
# KEYSTONE RV Color Coded Unified Wiring Standard Tech User Guide



Contents



KEYSTONE
RV COMPANY

## KEYSTONE RV Color Coded Unified Wiring Standard Tech


## Product Usage Instructions

**12V Power Sources:**

- There are two possible 12V power sources in the RV:

**12V DC Panel:**

- Lower and more stable amperage draw components like interior lights, appliances, fans, etc.

**Wiring sequence of color-coded and numbered wire:**

- DC panel – Switch – Component
- DC panel – In-Command Body Control Module (control board) – Switch – Component

**12V Battery:**

- Higher and more variable amperage draw components like slide motors, leveling jacks, etc.

**Wiring sequence of color-coded and numbered wires:**

- Battery – Auto Resettable Circuit Breaker – Switch – Component
- Battery – In-Command Body Control Module (control board) – Switch – Component

**Breakdown of Sections of the 12V Wiring Standard:**

- Positive and Negative Conductors
- Electric Slide-Out Power
- Power Awning

- Awning Light
- Marker, Tail, & License Lights

## PRODUCT INFORMATION

### COLOR-CODED UNIFIED WIRING STANDARD TECH GUIDE

Because many Keystone RV owners are already do-it-yourselfers for their homes, cars and boats, Keystone has made it easier for our owners to put their DIY skills to work on their RV, saving both time and money. Following is a guide to Keystone's exclusive color-coded 12V Wiring Standard. This standard makes it simple to locate and trace wiring for the RV's electrical and entertainment systems. If you choose to work on your RV's electrical systems, PLEASE USE CAUTION AND GOOD COMMON SENSE. ALWAYS DISCONNECT THE 120V POWER CORD, AND TURN OFF THE GENERATOR (if applicable). Your comfort and your safety working with the 12 Volt Wiring Standard are very important to us. If at any time you're uncomfortable or realize you don't have the necessary experience to independently work with the 12V wiring system, please stop what you're doing immediately. Either seek the advice of someone familiar with RV 12V electrical systems AND Keystone's 12 Volt Wire Standard, or contact your authorized Keystone dealership or Keystone directly. It is important to note, the information outlined and discussed in the 12 Volt Wiring Standard is in no way related, nor does it apply, to the 120 Volt system of your recreational vehicle. If you are unsure of the difference between 12 Volt and 120 Volt wiring and 120 Volt appliances and/or receptacles, do not attempt any DIY methods, contact your authorized Keystone dealership.

- Any electrical fault can be isolated to a circuit in a matter of minutes by using this 12V wire standard,
- a VOM meter (multi-meter) and starting at the source:
- Every 12V DC circuit is color-coded and numbered (if applicable) for easy identification
- All Distribution Center (DC) panel labeling (wiring) has been standardized
    - 12V power sources have been standardized With few exceptions, there are two possible

**12V power sources:**

1. **12V DC Panel**
    - Typically lower and more stable amperage draw components (interior lights, appliances, fans, etc.).
    - Wiring sequence of color-coded and numbered wire: a. DC panel → Switch → Component
        - b. DC panel → In-Command Body Control Module (control board) → Switch → Component
2. **12V Battery**
    - Typically higher and more variable amperage draw components (slide motors, leveling jacks, etc.).
    - Wiring Sequence of color-coded and numbered wires:
        - a. Battery → Auto Resettable Circuit Breaker → Switch → Component
        - b. Battery → In-Command Body Control Module (control board) → Switch-Component

**Important Notes:**

- Auto-resettable breakers are typically located within 18" of the battery
- Some components may not be on a switch
- Some vendor-installed components contain a fuse (radios, awnings, electric jacks, safety alarms)

**Following is a breakdown of sections of the 12V wiring standard**

This will help you understand how our units are manufactured and provide you with the information you need to

use the standard.

