

600DC WIRELESS SINGLE MOTOR VARIABLE SPEED CONTROLLER 12 volt only

READ CAREFULLY BEFORE AND WHILE INSTALLING

NOTE FOR MOTORS LARGE THAN 1/2HP or older worn motors YOU CANNOT USE POWER AND GROUND FROM YOUR 7 PRONG TRUCK PLUG

ALSO MANY TRUCKS 2014 AND NEWER DO NOT HAVE HEAVY ENOUGH GAUGE OF WIRING TO THE 7 PRONG PLUG YOU MUST STRING A POWER WIRE (8gauge) FROM BATTERY BACK TO THE UNIT OR USE AN EXTERNAL BATTERY.

NOTE this unit was tested again before shipping. IF this unit came installed on a spreader the transmitter has already been programmed and tested and you will not need to do anything. If not you will need to reprogram the unit (SEE PROGRAMMING TRANSMITTER TO RECEIVER) below

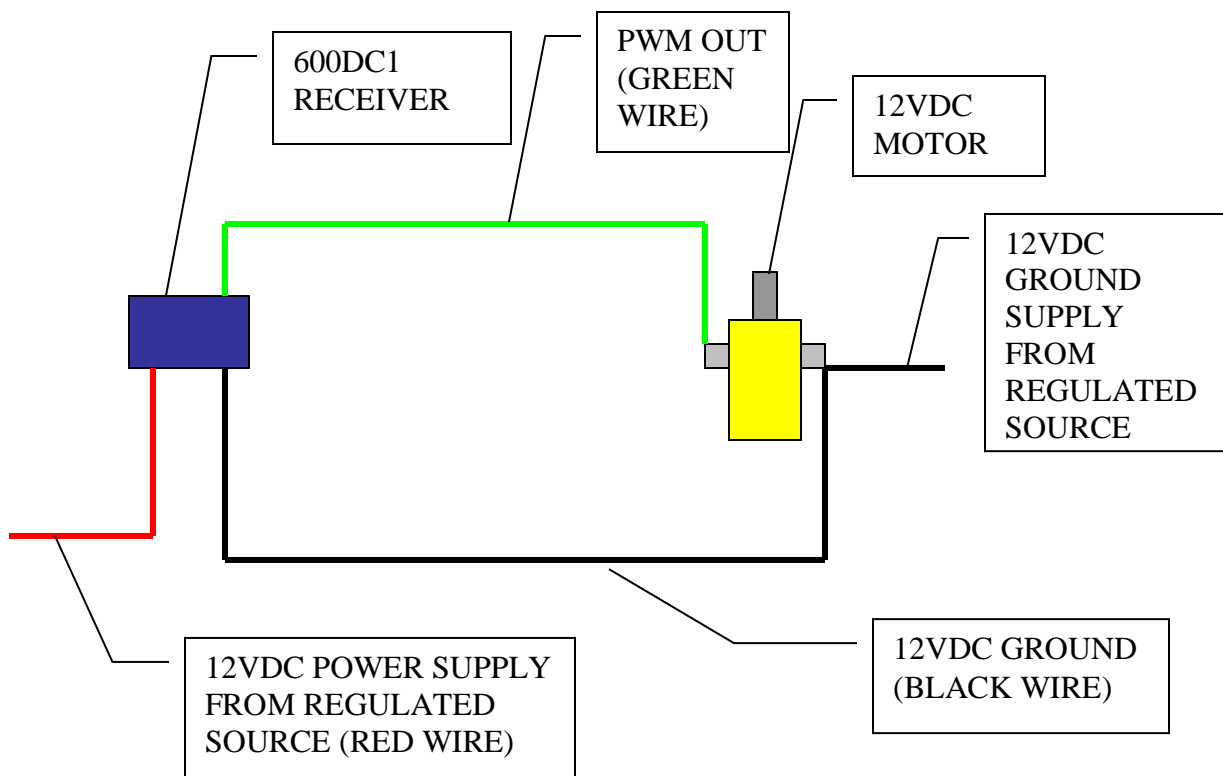
For use with 12-volt DC only **Must use a fuse link on power supply.** NEVER CHARGE OR JUMP BATTERY WITH POWER CONNECTED TO RECEIVER This will destroy the receiver.

