



## Mechanical Specifications

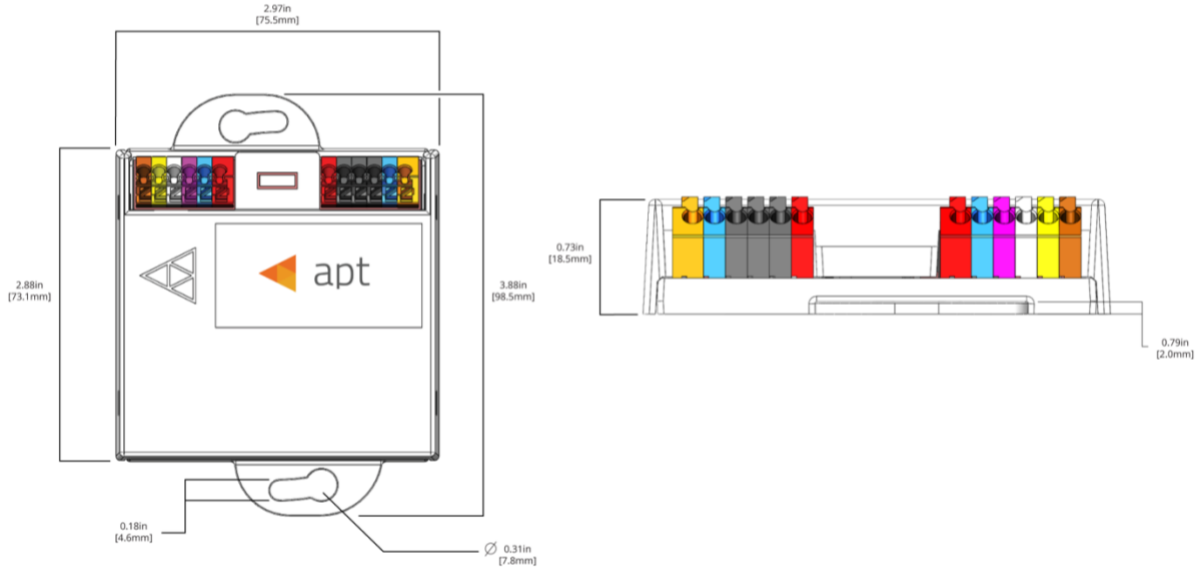


Figure 1 - APT-CV4-Vx-SQ Mechanical Drawing

	Dimensions	Inches
	Length	2.97
	Width	3.88
	Height	0.73

# APT-CV4-VA-SQ MODULE (DMX512/RDM)

## Electrical Specifications

### Input

Port	Voltage		V	Current		mA	Power	
	Min	Max		Min	Max		Min	Max
DC IN +/-	10	60	V	87	4,100	mA	-	100 W
DMX Data+	-10	15	V	-0.8	1	mA	-	-
DMX Data-	-10	15	V	-0.8	1	mA	-	-

### Output

Port	Voltage		V	Current		mA	Power	
	Min	Max		Min	Max		Min	Max
+	-	58	V	0	4,013	mA	-	100 W
CH1	-	58	V	0	3,200	mA	-	-
CH2	-	58	V	0	3,200	mA	-	-
CH3	-	58	V	0	3,200	mA	-	-
CH4	-	58	V	0	3,200	mA	-	-

