

**Stand Alone Actuator Systems**

**Installation Guide for FFI Actuator Projects**

This installation guide is for FFI actuators and power supplies that are not connected to building management or home automation systems.

**System Example: One DC actuator with power supply and maintained contact switch.  
 For reference only – not project specific.**

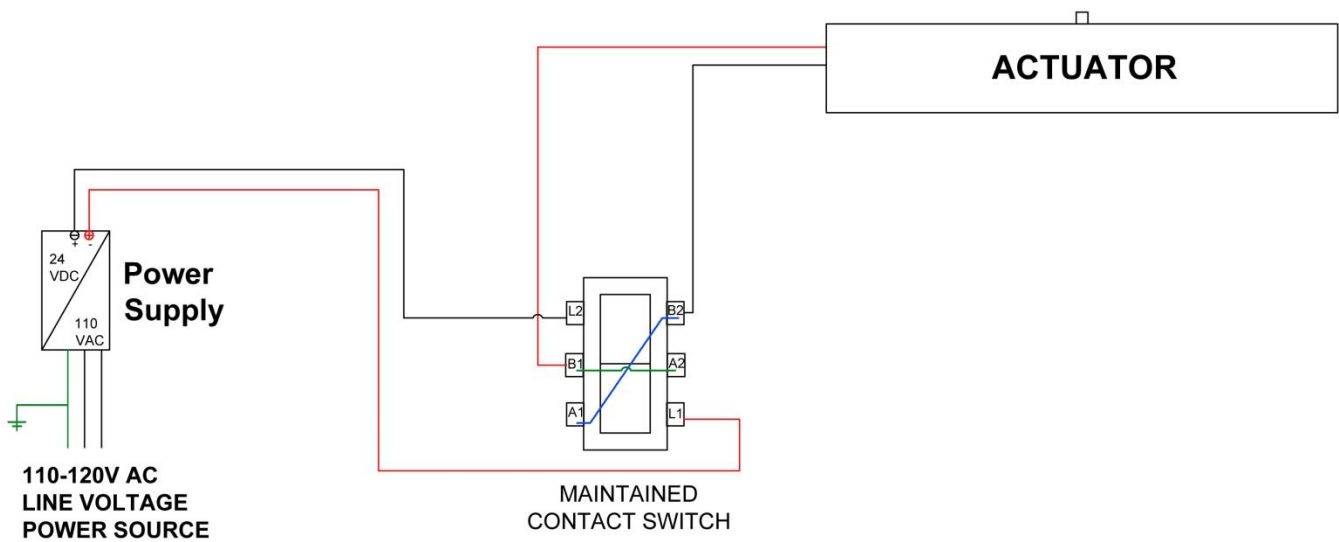


Diagram elements are not to scale.