How it Works:

The 600DC Wireless DC Motor Controller provides RPM control for a single DC motor that can output up to over 60 amps.. The speed or RPM control is done by providing the user 5 outputs, approximately 1/5 of the maximum motor RPM. To protect the motor and electronics, the 600DC has built-in safety circuits. These include:

- Automatic shut down if motor is locked up. How this is done is if the receiver senses a current draw of more than 100 amps at start up for more than approximately 1000mS, the unit will shut down from 1 to 30 seconds.

Typical Wiring Connection Diagram



Be very careful when connecting to a 7 prong rv plug cord as the white wire on the plug is ground and the black is power coming from the cord. If crossed up with the wireless unit you will burn out the unit (no warranty) **Must use fuse link on power supply if wiring direct to battery.**

We highly recommend the use of Alumiconn #18 - #10 awg connectors or other clean secure connections

RED WIRE FROM RECEIVER CONNECTS TO POWER SOURCE 12V POSITIVE OR 7 PRONG TRUCK TRAILER PLUG IN POSITIVE WHICH IS LABELED BLACK #4 ON INSIDE OF TRUCK 7 PRONG RECEPTACLE.

BLACK WIRE FROM RECIEVER (GROUND) CONNECTS TO ONE SIDE OF YOUR MOTOR (NORMALLY BLACK WIRE) AND GROUND OF POWER SOURCE OR GROUND ON 7 PRONG TRUCK RECEPTACLE LABELED WHITE #1

GREEN WIRE FROM RECEIVER CONNECTS TO OTHER WIRE OR POST ON THE MOTOR (NORMALLY RED on units with black/red motor wires or connect black from motor on a salt Dogg) Note if the motor runs backwards simply switch the wires on the motor.

Some LED lighting accessories typically from China may interfere with transmitter frequency, as these type of LED accessories are not FCC approved

Control trouble shooting, red light blinks dim on receiver, bad power or ground being supplied to unit power wire needs to be at least 8 gauge.

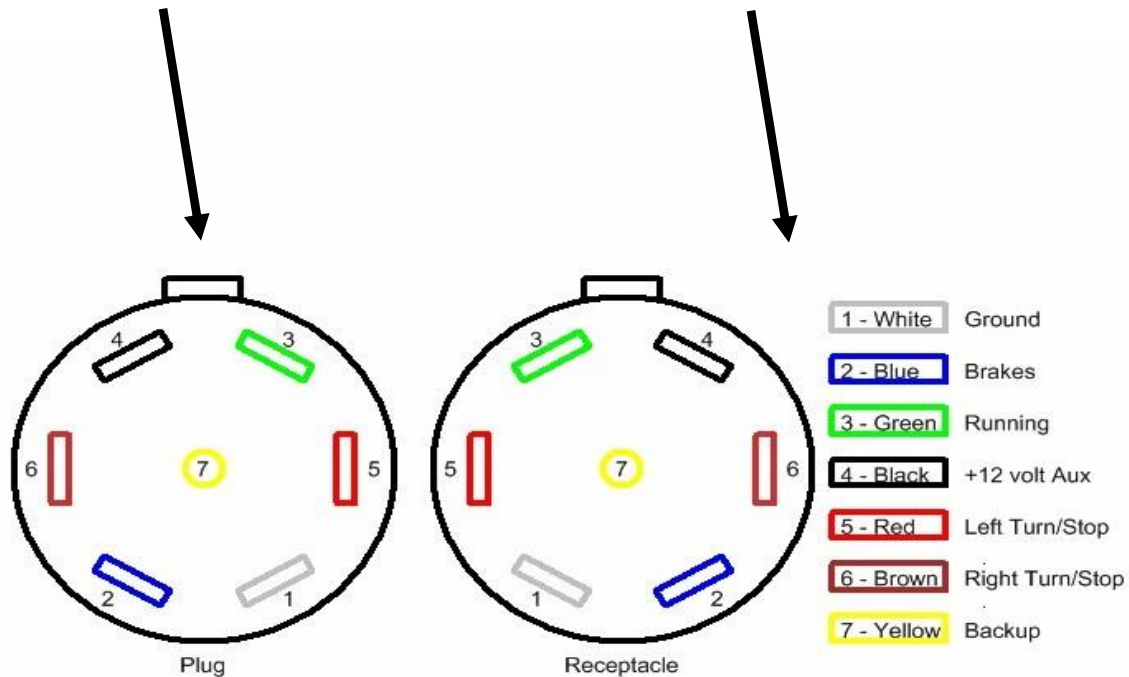
Spreader works when empty but not when full- Power wire being supplied for spreader is to small use at least a 8 gauge wire or larger depending on distance from power source and motor size.

