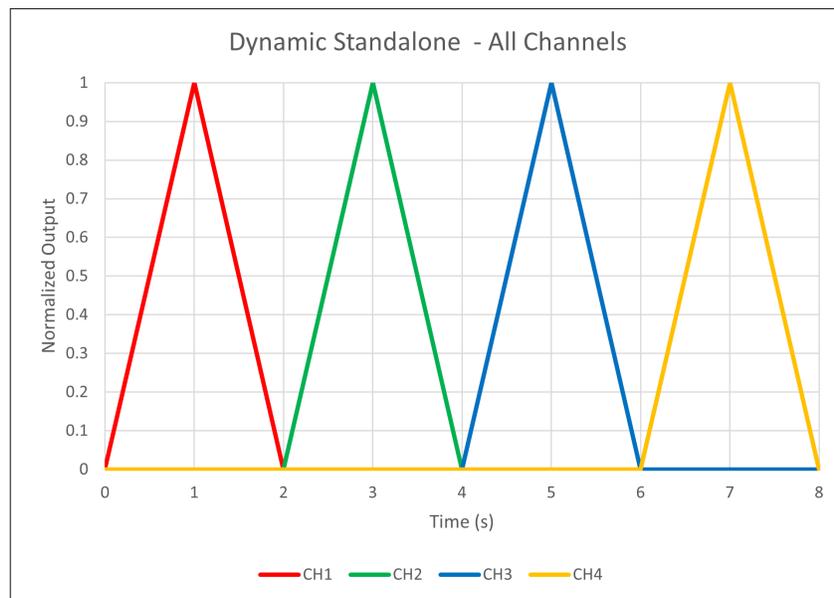
DYNAMIC TEST MODE

Dynamic test mode is used to check the system functionality. This mode will ignore control inputs and cycle through the output range.

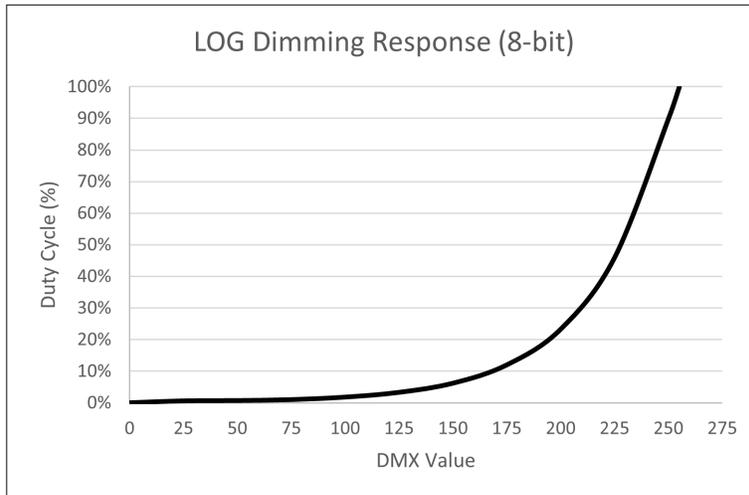
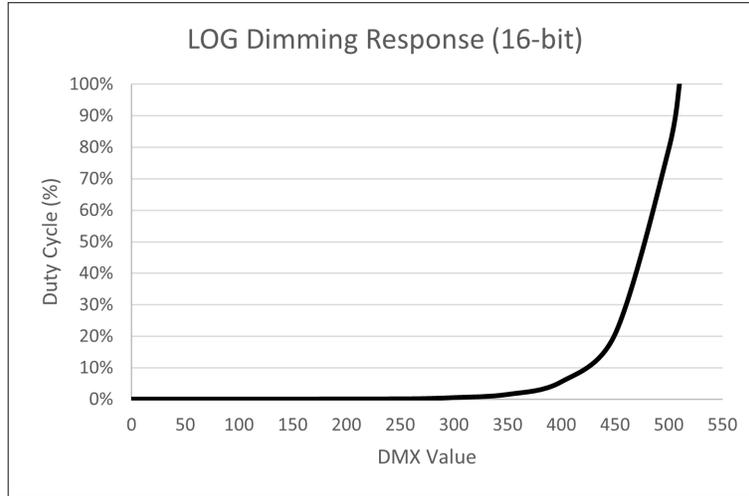
Mode Switches 1-3	Switches 4-12
X-0-1	IGNORED

