



USER & INSTALLATION GUIDE



USER & INSTALLATION GUIDE

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1. PRODUCT OVERVIEW

Thank you for choosing Fluence and the SHYFT Light Scheduler! SHYFT is the user-friendly solution for feature-rich automation of the Fluence LED or other compatible light fixtures in your grow operation. Fluence Photoacclimation protects plant health by gradually adjusting crops to new brightness levels for different growth stages. SHYFT enables accurate, consistent, and repeatable results through consistent photoperiods and dimmed brightness levels that facilitate increased crop yields and more growing cycles in a season.

Features include:

- Large full-color touch screen interface
- Two fully independent sink/source 0-10V dimming control channels (zones) for maximum light fixture compatibility
- Photoacclimation mode to gently adapt crops to a new target brightness level to prevent negative effects from shock due to a sudden change in brightness
- Photoperiod mode that repeats a daily on/off schedule at a set target brightness level
- Sunrise and sunset simulation (ramp up and ramp down transition) optional in both scheduled modes before and after the photoperiod
- Manual dimming mode (set a brightness level and hold it)
- Internal battery that retains the memory during a power loss and resumes the schedule or last set brightness when power is restored
- Suitable for installation in wet locations (IP65 rated)
- Flexible mounting (wall or 35 mm DIN rail)

SHYFT Light Scheduler is compatible with dimmable horticulture light fixture power supplies/drivers or fluorescent ballasts that have a 0-10 V or 1-10 V DC analog sink or source control interface. For 1-10 V or light fixtures that do not recognize 0 V as “OFF,” a switch or relay is required to turn off AC power to the light fixture. SHYFT Light Scheduler is NOT compatible with high intensity discharge (HID) light fixtures such as high-pressure sodium (HPS). Please contact Fluence support for assistance regarding light fixture compatibility.

2. PACKAGE CONTENTS



1



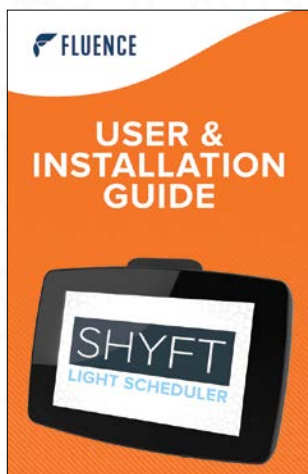
2



3



4



5

1. SHYFT Light Scheduler unit
2. Wall/35 mm DIN rail mounting bracket
3. Drywall anchors and #10 Phillips head screws
4. 100-240 V AC 50/60 Hz AC NEMA 1-15P power adapter
5. SHYFT User & Installation Guide

3. CAUTIONS AND WARNINGS

WARNING

Must Be Installed And Used In Accordance With All Applicable Building And Electrical Codes And Regulations.

CAUTION

Installation By Qualified Personnel Or A Licensed Electrician Is Highly Recommended.



CALIFORNIA PROPOSITION

⚠ 65 WARNING ⚠

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

ADVERTENCIA: Este producto contiene productos químicos reconocidos por el estado de California que provocan cáncer, defectos de nacimiento u otros daños reproductivos.

For more information:
www.P65Warnings.ca.gov

CHEMICAL EXPOSURE PRECAUTION

Fluence lighting systems are designed to be resilient against crop protection products. Many chemicals used in the Commercial Horticultural Industry are corrosive to electronic equipment. Care should be taken to ensure that only approved crop protection products, cleaning agents and/or other chemicals (e.g., pesticides, fungicides and insecticides) may come in contact with the device. If the device is accidentally exposed to a corrosive liquid or vapor (e.g. VOC –Volatile Organic Compound and H2S – Hydrogen Sulfide) the device must be rinsed with clean water as soon as possible. The product warranty will no longer apply if the product is repeatedly exposed or remains in the corrosive environment for a prolonged period. It is recommended the devices be removed and protected from the corrosive environment during all periods of aggressive disinfection or sanitization of the facility.

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.

NOTE: 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 or more of the following measures:

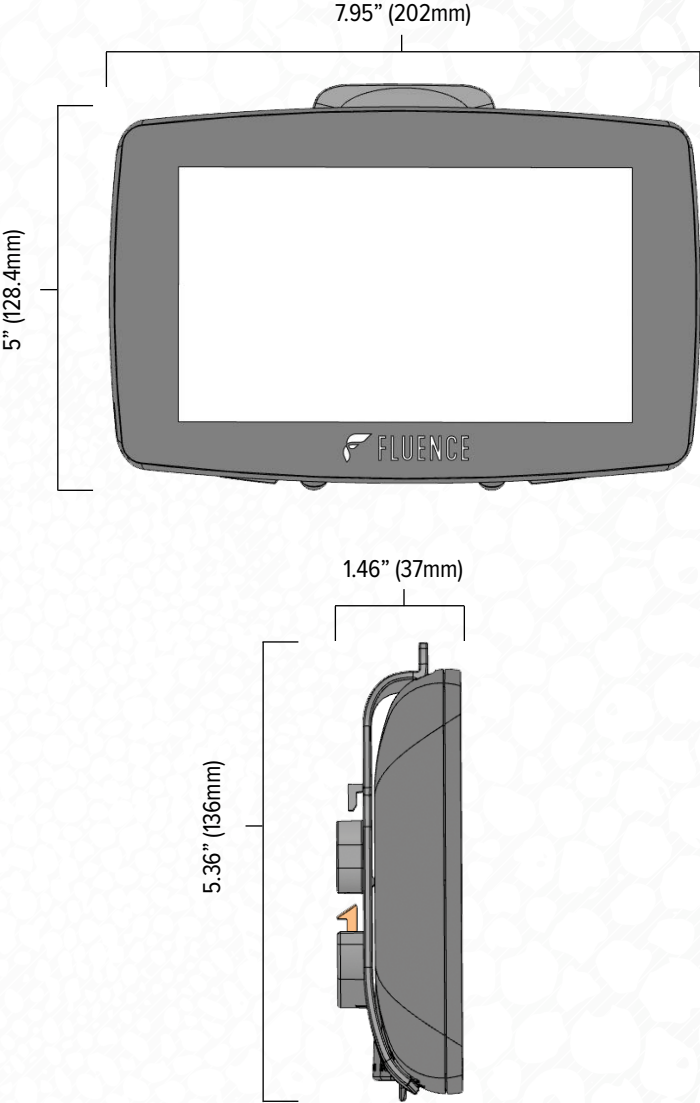
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

