touch-plate®

LIGHTING CONTROLS

Solare Universal Contact Closure
Quick Start Guide

Table Of Contents

Preparation

Unpack the items and inspect the contents for damaged or missing parts. If any problems arise, please contact Touch-Plate at 260.426.1565 for assistance.

Precautions

The Solare hardware is designed to be in environments that have a temperature range of 0-60°C (non-condensing atmosphere). Installing in an environment outside of these parameters will shorten the life span of the hardware.

Touch-Plate recommends the use of solid or stranded 18 to 22 AWG wire for low voltage wiring of contact closure products and 18 AWG wire for all 24V power connections, and 16 AWG wire for Smart Switch Stations.

All 120VAC wiring must use wire as specified by National Electric Code for load size and wire length.

Compatible Hardware

The Solare Universal system provides boards which are designed to be a part of a networked, intelligent system. It can be used with:

- Contact Closure Switches (5000, Genesis, Classic, Eclipse, Industrial, Mystique, Royal, and/or Ultra Series)
- Time-Keeper Master Control
- Nexus Master Control

Warranty

Touch-Plate warrants this product against defects in materials or workmanship, under normal use, for a period of ONE (1) year from date of shipment. If a defect arises and a valid claim is received within the Warranty Period, Touch-Plate will repair or replace the product at no charge.

This warranty does not apply to:

    a. Damage to unit(s) caused by accident, acts of God, inappropriate installation, faulty installation, or any negligent use;
    b. Unit(s) which have been subject to being taken apart or otherwise modified;
    c. Unit not used in accordance with instructions;
    d. The finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear;
    e. Non-Touch-Plate hardware installed by the user;
    f. Damage caused by Non-Touch-Plate products;
    g. Damage caused by operating the product outside the permitted or intended uses described by Touch-Plate;
    h. -or- Specific plans or Specific application requirements, unless the plans and specifications have been forwarded to Touch-Plate and Touch-Plate has approved and accepted the plans in writing.

EXCEPT AS PROVIDED IN THIS WARRANTY, TOUCH-PLATE IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, INCLUDING BUT NOT LIMITED TO, INSTALLATION OR REPLACEMENT LABOR COSTS.

Solare Universal Overview

The Solare Universal is a part of a networked, intelligent system. The Smart Control Bridge allows for currently installed or new Contact Closure Switches to be turned into "Smart Switches." Each Smart Control Bridge has the capacity to have up to eight (8) buttons and LEDs wired to it.

- The green blinking lights on the Solare Universal module and the Smart Control Bridge are the "heartbeat". This indicates that power has properly been brought to the system.

