



Calypso NextGen Quick Start Guide

Table Of Contents

Preparation	2
Calypso NextGen Overview	3
Calypso NextGen Low Voltage Power Wiring	4
Calypso NextGen RS485 Wiring	5
Calypso NextGen RJ-45 Wiring	6
Calypso NextGen Contact Closure Wiring.	7
Calypso NextGen Contact Closure Three-Way Wiring	8
Calypso NextGen Contact Closure Master Group Function Wiring.....	9
Calypso NextGen Contact Closure Pilot Wiring (+6.3V Pilot)	10
Calypso NextGen Contact Closure LED Wiring (+24VDC LED)	11
Calypso NextGen Relay Wiring.	12
Calypso NextGen Line Voltage Wiring.. ..	13
WCR Relay Specifications.. ..	14
WCR Mounting	14
Calypso NextGen RS485 Termination Dip Switches.....	15
Calypso NextGen Option Dip Switches	15
Appendix I - Setting the Calypso NextGen Address	16
Appendix II - In Master Group Dip Switches.. ..	17
Appendix II - Momentary/Maintain Dip Switches.	17
Appendix III - Retrofitting an Existing System	18
Troubleshooting Guide	19
Frequently Asked Questions.....	20

Preparation

Unpack the Calypso NextGen 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 Calypso NextGen 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 18 to 22 AWG wire for low voltage wiring of contact closure products and 18 AWG wire for all 24V power connections.

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

Compatible Hardware

The Calypso NextGen product can be a part of a networked, intelligent system with a Time-Keeper. It can also be a standalone item that can incorporate the following products:

Contact Closure Switches:

- 5000 Series
- Genesis Series
- Classic Series
- Eclipse Series
- Industrial Series
- Mystique Series
- Royal Series
- Ultra Series

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.

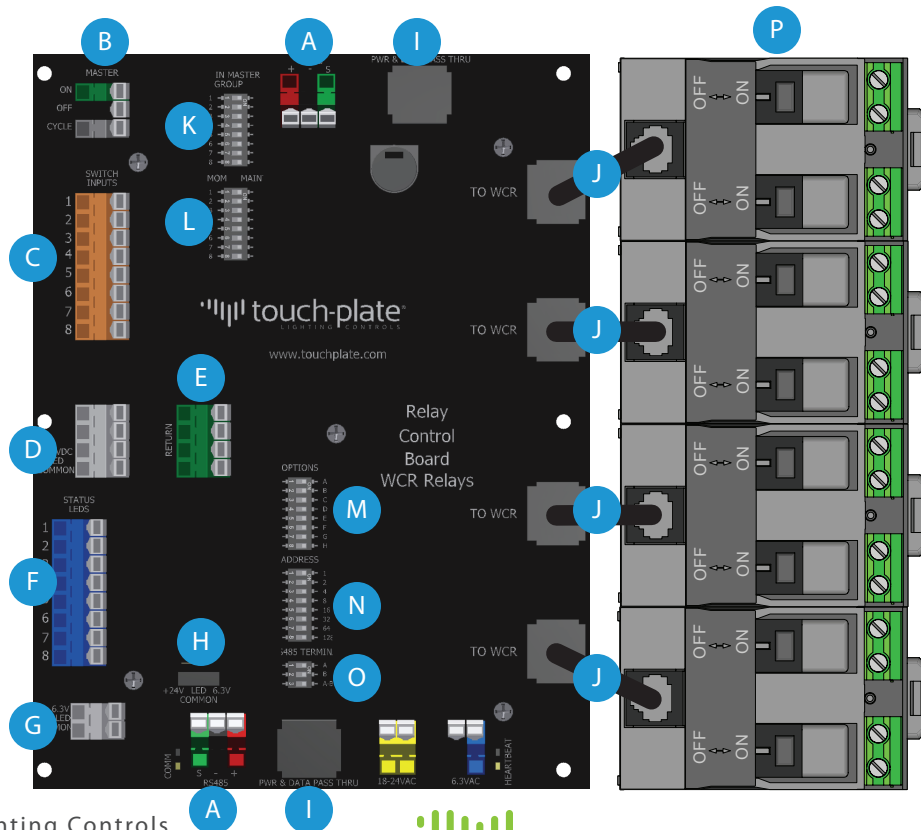


Calypso NextGen Overview

The Calypso NextGen is the lighting control solution that can update an existing CPS system and can also be a part of an integrated system.

- The green blinking light on the Calypso NextGen is the “heartbeat”. This indicates that power has properly been brought to the system.

Board Items	Options	Board Position	Page #
Low Voltage Connections	RS485 Connection	A	5
	Master Group Inputs	B	9
	Contact Closure Switch Inputs	C	7 & 8
	+24VDC Common	D	4
	Return Inputs	E	N/A
	LED Outputs	F	10 & 11
	6.3V Common	G	N/A
	+24V/6.3V Common Switch	H	N/A
	RJ45 Connection	I	6
	WCR Relay Connection	J	12
Dip Switches	In Master Group	K	17
	Momentary/Maintain	L	17
	Options	M	15
	Address	N	16
	RS485 Terminations	O	15
Line Voltage Connections	Manual Overrides	P	N/A



Calypso NextGen Low Voltage Power Wiring

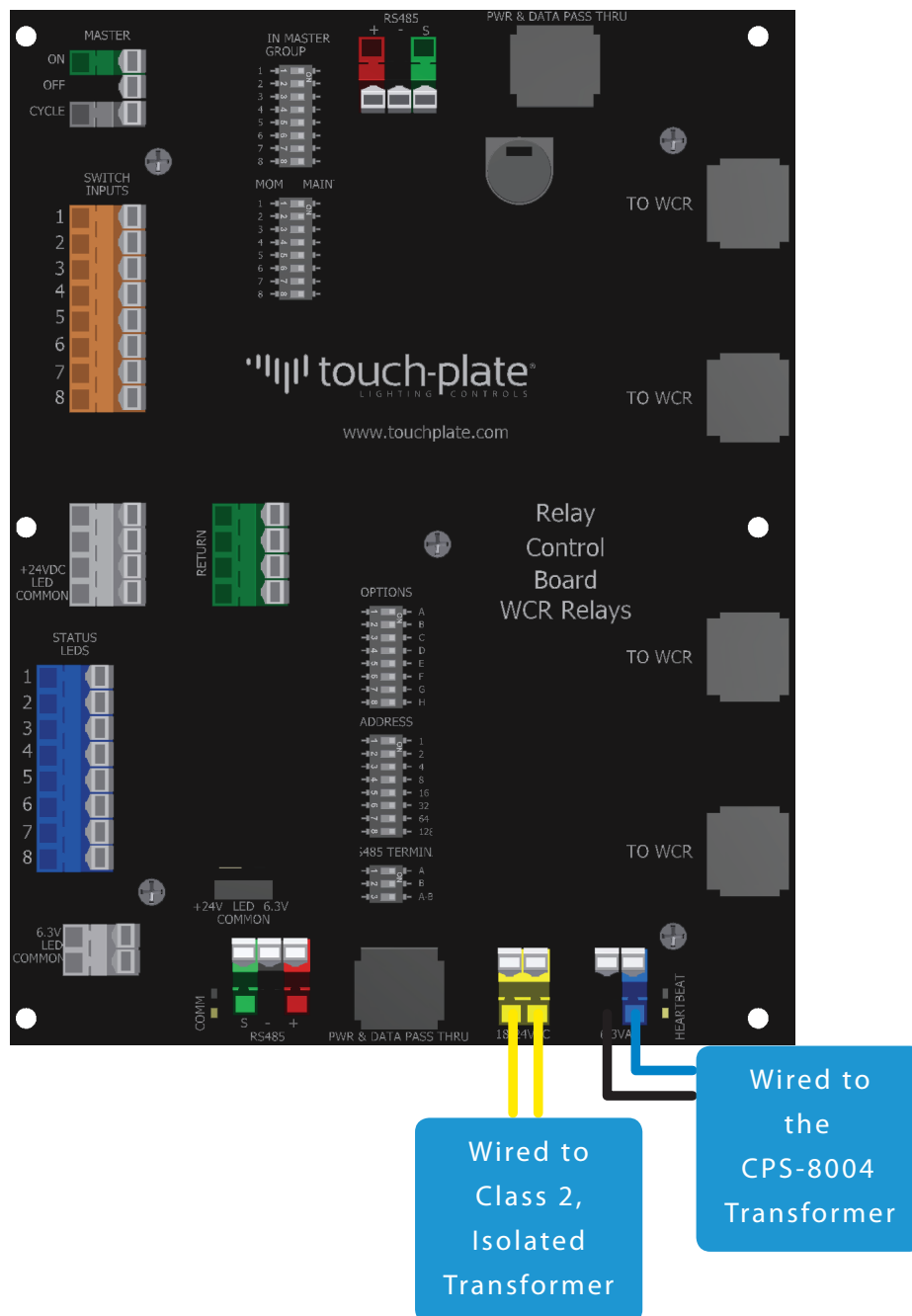
To correctly bring power to the Calypso NextGen, use the wiring diagram below.