4. PRODUCT SPECIFICATIONS

SPECIFICATIONS	
Number of Channels	2
Signal Type	0-10 V
Signal Strength (per channel)	Source/Sink 100/30 mA DC
Max # of Fixtures Controlled (per channel)	50 fixtures, or up to 100 mA max dimming current capacity
Max Signal Wire Length (per channel)	200-300 feet max 60-90 meters max
10V Output Control	0-10 V +/- 0.1 V
AC Adapter Input Power	100 V – 240 V 50/60 Hz
DC Input Power	15 V – 24 V DC at 0.4 A 10 W, Sourced Wall Power
Light Control	0%-100% Light Intensity, Automatic Time Schedules (24-Hour Photoperiod and 20-Day Max Photoacclimation Cycle), Manual Dimming (Set and Hold)
User Interface	LCD Touch Screen
Min./Max. Ambient Operating Temperature	32 °F/0 °C – 122 °F/50 °C
Min./Max. Ambient Storage Temperature	-4 °F/-20 °C – 140 °F/60 °C
Environmental Rating	Suitable for Wet Locations (IP65) 0 – 90 % Relative Humidity, Noncondensing
Mounting	Wall/Surface or 35 mm DIN Rail
Compliances	cULus, FCC
Warranty	2 Years Limited
Region	Americas

ORDERING INFORMATION	
DESCRIPTION	ORDERING CODE
SHYFT Light Scheduler	CTLA-SHYFT
Mounting Bracket (Replacement Part)	ADMA-SHYFT-MB
AC Power Adapter Kit (Replacement Part)	ADMA-SHYFT-ACPWR
Wiring Hatch Silicone Gasket (Replacement Part)	ADMA-SHYFT-GASKET

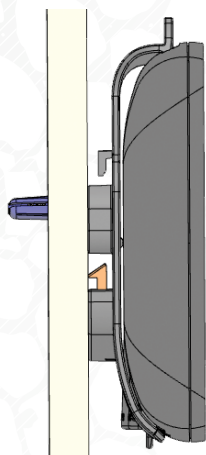
4. DIMENSIONS AND WEIGHT



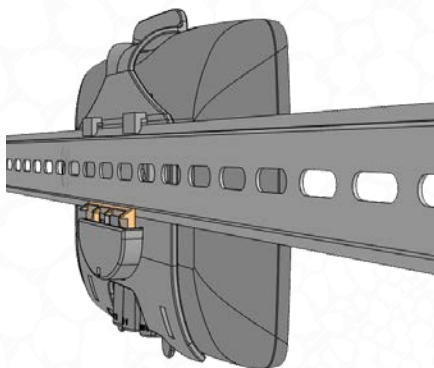
LENGTH	HEIGHT	DEPTH	WEIGHT
7.95" 202 mm	5.36" 136 mm	1.46" 37 mm	2.0 lb 0.9 kg

5. INSTALLATION INSTRUCTIONS

5.1 INSTALL THE MOUNTING BRACKET



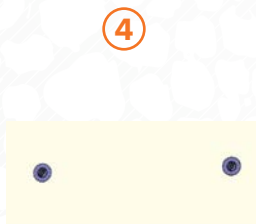
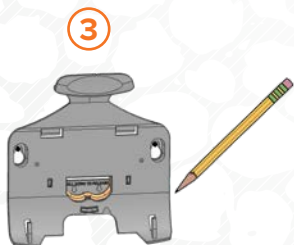
WALL/SURFACE



35 MM DIN RAIL

WALL OR SURFACE MOUNTING

1. Select the location and viewing height near an AC power outlet.
2. Locate the wall studs if possible when mounting on drywall. If wall studs are not available, use the included plastic anchors.
3. Hold the bracket on the desired location and use a pencil or pen to mark the screw locations through the mounting holes.
4. Put the bracket aside and drill 1/8" (3 mm) pilot holes if screwing directly into a stud or wood. For the plastic anchors, drill 1/4" (6 mm) holes, and then install the anchors.
5. Place the bracket over the holes and install the screws. Use of hand tools is recommended.

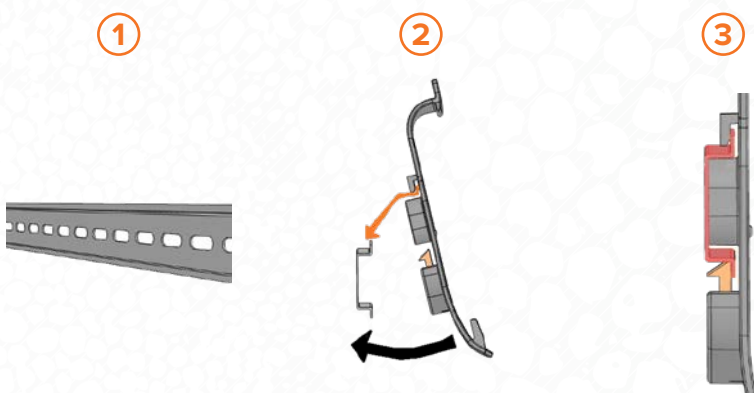


5. INSTALLATION INSTRUCTIONS

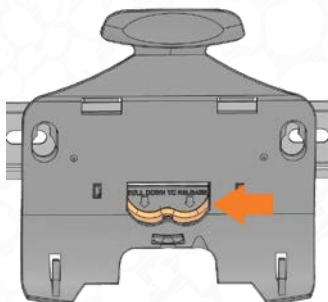
5.1 INSTALL THE MOUNTING BRACKET

35 MM DIN RAIL MOUNTING

1. Select the desired location and viewing height on the existing 35 mm DIN rail or install a new piece, near an AC power outlet. A minimum of 20 inches (508 mm) of clear space on the DIN rail is required.
2. Take the mounting bracket and hook it on the top part of the rail.
3. With the bracket hooked on the top of the DIN rail, press the bottom against the rail until the spring retainer snaps into place.



Note: To remove the mounting bracket, press down on the orange release button, pull the bottom forward, and then lift it up.

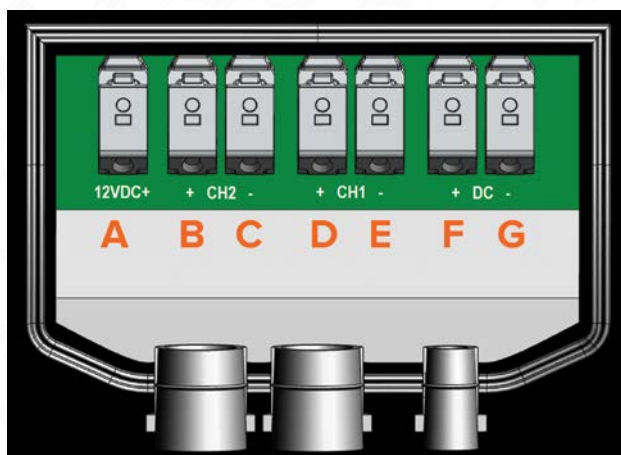


5. INSTALLATION INSTRUCTIONS

5.2 CONNECT THE DIMMING AND DC POWER WIRING

IMPORTANT: Read the wiring diagrams and advice in Section 9 regarding the complete system wiring before connecting SHYFT Light Scheduler to the light fixtures.