**SDR-480-24 (20 Amp) Power Supply. More models available; ask for data sheet.**

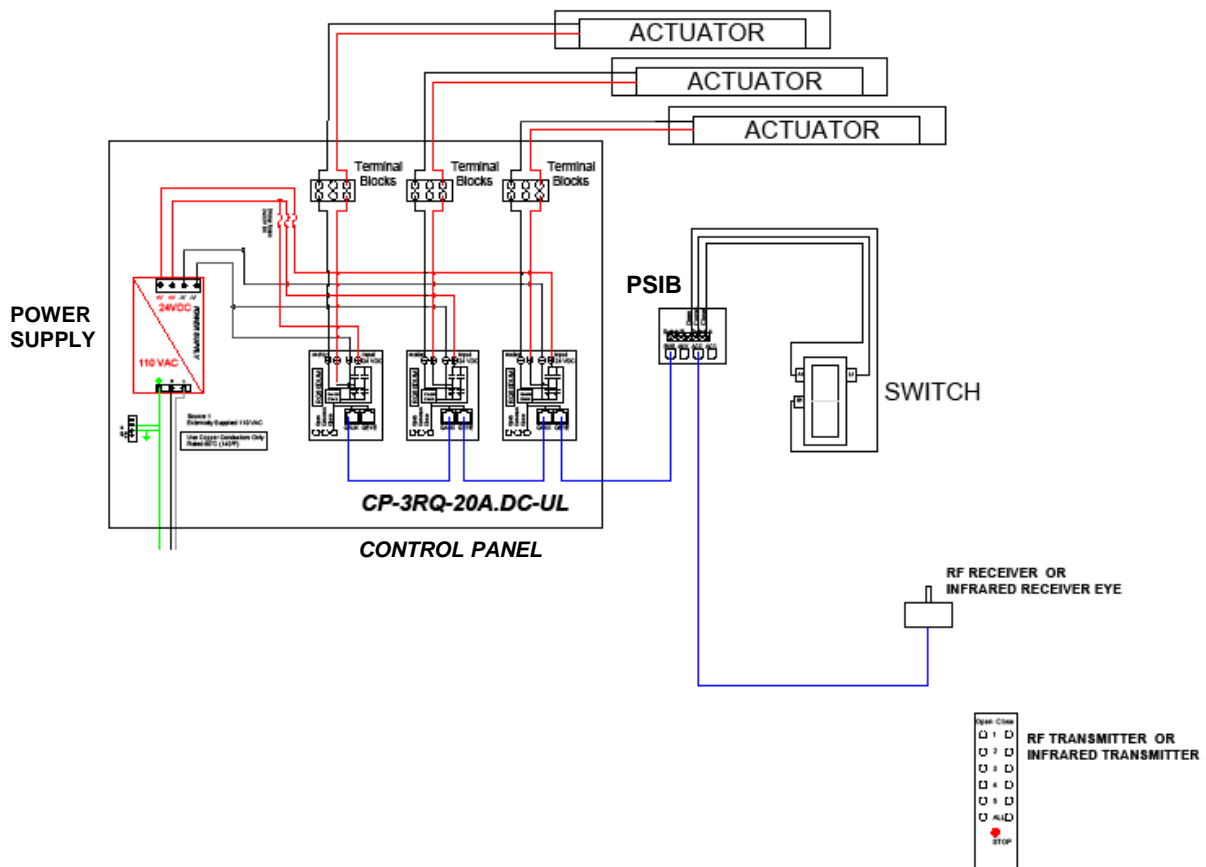


**FFI control panel containing a power supply and controller**



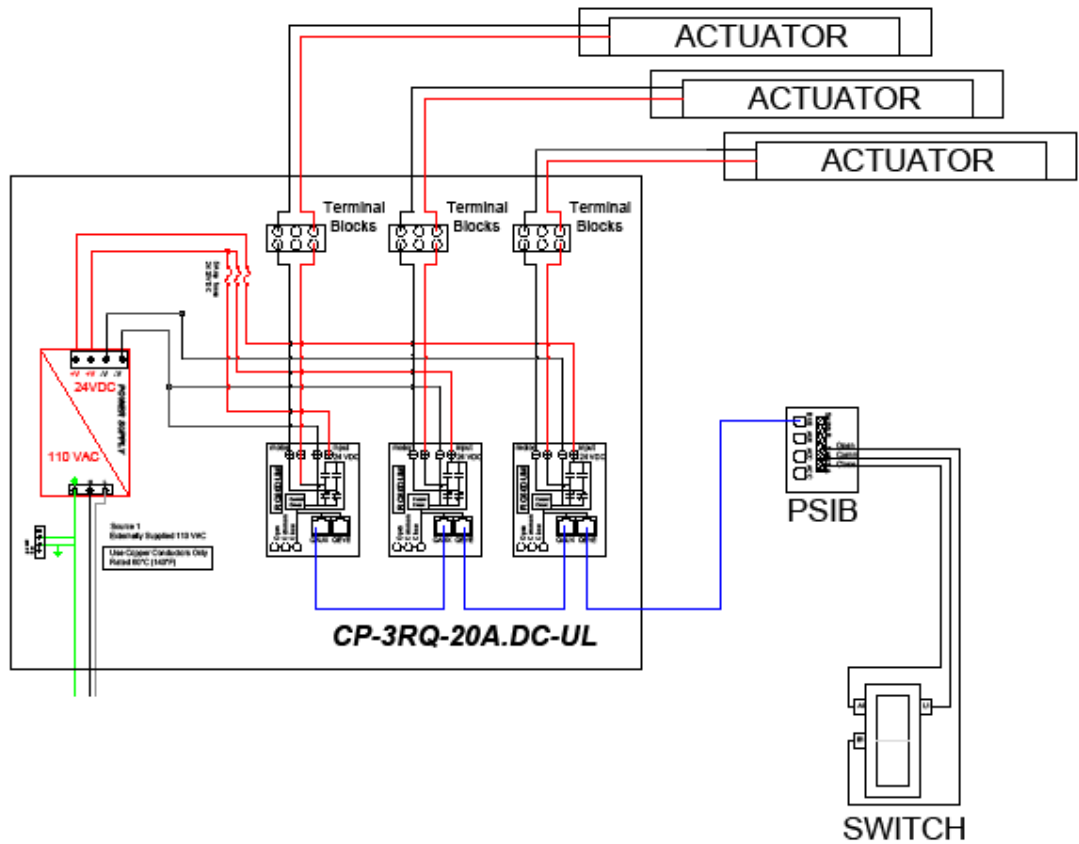
**⊘ Do not add non-essential components or disconnect internal wires or components!**