Board Items	Options	Board Position	Page #
Low Voltage Connections	Contact Closure LED Outputs (Blue)	A	5
	Contact Closure Switch Inputs (Orange)	B	5
	Switch/Pilot Common 24vdc +	C	5
	RJ-45 Connection	D	8
	Options/Address Dipswitches	E	4
Line Voltage Connections	RS-485 Connection	J	8
	Transformer Feed	F	9
	Switch Leg Feeds (SW1 to SW8)	G	9
	Neutral Bar	H	9
	Ground Lug/Ground Bar	I	8
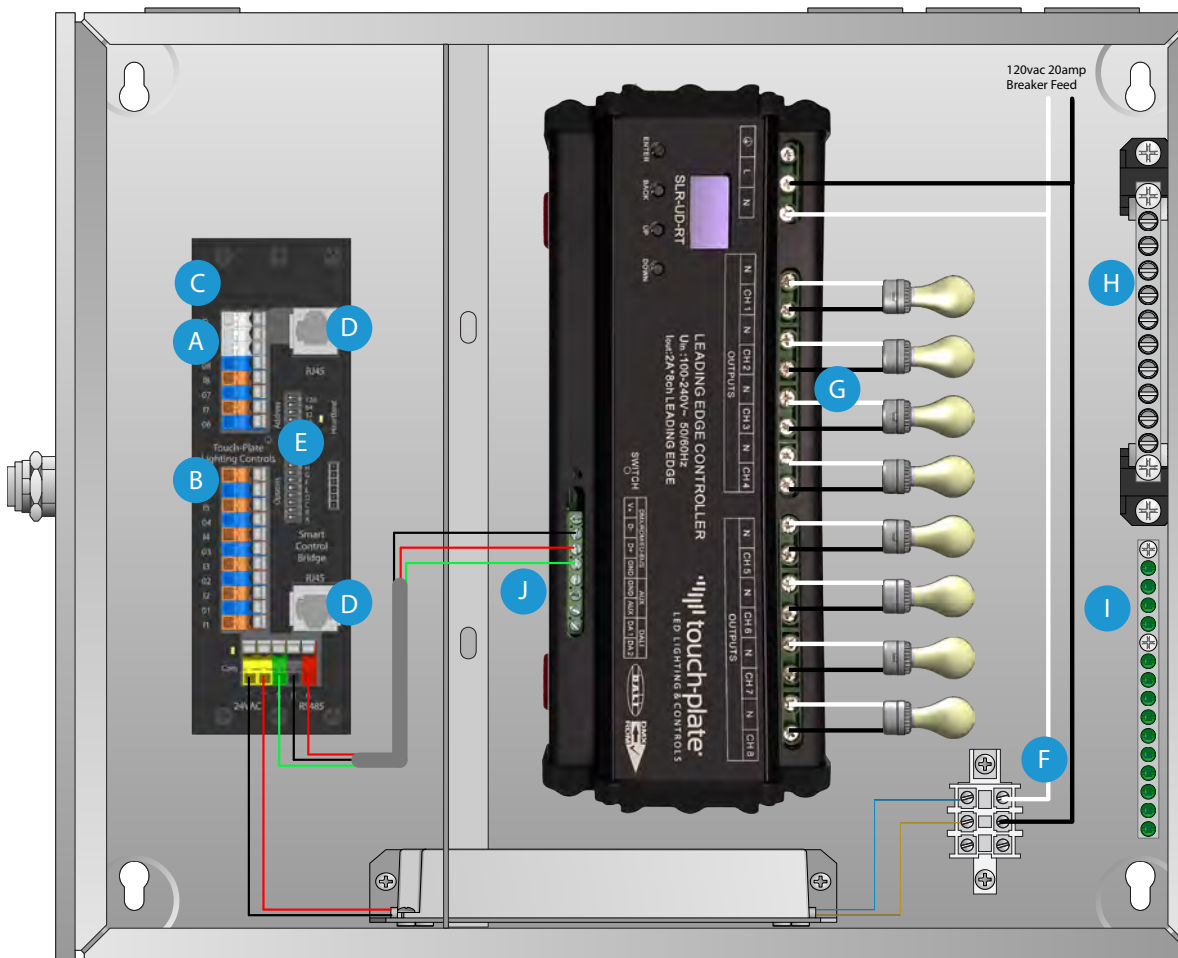
Smart Control Bridge Option Dip Switches

The Option Dip Switches are used to change and/or enable certain functions on the Smart Control DMX Bridge.

DO NOT CHANGE ANY OF THESE DIP SWITCHES UNLESS DIRECTED BY TOUCH-PLATE.

Option	A	B	C	D	E	F	G	H
	ON	-	-	-	-	-	-	-
	-	ON	-	-	-	-	-	-
	-	-	ON	-	-	-	-	-
	-	-	-	OFF	-	-	-	-
	-	-	-	-	OFF	-	-	-
	-	-	-	-	-	ON	-	-
	-	-	-	-	-	-	ON	-
	-	-	-	-	-	-	-	ON

Setting the Smart Control Bridge and the Solare Universal Board Addresses

The Address Dip Switches are used to set the Address.

Normally, these Dip Switches come from the factory pre-programmed to Address #1.

When there are multiple Smart Control Bridges in a system, the first Smart Control Bridge is addressed to Address 1. The following Smart Control Bridge is addressed to Address 2.

Use the setting diagram to change the Address if needed. Note that for the address changes to take effect, a power cycle needs to occur.