User must maintain good, clean connections, proper wire sizing, for proper operation and to avoid damage to the receiver and void the warranty We have no control over the method the end user may take to install our controllers. For any warranty consideration, all units must be sent back for inspection and testing. Burnt boards of any type means that failure to follow the proper installation has occurred. We are sorry but with any type of electronics, care needs to be taken and directions need to be followed

ALWAYS TEST YOUR TRUCKS WIRING TO MAKE SURE IT WILL MATCH UP IF YOU CONNECT WRONG YOU WILL BURN OUT THE UNIT IMMEDIATELY. Below picture is an example only 7 prong plugs will vary.

SPREADER PLUG

VEHICLE PLUG



If your unit came with or you purchased a 7 prong female plug lead we use the white(ground) and black(power) wires only. The rest of the wires are not used. ***User must maintain good, clean connections for proper operation and to avoid damage to the receiver and void the warranty*** note – some trucks 2014 and newer have to get power direct from battery and not from the 7 prong connector Must use a fuse link on power supply if wiring direct to battery.

NOTE: Transmitter batteries last for years unless they are exposed to freezing temps.



**600DC blue ringed
TRANSMITTER**

Shown above is a typical transmitter for wireless operation of a 12VDC motor. The button functions are as follows:

1. **ON/** this button turns on the receiver unit and will allow the receiver to function. It also will stop the unit, but does not shut down the receiver.
2. **#1/** Slow speed setting of approximately 1/5th of full motor speed.
3. **#2/** Speed setting or approximately 2/5th of full motor speed.
4. **#3/** Speed setting or approximately 3/5th of full motor speed.
5. **#4/** Speed setting or approximately 4/5th of full motor speed.
6. **#5/** Full Speed.
7. **Blast/** A timed 6 to 8 second full speed with auto shut down.
8. **OFF/** Shuts down the receiver unit. Must be turned on using Button #1

****** It is recommended that when the DC motor/s is under high loads that the control first be started at medium to high speed for the first 1 to 5 seconds of operation to avoid damage to the motor or control and may void the warranty**** on smaller motor units make sure the spinner turns freely before attempting operation.**

If transmitter is allowed to freeze warm it up before use as the battery and keypad may be frozen

Programming Transmitter to Receiver:

[Video link](#)

The following are the step by step procedures for setting the unique address between the transmitter and receiver or adding extra transmitters to the receiver (up to 40 transmitters).

Note you need to be next to the receiver and the receiver needs to have 12-volt power and ground connected and the cover off of it.

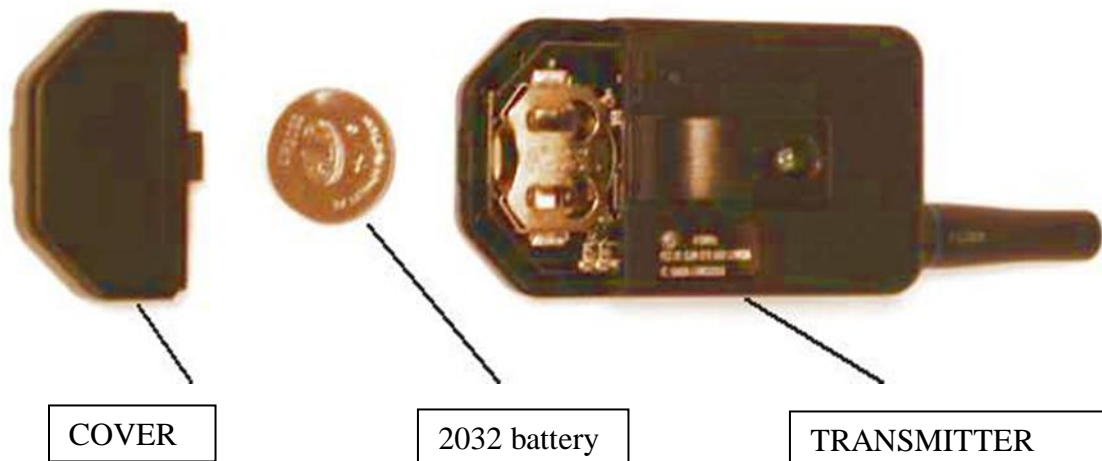
On the backside of the standard Transmitter, use a paperclip and **GENTLY** insert it in the hole next to the clear blue window. Once the programming button is depressed, a blue LED will begin to blink for 15 seconds. Flip the Transmitter over and press and release any single button on the keyfob. **MAKE SURE THE BLUE LIGHT GOES OUT BEFORE PROCEEDING.**