**System Example: Three DC actuators with FFI Control Panel with Power Supply and 3 RQ units, IR or RF receiver and transmitter, PSIB and momentary contact switch.**  
**For reference only – not project specific.**



PSIB accessory can be used in many instances, it is used more often when there are 2 or more RQ's.  
 Diagram elements are not to scale.

**System Example: Three DC actuators with FFI Control Panel with Power Supply and 3 RQ units, PSIB and momentary contact switch.**  
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## Actuator and Power Connection to the FFI Control Panel

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The FFI Control Panel has knock-outs on all sides for easy access to connect actuators and power.

### Actuator connection

- Connect to the terminal strip provided inside the FFI Control Panel.
- Connect positive wire to positive terminal, and negative wire to negative terminal.

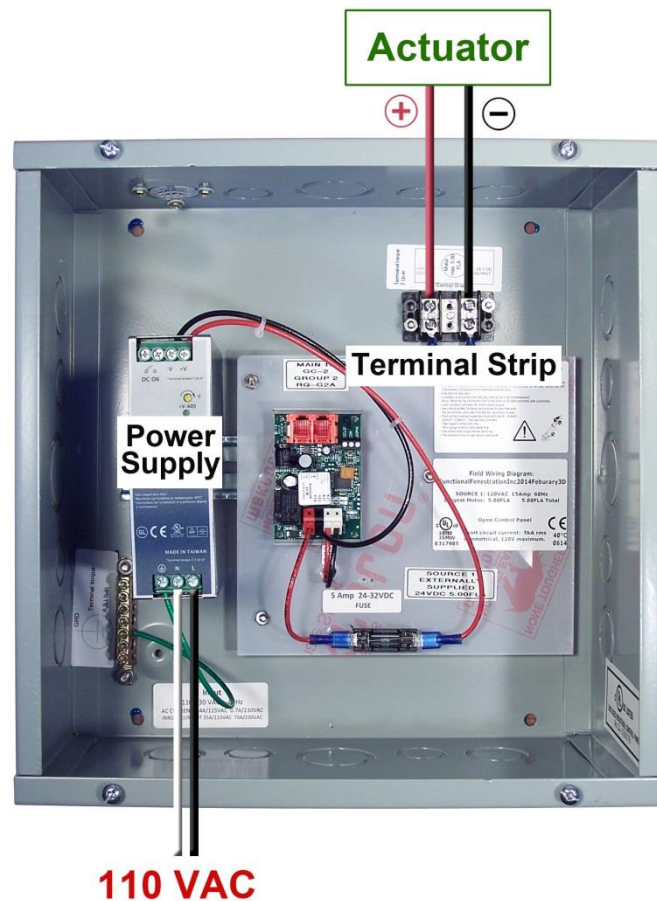
For actuator wire colors and details, see the Installation Guide for your actuator model.

### Power connection

- Connect to the internal power supply, 110 VAC from external source.
- Connect Black (hot) wire to L.
- Connect White (neutral) wire to N.

### FFI Control Panel

For reference only – not project specific. Contact FFI for details and options.  
RQ controller orientation in panel may vary; for more on this, see “RQ Controller Connections” page.



## RQ Controller Connections

The white label on top of the RQ controller card shows where all of the connections are located on the RQ controller. The white label shows where to find the connections for the following:

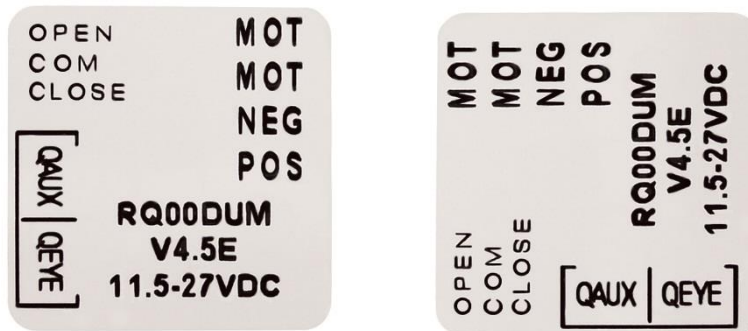
- The QAUX and QEYE ports.
- The dry contacts for OPEN, COMMON, and CLOSE.
- The Actuator connections (MOT) and Power connections (NEG and POS).  
 Note: Do not tamper with these, as they are pre-wired for every Control Panel.