ADDRESS	1	2	3	4	5	6	7	8
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
3	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
5	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
6	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
7	ON	ON	ON	OFF	OFF	OFF	OFF	ON
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
10	OFF	ON	OFF	ON	OFF	OFF	OFF	ON

Valid Addresses vary based on the Master Controller

Valid addresses for: Time-Keeper from 1 to 96, Nexus from 1 to 16. Addresses are set using the nine Address Dip Switches, with each having a value noted in the chart below.

Address Dip Switch	1	2	3	4	5	6	7	8
Value	1	2	4	8	16	32	64	ON

The value of all switches in the ON position are added together and the total is equal to the address.

Smart Control Bridge Contact Closure & LED Wiring

To correctly wire LEDs to the Smart Control Bridge, use the wiring diagram below.

- **Touch-Plate recommends that if multiple Smart Control Bridges are in a system, common wires should be jumped together. Jumping could be from low voltage controller to low voltage controller or to one common terminal.**

LED Wiring

LEDs will be wired directly into the terminal of the corresponding relay.

For example, if LED 1 is to cycle when relay 1 is cycled, the wire would be brought into the terminal labeled 'O1' for Output 1.

Contact Closure Input Wiring

Contact Closure switches will be wired directly into the terminal of the corresponding relay.

For example, if button 1 is to control relay 1, the wire would be brought into the terminal labeled 'I1' for Input 1.
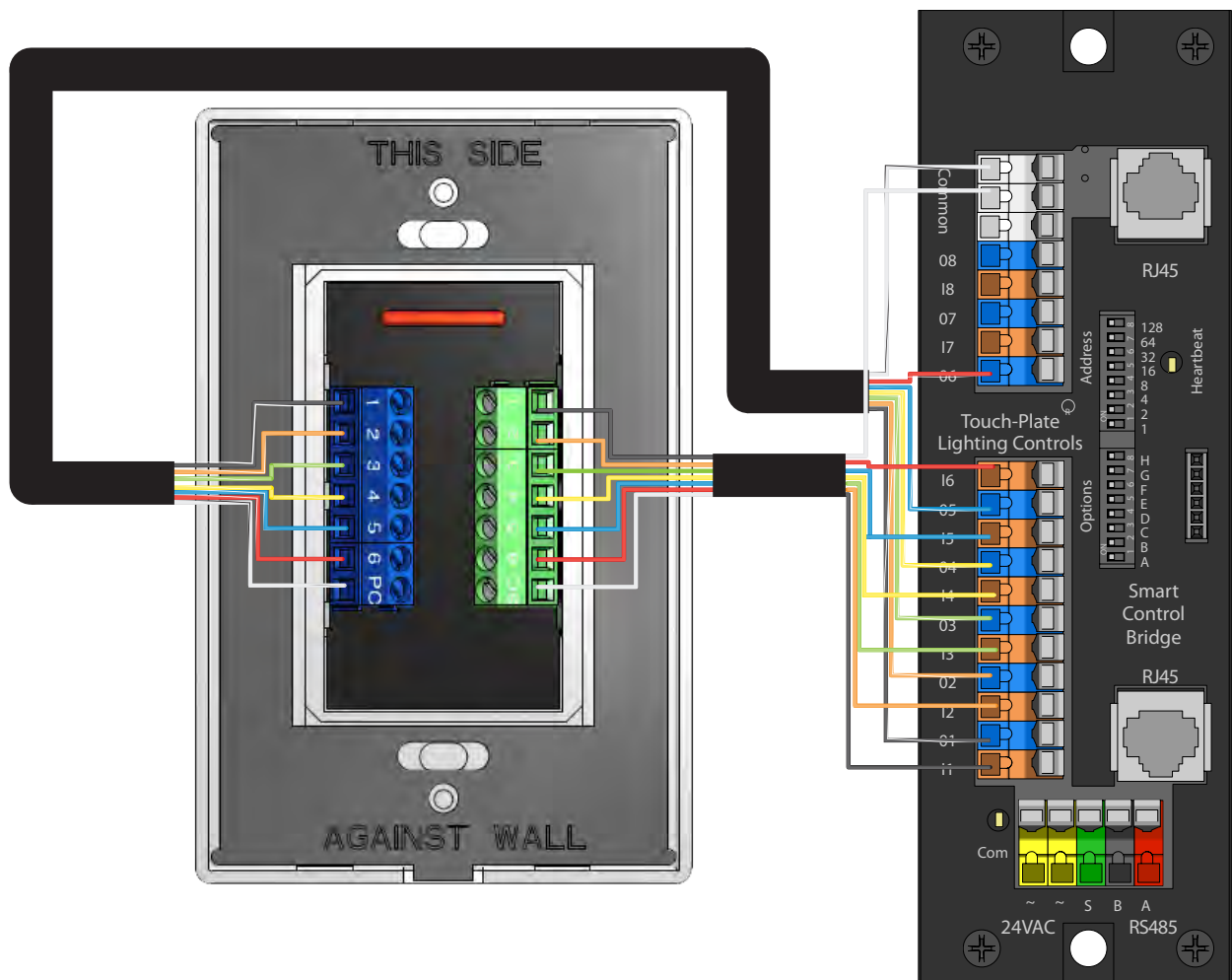
Solare Universal Contact Closure Three-Way Wiring