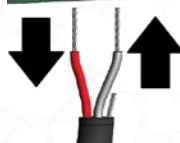
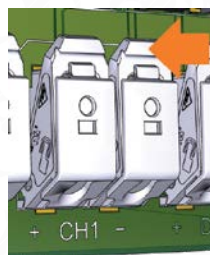
CONNECTION TERMINALS



CONNECTION TERMINAL WIRING

- A. 12 V DC+ (power for Wireless Flex Dimming accessory only)
- B. Channel (Zone) 2 Dim+
- C. Channel (Zone) 2 Dim-
- D. Channel (Zone) 1 Dim+
- E. Channel (Zone) 1 Dim-
- F. DC Input Power 15 V DC+ (Red Wire)
- G. DC Input Power 15 V DC- (Black Wire)

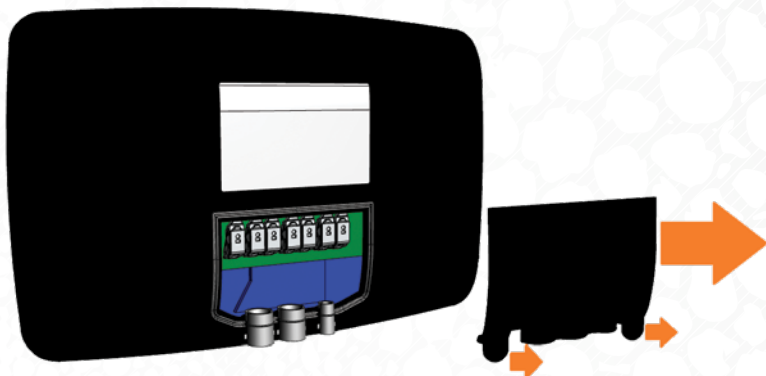
Push in gently with a small, flat screwdriver to insert/release wire



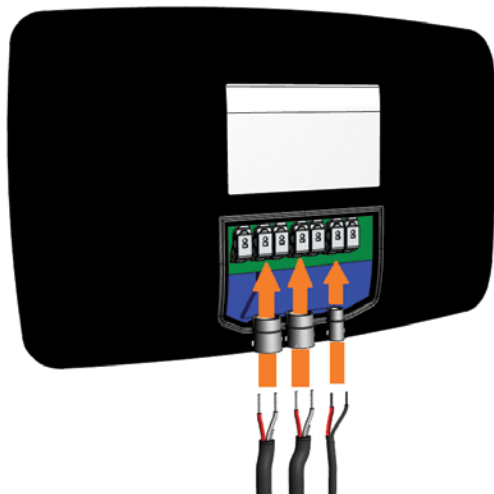
5. INSTALLATION INSTRUCTIONS

5.2 CONNECT THE DIMMING AND DC POWER WIRING

1. Remove the rear wiring compartment cover. Pull outward on the two tabs indicated until the bottom is free, and then remove.



2. Strip custom cable 0.25" (6.5 mm) (it is recommended to tin stranded wire). Slide the cable through the gasket opening for the corresponding terminal set.

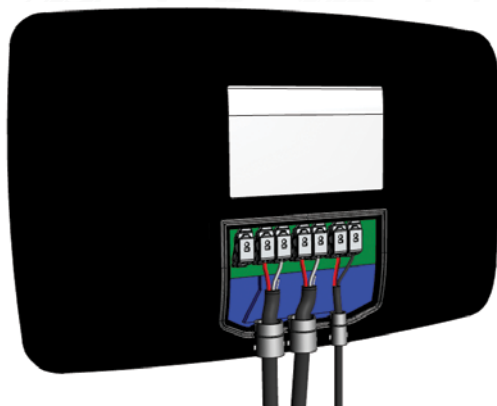


5. INSTALLATION INSTRUCTIONS

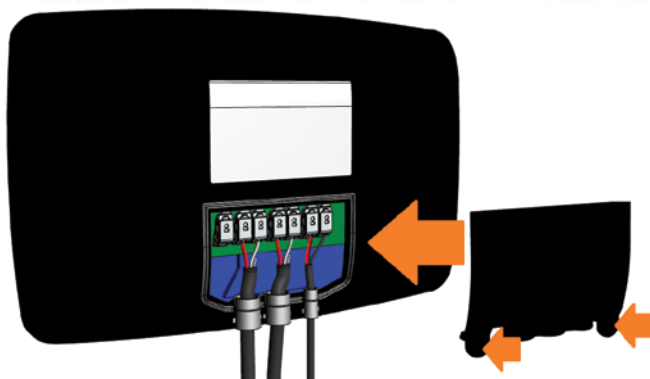
5.2 CONNECT THE DIMMING AND DC POWER WIRING

3. Insert the pigtail leads into the correct connector. Press and hold the connector release button, insert the wire, then let go. Repeat Steps 2 and 3 for each 0-10V Channel connection and AC Power Adapter 15 V DC input connection.

Note: If only one zone of control is required, do not wire Channel 2. It is recommended to disable Channel 2 during initial set up if not needed.



4. After the connections are completed, re-install the wire compartment cover. **Ensure that the gasket is properly seated.** Insert the top of the cover into the body, and then press down on the bottom of the cover until it snaps securely into place.

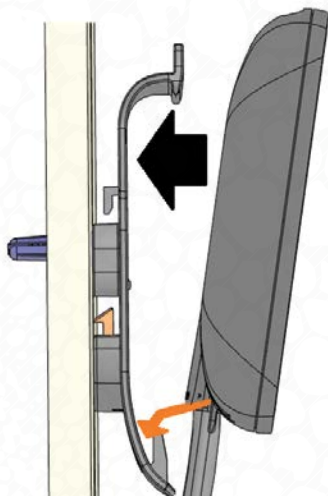


IMPORTANT: To prevent damage to the integral strain relief and connectors, do not put tension on or pull on the wires.