## Wiring Diagram

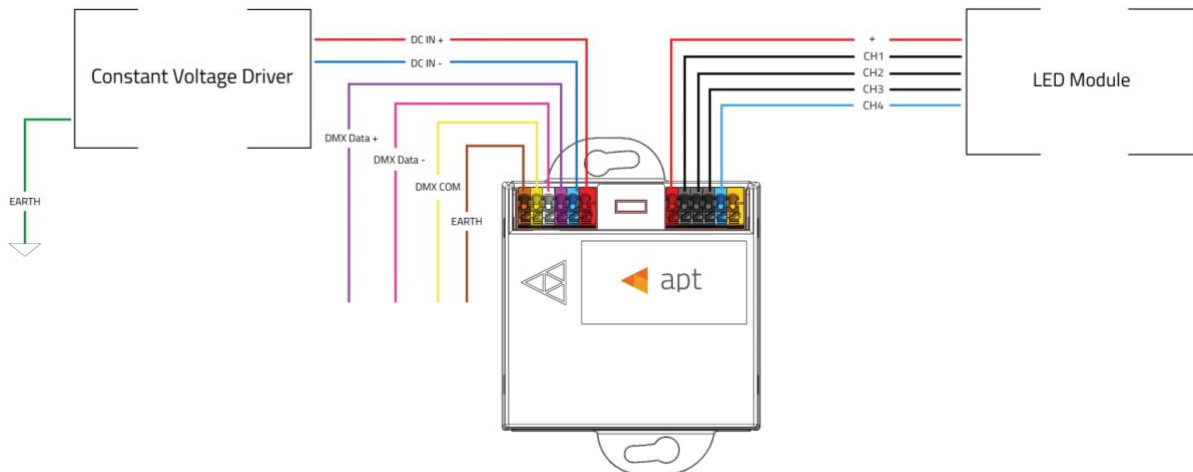


Figure 2 - APT-CV4-VA-SQ DMX512/RDM Configuration

Wiring AWG	
Input, Output	16-22

INPUT, OUTPUT



7.5-8.5mm wire preparation

### DMX Address Assignment

Enabled Features	Required DMX Channels
Independent Channel Control	One DMX address is required per available output channel
Calibrated CCT Control	Two additional DMX addresses are required if calibrated CCT mapping is enabled, one for controlling the CCT and one for controlling the overall light intensity

### Schemes

Schemes for DMX [y]	# of DMX Channels	DMX Address Assignment					
		Base	+1	+2	+3	+4	+5
1	2	CCT	INT	-	-	-	-
2	3	R	G	B	-	-	-
3	4	R	G	B	W	-	-
4	6	R	G	B	W	CCT	INT

LEGEND					
Red	R	White	W	CCT Control	CCT
Green	G			Intensity Control	INT
Blue	B				

1. The assigned DMX addresses are customizable. The above table is a list of the default schemes available.
2. Changing the DMX Address Assignment does not change the physical wiring of the controller to the LED module. Please refer to Figure 3 for RGBW wiring application.

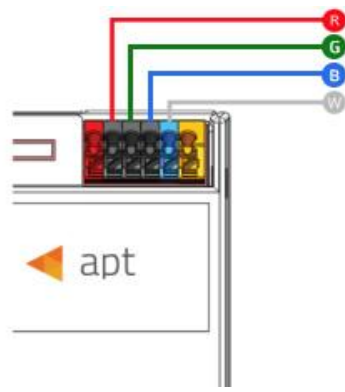


Figure 3 - Wiring APT-CV4-VA-SQ to RGBW LED Module

### Operating Conditions

Temperature Limits	
Max Temperature, Tc	75°C
Min Ambient Temperature, Ta	-40°C

\*Temperature Limits valid when electrical limits are respected and mounting surface is kept at 75°C or below

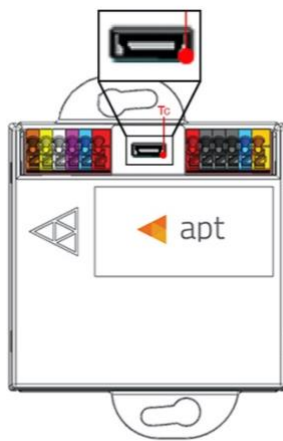


Fig. 4 - Tc is measured on metal sleeve of micro-USB programming port in location specified above

### Ordering Information

Product Code	Description
<b>APT-CV4-VA-SQ-<i>www</i></b>	<b>VA</b> – DMX512/RDM hardware version <b>SQ</b> – Square form factor <b><i>www</i></b> – Firmware code provided by Arkalumen

Configuration Code	Description
<b>DMX<i>n</i>-A<i>mmm</i>-<i>tttt</i>-1C<i>xxx</i>-2C<i>xxx</i>-3C<i>xxx</i>-4C<i>xxx</i></b>	<b>DMX<i>n</i></b> – DMX Address Assignment Scheme <b>A<i>mmm</i></b> – Base DMX address <b><i>tttt</i></b> – Output control feature <b>yC<i>xxx</i></b> – Channel-specific max current

### Configuration Code Details

Code	Description	Option	Configuration Trait
<b>DMX<i>n</i></b>	<b>DMX<i>n</i></b> denotes DMX wired communication using DMX Address Assignment Scheme <i>n</i> .	<b>DMX<i>n</i></b>	DMX Address Assignment Scheme <i>n</i> . See Schemes under DMX Address Assignment on page 9.
<b>A<i>mmm</i></b>	<b><i>mmm</i></b> denotes the base address of the controller on a DMX bus.	<b>A001</b>	Lowest base address option
		<b>A####</b>	Base address specified between 1 and 512
		<b>A512</b>	Highest base address option
<b><i>tttt</i></b>	<b><i>tttt</i></b> denotes the output control features enabled on the controller.	<b>0000</b>	Calibrated CCT mapping disabled
		<b>CALC</b>	Calibrated CCT enabled. Calibrated CCT can be customized to output specific desired light metrics.
<b>yC<i>xxx</i></b>	<b>yC<i>xxx</i></b> denotes the maximum current for channel <i>y</i> as configured in the controller's firmware in 20mA increments.	<b>1C####</b>	Maximum current specified up to 3,200mA. e.g. -1C200-2C030-3C030-4C030 would specify 2000mA max current for channels 1, and 300mA for channels 2, 3 and 4.
		<b>2C####</b>	
		<b>3C####</b>	
		<b>4C####</b>	