Secondary Power must be a Class 2, Isolated Transformer, with a rating of 24 VDC.

This will typically come from the factory pre-wired.

Typically 6.3VAC is only used if a combo kit is ordered. The 6.3VAC is used when existing system Pilots are being reused. A CPS-8004 has to be a part of the system to make the 6.3VAC work.

Once power is brought to the 6.3VAC terminal, be sure to set the Common Switch to 6.3VAC (more information is on page X).

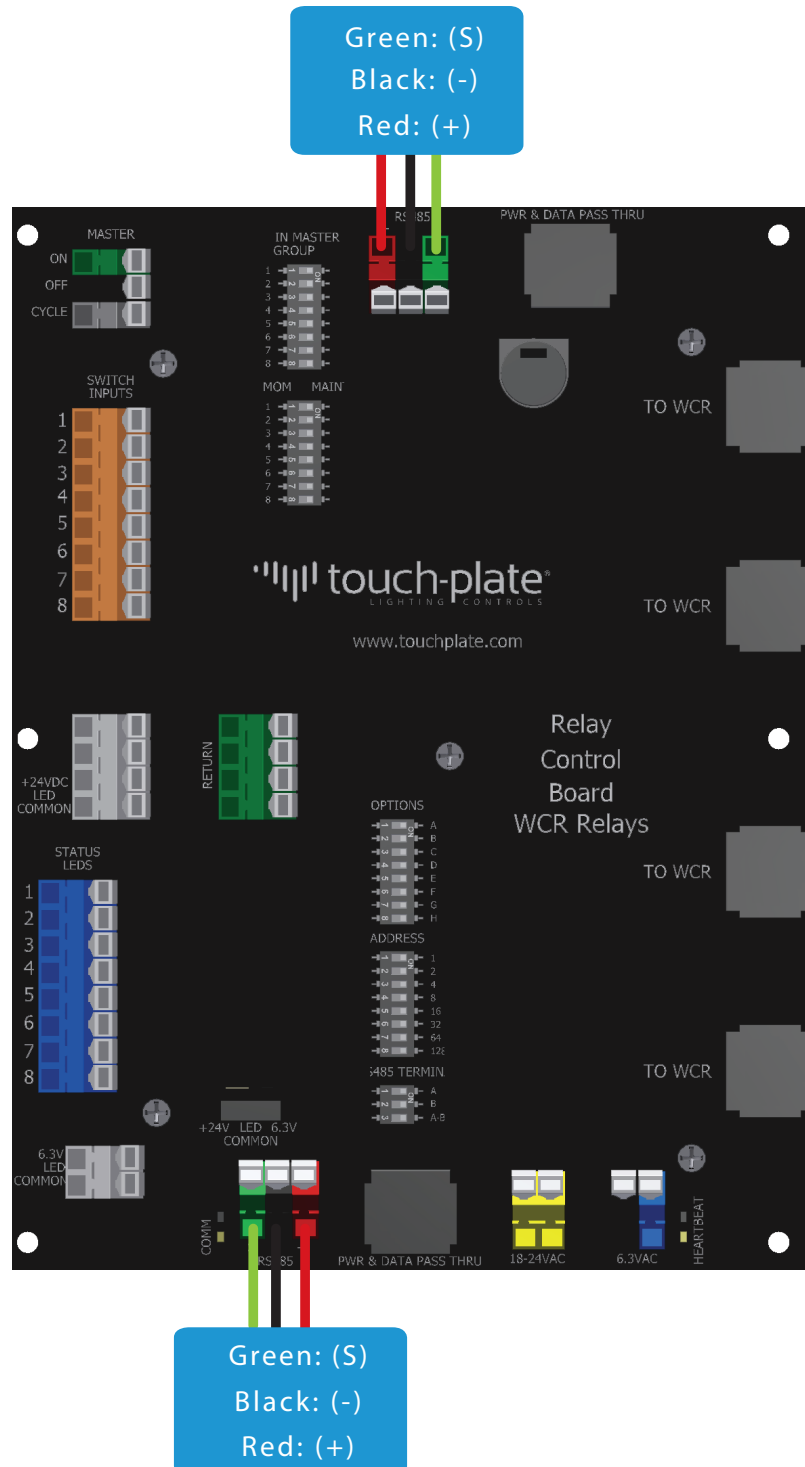


Calypso NextGen RS485 Wiring

To correctly wire the RS485 connection to the Calypso NextGen, 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.