**POWER FEEDS & 7-WAY TRAILER CONNECTION**

- The power feeds do not contain numbers. These are used to provide a single source of power to a junction or switch panel.
- Any battery connections (-) or chassis ground will be BLACK, in some cases a white wire will also be a\ chassis ground (an inverter, for example) but will never be a direct connection to the battery.
- 7-Way Trailer Connection matches with the industry standard

| | | | | |
|---|---|---|---|---|
| (+) 12 VDC Positive Conductor | | RED | 2 ga, 4 ga, 6 ga, 8 ga, 10 ga | Positive Battery Mains/Single Conductor |
| (-) 12 VDC Negative Conductor Return | | BLACK | 2 ga, 4 ga, 6 ga, 8 ga, 10 ga | Negative Battery Mains/Single Conductor |
| (+) 12 VDC Electric Slide-Out Power | | PURPLE | 10 ga. | Electric Slide Out Feed/Single Conductor |
| (+) 12 VDC Power Awning | | YELLOW | 10 ga. | Electric Awning Feed/Single Conductor |
| (+) 12 VDC Awning Light | | ORANGE | 14 ga. | Awning Light Feed/Single Conductor |
| (-) 12 VDC Negative Conductor Return | | WHITE | 10 ga, 14 ga | Negative/Single Conductor |
| Marker, Tail, & License Lights | | GREEN | 16 ga | 7-Way RV Connector<br>Green/White Ripcord |
| Left Stop & Turn | | RED | 16 ga | |
| Right Stop & Turn | | BROWN | 16 ga | |
| Electric Brake | | BLUE | Varies | |
| Common Ground | | WHITE | 10 ga | |
| Battery Charge | | BLACK | 10 ga | |
| Center Auxiliary | | YELLOW | 16 ga | |

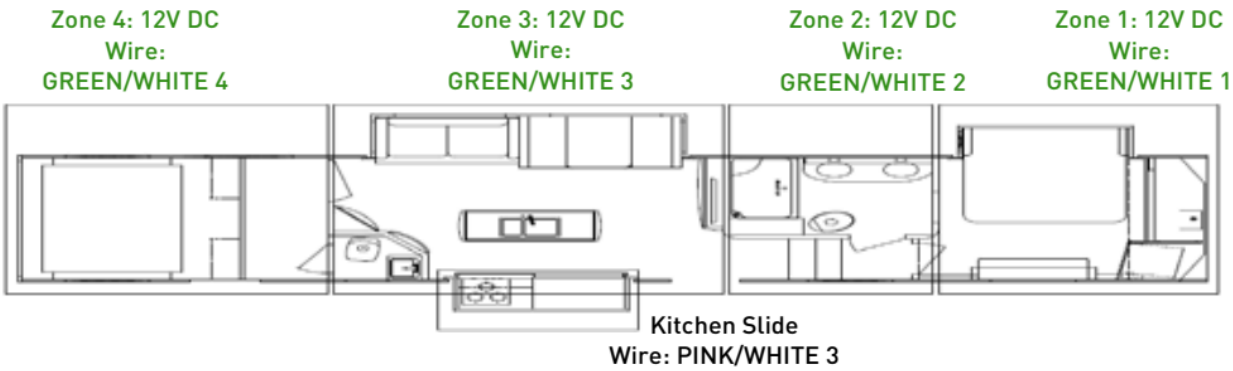
**TANKS, WATER HEATER, & GENERATOR**

- Tank – 5-Wire Ribbon; a 2nd Black Tank or 3rd Gray Tank use single-conductor LIGHT BLUE numbered wires.
- Water Heater – 4-Wire Ribbon
- Generator – 5-Wire Harness (OEM supplied)