# APT-CV4-VWC-SQ MODULE (WIRELESS)

## Electrical Specifications

### Input

Port	Voltage		V	Current		mA	Power		W
	Min	Max		Min	Max		Min	Max	
DC IN +/-	12	60		45	4,100		-	100	

### Output

Port	Voltage		V	Current		mA	Power		W
	Min	Max		Min	Max		Min	Max	
+	-	58		0	4,055		-	100	
CH1	-	58		0	3,200		-	-	
CH2	-	58		0	3,200		-	-	
CH3	-	58		0	3,200		-	-	
CH4	-	58		0	3,200		-	-	

Wireless Operating Conditions <sup>1</sup>	
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

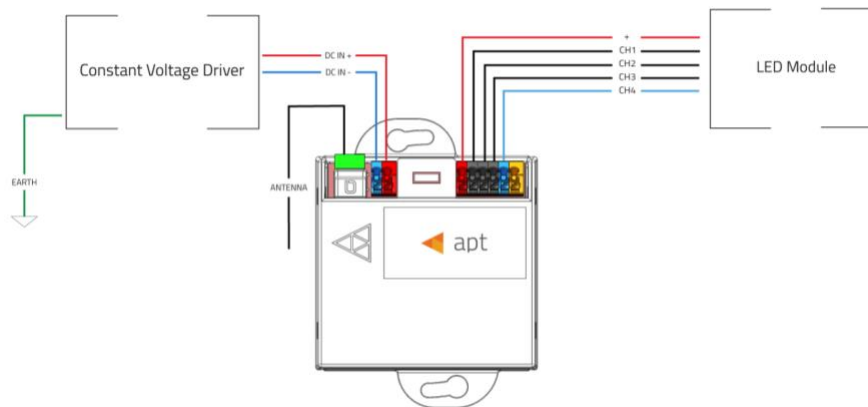
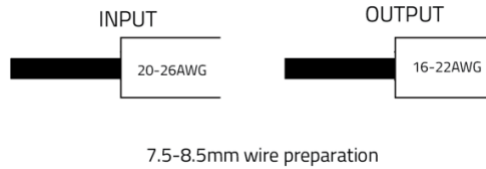


Figure 5 - APT-CV4-VWC-SQ Wireless Communication Configuration

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



### Operating Conditions

Temperature Limits	
Max Temperature, Tc	75°C
Min Ambient Temperature, Ta	-40°C

\*Temperature Limits valid when electrical limits are respected and mounting surface is kept at 75°C or below

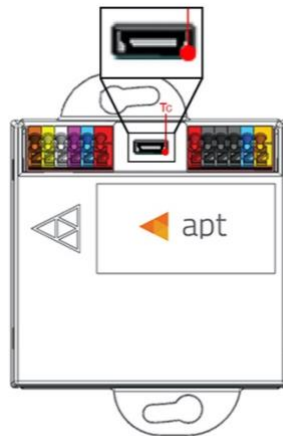


Fig. 6 - Tc is measured on metal sleeve of micro-USB programming port in location specified above



## Ordering Information

Product Code	Description
<b>APT-CV4-VWC-SQ-yA-wwww</b>	<b>VWC</b> – Wireless – Casambi BLE Mesh hardware version <b>SQ</b> – Square form factor <b>yA</b> – Antenna version (EA – embedded antenna, WA -whip antenna) <b>wwww</b> – Firmware code provided by Arkalumen

Configuration Code	Description
<b>CBMn-0000-tttt-1Cxxx-2Cxxx-3Cxxx-4Cxxx</b>	<b>CBMn</b> – Casambi BLE Mesh wireless control protocol <b>0000</b> – No base address to be specified <b>tttt</b> – Output control feature <b>yCxxx</b> – Channel-specific max current

## Configuration Code Details

Code	Description	Option	Configuration Trait
<b>CBMn</b>	<b>CBMn</b> denotes wireless communication using Scheme Address Assignment <b>n</b> .	<b>CBMn</b>	Address Assignment Scheme <b>n</b> . See Schemes under Scheme Address Assignment on page 9.
<b>tttt</b>	<b>tttt</b> denotes the output control features enabled on the controller.	<b>0000</b>	Calibrated CCT mapping disabled.
		<b>CALC</b>	Calibrated CCT enabled. Calibrated CCT can be customized to output specific desired light metrics.
<b>yCxxx</b>	<b>yCxxx</b> denotes the maximum current for channel <b>y</b> as configured in the controller's firmware in 20mA increments.	<b>1C###</b>	Maximum current specified up to 3,200mA. e.g. -1C200-2C030-3C030-4C030-5C030 would specify 2000mA max current for channels 1, and 300mA for channels 2, 3 and 4.
		<b>2C###</b>	
		<b>3C###</b>	
		<b>4C###</b>	