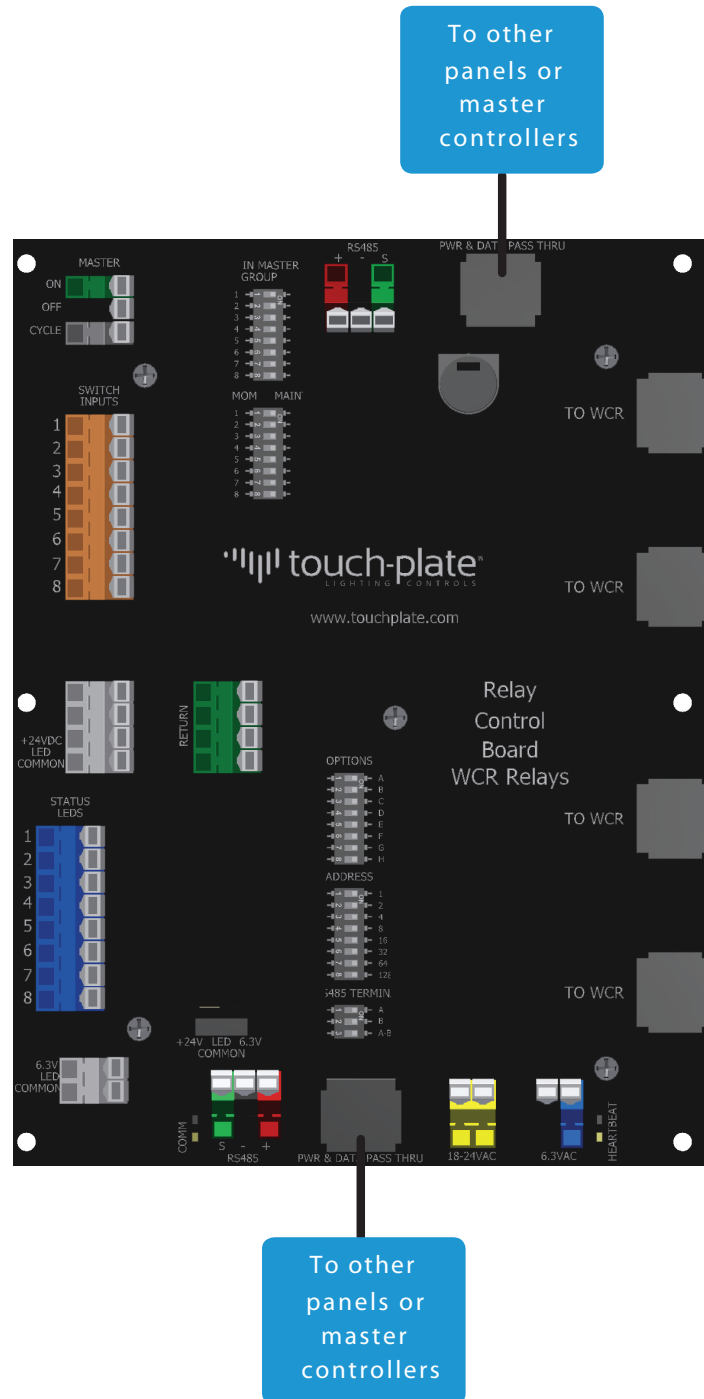
Calypso NextGen RJ-45 Wiring

To correctly wire the RJ-45 connection to the Calypso NextGen, use the wiring diagram below.

Cable must be a Cat5e or an equivalent cable. The RJ-45 cable can pass data and power through it when connected to other Touch-Plate boards.

Typical items wired via the RJ-45 connection are as follows:

- Other Touch-Plate panels
- Touch-Plate master controllers (Nexus and Time-Keeper)
- Other Calypso NextGen Boards



Calypso NextGen Contact Closure Wiring

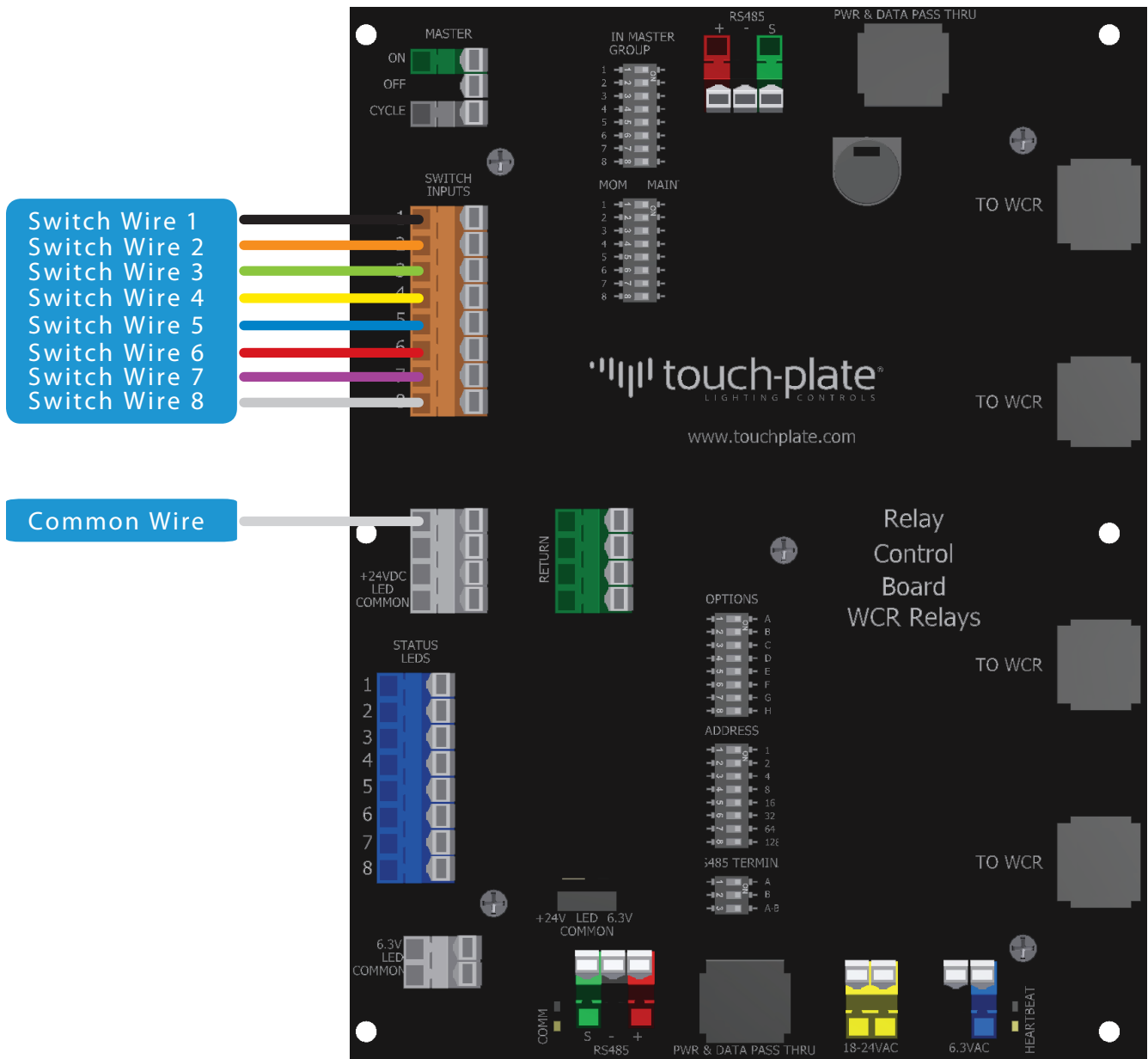
To correctly wire contact closure stations to the Calypso NextGen, use the wiring diagram below.

- **Touch-Plate recommends if multiple Calypso NextGens are in a system, common wires should be jumped together. Jumping could be from Calypso NextGen to Calypso NextGen or to one common terminal.**

Connect the common wires to the terminal labeled '+24VDC LED Common' (Switch Common).

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 'SWITCH INPUT 1'.