To correctly wire contact closure stations via three-way wiring to the Smart Control Bridge, use the wiring diagram below.

- **Touch-Plate recommends that if multiple Smart Control Bridges are in a system, common wires should be jumped together. Jumping could be from low voltage controller to low voltage controller or to one common terminal.**

Three-way wiring is another way to wire the switches. The purpose of Three-way wiring is to enable control of the same load from multiple locations.

For example, if switch 1, button 1 is to cycle relay 1 and if switch 2, button 1 is also to cycle relay 1, the wires from both switches would be brought into the terminal labeled 'I1' for Input 1.
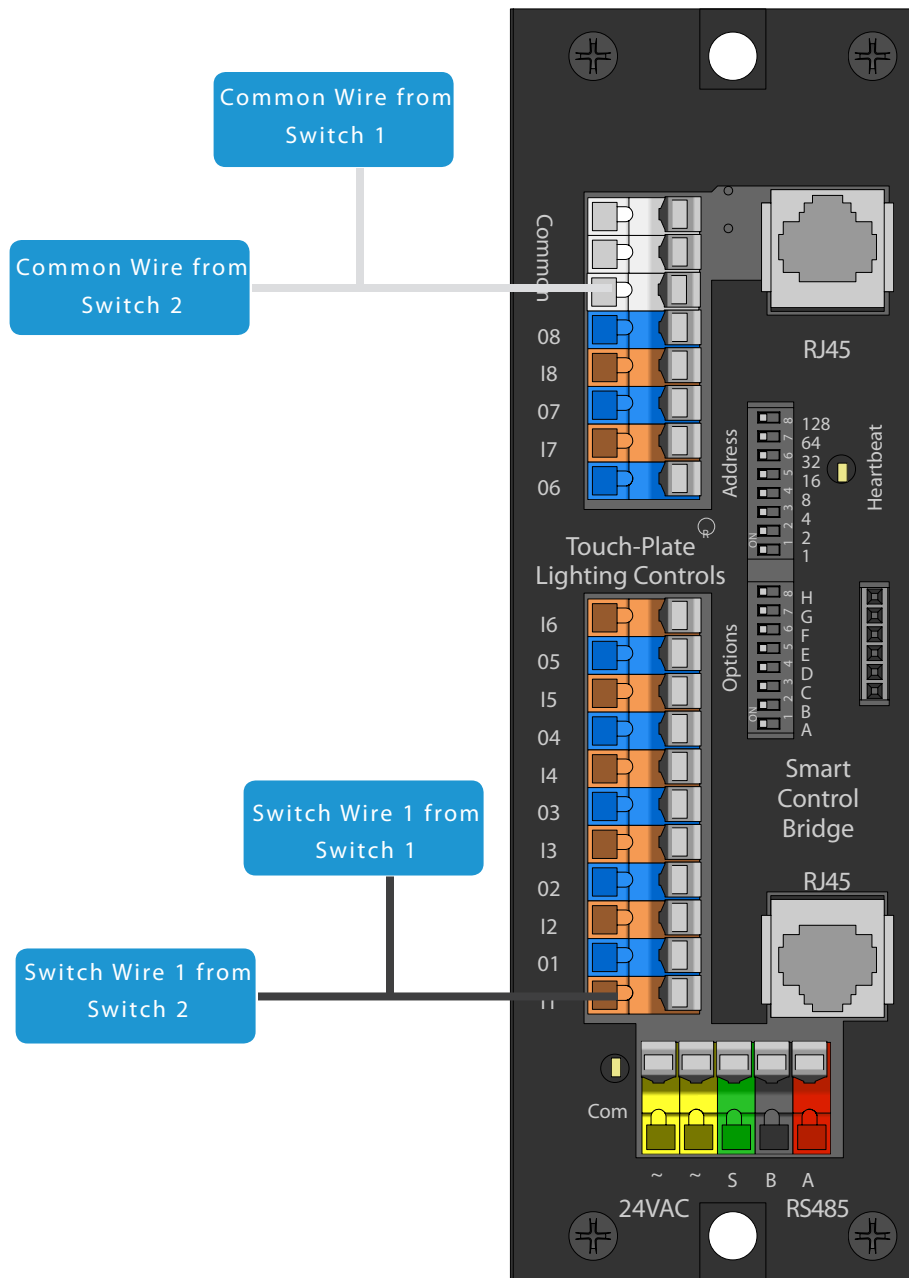
Smart Control Bridge (Switch Network) and Dimmer (Panel Network) Wiring

