

APT-CC-Mini M1 - Ultra Compact Form Factor LED Controller



Features

- > Converts constant current driver into multi-channel constant current driver with up to 3 controlled output channels
- > Correlated Color Temperature (CCT) can be calibrated precisely, independent of intensity
- > Select tunable white modules to achieve desired spectra mix & lumen output within a calibrated linear or downlight system
- > APT Programmer enables configuration changes including CCT range, CCT mapping and control mode selection
- > Control Modes: 0-10V tunable white, dim-to-warm, programmable selectable white, DIP switch controlled selectable white

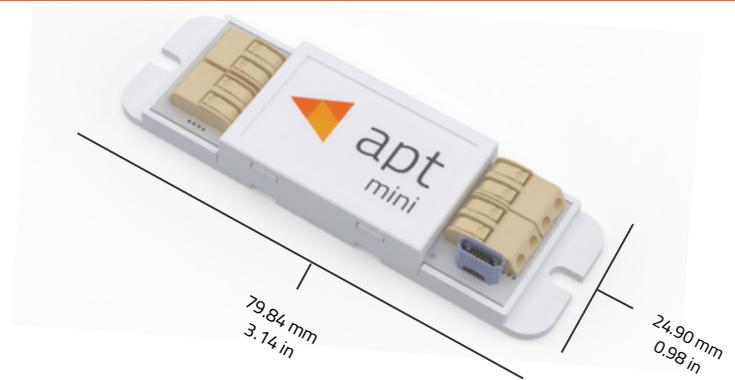


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APT Mini M1 Order Codes

| Order Code* | Technology | Number of Channels | Control Mode |
|-----------------------|------------------|--------------------|-----------------|
| APT-CC-VDW-M1-xxxx | Dim-to-Warm | 2 | Intensity Level |
| APT-CC3-VS-M1-xxxxDWz | Dim-to-Warm | 2 or 3 | Intensity Level |
| APT-CC3-VS-M1-xxxxTWz | Tunable White | 2 or 3 | 0-10V |
| APT-CC3-VS-M1-xxxxSWz | Selectable White | 2 or 3 | Programmable |
| APT-CC3-VS-M1-xxxxDSz | Selectable White | 2 or 3 | DIP Switch |

Note:

*xxxx – Firmware code provided by Arkalumen

*z – Refers to the number of channels programmed (2 or 3)

APT Mini M1 Electrical Specifications

| Order Code* | Max Wattage [W]** | Max Input Voltage [V] | Max Channel Current [mA] | Max Total Current [mA] |
|-----------------------|-------------------|-----------------------|--------------------------|------------------------|
| APT-CC-VDW-M1-xxxx | 100 | 55 | 4160 | 4160 |
| APT-CC3-VS-M1-xxxxyyz | 100 | 55 | 4160 | 4160 |

Note:

*yy – Refers to technology selected; DM (Dim-to-Warm), TW (Tunable White), SW (Selectable White - Programmable) or DS (Selectable White - DIP Switch)

**Max Wattage is typically limited to the LED module populated in the APT controller

Mechanical Specifications

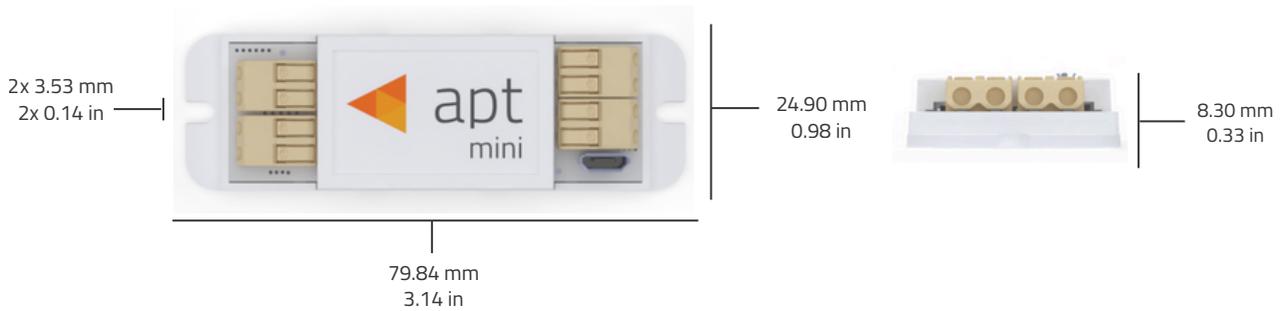


Figure 1 – Mechanical Drawing

Encasement Specifications

| | |
|----------|---------|
| Material | Plastic |
| RTI Elec | 130°C |

Operating Conditions

Temperature Limits

| | |
|-----------------------------|-------|
| Min Ambient Temperature, Ta | -40°C |
| Max Ambient Temperature, Ta | 50°C |