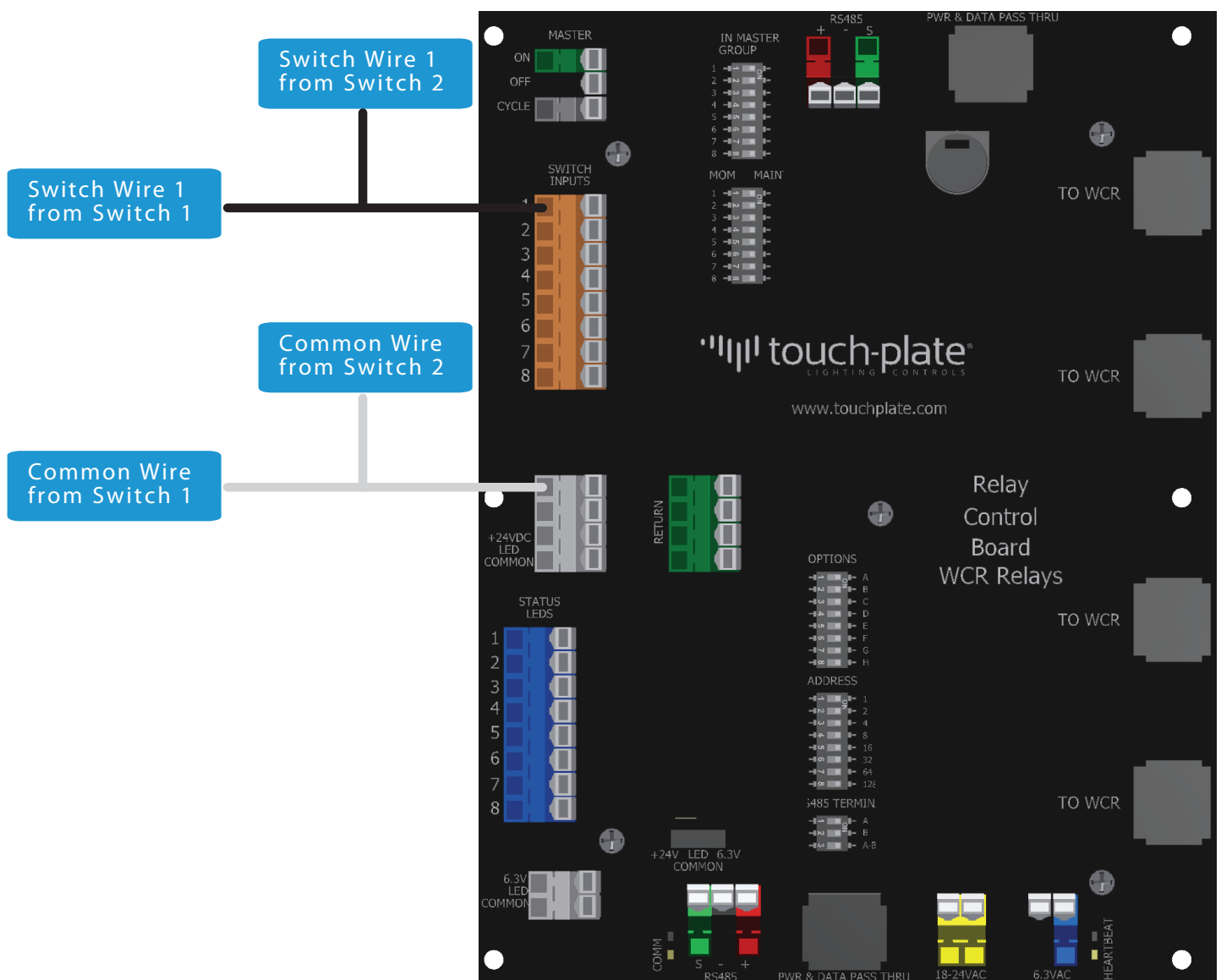
Calypso NextGen Contact Closure Three-Way Wiring

To correctly wire contact closure stations via three-way wiring to the Calypso NextGen, use the wiring diagram below.

- **Touch-Plate recommends if multiple Calypso NextGens are in a system, common wires should be jumped together. Jumping could be from Calypso NextGen to Calypso NextGen 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 wire from both switches would be brought into the terminal labeled 'SWITCH INPUT 1'.



Calypso NextGen Contact Closure Master Group Function Wiring

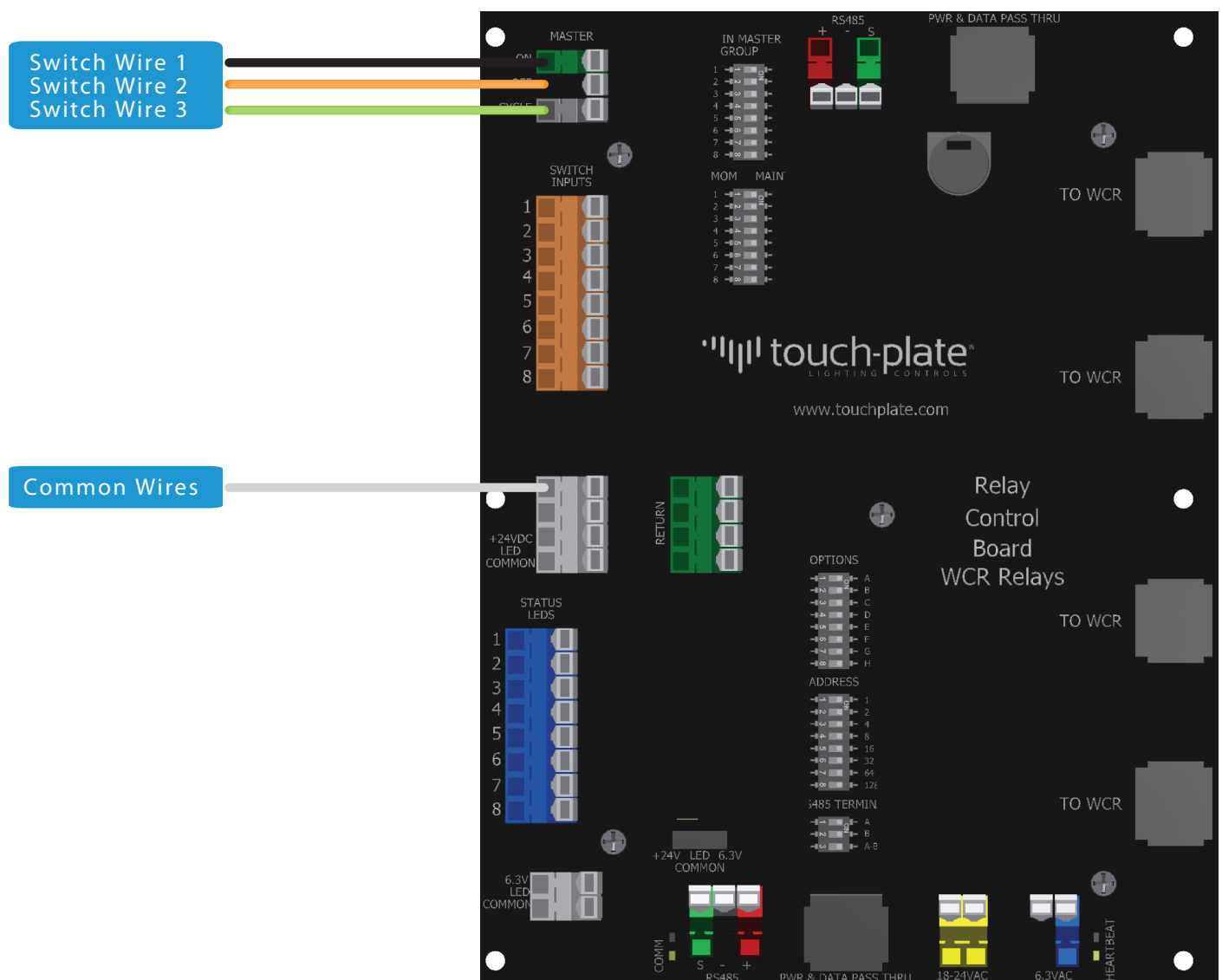
To correctly wire contact closure stations using the Master Group Function wiring to the Calypso NextGen, use the wiring diagram below.

- **Touch-Plate recommends if multiple Calypso NextGens are in a system, common wires should be jumped together. Jumping could be from Calypso NextGen to Calypso NextGen or to one common terminal.**

Master Group Function is another way to wire the switches. The purpose of Master Group Function is to define an action for a specified group of relays.

There are 3 options for the Master Group Function. 'All On', 'All Off', and 'Maintain'. To correctly group the relays into the function, be sure to set the 'IN MASTER GROUP' DIP Switches that are noted in Appendix II. These will show which relays are to be included into the Master Group Function.

For example, if button 1 is to turn relays 1-3 on, the wire would be brought into the terminal labeled 'ON'. Then 'IN MASTER GROUP' DIP Switches 1 - 3 would be turned to the on position.



Calypso NextGen Contact Closure Pilot Wiring (+6.3V Pilot)

To correctly wire existing Pilots to the Calypso NextGen, use the wiring diagram below.