X = IGNORED
1 = ON
0 = OFF

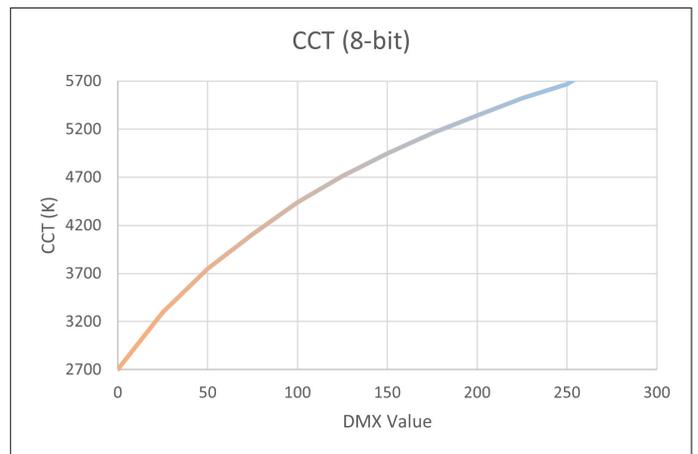
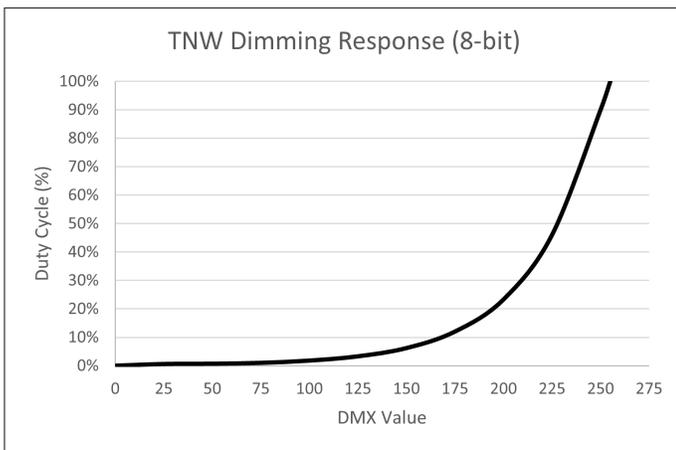
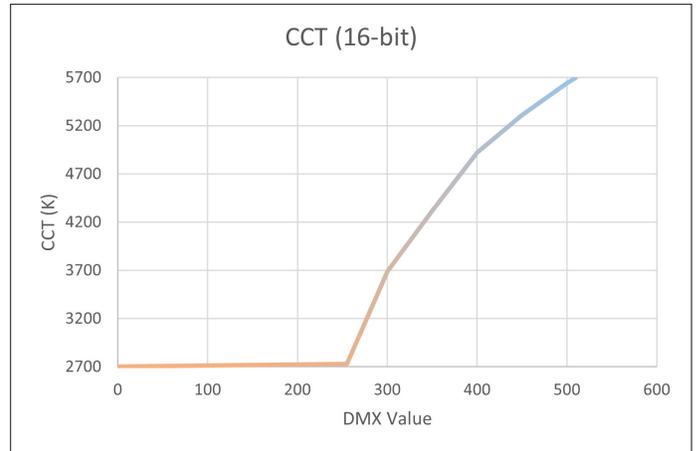
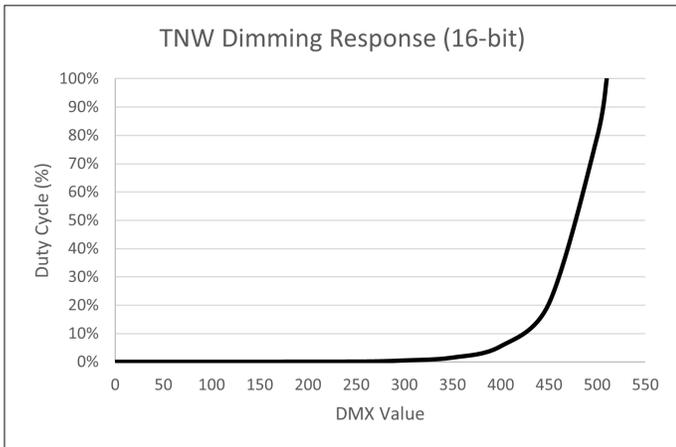
Outputs operate in standard configuration with the output duty cycle of all 4 channels ramping up and down sequentially. Output duty cycle starts from 0% and ramps linearly up to 100% output, then ramps back down to 0% and repeats indefinitely with a period of 8 seconds.