To correctly wire the Smart Control Bridges and dimmer modules via RS485, use the wiring diagram below.

- **Shield or Ground for RS485 connection must be isolated from the ground on the power supply. Using the same ground will create a direct short across the diode bridge and damage the unit!** Wire must be Liberty 18/2c SHLD or an equivalent wire
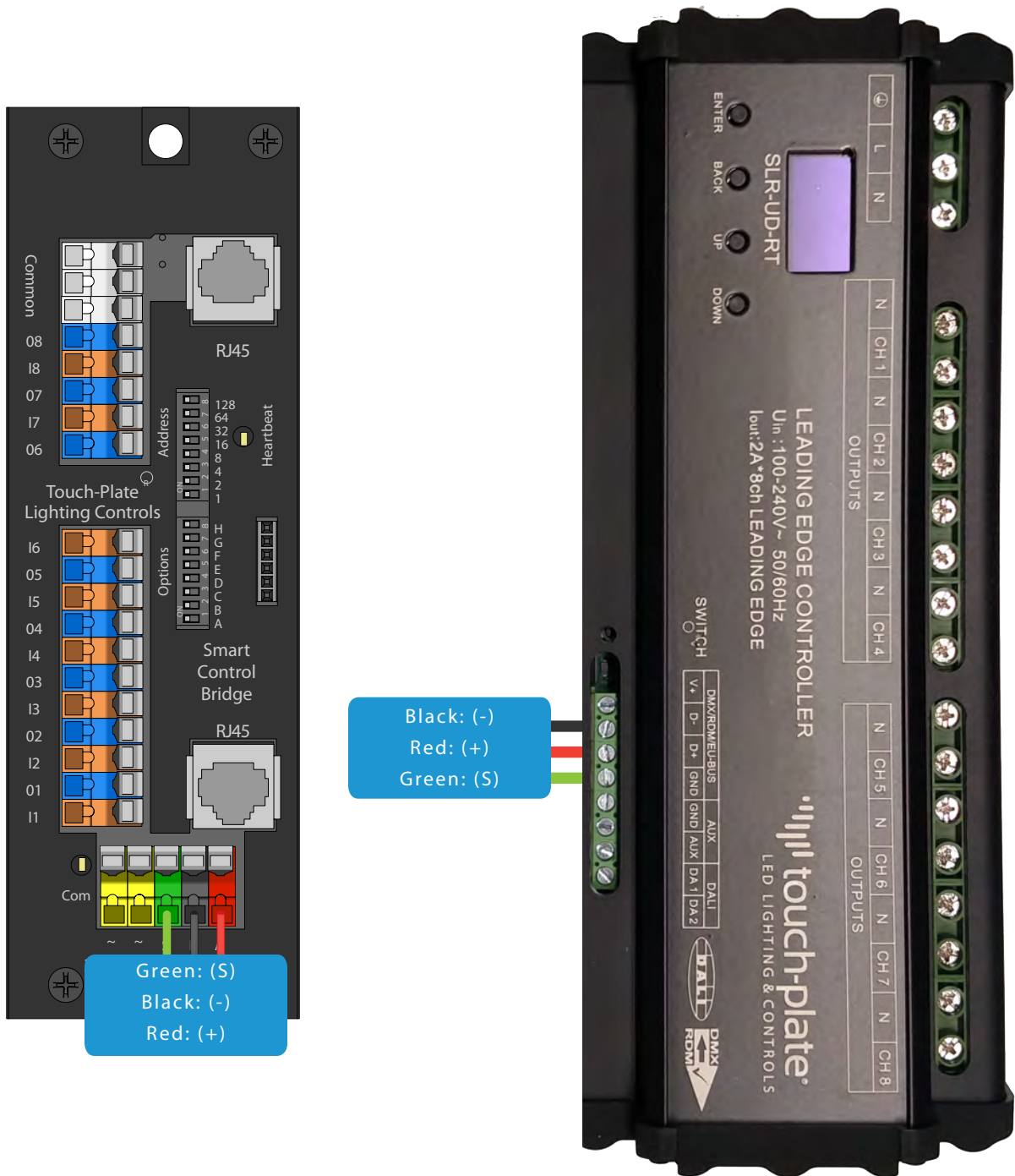
Solare Universal Smart Control Bridge (Switch Network)

