APT-CC-Vx-LN Modules



Features

- APT-CC controllers add advanced control features to constant current (CC) drivers
- Integrated between the CC driver and LED modules, the DC modules are powered directly from the CC driver
- Controlling 2 output channels, Correlated Color Temperature (CCT) can be calibrated precisely, independent of intensity
- APT Programmer enables in-factory and in-field changes to control settings including CCT range and CCT mapping
- Wired versions available with isolated 0-10V ports (VC) or non-isolated 0-10V ports (VD)

Ordering Information

Product Code	Description
APT-CC-V*x*-LN-*wwww*	**V*x*** – Hardware version **LN** – Linear form factor ***wwww*** – Internal code provided by Arkalumen as a simplified configuration code for repeat orders

Hardware Version	Functionality
VC	0-10V (Isolated)
VD	0-10V (Non-isolated)

System Architecture

Design Requirements	
1.	Color mixing of light is produced by adjusting the intensity ratio between two LED channels. Therefore, the maximum current should be determined by the LED channel with the lower maximum current of the two.
2.	APT controllers are designed to work with a wide range of drivers, but a fixture manufacturer must test the APT controller for driver compatibility and ensure proper system operation before installation.
3.	Contact Arkalumen for information on compatibility of drivers and overall system architectures. The light fixture manufacturer is responsible for testing of all third party components and the overall system before installation.

Contact Arkalumen for technical support at **support@arkalumen.com**

Arkalumen Products may be covered by patents in the US and elsewhere. www.arkalumen.com/intellectual-property/

Warnings

1. Do not connect/disconnect input or output wiring while powered
2. Do not connect APT Programmer while APT controller is powered by DC power source
3. Follow ESD protection procedures while handling input or output wiring, and programming port
4. Do not attach an AC input to the APT controller; DC input only
5. Use only with a driver providing an isolated DC output (ie. the output has no earth or protective ground reference).
6. Read and respect all voltage, current and power limits outlined in the electrical specifications section of the hardware version being used
7. Carefully follow and check all wiring diagrams in this document for the correct hardware version being used

Operating Conditions

Environmental	
Ambient Temperature, Range	-40 to +50°C
Case Material	Plastic

Mechanical Specifications

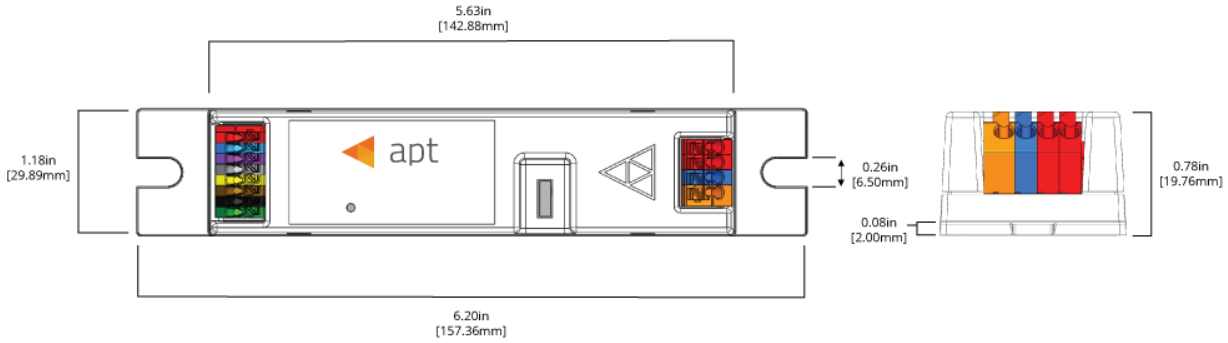


Figure 1 – APT-CC-Vx Mechanical Drawing

Dimensions	Inches
Length	6.20
Width	1.18
Height	0.78

APT-CC-VC-LN MODULE (0-10V ISOLATED)

Electrical Specifications

Input

Port	Voltage			Current			Power		
	Min	Max		Min	Max		Min	Max	
DC IN +/-	10	48	V	40	4,100	mA	-	100	W
0-10V IN (Sink)	0	20	V	98	104	µA	-	-	
0-10V IN (Source)	0	20	V	0	300	µA	-	-	

