

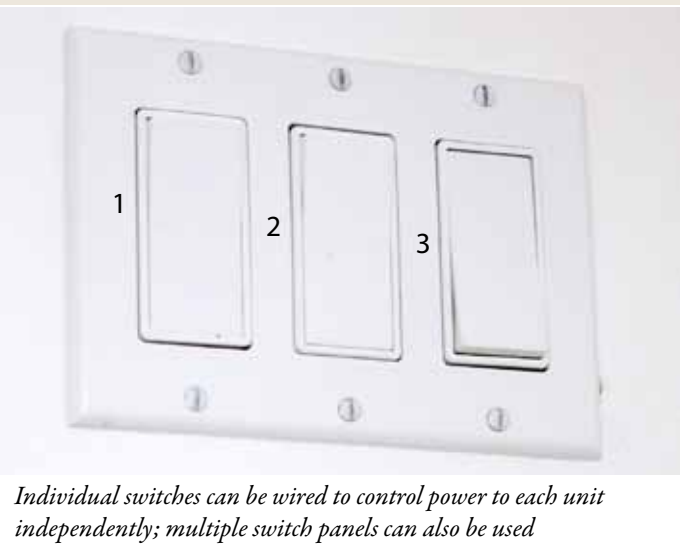
# Electrical Requirements and Motor Control Options



*Duplex electrical outlet installed inside the cavity outside the working area of the screen's roller, mesh and motor*



*Unfinished cavity and column showing mounting brackets, electrical connections, and U-channel placement*



*Individual switches can be wired to control power to each unit independently; multiple switch panels can also be used*

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All electrical work being done must be in accordance with all local and national electrical codes.

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## Planning for Power Requirements

Each motorized screen requires an electrical outlet mounted either on the right or the left side of the constructed cavity. These outlets should supply 110v with a maximum 2.1 amps of power to each motor. The placement of the outlets should be permanent but not protrude into the unobstructed cavity. They should remain accessible after the roller has been installed.

The simplest way to provide power for an Executive screen is to provide a duplex receptacle outlet near the cavity on the side selected for motor placement. Your Authorized Phantom representative will discuss the best scenario with you for which side to place these receptacles. Please note that all motor heads must be a minimum of 18" apart.

The installer will attach a three pronged plug to the end of the cable coming from the motor to plug into the receptacle. You should always be able to cut power to each Executive motorized unit independently for set up, programming and servicing purposes in order to prevent cross-programming. This includes the addition of a new remote control or a re-screen of the unit if required.

Accessibility to the motors and electrical connections can be achieved in several ways. For example, the cavity covers can all be removed and each motor not being affected by servicing can be unplugged leaving only the affected unit powered. The disadvantage to this approach is the extra time, expense and possible damage to the cavity covers if all of them need to be removed to service just one unit. In our experience the best and least expensive option is to have all the motorized screen receptacles run to one breaker so that all the power can be disconnected. The unit in need of servicing can then be powered by an extension cord after being unplugged from the receptacle in the cavity.

Alternatively all the units can be wired so that each one can be switched off or on by their own individual off/on switches located in an electrical room or storage closet. However this approach would leave the potential for the units to be inadvertently turned off via the switches which could result in an unnecessary service call.

# Electrical Requirements and Motor Control Options



*Cavity over arch being wired for 110V AC*



*Cavity wired for installation*



*Somfy tubular motor*

Each of these solutions can add costs, so it is important to budget for the chosen solution. You should ensure that any motor wires or connections are completely accessible and not buried or difficult to access. The motors for these screens are powered by standard 120V AC/60Hz power, and have the following characteristics:

- » 6 ft. (1,828.8 mm) Motor Cable
- » UL recognized
- » CSA approved
- » FCC approved
- » IP 44 rated

The motors are low amperage and therefore it would be acceptable to operate more than one Executive unit wired in series to a circuit providing it complies with local electrical codes.

Standard “house” wire (12/2 or 14/2 gauge cable) is acceptable for wiring Executive units. Electrical codes suggest that the electrician match the size of cable (if possible) to the existing house wiring. If you have only one power source for multiple units, the electrician can wire in parallel from one unit to the next providing that the rated capacity of the circuit is not exceeded. However each unit would still need to be powered down individually during installation or servicing.

## Control Options & Home Automation System Integration

Somfy, the world’s largest manufacturer of tubular motors, is the current supplier of our motors for the Executive motorized screens. The motor controls are rigorously tested both in the U.S. and at Somfy’s HQ in France where Underwriters Laboratories has certified the test facility.