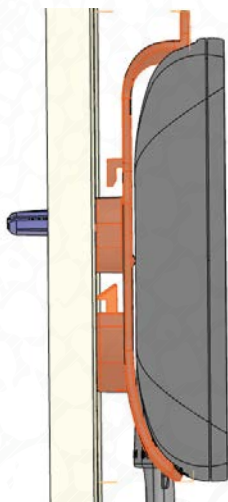
5. INSTALLATION INSTRUCTIONS

5.3 ATTACH THE SHYFT LIGHT SCHEDULER UNIT

1. Lower the bottom of the unit onto the bracket, aligning the two tabs in the slots.



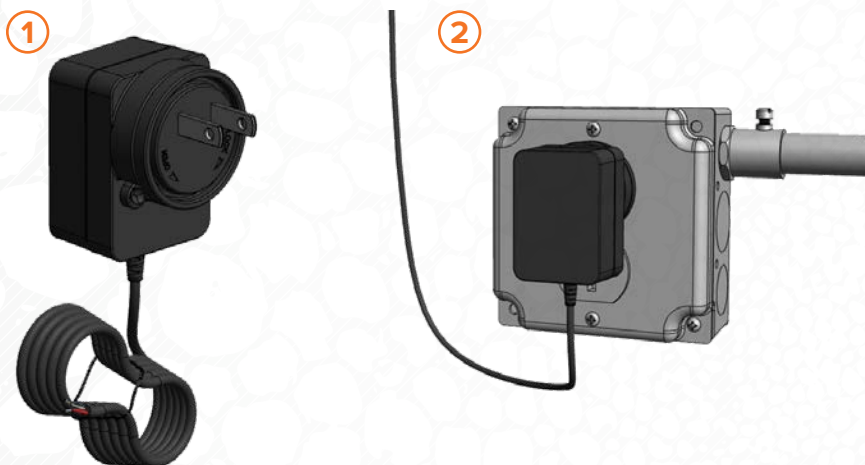
2. With the bottom seated on the tabs, push the unit into the bracket until the top snaps in.



5. INSTALLATION INSTRUCTIONS

5.4 CONNECT THE AC POWER

1. Locate a 120 V AC wall outlet or power outlet strip with continuous AC power.
2. Plug the AC power adapter into the power outlet.



**THE SHYFT LIGHT SCHEDULER INSTALLATION IS NOW COMPLETE.
PROCEED TO THE INITIAL SETUP INSTRUCTIONS.**



6. INITIAL SETUP

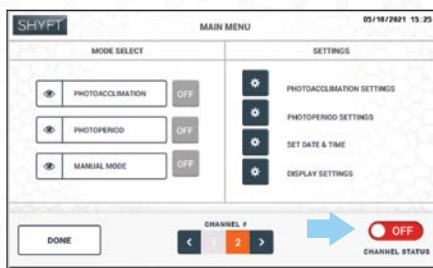
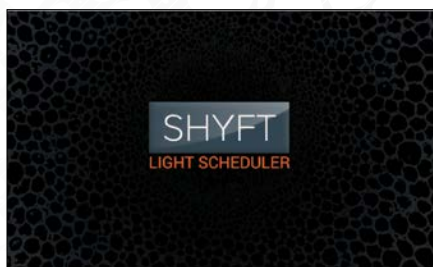
NOTE: FOR BEST RESULTS WHEN OPERATING THE TOUCH SCREEN DISPLAY, USE A STYLUS OR PRESS FIRMLY ON THE SCREEN. THE SCREEN IS DESIGNED TO BE LESS SENSITIVE FOR USE IN DIRTY/ WET ENVIRONMENTS.

1. Tap the splash screen to go to the main menu.

2. Tap “SET DATE & TIME.”

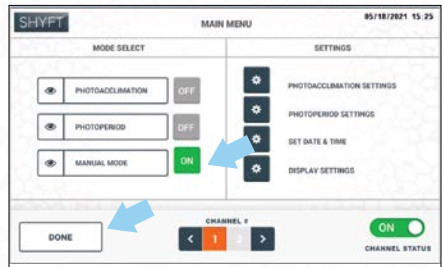
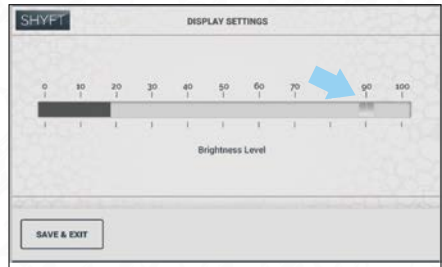
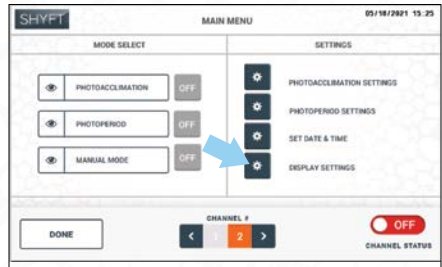
3. Set the correct day, month, year, hour, and minute. Tap “+” to increase the number or “-” to decrease the number. A 24-hour clock is used. Tap “mm/dd/yyyy” or “dd/mm/yyyy” to select the desired date display format. Tap “SAVE & EXIT” to save the changes. Tap “CANCEL” to return to the Main Menu without saving your changes.

4. Channel 1 is always active. If only one channel is being used, it is recommended to disable Channel 2. Tap “>” to select Channel 2, then tap the “CHANNEL STATUS” button to “OFF”. Tap “<” to return to Channel 1.



6. INITIAL SETUP

5. Tap “DISPLAY SETTINGS”
6. Tap and move the slider to the desired screen brightness level. Tap “SAVE & EXIT” to save the changes and return to the Main Menu.
7. Ensure “MANUAL MODE” is ON (green). Tap “DONE.”
8. Test the dimming of the lights. Touch and move the slider slowly left and right through the range, and visually verify the brightness change. Step adjustments can be made by tapping “+” or “-”. To test Channel 2, tap “MAIN MENU,” tap “>” to select Channel 2, and then tap “DONE” to return to MANUAL MODE. If the lights do not dim correctly, see Section 8.2, Troubleshooting.



7. OPERATING INSTRUCTIONS

7.1 OVERVIEW

The MAIN MENU is the home page, on which you can select different operating modes, enter settings, and switch between 0-10 V control channels. The current date and time are displayed at the top right corner of the screen.

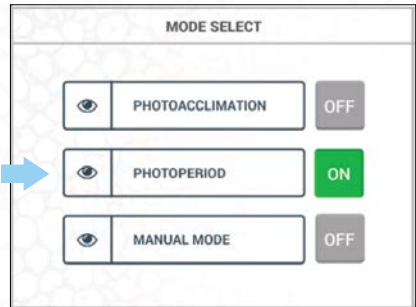
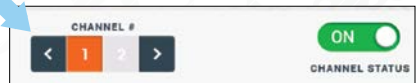
CHANNEL #: Each channel is operated independently. To change settings or operating mode, the correct channel must first be selected. Tap “<” to select Channel 1, and “>” to select Channel 2. The current channel selection is indicated in orange. Channel 1 is always enabled. Channel 2 can be disabled by tapping the “CHANNEL STATUS” button to “OFF.”