To correctly wire the Smart Control Bridges via RJ45, use the wiring diagram below.

- An RJ-45 cable is provided from the factory. If a longer cable is desired or needed, Touch-Plate recommends the use of a standard Cat5 patch cable.
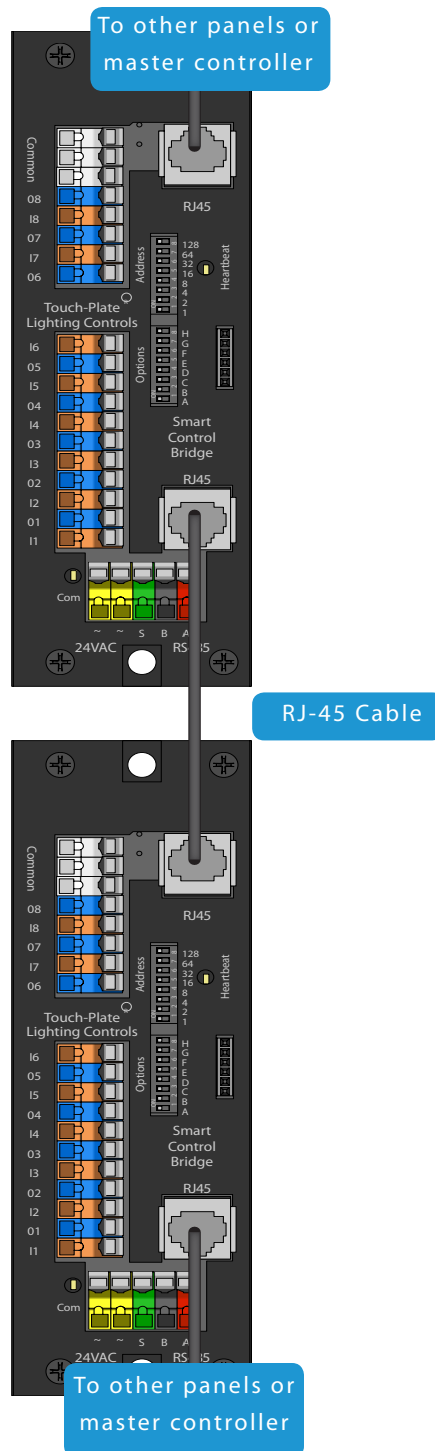
Solare Universal Line Voltage Wiring

To correctly wire line voltage connections to the Solare Universal dimmer module, use the wiring diagram below.