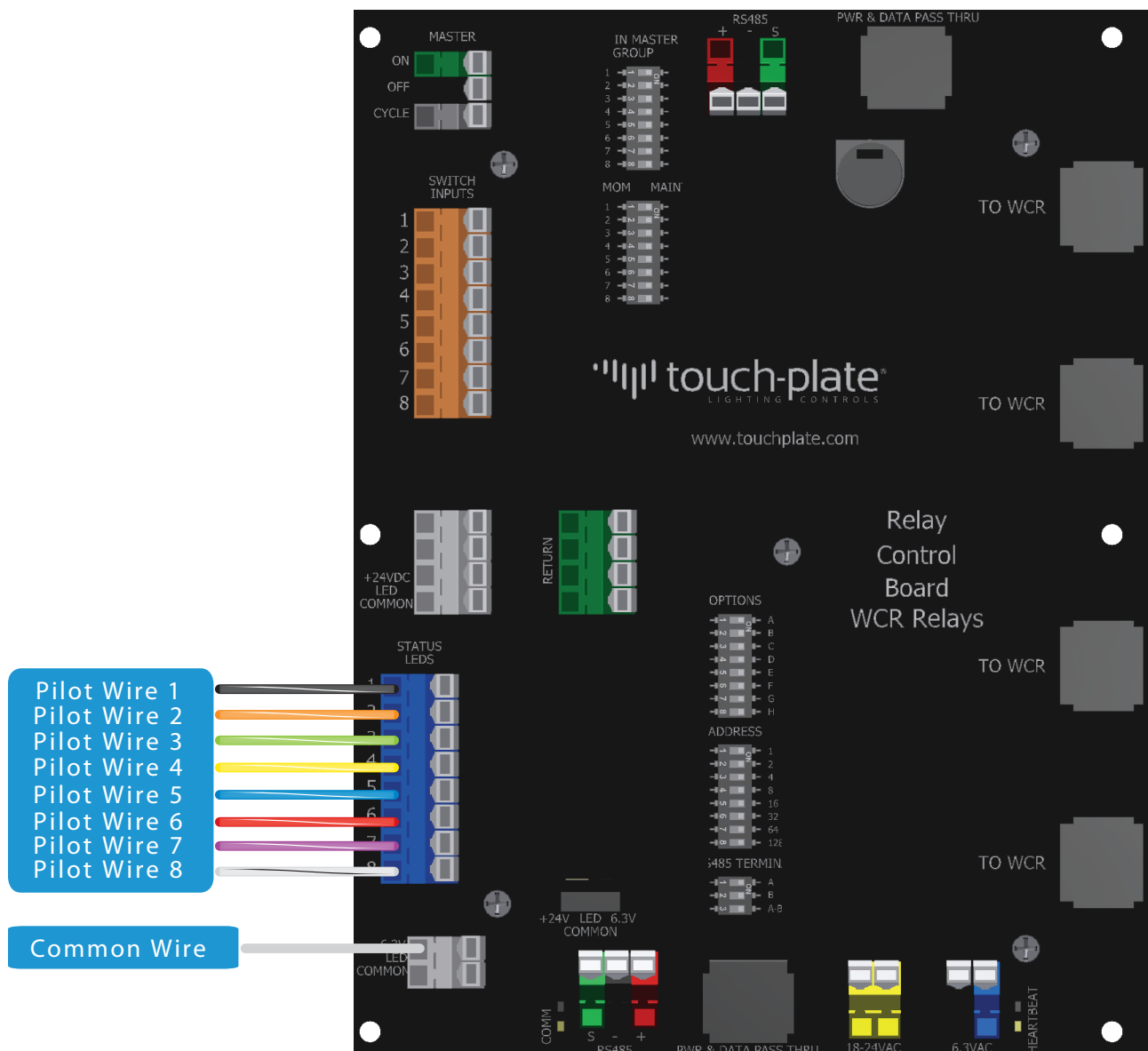
- **Touch-Plate recommends if multiple Calypso NextGens are in a system, common wires should be jumped together. Jumping could be from Calypso NextGen to Calypso NextGen or to one common terminal.**

Pilots will be wired directly into the terminal of the corresponding relay, whether the Contact Closure Switch Inputs or Master Group Function Inputs are used.

Pilot outputs correspond to the Pilot location on the existing switch.

If using existing Pilots with this system, the '+24V LED/6.3V Common' Switch needs to be set to the 6.3V position.

For example, when wiring Pilot #4 on the switch, bring the Pilot wire to the terminal labeled 'STATUS LEDs 4'. Then bring the Pilot Common wire to the terminal labeled '6.3V LED COMMON'.



Calypso NextGen Contact Closure LED Wiring (+24VDC LED)

To correctly wire LEDs to the Calypso NextGen, use the wiring diagram below.

- **Touch-Plate recommends if multiple Calypso NextGen's are in a system, common wires should be jumped together. Jumping could be from Calypso NextGen to Calypso NextGen or to one common terminal.**

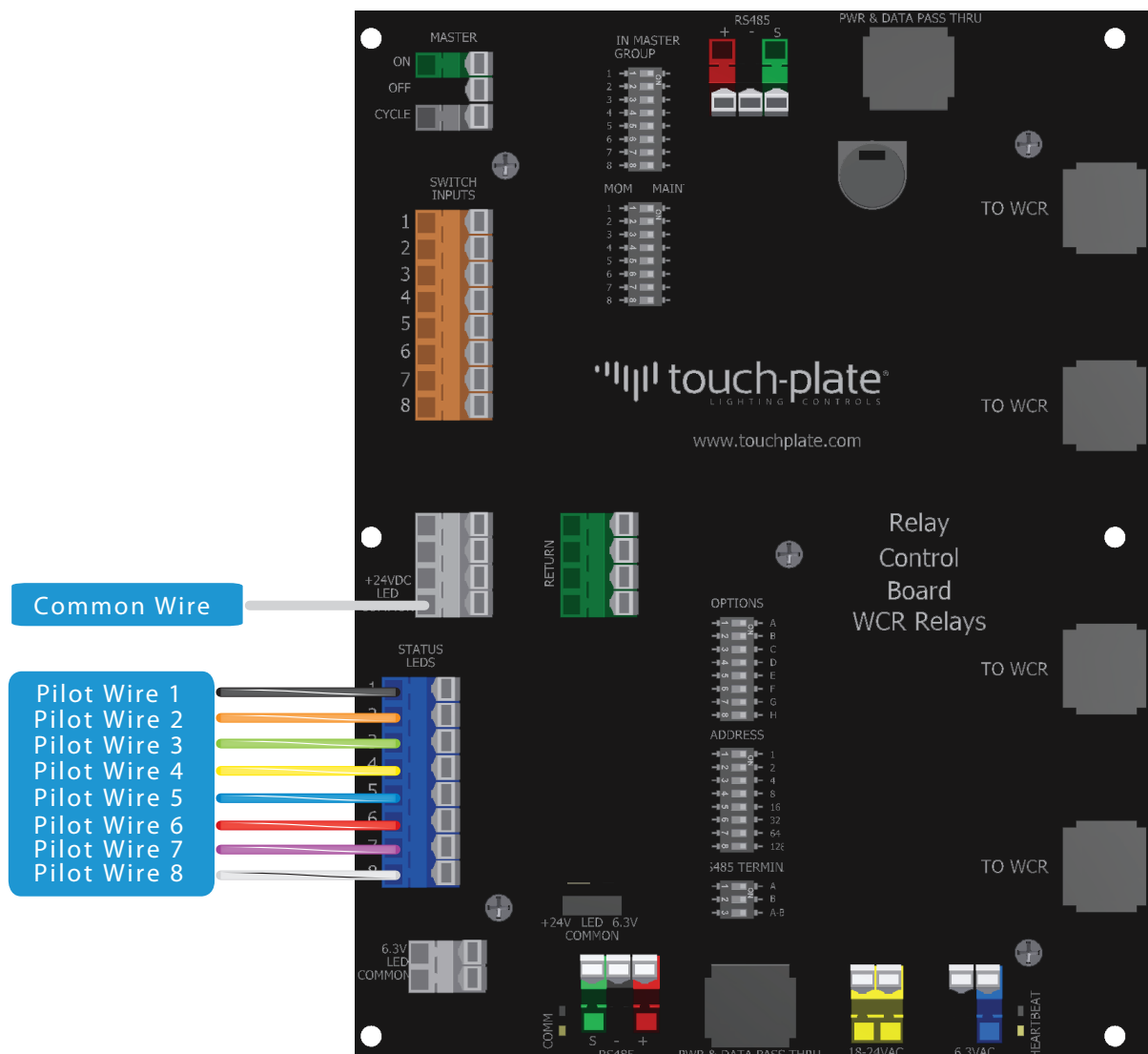
LEDs will be wired directly into the terminal of the corresponding relay, whether the Contact Closure Switch Inputs or Master Group Function Inputs are used.