| | | | | |
|---|---|---|---|---|
| Gray Tank #2<br>Fresh Tank<br>Gray Tank #1<br>Tank Level Ground<br>Black Tank #1 | BONDED RIBBON | RED<br>BLUE<br>GRAY<br>WHITE<br>BROWN | 18 ga<br>18 ga<br>18 ga<br>18 ga<br>18 ga | Gray Tank #2 Sensor Signal<br>Fresh Tank Sensor Signal<br>Gray Tank #1 Sensor Signal<br>Tanks Level GND Return Path<br>Black Tank #1 Sensor Signal |
| Gray Tank #3 | 1 1 1 | LT BLUE 1 | 18 ga | Gray Tank #3 Sensor Signal/Single Conductor |
| Black Tank #2 | 2 2 2 | LT Blue 2 | 18 ga | Black Tank #2 Sensor Signal/Single Conductor |
| Water Heater GND<br>Water Heater Gas Signal<br>Water Heater Electric Signal<br>Water Heater Fault Signal | BONDED RIBBON | WHITE<br>BROWN<br>ORANGE<br>PINK | 18 ga<br>18 ga<br>18 ga<br>18 ga | Water Heater |
| Generator Start<br>Generator Prime/Stop<br>Generator Service<br>Generator Hours<br>Generator GND | ONAN HARNESS | RED<br>GREEN<br>BLUE<br>ORANGE<br>BROWN | OEM Harness | Generator Start Signal<br>Generator Prime/Stop Signal<br>Generator Status Lamp Signal<br>Generator Hours Signal<br>Generator Control GND |

**12 VDC TRAILER “ZONE” ORGANIZATION (See 3a and 3b)**

- Interior Lights are organized in a minimum of two and maximum of four Dedicated Zones numbered #1-#4 for 12 VDC power.

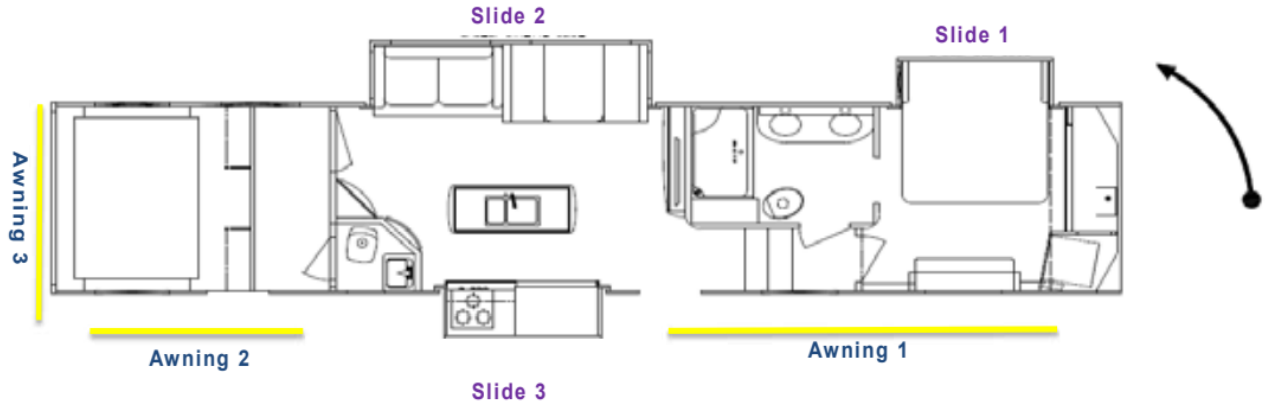



- **Note**: PINK/WHITE 3 is ALWAYS used for the kitchen slide

| | | | |
|---|---|---|---|
| Interior 12 VDC Zone Circuits | (+) # # # (-) GREEN/WHITE w/# | 10 ga - 1<br>14 ga - 1, 2, 3, 4, 5, 6, 7, 8 | 12 VDC Interior Lights |
| 12 VDC Accessory Circuits | (+) # # # (-) PINK/WHITE w/#<br>Pink #2 = Furnace/Pink #3 = Kitchen Slide | 10 ga - 1<br>14 ga - 1, 2, 3 | 12 VDC Accessory Feed: Power Vent/Fans/Furnace/Refrigerator/TV Booster/USB Charging Station/Range Fan/Radio Power/CO Alarm/RV Power Lifts/ETC.. |
| Holding Tank Heaters | (+) # # # (-) TAN/WHITE w/#<br>Tan #1 = Power Feed to Switch/Tan #2 = Fresh Tank/Tan #3 Gray Tank(s)/Tan #4 Black Tank(s) | 10 ga - 1, 2, 3, 4 | 12 VDC Holding Tank Heaters |
| Bed Lift Circuits | (+) # # # (-) DK GREEN/WHITE w/# | 10 ga - 1, 2 | 12 VFC Bed Lift/Tilt/Fold Systems/Happy Jacks |

