

Thank You

We are pleased to have you join the Robart team with your purchase of these high-quality Electric Series Retracts. We are confident that you will find the dependability, versatility and convenience of our Electric Series to be unmatched in the industry.

Easy to follow instructions make the installation of our Electric Series Retracts very simple, however, please read the following safety/installation tips:

- There are many pinch-points on retracts. Keep all body parts away from these as injury could occur.
- Take care to properly orient plugs when installing leads. Negative (-) is usually black or brown.
- Do not plug RX or Auxiliary Battery lead into any terminal in the orange areas on the Control Unit.
- Make sure that all electric connections are tight. Loose connections can cause the retracts to be nonfunctional or erratic.



**Buy your Zap Adhesives on
www.robart.com and receive
a 25% discount.**

(With the purchase of any Robart product)

Robart Electric Series conversion kits are available for many pneumatic Robart retracts. They come with all parts necessary to convert your retracts to electric actuation in your home workshop.

If you prefer, send us your retracts and we will convert them for a flat fee of \$40 plus the cost of the conversion kit - including return shipping.

Conversion kits are only available for purchase on our website



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Robart Electric Retract Series Instruction Manual



Installation Instructions:

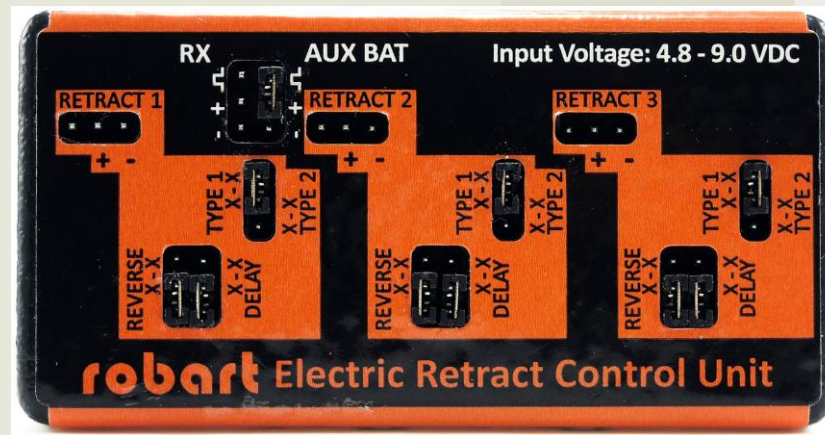
1. Install the retracts into the airplane.
 2. Set up the Robart Electric Retract Control Unit (see separate box).
 3. Run servo leads from each retract to the Control Unit and plug each lead into the appropriate retract circuit. Standard extensions are acceptable but heavy-duty extensions are recommended.
 4. Never plug the retract leads directly into the receiver, a servo tester or battery.
 5. Match the retract switch on your transmitter to the actual position of the gear – either up or down. If your radio is capable, set endpoints at 80% for down and 120% for up.
 6. Turn on your transmitter. Then turn on the airplane. Cycle the gear. You may have to reverse the gear channel in your transmitter.
 7. In some installations, one retract may work opposite of the other mechanisms. In this case, move the Reverse jumper on that circuit to the X-X position to reverse the operation of that specific retract.
 8. Power off when not in use and during jumper/connection changes.
- It is acceptable and recommended to test the retracts outside of the airplane. Be sure to hook up the retracts exactly as instructed to prevent damage.

Control Unit Setup:

1. The power requirement for the Control Unit is 4.8 to 9.0 volts from any battery type. 6.0 volts and above is highly recommended.
2. The Control Unit has three retract circuits, Retract 1, Retract 2 & Retract 3. Position the Type 1/Type 2 jumpers appropriately for each individual actuator type (see box below). For tailwheel airplanes, it is common to have two circuits set to Type 1 and one circuit set to Type 2. If you only have main gear retracts, one circuit will not be used.
3. If you wish to have one or more retracts delay or stagger, position the “Delay” jumper on the X-X pins for that circuit.
4. Position the Control Unit near your receiver and install with double-stick tape. The Control Unit is sized to fit in the space allocated to a pneumatic air tank. Just install a plate in lieu of the air tank.
5. Plug the enclosed receiver lead (male/male) from the gear channel on your receiver to the RX port on the Control Unit. Using a heavy-duty servo extension is acceptable.
6. Optional – install an auxiliary battery in the airplane and plug into the AUX BAT port via a charging switch (see box below).

Amp-Out Circuitry:

The Robart Electric Series uses “Amp-Out” circuitry to sense the up/down travel limits or an obstruction such as a gear door. When the amp draw reaches a pre-programmed level, it completely shuts off the motor. Therefore, if a retract “hangs up” it will not drain the battery. If the retract amps out on an obstruction, simply use the transmitter gear switch to reverse the gear away from the obstruction.



Why Type 1 and Type 2:

The Robart Electric Series uses two different motors. The 590, 810 and 160 (tailwheel) retracts use a motor requiring Type 2 settings which lowers the Amp-Out threshold. These actuators have a “Type 2” sticker. All other actuators are Type 1. When using 4.8 volts, it is recommended to use Type 2 settings for all retracts.

Operating Type 2 actuators on Type 1 settings will damage the actuator and is not covered under warranty.

More Information:

For more detailed information, troubleshooting guide and “How To” videos, please see our website at www.robart.com.

Auxiliary Battery:

The Robart Electric Series can be run off the receiver battery or an auxiliary battery. To use an auxiliary battery, remove the jumper in the AUX BAT port and plug in the battery via a charging switch. Take care to maintain proper polarity when plugging in all leads. The speed of the retracts is voltage dependent. If you want to increase the travel speed, use a higher voltage battery.

Warranty:

One year parts, six months labor covering manufacturing defects. Warranty void if controller box or actuators are opened.