The LED outputs are used when +24VDC LEDs are present on the Switches. These can be wired and used whether the Contact Closure Switch Inputs or Group Inputs are used.

LED outputs correspond to the LED location on the new switch.

If using new LED switches with this system, the '+24V LED/6.3V Common' Switch needs to be set to the +24V position.

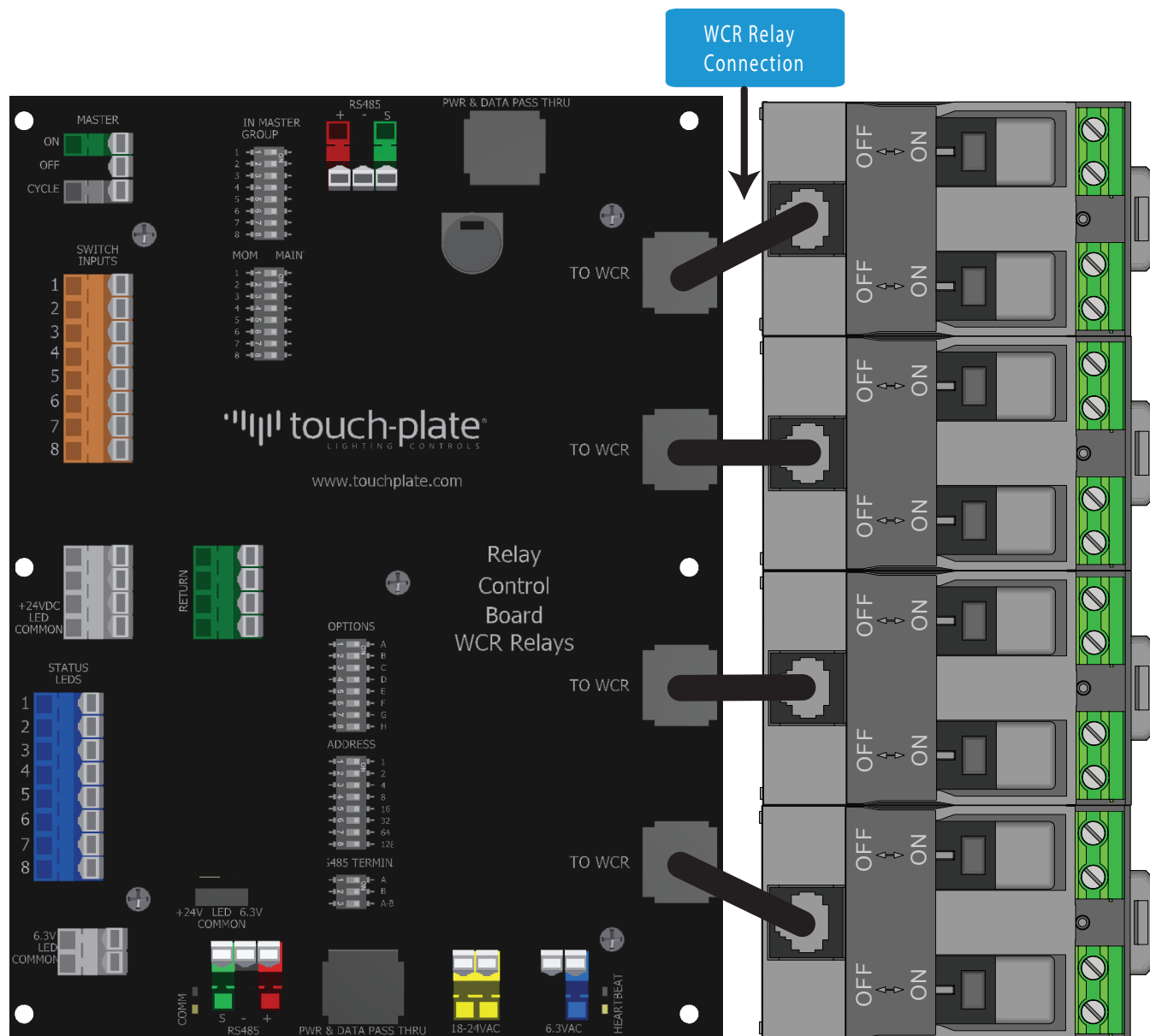
For example, when wiring LED #4 on the switch, bring the LED wire to the terminal labeled 'STATUS LEDs 4'. Then bring the LED Common wire to the terminal labeled '+24VDC LED COMMON'.



Calypso NextGen Relay Wiring

To correctly wire the WCR relays to the Calypso NextGen, use the wiring diagram below.

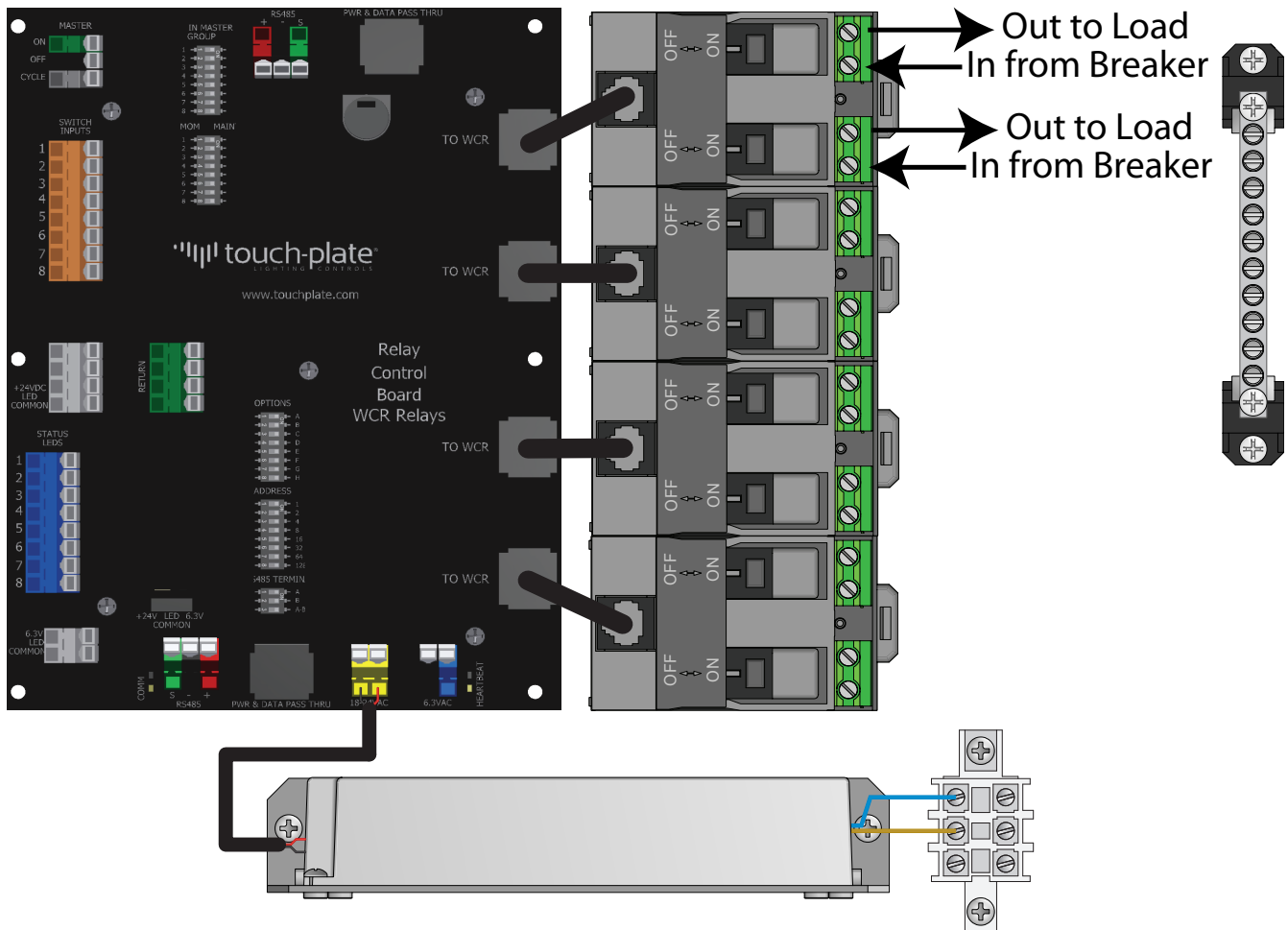
Only Touch-Plate WCR relays can be wired to the Calypso Prime.