- Terminals labeled CH1-CH8 are for your lighting loads. Terminals labelled L/N are for load and neutral from your breaker feed.
- Dimmer wattage supported is:
  - 2 amps (240W) per dimmer channel for 8 channel or can be addressed as a 4 channel dimmer at 4 amps (480W) per channel. Channels are fused in pairs 1/2, 3/4, 5/6 , 7/8 with an internal 6.3amp slow-blow ceramic fuse.
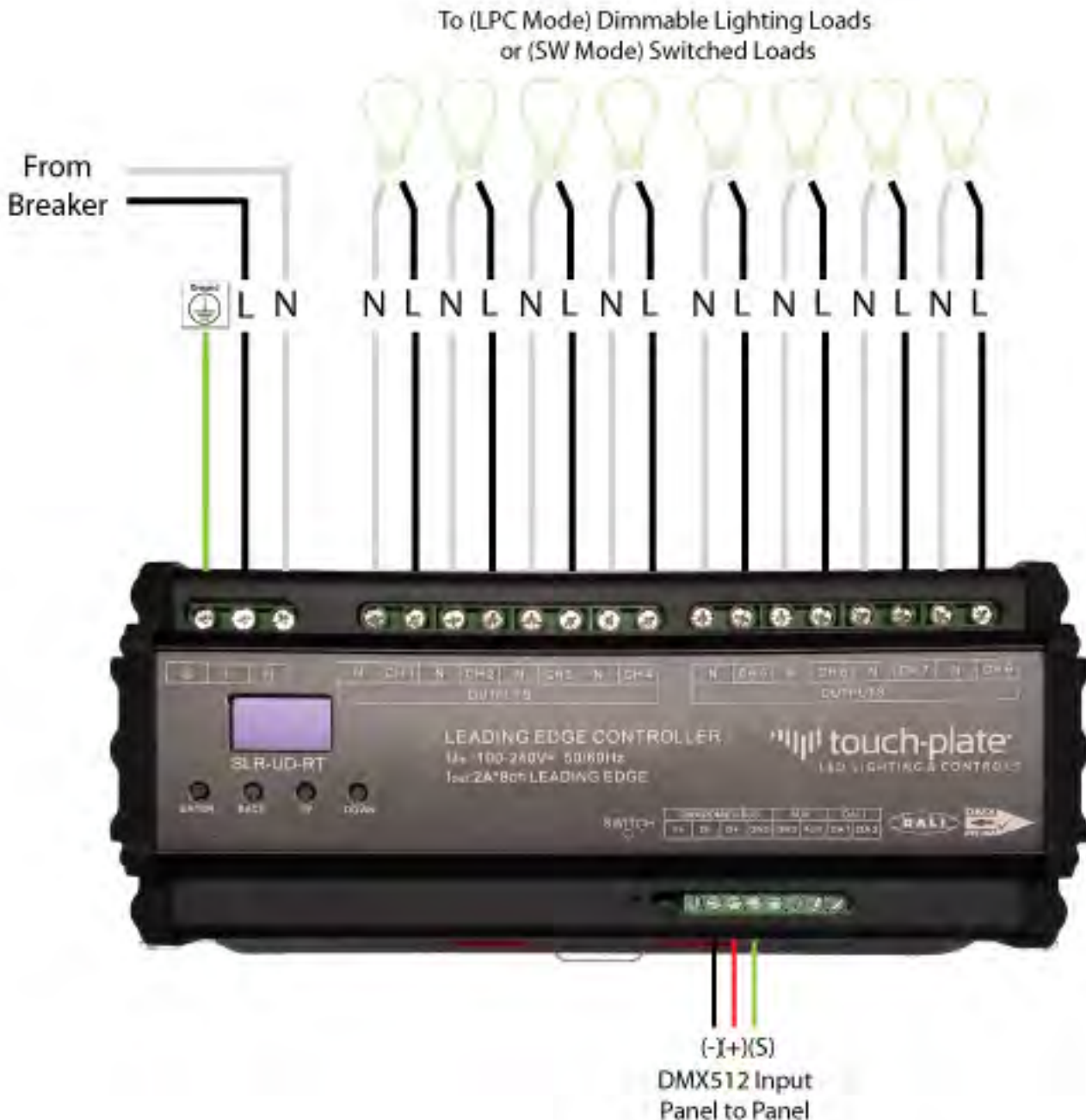
Troubleshooting Guide