## Radio Technology Somfy (RTS) Motors

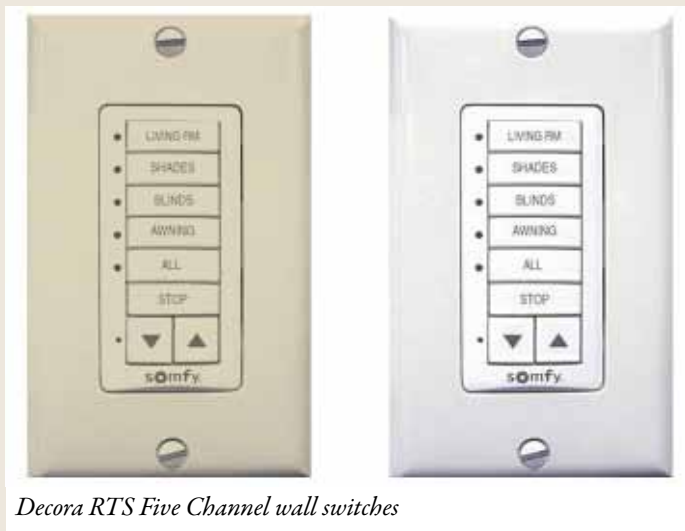
With RTS (Radio Technology Somfy) installation and user operation is simple. A radio remote control receiver is built into the motor providing the user with remote control capabilities without wiring or external receiver boxes. With the Altus RTS motor the end user can have wireless control on any motorized Executive unit via a radio remote control transmitter or a wireless wall switch within a range of up to 90 feet in open space and up to 65 feet through two concrete walls.

The Altus RTS motor can be parallel wired eliminating the need to connect switches or access a control device. It also eliminates time consuming and expensive long wire runs.

# Electrical Requirements and Motor Control Options



*Five channel RTS weather resistant remote controls*



*Decora RTS Five Channel wall switches*



The Altus RTS motor also features a user programmable intermediate stop position and operates on a narrow bandwidth that is less susceptible to interference (433.42 MHz) with 16 million rolling codes to provide maximum security.

Somfy motors are not designed for continuous operation and as a precaution are equipped with a built-in thermal overload protector to limit their operation to intermittent use only. This feature is in accordance with Underwriter Laboratories Inc. (UL) and Canadian Standards Association specifications. Maximum running time is approximately five minutes subject to operating and environmental conditions. Although these motors are designed for indoor and outdoor use they must be protected from direct weather elements like rain or sleet and should incorporate a drip loop when installed to prevent moisture running directly into the head of the motor.

## Remote Controls

Phantom Screens offers a complete line of Somfy remote controlled motors in both hard wired and wireless controlled versions. Radio remote controls provide great range and receivers can be mounted out of sight as the signal can be transmitted through walls and floors.

Remote controls add functionality, as well as eliminating wall switches, relieving some of the wiring requirements during construction. There is a remote control solution for every motor or group application Phantom Screens carry. There are two remote control options available: the Telis RTS which is a hand held, surface wall mounted, pool side water resistant or the Deco-Flex Decora style in-wall mounted remote. Both of these remote controls allow you to program individual screens or a group and/or master control to make operation simple as well as customizing the system to meet virtually any design requirement. A single remote control can operate an infinite number of units and any one motor can accept up to 15 different remotes or controls.

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Please note that any Decora-style in-wall remote controls, though not hard wired, must be mounted in a plastic Decora box. DO NOT use a metal Decora box as this will interfere with the remote control transmitter.

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# Electrical Requirements and Motor Control Options



*Somfy wind sensor*

## Automatic Controls

Our motors can be controlled automatically based on the sun, wind or time of day as well as through home automation systems.

The intelligent environmental controls work by responding to the intensity of the sun, the speed of the wind or simply the time of day. They can control a single motor or multiple motors. By setting the desired sun or wind threshold or time of day, the screens can be operated even when the home is unoccupied.

Phantom Screens can also provide RTS home automation integration systems, including specific wiring diagrams for specific home automation companies to integrate any or all of the motors into almost any available system. Our RTS home automation control boxes are low voltage running RS232 or RS485 to the home automation controller and are typically mounted near or next to the motherboard. We are able to easily integrate with almost any home automation system.



*Somfy Sunis WireFree™ RTS sensor (for sun level)*