MODE SELECT: Each channel may be operated independently in one of the three operating modes. Tap the name to select the desired operating mode. The operating mode currently active for the channel is indicated by the word “ON” in green.

PHOTOACCLIMATION: Gradually ramps up to a target brightness level over a period of up to 20 days. Repeats daily on/off schedule at the cycle day brightness, and then at target max brightness.

PHOTOPERIOD: Repeats a daily on/off schedule at the same brightness level.

MANUAL MODE: Set a brightness level manually and hold until changed.



7. OPERATING INSTRUCTIONS

7.1 OVERVIEW

DONE BUTTON: Tap the “DONE” button to exit from Main Menu and go to the status screen for the selected operating mode.



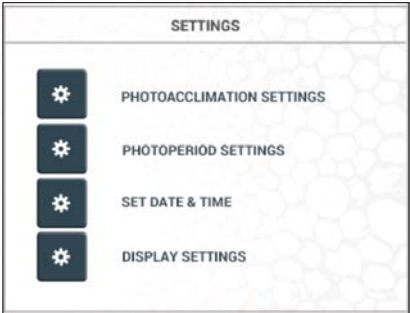
SETTINGS

PHOTOACCLIMATION SETTINGS:

Tap to enter the settings for Photoacclimation Mode.

PHOTOPERIOD SETTINGS:

Tap to enter the settings for Photoperiod Mode.



SET DATE & TIME: Tap to enter the date and time settings.

DISPLAY SETTINGS: Tap to adjust the screen brightness.

NOTE: SETTINGS SAVED FOR A PARTICULAR MODE WILL REMAIN STORED, BUT WILL ONLY BE IN EFFECT WHEN THAT OPERATING MODE IS SELECTED AND ACTIVE.

7. OPERATING INSTRUCTIONS

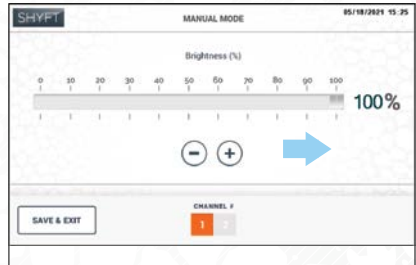
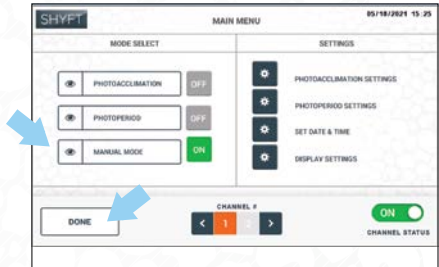
7.2 MANUAL MODE

Manual Mode simply functions like a typical wall slide dimmer.

1. On the Main Menu, select the channel whose brightness you want to change.
2. To enter Manual Mode, select it on the Main Menu and tap the “DONE” button to open the status screen.

NOTE: SELECTING MANUAL MODE STOPS THE SCHEDULE IF IN PHOTOPERIOD OR PHOTOACCLIMATION MODE.

3. Sliding the button to the right turns the light on (typically at 10% brightness) and increases it up to 100% brightness. Sliding the button to the left decreases the brightness from 100% down to the minimum level (typically 10% brightness) and then turns the light off below 10%. The (-) decreases the brightness by 1%, and the (+) increases the brightness by 1%. The actual turn-on and turn-off points may vary slightly, depending on the LED driver in the light fixture.
4. Tap the “MAIN MENU” button to exit and return to the Main Menu.

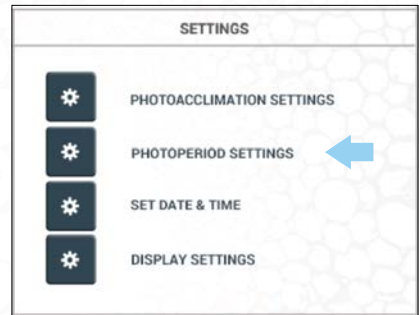
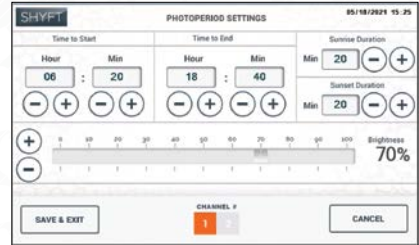


7. OPERATING INSTRUCTIONS

7.3 PHOTOPERIOD MODE

Photoperiod Mode functions similarly to a 24-hour timer clock, but with additional advanced features. You set a time to turn the channel on, a time to turn the channel off, a brightness level, and an optional simulated sunrise (ramp up) before turning on, and sunset (fade down) before turning off. The minimum photoperiod cycle is 1 hour. The same schedule repeats every 24 hours while in Photoperiod operating mode.

1. On the Main Menu, first select the channel that you want to operate on a repeated daily schedule.
2. To set up Photoperiod Mode, tap “PHOTOPERIOD SETTINGS” on the Main Menu “SETTINGS” section.



NOTE: ENTERING AND CHANGING THE SETTINGS FOR PHOTOPERIOD MODE WILL NOT AFFECT PHOTOACCLIMATION OR MANUAL MODE IF RUNNING. ACTIVATE THE MODE WHEN READY TO BEGIN THE SCHEDULE.

7. OPERATING INSTRUCTIONS

7.3 PHOTOPERIOD MODE

Use the “+” button to go forward and the “-” button to go back for time settings. For brightness settings, move the slider right to increase or left to decrease. Tap “+” or “-” for 1% increments.

- 3. Time to Start: Set the hour (24-hour time) and minute to begin the photoperiod and turn on the lights at the brightness level (or when sunrise begins if enabled).
- 4. Time to End: Set the hour (24-hour time) and minute to end the photoperiod and turn off the lights (or when sunset begins if enabled).
- 5. Sunrise Duration: Set how quickly the lights ramp up to simulate sunrise (minimum 5 minutes, maximum 60 minutes). Set to 00 minutes for the lights to turn on instantly to the brightness level at the defined Time to Start.
- 6. Sunset Duration: Set how quickly the lights dim down to off to simulate sunset (minimum 5 minutes, maximum 60 minutes). Set to 00 minutes for the lights to turn off instantly at the defined Time to End.
- 7. Brightness: Set the brightness level for the photoperiod.
- 8. Tap “SAVE & EXIT” when finished to save the settings. Tap “CANCEL” to exit without saving.