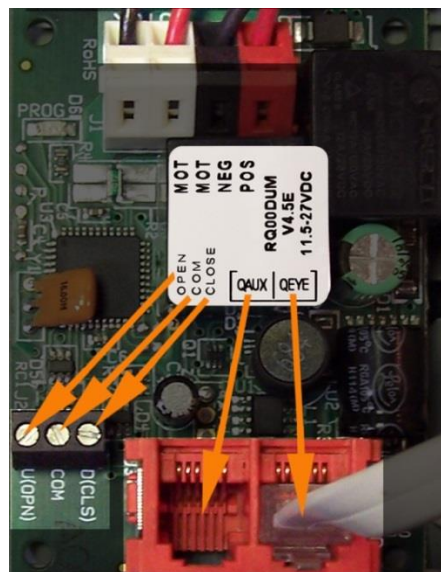
**Important:** The label may be in any of four orientations as you look at it. The orientation can change depending on the design of the Control Panel containing the RQ controllers. Please pay close attention to each RQ controller to be certain you are connecting to the correct contacts.

The QAUX and QEYE ports are particularly important to connect correctly, as it can be easy to confuse the two. Below are examples to illustrate this.

The white label may have different orientations as you look at different RQ controllers, as shown below.



The white label indicates the location of the connections on the particular RQ controller, as shown below. Connect only at orange arrow points; do not tamper with other wiring or components.