## ELECTRIC SLIDES AND POWER AWNINGS

- Electric slides are numbered #1-#5 starting at the hitch and going counter-clockwise around the trailer with ODS Front #1.
- Hydraulic slides are not counted.
- Power awnings are numbered #1-#3 from front to back.




| | | |
|---|---|---|
| Electric Slide | (+) # # # (-) PURPLE/WHITE w/# | 10 ga - #1 First Slide, #2 Second Slide, #3 Third Slide, #4 Fourth Slide, #5 Fifth Slide |
| Electric Awning | (+) # # # (-) YELLOW/WHITE w/# | 12 ga - #1 First Awning, #2 Second Awning, #3 Third Awning |

## ELECTRIC JACKS/EXTERIOR LIGHTS/HYDRAULIC PUMP & SOLENOID VALVES/ FUEL SENDING UNITS/ WATER PUMP/AWNING

- Awning lights are numbered #1-#3 from front to back. #1 – Is 14 ga as it may be used to supply (2) Awning lights on remote systems, #2 & #3 are 16 ga.
- Hydraulic pump – note the GRAY wire is REV & the WHITE wire is FWD. The Trombetta is labeled REV & FWD.

- Fuel sending units – both fuel tank sending unit suppliers use RED or PINK for signal and BLACK for GND.

| | | | |
|---|---|---|---|
| Electric Stabilizer Jacks | (+) (-) | BROWN/WHITE w/# | 10 ga - #1 Front Jacks, #2 Rear Jacks |
| Exterior Light Circuits | (+) (-) | ORANGE/WHITE w/# | #1 Awning Light (1) - 14ga, #2 Awning Light (2) - 16ga, #3 Awning Light (3) - 16ga, #4 Exterior Lights - 14ga, #5 Security/Scare Light - 14ga |
| Hydraulic 12VDC Control Circuits | (+) (-) | GRAY/WHITE w/# | 16 ga - #1 Hydraulic Valve (Landing Gear), #2 Hydraulic Pump, #3 Hydraulic Pump (SlideOut) |
| Fuel Tank Level (Sending Units) | GND Signal | RED/BLACK w/# | 14 ga - #1 Generator Fuel Sending Unit, #2 Fuel Station Sending Unit |
| Water Pump | (+) (-) | BLUE 1/WHITE | 14 ga - #1 Water Pump |

