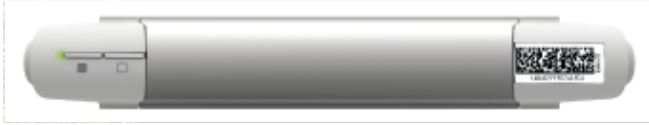# HALIO®

Tint Driver

DR250
Installation Guide

INTRODUCTION

Each unit of Halio smart tinting glass is controlled by a Halio Tint Driver. The Tint Driver supplies the precise power required to achieve the desired tint level, quickly, efficiently, and reliably. Tint Drivers are housed in the Halio Component Cabinet.

The Tint Driver communicates with the Halio System Gateway wirelessly using mesh networking. Tinting is automatically controlled by the Halio cloud-based software. However, the Tint driver also provides a local user interface for setup, manual control, and troubleshooting.

INSTALLATION WARNINGS

⚠ **WARNING! /** *ATTENTION*
Install in accordance with all NEC and local electrical codes.
Installez conformément à tous les codes électriques NEC et locaux.

⚠ **CAUTION /** *MISE EN GARDE*
Installation should be installed only by trained Halio installers.
L'installation ne doit être installée que par des installateurs Halio qualifies.

⚠ **CAUTION /** *MISE EN GARDE*
Tint Driver is only for use in the Halio system.
Tint Driver est uniquement destiné à être utilisé avec le système Halio.

IMPORTANT / *IMPORTANT*
Use the Halio Installer App to assist in this installation.
Utilisez l'application d'installation Halio pour vous aider dans cette installation.

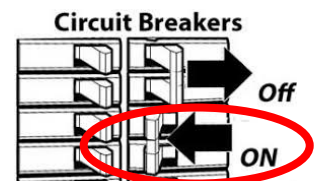## PREREQUISITES TO INSTALLATION

Before beginning the Tint Driver installation, ensure:

- Advanced System Design has been completed for the site and you have the necessary design, layout and installation details
- Halio System Power Disconnect has been installed and connected to the building's power supply.
- Halio System Power Supply has been installed and connected to outputs from the Halio Power Disconnect switch.
- Halio Component Cabinet where the Tint Driver(s) will be mounted has been properly installed.
- Power from the System Power Supply has been properly connected to the Energy Manager(s) within the Cabinet (or directly to the terminal blocks where applicable).
- Power output cabling from Energy Manager(s) has been connected to the terminal blocks that will supply power through the wiring harness to each Tint Driver slot.
- The System Disconnect, System Power Supply, and Component Cabinet are all properly grounded through the provided connections.
- Halio System Gateway has been installed in the Component Cabinet and has been provisioned to the Halio Cloud.
- A Halio Driver Cable is connected to the desired Halio glass units and routed into the appropriate Component Cabinet to the intended Driver location.
- You have access to the Halio Installer App used for Halio system provisioning.

INSTALLING TINT DRIVERS IN CABINET
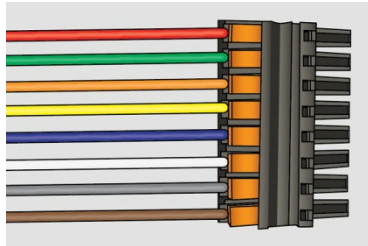
To install Halio Tint Drivers:

1. Ensure the Halio System Power Disconnect (or other approved safety disconnect) is set to the ON position to supply power to the devices in the Component Cabinet.

2. Trim any excess Driver Cabling to align the cable to the target cabinet slot.

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3. Trim back approximately 2" of the outer jacket of each unterminated Driver Cable to expose the 8 insulated conductors.
4. Strip approximately ¼" of insulation from each conductor of the Driver Cable to prepare it for termination.
5. Securely terminate each cable conductor into the appropriate terminal of the male 8-position driver connector as shown below.

Position 1 - Red
Position 2 - Green
Position 3 - Orange
Position 4 - Yellow
Position 5 - Blue
Position 6 - White
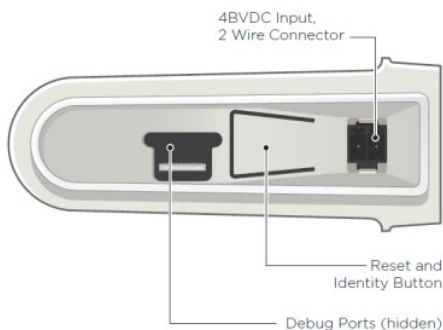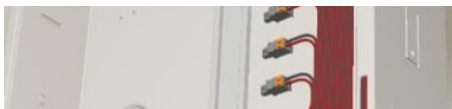Position 7 - Gray
Position 8 - Brown

6. Plug the 8-position connector terminating the Driver Cable into the mating 8-position control port on the left side of the Tint Driver and confirm it is securely seated.