Output

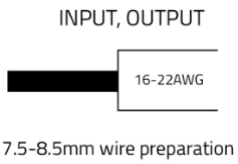
Port	Voltage			Current			Power		
	Min	Max		Min	Max		Min	Max	
CH1	-	60	V	0	4,060	mA	-	100	W
CH2	-	60	V	0	4,060	mA	-	100	W

Wiring Diagram



Figure 3 - APT-CC-VC-LN 0-10V Configuration

Wiring	AWG
Input, Output	**16-22**



Operating Conditions

Temperature Limits	
Max Temperature, Tc	58°C
Min Ambient Temperature, Ta	-40°C

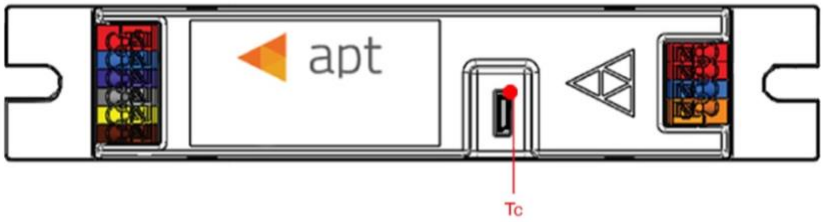


Fig. 4 - Tc is measured on metal sleeve of micro-USB programming port in location specified above

Ordering Information

Product Code	Description
APT-CC-VC-LN-*wwww*	**VC** – 0-10V (isolated) hardware version **LN** – Linear form factor ***wwww*** – Internal code provided by Arkalumen as a simplified configuration code for repeat orders

Configuration Code	Description
CCTD-0000-00CT-0000-0000	**CCTD** – CCT control using a 0-10V dimmer **0000** – Reserved **00CT** – CCT control enabled **0000** – Reserved **0000** – Reserved

The APT-CC-VC configuration code is static.

APT-CC-VD-LN MODULE (0-10V NON-ISOLATED)

Electrical Specifications

Input

Port	Voltage			Current			Power		
	Min	Max		Min	Max		Min	Max	
DC IN +/-	13.5	60	V	20	4,100	mA	-	100	W
0-10V IN (Sink)*	0	9.36	V	-	1	mA	-	-	

*Specification indicates port output ranges only, to be used exclusively with sinking 0-10V dimmers

Output

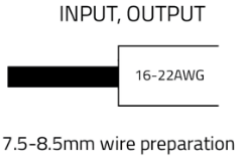
Port	Voltage			Current			Power		
	Min	Max		Min	Max		Min	Max	
CH1	-	60	V	0	4,080	mA	-	100	W
CH2	-	60	V	0	4,080	mA	-	100	W

Wiring Diagram



Figure 4 - APT-CC-VD-LN 0-10V Configuration

Wiring	AWG
Input, Output	**16-22**



Operating Conditions

Temperature Limits	
Max Temperature, Tc	58°C
Min Ambient Temperature, Ta	-40°C

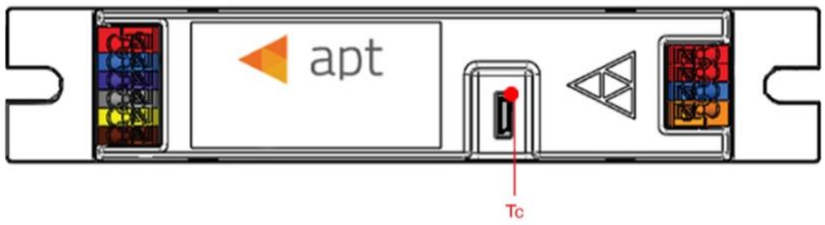


Fig. 4 - Tc is measured on metal sleeve of micro-USB programming port in location specified above

Ordering Information

Product Code	Description
APT-CC-VD-LN-*wwww*	**VD** – 0-10V (non-isolated) hardware version **LN** – Linear form factor ***wwww*** – Internal code provided by Arkalumen as a simplified configuration code for repeat orders

Configuration Code	Description
CCTD-0000-00CT-0000-0000	**CCTD** – CCT control using a 0-10V dimmer **0000** – Reserved **00CT** – CCT control enabled **0000** – Reserved **0000** – Reserved

The APT-CC-VD configuration code is static.