## Wire Standard

### Keystone 12 VDC Wire Standard

| Item | Color | | Wire Ga & # Label | Application |
|---|---|---|---|---|
| (+) 12 VDC Positive Conductor | | RED | 2 ga, 4 ga, 6 ga, 8 ga, 10 ga | Positive Battery Mains |
| (-) 12 VDC Negative Conductor Return | | BLACK | 2 ga, 4 ga, 6 ga, 8 ga, 10 ga | Negative Battery Mains |
| (+) 12 VDC Electric Slide-Out Power | | PURPLE | 10 ga. | Electric Slide-Out Feed |
| (+) 12 VDC Power Awning | | Yellow | 10 ga. | Electric Awning Feed |
| (+) 12 VDC Awning Light | | Orange | 14 ga. | Awning Light Feed |
| (-) 12 VDC Negative Conductor Return | | White | 10 ga, 14 ga | Negative |
| Marker, Tail, & License Lights | 7-Way RV Trailer Connector | GREEN | 16 ga | 7-Way RV Connector |
| Left Stop & Turn | | RED | 16 ga | 7-Way RV Connector |
| Right Stop & Turn | | BROWN | 16 ga | 7-Way RV Connector |
| Electric Brake | | BLUE | Varies (Use Existing) | 7-Way RV Connector |
| Common Ground | | WHITE | 10 ga | 7-Way RV Connector |
| Battery Charge | | BLACK | 10 ga | 7-Way RV Connector |
| Center Auxiliary | | YELLOW | 16 ga | 7-Way RV Connector |
| Gray Tank #2 | BONDED RIBBON | RED | 18 ga | Gray Tank #2 Sensor Signal |
| Fresh Tank | | BLUE | 18 ga | Fresh Tank Sensor Signal |
| Gray Tank #1 | | GRAY | 18 ga | Gray Tank #1 Sensor Signal |
| Tank Level Ground | | WHITE | 18 ga | Tank Level GND Return Path |
| Black Tank #1 | | BROWN | 18 ga | Black Tank #1 Sensor Signal |
| Gray Tank #3 | | LT BLUE 1 | 18 ga | Gray Tank #3 Sensor Signal |
| Black Tank #2 | | LT Blue 2 | 18 ga | Black Tank #2 Sensor Signal |
| Water Heater GND | BONDED RIBBON | WHITE | 18 ga | Water Heater |
| Water Heater Gas Signal | | BROWN | 18 ga | |
| Water Heater Electric Signal | | ORANGE | 18 ga | |
| Water Heater Fault Signal | | PINK | 18 ga | |
| Generator Start | ONAN HARNESS | RED | OEM Harness Come in various Lengths. | Generator Start Signal |
| Generator Prime/Stop | | GREEN | | Generator Prime/Stop Signal |
| Generator Service | | BLUE | | Generator Status Lamp Signal |
| Generator Hours | | ORANGE | | Generator Hours Signal |
| Generator GND | | BROWN | | Generator Control GND |
| Interior Lighting Circuits | (+) (-) | GREEN/WHITE w/# | 10 ga - 1<br>14 ga - 1, 2, 3, 4, 5, 6, 7, 8 | 12 VDC Interior Lights |
| 12 VDC Accessory Circuits | (+) (-) | PINK/WHITE w/# | 10 ga - 1<br>14 ga - 1, 2, 3 | 12 VDC Accessory Feed:<br>Power Vent Fans / Furnace / Refrigerator<br>TV Booster / USB Charging Stations / Range Fan<br>Radio Power / CO Alarm / TV Power Lifts / etc. |
| Holding Tank Heaters | (+) (-) | TAN/WHITE w/# | 10 ga - 1, 2, 3, 4 | 12 VDC Holding Tank Heaters |
| Bed Lift Circuits | (+) (-) | DK GREEN/WHITE w/# | 10 ga - 1, 2 | 12 VDC Bed Lift/Tilt/Fold Systems/Happy Jacks |
| 12 V Relay Signal | (+) (-) | PINK/BLACK w/# (TBD) | 18 ga - none using at this time | 12 VDC Relay Trigger Signal |

