

APT-CV4-VWC-LN-CVO MODULES



Features

- > APT-CV4 controllers add advanced control features to standard constant voltage (CV) drivers
- > CVO versions of the APT controllers are operable to control multiple outputs for constant voltage LED channels simultaneously
- > Integrated between the CV driver and LED modules, the DC modules are powered directly from the CV driver
- > Operable for independent control over up to 4 output channels and/or control over overall intensity and CCT
- > APT Programmer enables in-factory and in-field changes to control settings including CCT range, CCT mapping and Intensity mapping
- > Wireless version available with Casambi BLE Mesh (VWC)
- > Wireless controller versions available with either embedded antenna (EA) or whip antenna (WA)

Ordering Information

Product Code	Description
APT-CV4-Vx-LN-CVO-wwww	Vx – Hardware version LN – Linear form factor CVO – Constant voltage output wwww – Internal code provided by Arkalumen as a simplified configuration code for repeat orders

Hardware Version	Functionality
VWC	Wireless – Casambi BLE Mesh

System Architecture

Design Requirements
<ol style="list-style-type: none"> 1. 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. 2. The DC voltage output from the constant voltage driver should be matched to the desired voltage across each of the constant voltage LED channels.

Contact Arkalumen for technical support at support@arkalumen.com

Operating Conditions

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

Arkalumen Products may be covered by patents in the US and elsewhere.

www.arkalumen.com/patents

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

Mechanical Specifications

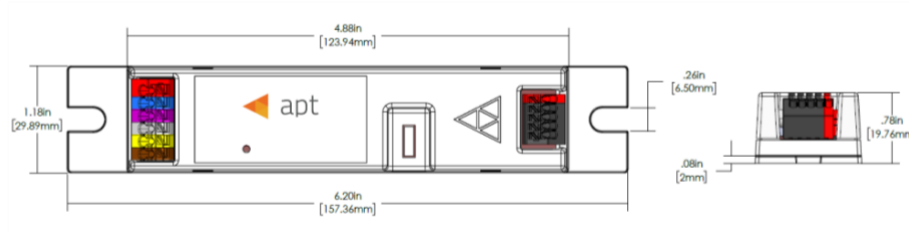


Figure 1 - APT-CV4-Vx-LN-CVO Mechanical Drawing

	Dimensions	Inches
	Length	6.20
	Width	1.18
	Height	0.78

APT-CV4-VWC-LN-CVO MODULE (WIRELESS)

Electrical Specifications

Input

Port	Voltage			Current			Power	
	Min	Max		Min	Max		Min	Max
DC IN +/-	12	60 V		42	4,100 mA		-	100 W

Output

Port	Voltage			Current			Power	
	Min	Max		Min	Max		Min	Max
+	-	60 V		0	4,058 mA		-	100 W
CH1	-	60 V		0	3,200 mA		-	-
CH2	-	60 V		0	3,200 mA		-	-
CH3	-	60 V		0	3,200 mA		-	-
CH4	-	60 V		0	3,200 mA		-	-

Wireless Operating Conditions ¹	
Maximum Transmitter Power	+4dBm
Operating Frequencies	2.4GHz
Maximum Open-Air Range	270m

Contains modular transmitter with FCC ID: X8WBM832, IC (Industrial Canada) ID: 4100A-BM832

Wireless signal range of the controller will decrease if placed in a metal enclosure or placed near other wireless devices operating at similar frequencies, keep the VWx controller at least 20cm away from other VWx controllers or wireless devices. The end product with this module may subject to perform FCC part 15 unintentional emission test requirement and be properly authorized.

This device is intended for OEM integrator only.

If used with ANT020 antenna or integrated PCB trace antenna, device does not require routine evaluation or SAR testing.

Wiring Diagram

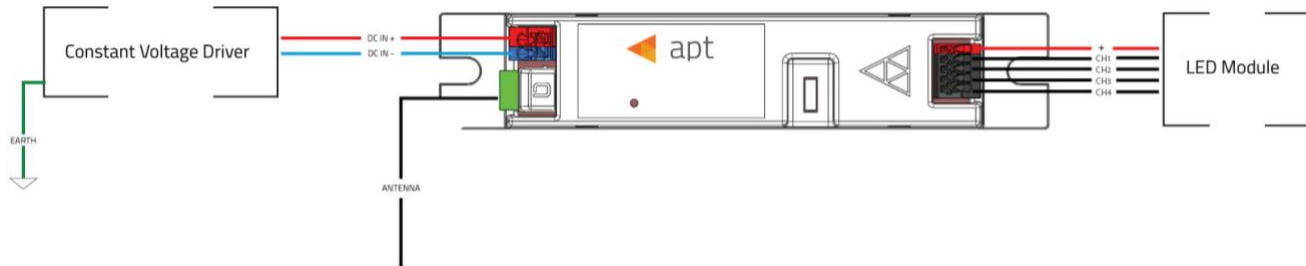
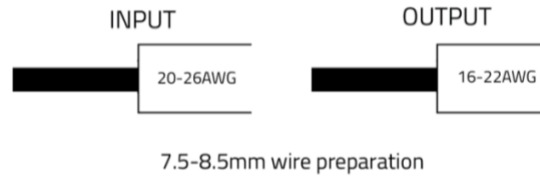


Figure 4 - APT-CV4-VWC-LN-CVO Wireless Communication Configuration

Wiring	AWG
Input	20-26
Output	16-22
Antenna	ANT020*

*Integrated embedded PCB trace antenna option available on request, ANT020 antenna does not come with device by default, please include request for antenna if necessary



Schemes

Scheme <i>n</i>	#of Sliders	Slide Number			
		1	2	3	4
1	3	R	G	B	-
2	4	R	G	B	W

LEGEND					
Red	R	Green	G	Blue	B
White	W				

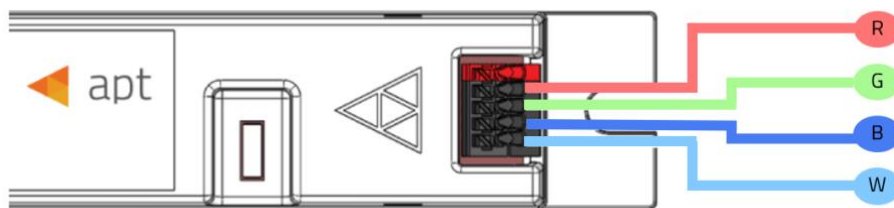


Figure 5 - Wiring APT-CV4-VWC-LN-CVO to RGBW LED module

Ordering Information

Product Code	Description
APT-CV4-VWC-LN-yA-CVO-wwww	VWC – Wireless – Casambi BLE Mesh hardware version LN – Linear form factor yA – Antenna version (EA – embedded antenna, WA -whip antenna) CVO – Constant voltage output wwww – Internal code provided by Arkalumen as a simplified configuration code for repeat orders

Configuration Code	Description
CBMn-0000-tttt	CBMn – Casambi BLE Mesh wireless control protocol 0000 – No base address to be specified tttt – Output control feature

Configuration Code Details

Code	Description	Option	Configuration Trait
CBMn	CBMn denotes wireless communication using Scheme Address Assignment <i>n</i> .	CBMn	Address Assignment Scheme <i>n</i> . See Schemes under Scheme Address Assignment on page 7.
tttt	tttt denotes the output control features enabled on the controller.	0000	Calibrated CCT mapping disabled.
		CALC	Calibrated CCT enabled. Calibrated CCT can be customized to output specific desired light metrics.