**OPERATING MANUAL - CTM1-DDM1**

araya⁵ TUNABLE COLOR · Bluetooth · 2000 Maximum Peak Lumens LED Color Tuning Module (24V DC) CTM 109  CTM 112  CTM 119

## 9  OPERATION GUIDE

The araya⁵ Color Tuning Modules CTM 109, CTM 112, CTM 119 and CTM 119NR utilize standard 0-10V building controls and/or a wireless araya⁵ Tunable Color iOS app for controlling on-Planckian correlated color temperatures (CCT), dimming values, off-Planckian color points (color tinting) using the Saturation & Hue feature, and commissioning and activating SceneSet®. This document describes how to control the CTM utilizing 0-10V controls, the iOS Bluetooth app or a combination of the two.

**araya⁵ Tunable Color iOS App.** The araya⁵ Bluetooth app wirelessly controls the CTM. The app is primarily intended to commission the CTM after installation. A MAXIMUM OF 8 MODULES CAN BE CONTROLLED AT A TIME. Each CTM has a unique address and the operator uses the app to select the desired CTM, turn power on/off and then set CCT, Dim, Saturation & Hue, and set Scene Presets. Consult the araya⁵ Tunable Color instruction manual for detailed instructions.

**0-10V Control of CCT.** The CTM has 0-10V blue (+) and white (ground) control wire pairs to control CCT (instead of iOS app control of CCT).

**0-10V Control of SceneSet®.** The iOS app can set up to 5 Scene Presets which are recalled using a wired 0-10V controller. A scene is comprised of a CCT, Dim, Saturation & Hue level. Individual preset scenes also can be modified and activated with the iOS app.

**DMX Channel Configuration.** The CTM1 modules are provided with on board DMX512-A-RDM, with DMX slots set by RDM or via wireless araya⁵ Tunable Color 2.0 iOS app.

**On-Off Control.** The CTM may be turned on/off by switching the input power from the 24V supply. To store the settings, the lamp needs to remain on for at least 45 seconds after the CTM is initially set using the iOS app. When Scene Presets are activated using the app, the settings are stored immediately and no wait time is needed. The lamp may also be turned on/off using the app without switching the power supply, but a power draw of about 1W will remain.

**Special Instructions when using BLE 4.0 with the iOS App 2.0.**

1. BLE is designed for use as a commissioning and debug tool and should not be used for control of aRAYa light engines.
2. BLE cannot address more than 8 light engines. If greater than 8 are used, some lights at random will no longer be controllable, and can lose their preset values.
3. BLE is a useful debug tool, but starting with the 2768 code release the radio will automatically turn off after 1 hour of inactivity. The light will have to be power cycled to restore BLE function, which will again start the 1 hr inactivity timer.

**FCC STATEMENT:**  FCC ID: Q8A-CTM1-DDM1

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.  These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

**Non-Modification Warning:**
Warning: Changes or modifications to this device not expressly approved by the manufacturer could void the user's authority to operate the equipment.