| | | | | |
|---|---|---|---|---|
| Electric Slide-Out 1 | (+) 1 1 1<br>(-) | PURPLE 1/WHITE | 10 ga | First Electric Slide-Out<br>(Order: Front ODS to Rear ODS, Rear DS to Front DS) |
| Electric Slide-Out 2 | (+) 2 2 2<br>(-) | PURPLE 2/WHITE | 10 ga | Second Electric Slide-Out<br>(Order: Front ODS to Rear ODS, Rear DS to Front DS) |
| Electric Slide-Out 3 | (+) 3 3 3<br>(-) | PURPLE 3/WHITE | 10 ga | Third Electric Slide-Out<br>(Order: Front ODS to Rear ODS, Rear DS to Front DS) |
| Electric Slide-Out 4 | (+) 4 4 4<br>(-) | PURPLE 4/WHITE | 10 ga | Fourth Electric Slide-Out<br>(Order: Front ODS to Rear ODS, Rear DS to Front DS) |
| Electric Slide-Out 5 | (+) 5 5 5<br>(-) | PURPLE 5/WHITE | 10 ga | Fifth Electric Slide-Out<br>(Order: Front ODS to Rear ODS, Rear DS to Front DS) |
| Electric Awning 1 | (+) 1 1 1<br>(-) | YELLOW 1/WHITE | 12 ga | First Electric Awning<br>(Order: Front to Back, Rear) |
| Electric Awning 2 | (+) 2 2 2<br>(-) | YELLOW 2/WHITE | 12 ga | Second Electric Awning<br>(Order: Front to Back, Rear) |
| Electric Awning 3 | (+) 3 3 3<br>(-) | YELLOW 3/WHITE | 12 ga | Third Electric Awning<br>(Order: Front to Back, Rear) |
| Electric Front Jack(s) | (+) 1 1 1<br>(-) | BROWN 1/WHITE | 10 ga | Front Electric Jack(s) |
| Electric Rear Jack (s) | (+) 2 2 2<br>(-) | BROWN 2/WHITE | 10 ga | Rear Electric Jack(s) |
| Awning Light 1 | (+) 1 1 1<br>(-) | ORANGE 1/WHITE | 14 ga | Switch To Awning Light Circuit 1 |
| Awning Light 2 | (+) 2 2 2<br>(-) | ORANGE 2/WHITE | 16 ga | Switch To Awning Light Circuit 2 |
| Awning Light 3 | (+) 3 3 3<br>(-) | ORANGE 3/WHITE | 16 ga | Switch To Awning Light Circuit 3 |
| Exterior Lights | (+) 4 4 4<br>(-) | ORANGE 4/WHITE | 14 ga | Porch Light / Entrance Light / Step Light/Power Channel |
| Security/Scare Light | (+) 5 5 5<br>(-) | ORANGE 5/WHITE | 14 ga | Scare Light(s), Cap & Cargo Light(s) |
| Hydraulic Valve (Landing Gear) | (+) 1 1 1<br>(-) | GRAY 1/WHITE | 16 ga | Hydraulic Solenoid - Front Landing Jacks |
| Hydraulic Pump (FWD/REV) | REV(+) 2 2 2<br>FWD (+) | GRAY 2/WHITE | 16 ga | Hydraulic Pump Contactor |
| Hydraulic Valve (Slide Out) | (+) 3 3 3<br>(-) | GRAY 3/WHITE | 16 ga | Hydraulic Solenoid - Slid-Out(s) |
| Generator Fuel Tank Level | GND<br>Signal 1 1 1 | RED 1/BLACK | 14 ga | Generator Fuel Tank Sending Unit |
| Fuel Station Tank Level | GND<br>Signal 2 2 2 | RED 2/BLACK | 14 ga | Fuel Station Tank Sending Unit |
| Water Pump | (+) 1 1 1<br>(-) | BLUE 1/WHITE | 14 ga | Water Pump Power |

**12 VDC WIRE STANDARD EST. 1-2017**

**Numbered Circuit Groups:**

The following Color Groupings are numbered per Circuit. The Positive Conductor (Colored Conductor) will indicate the circuit number for the group. Numbers are repeated down the entire length of the wire. The numbers correspond to the items on that circuit.

**Dedicated Numbered Circuit Groups:**

The following Colored and Numbered wires are specific to the Application. The Positive Conductor (Color Conductor) will indicate the circuit number for the group. Numbers are repeated down the entire length of the wire.

## FAQs

- **Q: What are the main components of the 12V Wiring Standard?**
  - **A:** The main components include Positive and Negative Conductors, Electric Slide-Out Power, Power Awning, Awning Light, and various other components as per the color-coded standard.
- **Q: How can I identify and trace wiring in my RV using the color-coded standard?**
  - **A:** You can refer to the color-coded and numbered wires specified in the manual to locate and trace

wiring for electrical and entertainment systems in your RV easily.

## Documents / Resources

| | |
|---|---|
|  | KEYSTONE RV Color Coded Unified Wiring Standard Tech [pdf] User Guide<br>RV Color Coded Unified Wiring Standard Tech, Unified Wiring Standard Tech, Wiring Standard Tech, Standard Tech |

## References

- User Manual