Dim-to-Warm - Wiring Diagrams

APT-CC-VDW-M1-xxxx

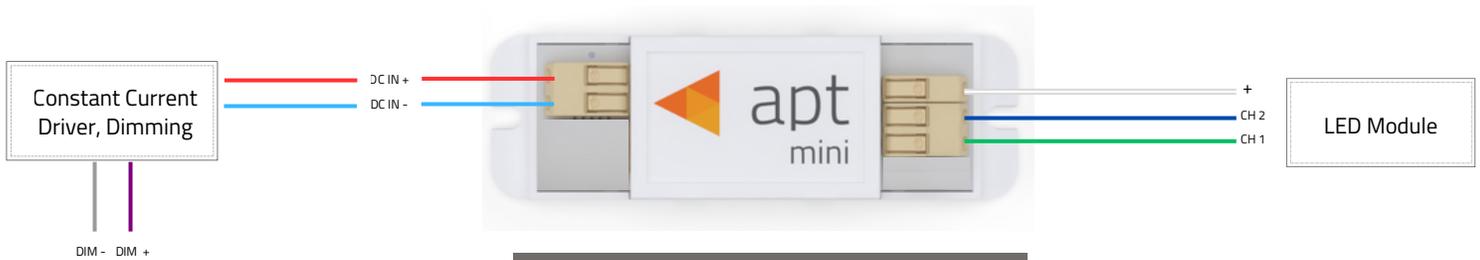


Figure 2 – APT-CC-VDW-M1-xxxx Wiring Diagram

APT-CC3-VS-M1-xxxxDW2

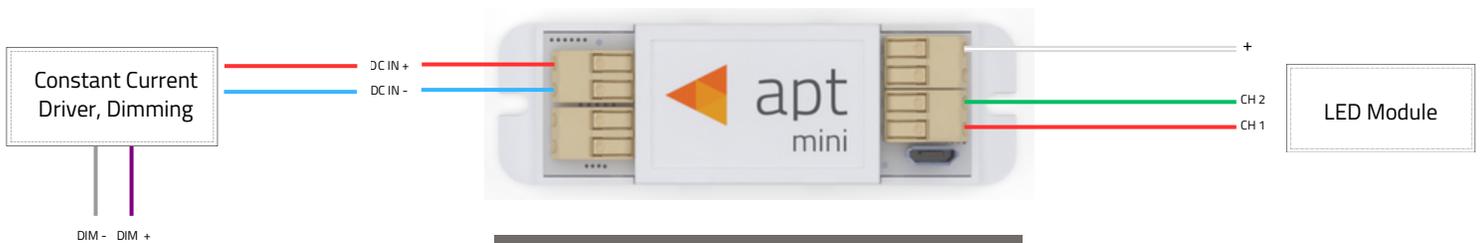


Figure 3 – APT-CC3-VS-M1-xxxxDW2 Wiring Diagram

Note: The output CCT range can be set using the APT Programmer

APT-CC3-VS-M1-xxxxDW3



Figure 4 – APT-CC3-VS-M1-xxxxDW3 Wiring Diagram

Note: The output CCT range can be set using the APT Programmer