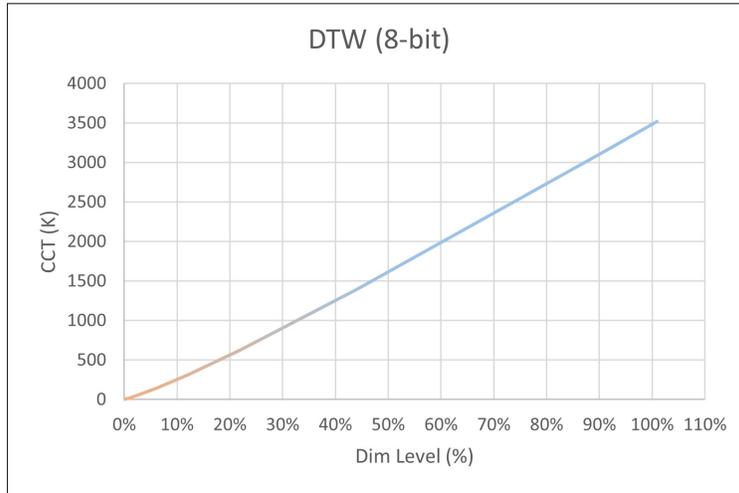
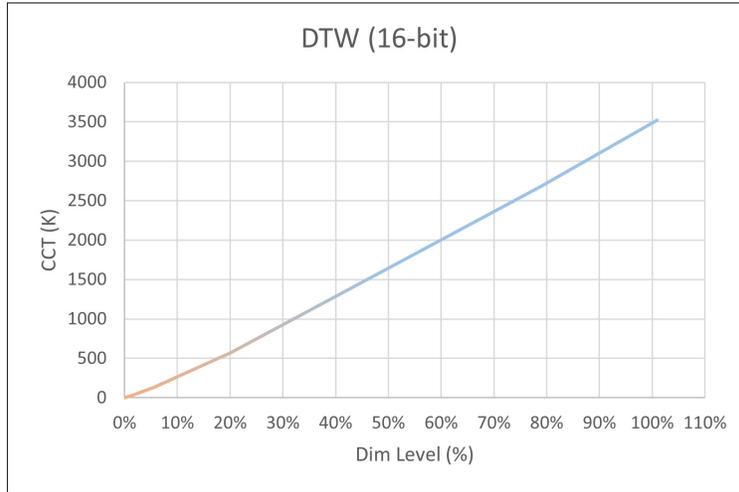
APPENDIX A:



APPENDIX B:



APPENDIX C:



TROUBLESHOOTING

CONTROLLER STATUS	MODE	LED STATUS	LOAD BEHAVIOR
OFF (No Input Power)	All	OFF	OFF
Dynamic test mode Recognized	Standalone	Alternate Amber/Green Slow (1 Hz)	Responsive only to DIP switch setting
No Control Input	All	Amber On Steady State	Full ON
Input Over Voltage	All	Amber Flashing Slow (1Hz)	OFF
Input Under Voltage	All	Amber Flashing Fast (8 Hz)	OFF
Output Short Circuit V+ to V-	All	Red Flashing with Intermittent Green	Load is OFF on shorted Channel All loads of the unit, except the shorted one, are flashing The rest of units in the installation remain responsive to DMX commands
Output Overload	All	Red Flashing	Overloaded channel dimmed and flashing at 1s constant rate All other loads of the unit remain responsive to DMX commands
DMX Dim Control Input Shorted	All	LED status OK in correspondence to each Mode, not affected	OFF

PRODUCT SUPPORT

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 O +1.781.899.0317
 T +1.844.455.4448 (toll free - North America)