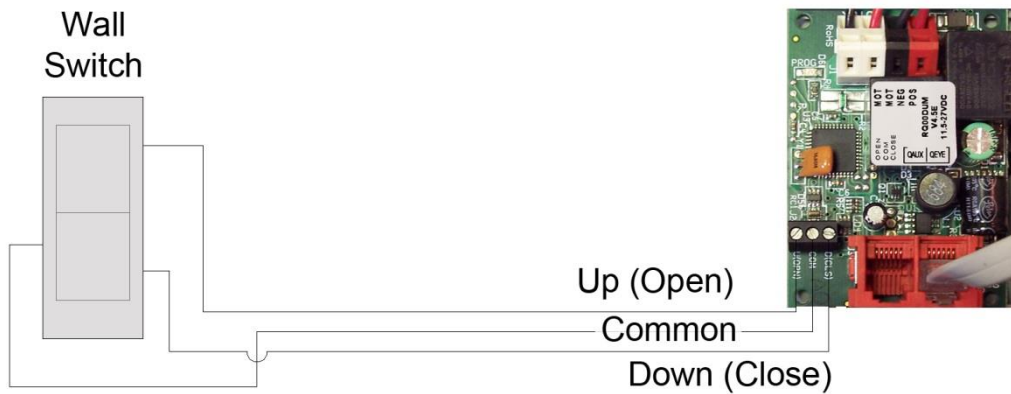


**Installing switches**

**Dry Contact Switch, Momentary: Single Pole Double Throw (SPDT)**

*Warning! Do not apply voltage to the dry contact inputs.*

**SPDT switch connection to a controller**



**SW5657-2W**  
**Momentary Switch**



**1223-2KL**  
**Momentary Switch with Key**

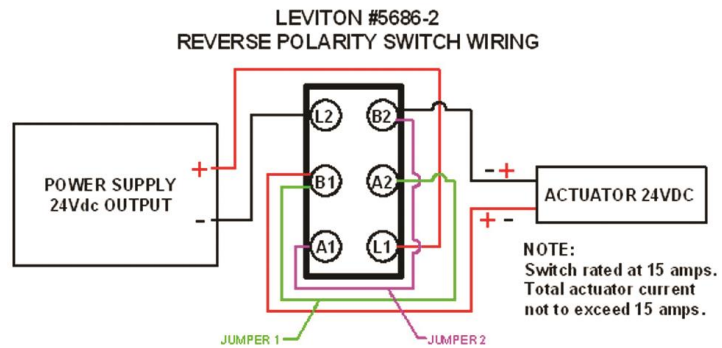


**1257-L**  
**Momentary Switch with Key**



**Dry Contact Switch, Maintained: Double Pole Double Throw (DPDT)**

**SW5686-2W Maintained Switch**



**Dry Contact Switch, Maintained: Single Pole Single Throw (SPST)**

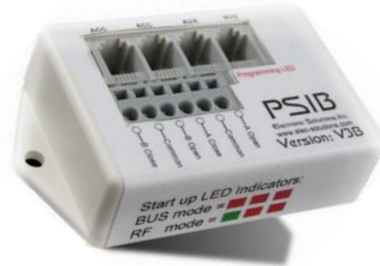


**Maintained contact switch with key  
SW.CK-KEY-02**

**Optional accessories**

**PSIB – Programmable Switch Interface in a Box**

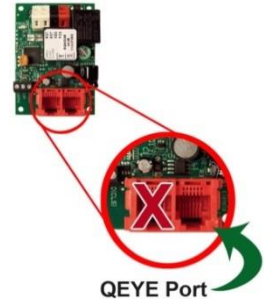
Can be used to connect a group of FFI Actuators to a local switch and bypass a central BUS command. Allows fewer wire runs, with decentralized control.



**Optional accessories (continued)**

**IR – Infra Red**

- IR Eyes must be plugged into a QEYE port on an RQ controller for power.
- There is an IR Eye on some hard wired keypads.
- Hex codes for IR are available from FFI.



**REB V2 IR Receiver**



**REJ V2 IR Receiver Eye**



**T5-5000 IR Transmitter**



**T1-5000 IR Transmitter**



**RE 2 FT V2 IR Receiver Eye**

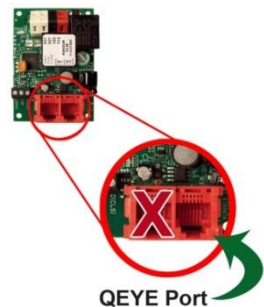


**RE 6 IN V2 IR Receiver**



**RF – Radio Frequency**

- Connect RR433 RF receiver to the QEYE port on an RQ controller, for power.
- To have the RF remote transmitter talk to the RF receiver, press the PRESS TO LEARN button on the RR433 followed by any key on the remote.
- For more details on RF, Z-Wave and ZigBee, ask FFI.



**RQ controller connected to RR433 RF receiver, talking with T5-3300 RF Transmitter**





## Troubleshooting

Questions? Troubleshooting? Call FFI at 800-677-0228. But first –

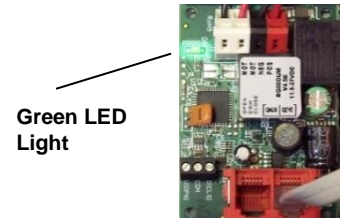
(1) **Always test your data cables.**

Use a cable tester to check all cables connected to the card and control panel. For more details, see FFI Cables Data Sheet.



(2) **Test for power.**

Check that the controller card is getting power. The controller card has a green LED that lights up briefly when it receives a command; if it is lighting up, then it is getting power.

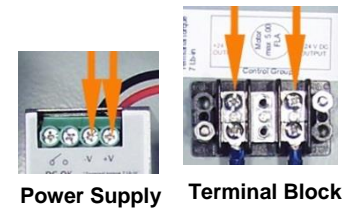


(3) **Test for continuity with a multi-meter.**

Use a multi-meter to check the continuity between the power supply and the terminal block(s). As shown on diagram to the right, touch the multi-meter to the screw-heads on the power supply and each terminal block in the control panel as indicated by the orange arrows. Test between these negative connections, then positive connections.

Do not disconnect any internal wiring.

If you do find a continuity problem, next test the fuse by probing at each end of the fuse.



Power Supply

Terminal Block



Fuse



(4) **Do not add non-essential components or disconnect internal wires or components!**

(5) **The FFI Field Power Switch is available for use with FFI DC actuators, for testing and installation.**



FFI Field Power Switch  
Part # SW.FPS.01

(6) **Contact FFI for assistance.**

Recommendations for FFI Actuators & Controls: FFI only recommends UL compliant systems. FFI is a UL Registered firm. Read FFI data sheets & installation guides before specifying project details. Project-specific needs vary depending on the number of actuators, electrical layouts, building management systems, distance between power supplies & actuators, and other details. Project specifications to comply with electric & building codes—for wire gauge, wire connections and run distance, conduits, junction boxes—must be arranged by the project electrical contractors.  
**Distribute this guide to all project parties, including electric contractors, architects and building management personnel!**