Time to Start

Hour : Min

06 : 20

- + - +

Time to End

Hour : Min

18 : 40

- + - +

Sunrise Duration

Min 20 - +

Sunset Duration

Min 20 - +

+ -

0 10 20 30 40 50 60 70 80 90 100

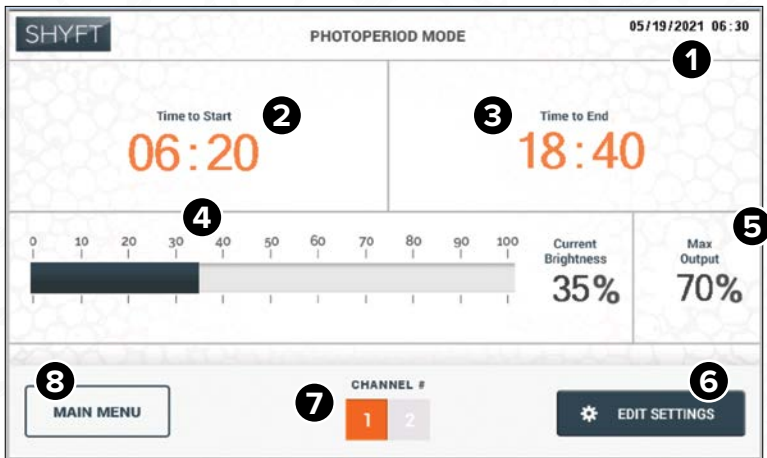
Brightness 70%

SAVE & EXIT CANCEL

7. OPERATING INSTRUCTIONS

7.3 PHOTOPERIOD MODE

To begin the photoperiod schedule, tap “PHOTOPERIOD” in “MODE SELECT” on the Main Menu. Then tap “DONE” to exit the Main Menu and open the Photoperiod status screen.



PHOTOPERIOD MODE STATUS SCREEN

1. Current system time and date
2. The time the Photoperiod schedule starts at the target brightness percentage (or when the sunrise period begins, if enabled)
3. The time the Photoperiod schedule ends and the lights turn off (or when the sunset period begins, if enabled)
4. The current brightness percentage of the lights (graphic and digital)
5. The maximum brightness percentage of the lights for the photoperiod
6. Tap to enter and modify the Photoperiod settings screen
7. Channel number status currently being displayed
8. Tap to exit to the Main Menu

7. OPERATING INSTRUCTIONS

7.4 PHOTOACCLIMATION MODE

Photoacclimation Mode avoids shocking plants with a sudden large increase in brightness level when the brightness is set for a new growth stage. A minimum of 2 to a maximum of 20 days is defined with a target brightness level and brightness increase for each day in the cycle. A Photoperiod schedule start and end time with optional sunrise and sunset simulation is also set. The daily Photoperiod schedule will run each day for the duration of the Photoacclimation cycle at the next higher increment brightness level, until the target brightness level is reached. After the cycle is ended, the daily Photoperiod schedule will continue to repeat at the last target brightness level until stopped.

1. On the Main Menu, first select the channel that you want to operate on a repeated daily schedule with Photoacclimation.
2. To set up Photoacclimation Mode, tap “PHOTOACCLIMATION SETTINGS” on the Main Menu “SETTINGS” section.

SHYFT PHOTOACCLIMATION SETTINGS 05/18/2021 15:35

START DATE: Day 06, Month 14, Year 2021

TIME DATE

START TIME: Hour 06, Minutes 20

Sunrise Duration (Secs): 10, Sunset Duration (Secs): 10

Day: 01, Night Brightness (%): 030, Max Brightness (%): 030

Start: 06/14/2021, End: 06/28/2021

Buttons: SAVE & EXIT, CHANNEL # 1, CANCEL

CHANNEL #

Buttons: < 1 2 >

ON CHANNEL STATUS

CHANNEL #

Buttons: < 1 2 >

ON CHANNEL STATUS

SETTINGS

PHOTOACCLIMATION SETTINGS

PHOTOPERIOD SETTINGS

SET DATE & TIME

DISPLAY SETTINGS

NOTE: ENTERING AND CHANGING THE SETTINGS FOR PHOTOACCLIMATION MODE WILL NOT AFFECT PHOTOPERIOD OR MANUAL MODE IF RUNNING. ACTIVATE THE MODE WHEN READY TO BEGIN THE SCHEDULE.

7. OPERATING INSTRUCTIONS

7.4 PHOTOACCLIMATION MODE

Use the “+” button to go forward and the “-” button to go back for date and time settings. For brightness settings, tap “+” or “-” for 1% increments.

3. **Start Date:** Tap the “START DATE” tab. Set the day, month, and year of the first date of the Photoacclimation cycle.
4. **End Date:** Tap the “END DATE” tab. Set the day, month, and year of the last day of the Photoacclimation cycle. The minimum number of days is 2, and the maximum number of days is 20.
5. **Photoacclimation Cycle Target Brightness and Dimming Curve:**
There are a few options for setting the target brightness and dimming increment progression during the Photoacclimation Cycle.

START DATE		END DATE	
Day	06	-	+
Month	14	-	+
Year	2021	-	+
Start: 06/14/2021		End: 06/28/2021	

START DATE		END DATE	
Day	06	-	+
Month	28	-	+
Year	2021	-	+
Start: 06/14/2021		End: 06/28/2021	

QUICK START

Tap the “DEFAULT” button to set a 10-day Photoacclimation cycle of 10% incremental increases, beginning at 10% brightness on Day 01 to an end target (max) brightness of 100% on Day 10.

Day		Max Brightness (%)	
01	- +	010	- +
DEFAULT		LINEAR RAMP	

7. OPERATING INSTRUCTIONS

7.4 PHOTOACCLIMATION MODE

LINEAR

Tap the “Target (Max) Brightness” (%) “(+)” and “(-)” buttons to set the starting brightness level on Day 01 of the Photoacclimation cycle. Tap the “Day” “(+)” and “(-)” buttons to advance to the last day number (e.g., Day 14) of the Photoacclimation cycle, and then set the end target brightness level. Tap the “LINEAR RAMP” button for SHYFT to automatically calculate equal brightness increments per day for the target brightness of the cycle.

Day 01 Max Brightness (%) 030
DEFAULT LINEAR RAMP

Day 10 Max Brightness (%) 100
DEFAULT LINEAR RAMP

CUSTOM

You can customize the brightness increments throughout the cycle by specifying the target brightness for each day. Tap the “Day” “(+)” and “(-)” buttons to select the day in the cycle, and then set the target brightness level percent for that day. **You must do this for each day in the cycle.**

Day 01 Max Brightness (%) 030
DEFAULT LINEAR RAMP

Day 10 Max Brightness (%) 100
DEFAULT LINEAR RAMP

- 6. Start Time:** Set the hour (24-hour time) and minute to begin the photoperiod and turn on the lights at the cycle day brightness level (or when sunrise begins if enabled).
- 7. End Time:** Set the hour (24-hour time) and minute to end the photoperiod and turn off the lights (or when sunset begins if enabled).