Next step is to remove the receiver box cover noting the drain hole positions in the cover. With the receiver connected to a 12VDC power source look inside the box next to the red LED depress the black programming button. The red LED will begin to flash for 15 seconds. Take the Transmitter while the red LED is flashing and again press and release any single button on the keyfob. The red light in the receiver will stop blinking and you are now programmed. To test this, press a button on your transmitter and the red light on the receiver will come on. Re-install the cover noting drain hole position, depress the "OFF" button on the transmitter to make sure the unit is off. . The unit is now ready to operate the DC motor.

Add button

Blue light





WARNING PLEASE READ THIS FOR SALT SPREADER APPLICATIONS.

THESE UNITS ARE DOUBLE TESTED BEFORE THEY SHIP AND WORK WHEN THEY LEAVE HERE. YOU WILL NEED TO REPROGRAM (SEE DIRECTIONS)

ONCE YOU HAVE VERIFIED PROGRAMMING IF YOU HOOK THE UNIT UP TO YOUR PLUG IN AND IT DOES NOT WORK CHECK YOUR POWER AND GROUND CONNECTIONS. DO NOT TAKE THE TRANSMITTER APART. THIS IS USUALLY DUE TO POOR GROUND OR POWER IF YOU ARE USING YOUR TRUCKS TRAILER PLUG.

When using your own power and ground we recommend using a cutoff switch when the unit is not in use. Wiring that is powered for prolonged periods of time enhances wiring corrosion. You may just add a good toggle switch to the ground wire. Otherwise disconnect the power from the unit when not in use.

FAILURE TO FOLLOW ALL DIRECTIONS CAN LEAD TO PERMANENT DAMAGE TO EITHER MOTOR, CONTROL, TRANSMITTER OR ALL.

Salt spreaders are made for bagged salt only, not sand, granite chips... Salt spreaders have small motors and will burn out if overloaded. If you drive a distance with a fully loaded hopper before activating any controls go back to the spinner and turn it counterclockwise and then clockwise to free up any compaction before activating the controller. If you do not do this and continue to apply power to the motor you will burn out the motor and possibly the receiver. **THIS IS NOT COVERED UNDER WARRANTY.**

(BE SURE OF YOUR GROUND AND POWER SOURCE BEFORE CONNECTING WIRES) Make sure you do not reverse the ground and power as you will burn out the receiver. This is not covered by warranty whatsoever.

USE DIELECTRIC GREASE ON YOUR ELECTRICAL CONNECTIONS TO PREVENT CORROSION. TYPICAL TAILGATE MOUNTED SPREADERS HAVE 2 BEARINGS MAKE SURE TO GREASE THEM OFTEN.

More info: see www.snowplowsplus.com or www.controlallwireless.com or email sales@snowplowsplus.com

Relay to be used with higher amp latching circuits. Use a typical sealed 40/60 automotive relay available at most auto parts stores or from us.

Optional accessory relay instructions provided as a supplement only.

A relay is basically a switching device. The difference is that it can handle more amperage than a typical switch allowing a typical switching device to power high amperage devices.

- 1. 12-volt power from battery connects to pin 30**
- 2. Battery ground connects to pin 85**
- 3. Power in from activation switch or remote connects to pin 86**
- 4. Pin 87 connects to device that needs to be operated. Example valve, motor, lights....**

Note wire that connects to pin 30 must be as large or larger than the device you need to operate that's connected to pin 87

You should fuse or diode protect pin 85 and 87 to prevent back feed.

87a will have power when the unit is idle. This pin is not typically used in applications.