Tunable White - Wiring Diagrams

APT-CC3-VS-M1-xxxxTW2

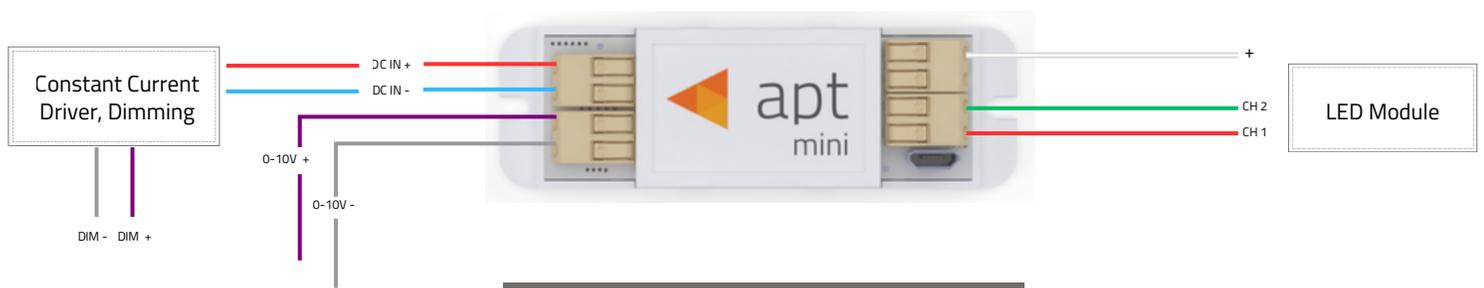


Figure 5 – APT-CC3-VS-M1-xxxxTW2 Wiring Diagram

APT-CC3-VS-M1-xxxxTW3

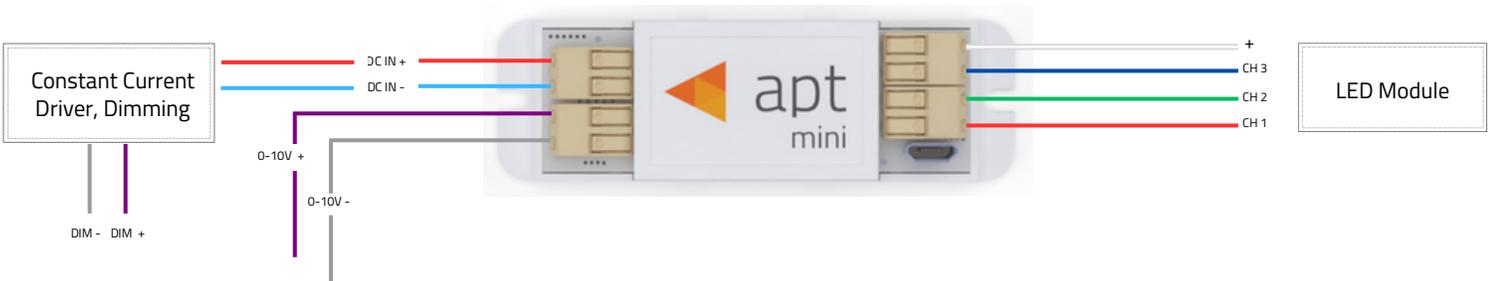


Figure 6 – APT-CC3-VS-M1-xxxxTW3 Wiring Diagram

Electrical Specifications

| Port | Voltage [V] | | Current [mA] | |
|---------------|-------------|-----|--------------|-----|
| | Min | Max | Min | Max |
| 0-10V (Sink)* | 0 | 10 | - | 1.5 |

