

0-10V CONTROL



Compatible Part No's	Mode		
CTR-TNW-010-58V	0-10V control Tunable White		
CTR-DTW-010-58V	0-10V control Dim-to-warm		





Cooledge Lighting Inc. 110-13551 Commerce Parkway

Richmond, BC V6V 2L1 Canada



O +1604 273 2665 F +1604 273 2660 T +1844 455 4448 W cooledgelighting.com Cooledge Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

RoHS



5 Year Limited Warranty: Parts and workmanship 1) Remove the junction box cover and fasten the module in position using the two mounting slots. (Fasteners not supplied)



2) Junction box knockouts support ½" or M20 strain relief or conduit. 58V DC input may be non-class 2 depending on PSU. Install in accordance with local electrical code



WIRING CONNECTIONS



TUNABLE WHITE MODE (TNW)

Tunable White is a mode in the Control Module to be used in conjunction with TILE Tunable White. In this mode two 0-10V control inputs are required. One input controls the dimming level, the second adjusts CCT between 2700K and 5700K. Powering the controller in this mode can be done with 58V 100W/200W drivers.

CONTROL INPUTS: 0/1 - 10V TNW

There are three 0-10V operating modes which can be used to select the desired dimming curve: Linear, LOG-A and LOG-B. The corresponding DIP switch settings are:

DIP Switch Setting	Operation
1000xxxx	TNW, 2 Channel Output, Linear
1010xxxx	TNW, 2 Channel Output, LOG-A
1001xxxx	TNW, 2 Channel Output, LOG-B

These settings produce a dimming output as shown below:



DIM-TO-WARM MODE (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 one 0-10V control input is required to control the dimming level. The CCT will automatically adjust from 2200K at lowest dim setting to 3500K at the highest dim setting, following the curve shown below. The CCT cannot be set independently from the DIM setting. This mode can be used with 58V 100W/200W systems.

CONTROL INPUTS: 0/1-10V DTW

There are three 0-10V operating modes which can be used to select the desired dimming curve: Linear, LOG-A and LOG-B. The corresponding DIP switch settings are:

DIP Switch Setting	Operation
0100xxxx	DTW, 2 Channel Output, Linear
0110xxxx	DTW, 2 Channel Output,LOG-A
0101xxxx	DTW, 2 Channel Output,LOG-B

These setting give the same dimming response as shown for TNW above. The DTW CCT response is shown below:



Standalone modes give a pre-defined user-selectable fixed dimming and/or color output. No external control input is required. When one of the operational modes (Standalone or Dynamic Test) is selected through the DIP Switch setting, the module will ignore 0-10V commands and operate according to the settings shown below.

STANDALONE TNW STATIC MODE

Standalone TNW mode allows the user to select a fixed setting for dimming and color output.

Switches 1-4 (Mode)		Switches 5-8 (Intensity)		
0-0-1-1		X-X-X-X		
DIP Switches 5-8	Output I	_evel (%)	Output Color Temp (K)	
0-0-0-0	25	5%	2700K	
1-0-0-0	100	0%	2700K	
0-1-0-0	5%		3000K	
1-1-0-0	25%		3000K	
0-0-1-0	50%		3000K	
1-0-1-0	100%		3000K	
0-1-1-0	5%		3500K	
1-1-1-0	25%		3500K	
O-1-1-1	50%		3500K	
1-0-0-1	100%		3500K	
0-1-0-1	5%		4000K	
1-1-0-1	25%		4000K	
0-0-1-1	50%		4000K	
1-0-1-1	100%		4000K	
O-1-1-1	25%		5700K	
1-1-1-1	100%		5700K	

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

Standalone TNW	Mode Switches 1-8		
Dynamic Colour Tune Test (TNW)	1-1-1-1-1-1		

Output duty cycle starts with the WARM LEDs (TNW=2700K) raising their intensity from 0% to 100% then decreasing to 0%. Next the COOL LEDs (TNW=5700K) raise intensity from 0% to 100% then decrease to 0%. This cycle repeats indefinitely with a period of 7.5 seconds.



Standalone DTW mode allows the user to select a fixed setting for dimming level. The colour output will follow the pre-defined DTW curve

Switches 1-4 (Mode)	Switches 5-8 (Intensity)		
1-0-1-1	X-X-X-X		
DIP Switches 5-8	Output Level (%)		
0-0-0-0	0.1		
1-0-0-0	0.4		
0-1-0-0	1.1		
1-1-0-0	2.2		
0-0-1-0	3.9		
1-0-1-0	6.4		
0-1-1-0	9.7		
1-1-1-0	14.0		
0-0-0-1	19.5		
1-0-0-1	26.2		
0-1-0-1	34.3		
1-1-0-1	43.9		
0-0-1-1	55.1		
1-0-1-1	68.1		
0-1-1-1	83.0		
1-1-1-1	100.0		

V-CCT	ССТ		
0	2700		
1	2700		
1.5	2783		
2.0	2870		
2.5	2963		
3.0	3065		
3.5	3176		
4.0	3298		
4.5	3431		
5.0	3578		
5.5	3738		
6.0	3915		
6.5	4110		
7.0	4325		
7.5	4561		
8.0	4822		
8.5	5110		
9.0	5429		
9.5	5700		
10	5700		



APPENDIX B: TROUBLESHOOTING

Refer to the LEDs on the Control Module to indicate status:

Green LED	Yellow LED	Red LED	Status	Light Panels	Corrective Action
ON	ON	OFF	Normal operation: Power OK, Control Input OK	ON	n/a
ON	OFF	OFF	Power OK, Control Input = OFF	OFF	n/a
OFF	OFF	OFF	No power to controller or controller damaged	OFF	1)Check AC power; 2)Check PSU DC output power; 3) Replace controller
ON	Flashing 1x per second	OFF	Power OK, No Control Input Detected	ON 100%	Connect 0-10V Input
Flashing 3x per second	Flashing 3x per second	Flashing 3x per second	DC voltage to Control Module out of spec	OFF	Check DC output from PSU
OFF	OFF	ON	Overload/Short Circuit	OFF	Remove short/overload, Power cycle required
ON	ON	Flashing 1x per second	Overload/Short Circuit	Overloaded Panel Blinking or OFF (if shorted)	Remove short/overload, No Power cycle required

PRODUCT SUPPORT

Contact Cooledge Technical Support at: E apps.engineering@cooledgelighting.com

- 0 +1.781.899.0317
- T +1.844.455.4448 (toll free North America)

O +1 604 273 2665 F +1 604 273 2660 T +1 844 455 4448 W cooledgelighting.com Cooledge Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.