Calypso NextGen Line Voltage Wiring

To correctly wire line voltage connections to the Calypso NextGen WCR Relays, use the wiring diagram below.

- Each WCR relay can have its own hot feed brought to it from the breaker panel, or hots can be jumped together depending on load sizes.

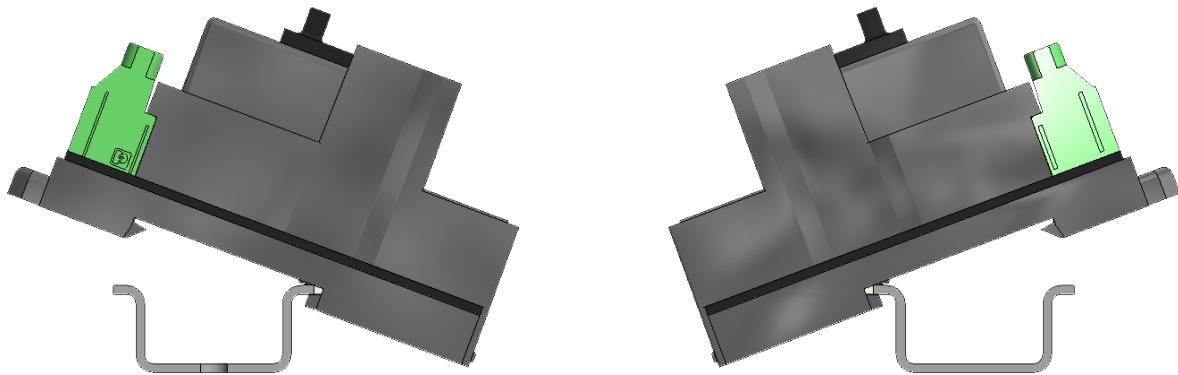


WCR Relay Specifications

The following are specifications for the WCR relay that connects to the Calypso Prime board via RJ-45 cable.

- Dielectric Strength (between coil and contacts): >4000VAC
- Operating Temperatures: -40°C to 40°C
- Contacts: AgSnO₂
- Mechanical Endurance: 1 million cycles
- Max Switching Power: 10K VA
- Max Switching Voltage: 440VAC
- Max Switching Current: 32 Amps
- Lamp Load: up to 5000 Watts
- Rated for: 30 Amp Ballast; 120VAC - 277VAC
- Rated: 20 Amp Tungsten; 120VAC
- Terminal Tightening Torque:
 - Minimum = 0.5 Nm / 4.4 in-lbs
 - Maximum = 0.6 Nm / 5.3 in-lbs

WCR Mounting



Calypso NextGen RS485 Termination Dip Switches

The RS485 Termination Dip Switches are used to set RS485 terminations.

Option	1	2	3
RS485 Termination (Non-Inverting Input Pull Up; 510 Ohms)	ON	OFF	OFF
RS485 Termination (Inverting Input Pull Up; 510 Ohms)	OFF	ON	OFF
RS485 Termination (Line to Line Termination; 120 Ohms)	OFF	OFF	ON

Calypso NextGen Option Dip Switches

The Option Dip Switches are used to change and/or enable certain functions on the Calypso NextGen.

Option	A	B	C	D	E	F	G	H
No Action	ON	-	-	-	-	-	-	-
No Action	OFF	-	-	-	-	-	-	-
No Action	-	ON	-	-	-	-	-	-
No Action	-	OFF	-	-	-	-	-	-
No Action	-	-	ON	-	-	-	-	-
No Action	-	-	OFF	-	-	-	-	-
No Action	-	-	-	ON	-	-	-	-
No Action	-	-	-	OFF	-	-	-	-
No Action	-	-	-	-	ON	-	-	-
No Action	-	-	-	-	OFF	-	-	-
No Action	-	-	-	-	-	ON	-	-
No Action	-	-	-	-	-	OFF	-	-
Relays are numbered top to bottom (1 is the top, 8 is the bottom)	-	-	-	-	-	-	ON	-
Relays are numbered bottom to top (8 is the top, 1 is the bottom)	-	-	-	-	-	-	OFF	-
DMX Address is #256	-	-	-	-	-	-	-	ON
No Action	-	-	-	-	-	-	-	OFF



Appendix I - Setting the Calypso NextGen Address

The Address Dip Switches are used to set the Address only if a Touch-Plate Time-Keeper is present. Normally, these Dip Switches come from the factory pre-programmed.

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.

Each Calypso NextGen utilizes 8 addresses. For example, if on a Time-Keeper network there are two Calypso NextGen's, the first would be set to Address 73 and the second would be set to Address 81.

Address	1	2	3	4	5	6	7	8	9
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
121	ON	OFF	OFF	ON	ON	ON	ON	OFF	OFF
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
137	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
145	ON	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
153	ON	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
161	ON	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
169	ON	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
185	ON	OFF	OFF	ON	ON	ON	OFF	ON	OFF
Valid Addresses are 73 - 193									

Valid addresses are from 73 to 193. 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	9
Value	1	2	4	8	16	32	64	128	256

The values of all switches in the ON position are added together and the total is equal to the address. See the examples below:

Address 1: Turn on switch 1 only, and leave all other Address switches off.

Address 13: Turn on switches 1, 3 and 4. The value of those switches are $1 + 4 + 8 = 13$.



Appendix II - In Master Group Dip Switches

The In Master Group Dip Switches are used to set the action for the contact closure inputs.

Option	1	2	3	4	5	6	7	8
Relay 1 is in the master group	ON	-	-	-	-	-	-	-
Relay 1 is not in the master group	OFF	-	-	-	-	-	-	-
Relay 2 is in the master group	-	ON	-	-	-	-	-	-
Relay 2 is not in the master group	-	OFF	-	-	-	-	-	-
Relay 3 is in the master group	-	-	ON	-	-	-	-	-
Relay 3 is not in the master group	-	-	OFF	-	-	-	-	-
Relay 4 is in the master group	-	-	-	ON	-	-	-	-
Relay 4 is not in the master group	-	-	-	OFF	-	-	-	-
Relay 5 is in the master group	-	-	-	-	ON	-	-	-
Relay 5 is not in the master group	-	-	-	-	OFF	-	-	-
Relay 6 is in the master group	-	-	-	-	-	ON	-	-
Relay 6 is not in the master group	-	-	-	-	-	OFF	-	-
Relay 7 is in the master group	-	-	-	-	-	-	ON	-
Relay 7 is not in the master group	-	-	-	-	-	-	OFF	-
Relay 8 is in the master group	-	-	-	-	-	-	-	ON
Relay 8 is not in the master group	-	-	-	-	-	-	-	OFF

Appendix II - Momentary/Maintain Dip Switches

The Momentary/Maintain Dip Switches are used to set the action for the contact closure inputs.