START TIME END TIME

Hour 06 Minutes 20
Sunrise Duration (Min) 20 Sun-set Duration (Min) 20

Hour 18 Minutes 40
Sunrise Duration (Min) 20 Sun-set Duration (Min) 20

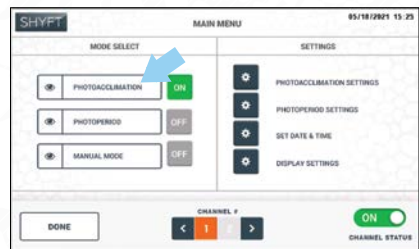
7. OPERATING INSTRUCTIONS

7.4 PHOTOACCLIMATION MODE

8. **Sunrise Duration:** Set how quickly the lights ramp up to simulate sunrise (minimum 5 minutes, maximum 60 minutes). Set to 00 minutes for the lights to turn on to the cycle day brightness level instantly at the Time to Start.
9. **Sunset Duration:** Set how quickly the lights dim down to off to simulate sunset (minimum 5 minutes, maximum 60 minutes). Set to 00 minutes for the lights to turn off instantly at the Time to End.
10. Tap **“SAVE & EXIT”** when finished to save the settings. Tap **“CANCEL”** to exit without saving.

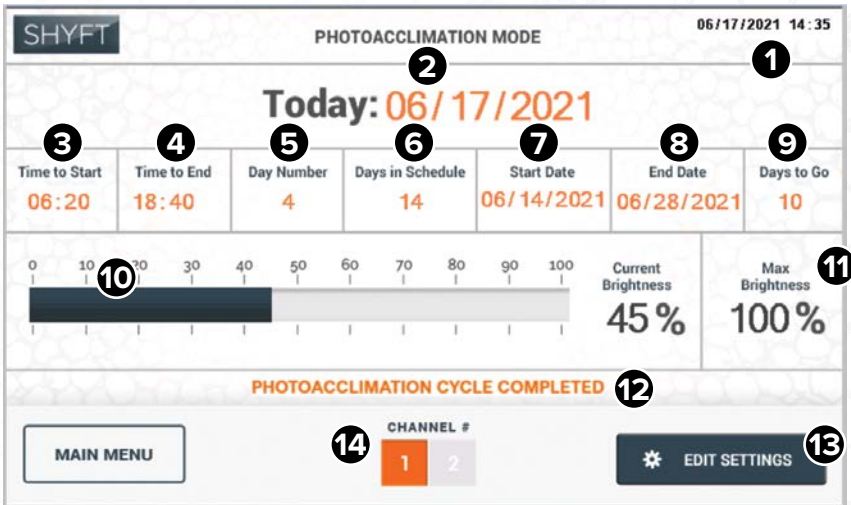


To begin the photoacclimation schedule, tap **“PHOTOACCLIMATION”** in **“MODE SELECT”** on the Main Menu. Then tap **“DONE”** to exit the Main Menu and open the Photoacclimation status screen.



7. OPERATING INSTRUCTIONS

7.4 PHOTOACCLIMATION MODE



PHOTOACCLIMATION MODE STATUS SCREEN

1. Current system time and date
2. Today's date in the Photoacclimation cycle
3. The time the Photoperiod schedule starts at the Photoacclimation cycle day max brightness percentage (or when the sunrise period begins, if enabled)
4. The time the Photoperiod schedule ends and the lights turn off (or when the sunset period begins, if enabled)
5. The day number in the Photoacclimation cycle
6. The total quantity of days in the Photoacclimation cycle (duration)
7. The date the Photoacclimation cycle begins
8. The date the Photoacclimation cycle ends
9. The remaining quantity of days in the Photoacclimation cycle
10. The current brightness percentage level of the lights (graphic and digital)
11. The target (max) brightness percentage for the current Photoperiod
12. This message is displayed when the Photoacclimation cycle has completed
The Photoacclimation Mode "ON" status indicator on the Main Menu will also turn from green to orange. All subsequent photoperiod cycles will use the last brightness target configured (brightness of the last day of the Photoacclimation cycle)
13. Tap to enter and modify the Photoacclimation settings screen
14. Channel number status currently being displayed

7. OPERATING INSTRUCTIONS

7.5 SCREEN SAVER

SHYFT Light Scheduler has a screen saver feature to prevent permanent screen image burn-in. After 10 minutes of inactivity, the fade-in-fade-out SHYFT logo splash screen will activate. Simply tap the screen to exit the screen saver mode.

NOTE: THE SCREEN SAVER WILL ACTIVATE ONLY IF LEFT ON ONE OF THE THREE OPERATING MODE STATUS SCREENS OR THE MAIN MENU. THE SCREEN SAVER WILL NOT ACTIVATE IF LEFT ON ANY OTHER SCREEN.



8. MAINTENANCE AND TROUBLESHOOTING

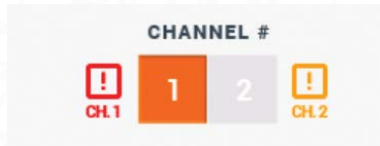
8.1 CARE AND MAINTENANCE






- Do not operate the touchscreen with sharp objects or tools.
- It is recommended to wipe the screen periodically with a clean cloth to remove any dirt or chemical residue that could accumulate over time to prevent degradation of touchscreen sensitivity.

8. MAINTENANCE AND TROUBLESHOOTING

8.2 TROUBLESHOOTING

SHYFT displays indicators at the bottom of the operating mode status screens to warn of channel fault conditions. SHYFT automatically rechecks the fault condition every minute up to 30 times to see if the fault is resolved. If the fault is cleared by the 29th check, operation will resume. After the 30th check, the unit enters a protective shutdown state. SHYFT must be powered off and then on again to clear the message and resume normal operation.