If no response occurs when the system is powered up, use the following steps to identify the problem.

1. Find the LED on the diecut labeled 'Heartbeat'.

2. Look for the LED indicator to be blinking on it.

   a. For the indicator to be blinking, power has to be correctly brought to the system. If the LED indicator is blinking, move on to step 3.
   b. If the LED indicator is not blinking, confirm power connections and then contact the factory for assistance.

3. Verify that the line voltage has been fed to all the necessary dimmer channels.

4. Verify that each light fixture is connected to the switched leg CH1-CH8.

5. Verify that 120 VAC has been connected to the transformer/power supply.

6. Verify that the Time-Keeper or Nexus has been programmed properly. **The switch inputs will not work until the Time-Keeper or Nexus has been programmed to assign the proper dimmer(s) to each switch input.**

7. Take a piece of wire (both ends need to be stripped) and hold one end to any of the terminals labeled 'Common'.

8. Take the other end of the wire and tap it to the conductive metal of each of the eight switch wire inputs. Each tap should energize the assigned relay and change its state. The lights should go ON and OFF when the terminal is touched.

9. If the lights do not respond, use a meter on the line voltage relay outputs to see if the voltage switches from 0 to 120 VAC.

10. If these steps do not solve the problem, please contact the factory for assistance.

If button presses are not working, use the following steps to identify the problem.

1. Take a piece of wire (both ends need to be stripped) and hold one end to any of the terminals labeled 'Common'.

2. Take the other end of the wire and tap it to the conductive metal of each of the eight switch wire inputs. Each tap should energize the relay and change its state. The lights should go ON and OFF when the terminal is touched.

3. If the lights do not respond, use a meter and hold one lead to any of the terminals labeled 'Common'.

4. Hold the other meter lead to any of the eight switch wire inputs. The meter should give a reading of 20VDC when energized and 26VDC when not energized.

5. If these steps do not solve the problem, please contact the factory for assistance.

Frequently Asked Questions

1. Can I update just one section of my Touch-Plate system?

   a. In most applications just one section of the Touch-Plate system cannot be updated.
   b. There are some applications where one section of the Touch-Plate system can be updated. This is only possible when there are no shared commons and each panel location has its own transverter.

2. Are the Switch and/or Pilot Inputs dry contacts?

   a. Yes they are dry contacts. Common outputs are what put out voltage.

3. How many control stations can be wired to each Smart Control Bridge?

   a. There can be up to eight (8) buttons and LEDs wired to each Smart Control Bridge. This could be eight (8) control stations with a single button or one eight (8) button control station.
   b. It can also be any combinations of control stations, with a maximum of eight (8) buttons and LEDs total.

4. How is the Smart Control Bridge programmed with a Time-Keeper or Nexus?

   a. It will program the exact same as a smart switch.
   b. Please see the Time-Keeper or Nexus manual for further programming instructions.

touch-plate®
LIGHTING CONTROLS

Touch-Plate Solare Universal Contact
Closure Quick Start Guide
Revision: 1.0

touch-plate®
ENVIRONMENTALLY DESIGNED PRODUCTS

www.touchplate.com

4822 Projects Drive • Fort Wayne, Indiana 46825 • 260.426.1565