Option	1	2	3	4	5	6	7	8
Maintain Action for Input 1	ON	-	-	-	-	-	-	-
Momentary Action for Input 1	OFF	-	-	-	-	-	-	-
Maintain Action for Input 2	-	ON	-	-	-	-	-	-
Momentary Action for Input 2	-	OFF	-	-	-	-	-	-
Maintain Action for Input 3	-	-	ON	-	-	-	-	-
Momentary Action for Input 3	-	-	OFF	-	-	-	-	-
Maintain Action for Input 4	-	-	-	ON	-	-	-	-
Momentary Action for Input 4	-	-	-	OFF	-	-	-	-
Maintain Action for Input 5	-	-	-	-	ON	-	-	-
Momentary Action for Input 5	-	-	-	-	OFF	-	-	-
Maintain Action for Input 6	-	-	-	-	-	ON	-	-
Momentary Action for Input 6	-	-	-	-	-	OFF	-	-
Maintain Action for Input 7	-	-	-	-	-	-	ON	-
Momentary Action for Input 7	-	-	-	-	-	-	OFF	-
Maintain Action for Input 8	-	-	-	-	-	-	-	ON
Momentary Action for Input 8	-	-	-	-	-	-	-	OFF



Appendix III - Retrofitting an Existing System

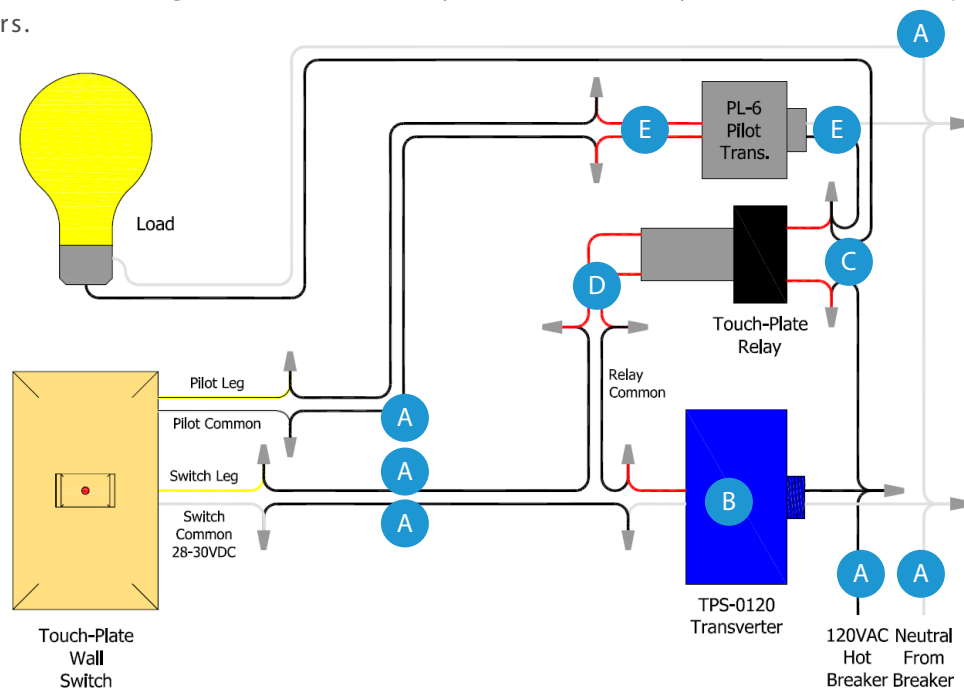
To correctly update an existing system, be sure that the entire system is being updated. Power from the circuit breaker **MUST** be turned off before removing any existing parts. Most systems that have control stations with pilot lights must have those existing control stations replaced before bringing power to the updated system.

Use the following instructions to correctly label and remove the existing system.

- A** Label all wires before or during removal. Use the following chart to identify the wires that need labeled.

Wires to be Labeled	Wire Description
Low Voltage Switch Leg	Low Voltage Switch Leg from the Switch to the Relay
Common	Common from the Switch to the Transverter (TPS/TVR)
Common	Common from the Switch to the Transformer (PL-6)
Line Voltage Switch Leg	Wire from the Breaker to the Transverter (TPS/TVR)
Breaker	Wire from the Breaker to the Lighting Load

- B** Disconnect the Transverter (typically a TVR-1 or TPS-0120).
- C** Disconnect the line voltage from the relay (two wires from the base of the relay); many times the Hot wires are jumped together.
- D** Disconnect the low voltage from the relay (wires from the coil of the relay).
- E** Disconnect the pilot light transformer from the lighting load and control station(s). The line voltage wires connected to the pilot light transformer are no longer needed.
- F** Remove the enclosure with all the relays, transverter, and pilot light transformers disconnected. If reusing the enclosure, only remove the relays, transverter, and pilot light transformers.



Troubleshooting Guide

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

1. Remove the Diecut from the CPS-ND.
2. Look for the LED indicator to be blinking on the CPS-ND.
 - a. For the indicator to be blinking, power has to be correctly brought to the system.
 - b. If the LED indicator is not blinking, confirm power connections and then contact the factory for assistance.
 - c. If the LED indicator is blinking, move on to the next step.
3. Verify that the line voltage has been fed to all the necessary relays.
4. Verify that each light fixture is connected to the 'Switched Leg'.
5. Verify that 120 VAC or 277VAC has been connected to the system.
6. Take a short piece of thin wire (both ends need to be stripped) and hold one end to the conductive metal of the 'Switch Common'.
7. Take the other end of the short wire and tap it to the conductive metal of each of the Switch Input terminals, one at a time.
 - a. Each touch should energize the relay and change its state. The lights in the respective rooms should go ON and OFF when the terminal is touched.
8. 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.
9. If these steps do not solve the problem, please contact the factory for assistance.



Frequently Asked Questions

1. What are Groups?
 - a. Groups allow for a single button to control multiple relays.
 - b. For example: In most bathrooms there are lights above the sink and above the shower. If both lights are desired to be turned on at the same time with the push of a single button, Grouping makes this possible.
2. What are the 'Option' Functions?
 - a. Option Functions are to be used to set different functions. See page 15 for further explanation.
3. What is the 'Address'?
 - a. The DMX Address is a unique number in a line of specific addresses. This is only used when a Time-Keeper is present in the system.
4. What is the 'Pilot Voltage'?
 - a. Pilot Voltage is set to 24V from the factory so it can send the correct voltage to the switch pilots.
 - b. When using the Pilot Voltage set at 6.3V, this is only used when existing legacy wall switches with incandescent pilots are used instead of updating to current switches with 24V LED pilots.
5. What are the 'Terminations'?
 - a. These are DMX line terminations. This is only used if a DMX controller is connected to the Calypso NextGen.
6. What changes need to be made if I have a Time-Keeper on my system?
 - a. The only reason a Time-Keeper is paired with a Calypso NextGen is to utilize programmed events.
 - b. The Calypso NextGen will not allow LEDs to react to events programmed through the Time-Keeper.
 - c. Address and Option DIP Switches are only utilized if a Time-Keeper is a part of the system.





Touch-Plate Calypso NextGen Manual
Revision: 2.0a