7. In the Component Cabinet, snap each Tint Drivers onto the din rail using the following guidelines:

   a. Start at the bottom open slot in the cabinet and work your way up one driver at a time.

   b. Where a black positioning pin is available in the back of the cabinet (1 in 6 slots), slide the back of the driver onto the black pin as you snap the driver onto the rail.

8. Plug the 48VDC 2-wire power connector supplied on the right side of the Component Cabinet (and aligned to each slot) into each Tint Driver's matching power input port.
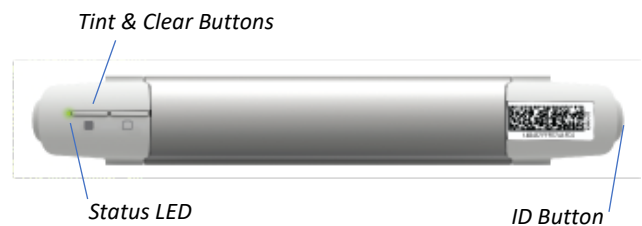

4BVDC Input, 2 Wire Connector

Reset and Identity Button

Debug Ports (hidden)

9. Confirm the Tint Driver powers up by viewing the status LED to the left of the Tint and Clear Buttons.

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PROVISIONING TINT DRIVERS

Tint Driver provisioning sets which individual unit of Halio glass in a building a Tint Driver will control and configures secure wireless communication between each Tint Driver and the Halio System Gateway.

Tint Drivers are typically provisioned as part of preparing a Halio system to ship to a jobsite. If a Tint Driver was not provisioned prior to shipment, the Halio Installer App can be used onsite by a trained Halio installer to provision each Tint Driver installed in the previous section. For more information, refer to *Halio Installer App User Guide.*

USING TINT DRIVER BUTTONS & LEDs

Tint & Clear Buttons

Status LED

ID Button

STATUS LED
- *Green* – Powered ON, provisioned successfully to communicate with a Halio System Gateway
- *Blue Blinking* - actively tinting. Blinks Fast when current is high, slower as current reduces.
- *White Blinking* – Actively clearing. Blinks fast when current is high, slower as current reduces.
- *Red Solid* - wire fault detected or not connected to Halio glass.
- *Amber*– Not connected to mesh network or there is a problem with the mesh network. See Troubleshooting for help resolving the issue.

TINT Button - Front of driver
- Press - Starts and stops glass tinting. If the tint button is not pressed again after the driver starts tinting, the driver will tint the glass to maximum tint level.

CLEAR Button - Front of driver
- Press – Starts and stops glass clearing. If the clear button is not pressed again, the driver will clear the glass to the maximum clear state. The LED may flash white for several minutes while this completes.

ID Button – Right side of driver (near power input port)
- Press – Use to start a Thread network join process. Press it when instructed to do so by the Halio Installation App.

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TROUBLESHOOTING

Issue: *No power being supplied to the Tint Driver.*

Possible Solutions:
- Ensure Mains power circuit breakers that supply power to Power Disconnect are ON.
- Ensure the Power Disconnect is set to ON.
- Ensure all wiring connections are correctly fastened on the input and output of the Power Disconnect screw terminals.
- Use a multi-meter to check the appropriate voltage is present at the inputs and outputs.

General Troubleshooting Tips
When you do not know where to start, think small.
- Check all wire connections.
- Read LEDs or error codes on one device at a time.
- Manually see if you can tint or bleach the windows using the buttons on the left side of the driver.
- Confirm wireless communication between the Gateway and drivers by moving drivers closer or using the external antenna option of the Gateway.

For additional troubleshooting guidance, contact your Halio support team.

REGULATORY COMPLIANCE

ETL Listed
Conforms to UL STD 60730-1
Certified to CSA STD E60730-1

Intertek
5015652

FCC ID No. 2AJXY-DR250
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 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 or more of the following measures:
- Reorient or relocate the receiving antenna.

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- 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.

Note that changes or modifications not expressly approved by Kinestral Technologies could void the user's authority to operate the equipment.

IC

IC: 22717-DR250
This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.