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

Selectable White (Programmable) - Wiring Diagrams

APT-CC3-VS-M1-xxxxSW2

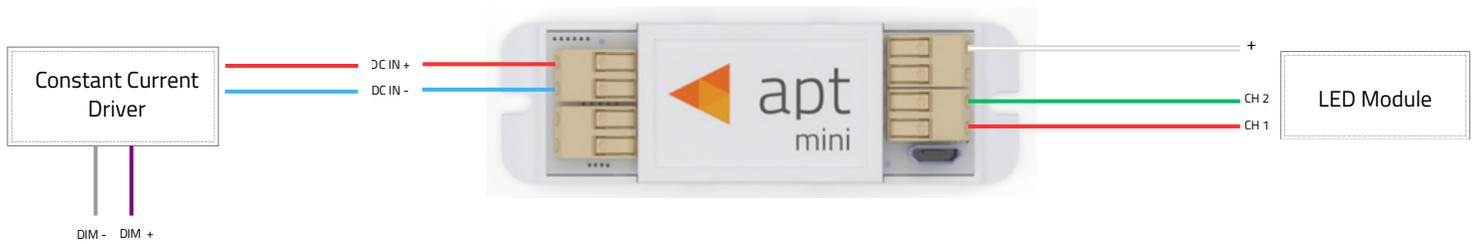


Figure 7 – APT-CC3-VS-M1-xxxxSW2 Wiring Diagram

APT-CC3-VS-M1-xxxxSW3

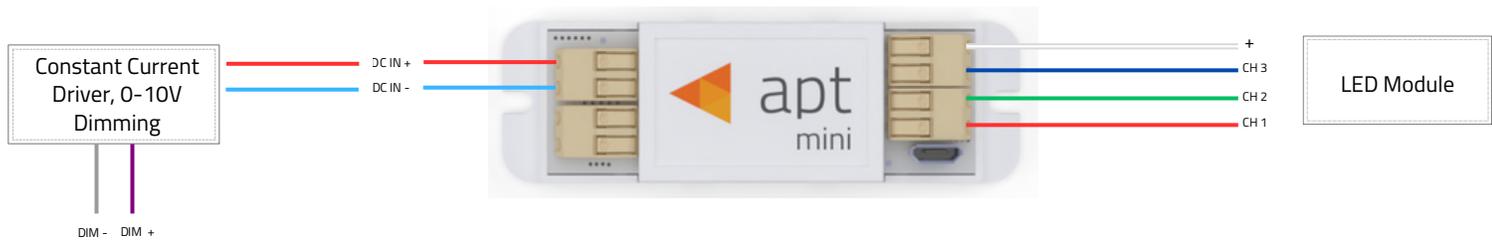


Figure 8 – APT-CC3-VS-M1-xxxxSW3 Wiring Diagram

Selectable White (DIP Switch) - Wiring Diagrams

APT-CC3-VS-M1-xxxxDS2



Figure 9 – APT-CC3-VS-M1-xxxxDS2 Wiring Diagram

APT-CC3-VS-M1-xxxxDS3



Figure 10 – APT-CC3-VS-M1-xxxxDS3 Wiring Diagram



APT Programmer

Arkalumen's APT controllers are customizable using our APT Programmer, which allows users to easily configure the controller for your applications. To configure, you will need an APT controller, an APT Programmer hardware unit and the latest version of the APT Programmer user interface.

APT Programmer Hardware:

To request an APT Programmer hardware unit, please contact support@arkalumen.com and a unit can be sent to you.

APT Programmer Software:

To download the latest APT Programmer user interface, please request a download link via the Arkalumen website www.arkalumen.com/apt-programmer/. You will be prompted to add in your information and a link will be sent to you via email with the latest version of the software. If you do not receive the email, please ensure to check your spam folder.

Programmable Features

| Order Code | Technology | Number of Channels | LED Module Selection | CCT Range | CCT Level | Linear or Logarithmic Mapping | 0-10V Trim Adjust | DIP Switch Usage |
|-----------------------|-------------------------------|--------------------|----------------------|-----------|-----------|-------------------------------|-------------------|------------------|
| APT-CC3-VS-M1-xxxxDWz | Dim-to-Warm | 2 or 3 | ✓ | ✓ | | ✓ | | |
| APT-CC3-VS-M1-xxxxTWz | Tunable White | 2 or 3 | ✓ | ✓ | | ✓ | ✓ | |
| APT-CC3-VS-M1-xxxxSWz | Selectable White Programmable | 2 or 3 | ✓ | | ✓ | | | |
| APT-CC3-VS-M1-xxxxDSz | Selectable White DIP Switch | 2 or 3 | ✓ | | ✓ | | | ✓ |

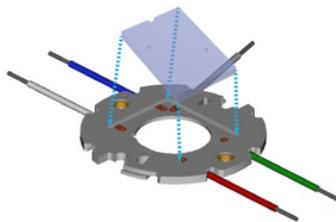
Arkalumen Accessories

Compatible LoDA Holders

| Arkalumen Part Number | Compatibility |
|-----------------------|-----------------------|
| ARK-BW-TWA | APT-CC-VDW-M1-xxxx |
| | APT-CC3-VS-M1-xxxxxyz |

How to Align LoDA to Bender+Wirth COB Holder

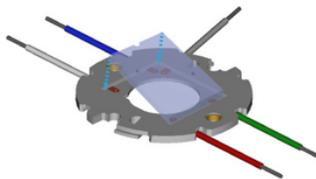
Step 1



Insert LoDA into the COB holder at a 45° angle

Figure 11

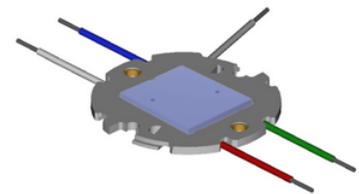
Step 2



Once LoDA is aligned with the bottom of the COB holder, push down into a flush position

Figure 12

Step 3



LoDA properly inserted into COB Holder

Figure 13

Note: Ensure the notch on LoDA is inserted in between the white & blue wires on the Bender+Wirth holder



Ecosystem Accessories

Approved Drivers

Arkalumen ORB Systems are compatible with a wide range of isolated Class 2 constant current output drivers. Please contact Arkalumen to confirm the compatibility of your selection.

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



Contact Us

For any further support please contact Arkalumen at support@arkalumen.com or toll free at 1.877.865.5533

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