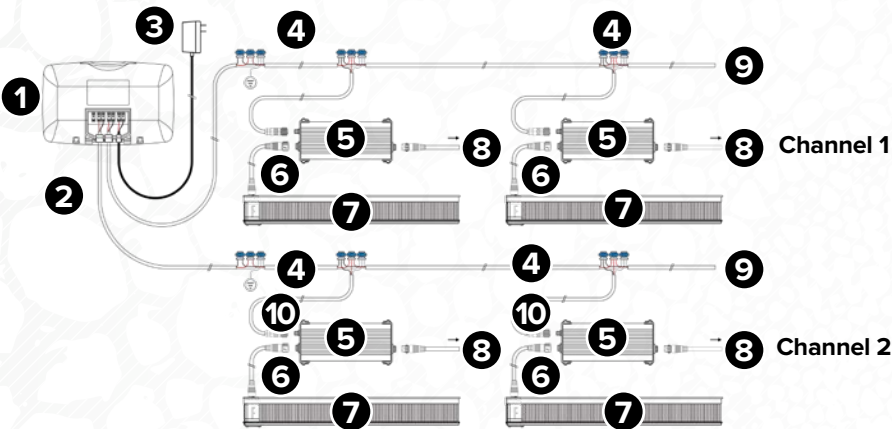
INDICATOR	CONDITION	POTENTIAL CAUSE	RESOLUTION
	Both channels are operating within normal parameters (no faults).	None	None
	Channel 1 Caution	The channel has a number of light fixtures connected that is between 80% - 100% of maximum sink or source dimming mA capacity.	Reduced dimming performance of the light fixtures on this channel may occur while this indicator is displayed. Reduce the number of light fixtures connected to the channel until the indicator disappears to maintain optimal dimming performance.
	Channel 2 Caution		
 	Channel 1 Warning	The channel has a number of light fixtures connected that exceeds the maximum sink or source dimming mA capacity.	SHYFT will enter a protective shutdown state while under this fault condition. Reduce the number of light fixtures connected to the channel until the fault is cleared. Reset SHYFT by powering off and then back on.
	Channel 2 Warning	The channel has a control wiring fault (incorrect polarity or shorted condition).	SHYFT will enter a protective shutdown state while under this fault condition. Locate and correct the wiring fault on the channel to clear the fault. Reset SHYFT by powering off and then back on.
		The channel has an over-current fault.	SHYFT will enter a protective shutdown state while under this fault condition. Locate and correct the source of the over-current on the channel to clear the fault. Reset SHYFT by powering off and then back on.

For further installation and troubleshooting assistance, contact Fluence Support at support@fluence-led.com

9. WIRING INSTRUCTIONS AND DIAGRAMS

9.1 CUSTOM DIMMING CABLE

SHYFT can be wired with a custom dimming cable. Two conductors are required for each branch and main trunk for each channel, DIM (+), DIM (-), and ground drain. 18 AWG stranded 2C twisted shielded cable is recommended. A single point of grounding to earth at the controller is required for each channel.



COMPONENTS

- 1. SHYFT Light Scheduler
- 2. 2-Conductor Dimming Cable
- 3. 100-240 VAC Power Adapter
- 4. Wire Splice Connectors
- 5. Power Supply for Light Fixture
- 6. DC Power Cable to Light Fixture
- 7. Light Fixture
- 8. AC Power Cable to Power Supply
- 9. Dimming Cable to Next Light Fixture or Terminate
- 10. DC Dimming Signal Cable pigtail

Min. Wire Gauge	18 AWG / 0.75 mm ²
Conductor QTY.	2
Recommended Cable	Belden, PN: 5340F1
Recommended Wire Splice Connector	3M PN: 314 Scotchlok IDC Connectors 22-14 AWG
Max QTY. Connected Light Fixtures (per channel)	50, or up to 100 mA max dimming current capacity
Max Recommended Distance First to Last Light Fixture	200-300 ft 61-91.5 m

NOTES

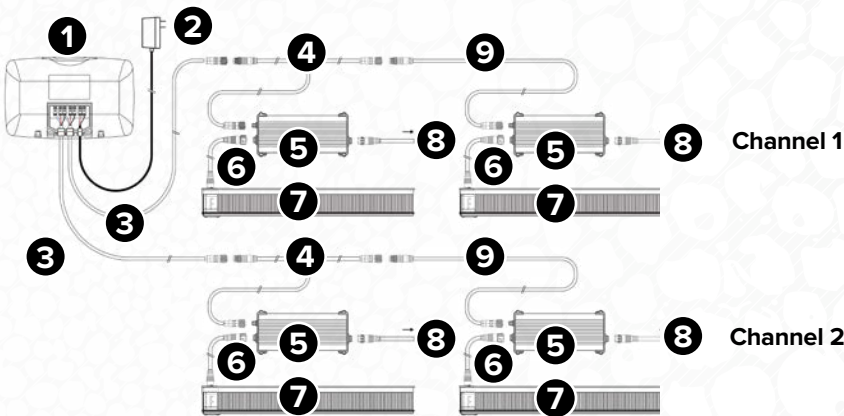
Maintain the polarity at all dimming connections, (+) wire to (+) wire and (-) wire to (-) wire.

A single point grounding to earth at the controller side is recommended for each channel. Only one connection to ground is allowed.

9. WIRING INSTRUCTIONS AND DIAGRAMS

9.2 DC FLEX DIMMING (M12 CONNECTOR)

SHYFT can be wired with DC Flex Dimming cable by Fluence. Two-conductor trunk and T-cables with threaded A-code connectors make the cable installation simple and error-free. A single point of grounding to earth is required for each channel. This is accomplished by installing a grounded termination cable to the last fixture in the channel (see #9 below). Only the DIM (+) and DIM (-) wire terminations are connected at the leader cable to SHYFT. **The drain wire of the leader cable must be cut.**



COMPONENTS

1. SHYFT Light Scheduler
2. 100-240 VAC Power Adapter
3. DC Flex Pigtail Trunk Extension Cable 5 FT (CDMA-71611-01) or 75 FT (CDMA-71610-01)
4. DC Flex T-Connector Cable to Light Fixture 5 FT (CDMA-71557-01) or 10 FT (CDMA-71556-01)
5. Power Supply for Light Fixture
6. DC Power Cable to Light Fixture
7. Light Fixture
8. AC Power Cable to Power Supply
9. DC Flex Termination Cable with Ground Connection to last Light Fixture 3.5 FT (CDMA-71788-01)

Max QTY. Connected Light Fixtures (per channel)	50, or up to 100 mA max dimming current capacity
Max Recommended Distance First to Last Light Fixture	200-300 ft 61-91.5 m

NOTES

Do not ground the wiring system at the controller side. Only one connection to ground is allowed.

Refer to the *DC Flex Dimming Wiring System Specification Sheet* for wiring details.

10. OUR PRODUCT GUARANTEE & WARRANTY

Every Fluence Lighting system is engineered and built by Fluence using state-of-the-art robotics and hand craftsmanship. SHYFT Light Scheduler is guaranteed against manufacturing defects for two years from date of purchase. Fluence lighting systems comply with applicable standards and are intended to be used with Fluence power supplies, cables, and mounting hardware. The use of Fluence lighting systems with power supplies, cables, and mounting hardware by others will limit specifications and void the warranty. Contact us at support@fluence-led.com for more warranty information.

We stand behind our research, we stand behind our technology and we stand behind our clients. www.fluence.science/warranty/



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