

Wireless Controls – Networked



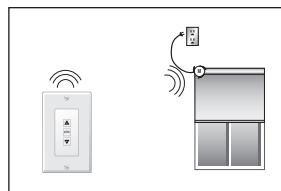
Burnham Conference Room, San Diego, CA
McCulley Group – Architects

Wireless Controls

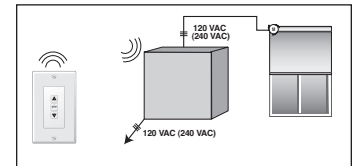
MechoShade Systems possesses a line of wireless, radio frequency (RF) controls. These products offer enhanced functionality for motorized shades without requiring the wiring and installation costs associated with low voltage – networked or low voltage – hardwired controls. The radio frequency signal communicates directly between the user interfaces and the motors or the controllers actuating the motors without any wires. Therefore, aside from wiring line voltage power for the motors there is no control wiring; thus enabling these products to offer solutions for retrofit, renovate or new construction opportunities where installing control cabling behind the drywall is not an option.

MechoShade's RTS™ wireless control solutions come in two varieties. The first employs wireless, networked control for standard, line voltage (120/240 VAC, 50/60 Hz) tubular motors.

With these solutions power for the motors is run to the RTS-equipped controller where wireless signals from switches and other wireless devices (photosensors, timers, etc.) are received to control the distribution and application of power to the motor. This solution enables the benefits of wireless control with standard, non-proprietary motors. It also has certain wiring advantages where the motor being controlled is distant or shielded in



some fashion from the wireless switch or device controlling it. The other product solution employs wireless, line voltage (120/240 VAC, 50/60 Hz) motors. Power is run to the RTS-equipped motor which communicates directly with wireless switches, photosensors, timers, etc. to control the motor's position. This solution makes wiring power to the motors more efficient since multiple motors can be daisy-chained to a common line voltage power connection.



Flexible and Less Costly to Install

Unlike infrared (IR) wireless technology (like your TV remote control), RF wireless technology transmits in an omnidirectional manner and therefore does not require the user to “aim” a transmitter at a receiver in order to cause something to happen. This capability enables the positioning of RF switches virtually anywhere in a room without forcing the transmitting and receiving faces to line up. RF energy also does not attenuate as quickly as IR thus enabling ranges of over 60 feet in typical installations! Couple this with the fact that RF technology can transmit through most non-metallic materials (like drywall) and now the system is capable of controlling motors in more than one room on potentially more than one floor – without requiring any control wiring!

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MechoShade Systems, Inc.
42-03 35th Street, Long Island City, NY 11101
Telephone: 718-729-2020
Fax: 718-729-2941 / 800-899-8081

E-mail: info@mechoshade.com
Internet Web Site: <http://www.mechoshade.com>

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Wireless Controls

Multi-Level Control Groups

RTS™ wireless solutions provide distributed intelligence to the system which means that each device or node (motor, controller or user interface) uses a microprocessor to enable it to perform as an active member of the wireless control network. In order to be part of the network the devices possess unique addresses. Each motor or controller can be programmed to respond to up to 6 different control groups. Each control group can enable different levels of motor/shade combinations ranging from individual motor control to group/overlapping group control and finally to master control. Since the same motor/shade can be part of any combination of these control groups we refer to its capability as multi-level control.

Advanced Control Logic

MechoShade's RTS systems offer one-touch positioning capability where a single momentary button press will cause the shade to move directly to a position on the window. Three alignment points are provided including one mid-window stop position which is programmable. Thus enabling assured alignment opportunities with surrounding shades as well – REGARDLESS OF VARYING WINDOW HEIGHTS.

Seamless Integration

MechoShade's RTS solutions are designed to be open, interoperable devices which can work in coordination with other manufacturers' controllers or systems to provide enhanced functionality and features. This can include

operation with Lighting controllers, HVAC controllers, A/V controllers, Security controllers, Life/Fire/Safety controllers or more generally into Building Management Systems (BMS). The methods available for seamless integration of MechoShade's RTS motors and controllers into these other systems include dry contact input and output devices. MechoShade also offers a variety of RTS-equipped sensors and timers to provide automated convenience, comfort and/or energy management control enabling RTS to support for example Title 24 or Green Building applications. However, the dry contact integration products also enable third party devices to be employed to help supplement these networks.

Safety and Reliability

MechoShade's RTS product line also offers advanced security features employing 20 million rolling address codes to prevent unauthorized operation into the system and to help prevent transmitters from operating unaddressed motors.

All of MechoShade's wireless control solutions meet UL325 and CSA 22.2 requirements. Furthermore, the RTS components are further certified by the FCC to operate at 433.25 MHz.

Although RF signals can transmit through most walls it does not travel through metal. Therefore, the metallic framing structure of the building and the furnishings within a room can affect the operational range, can create signal dropout areas and even eliminate the ability for the system to communicate altogether. In addition, RF signals from the RTS system and from other systems can interfere with each other if proper component and system selection has not taken place which can hamper the reliability and functionality intended within the user's environment. For many of these reasons hospitals and healthcare facilities typically will not permit the use of RF systems within their environment. Government facilities and other applications that are concerned about security are also often resistant to employ wireless solutions.

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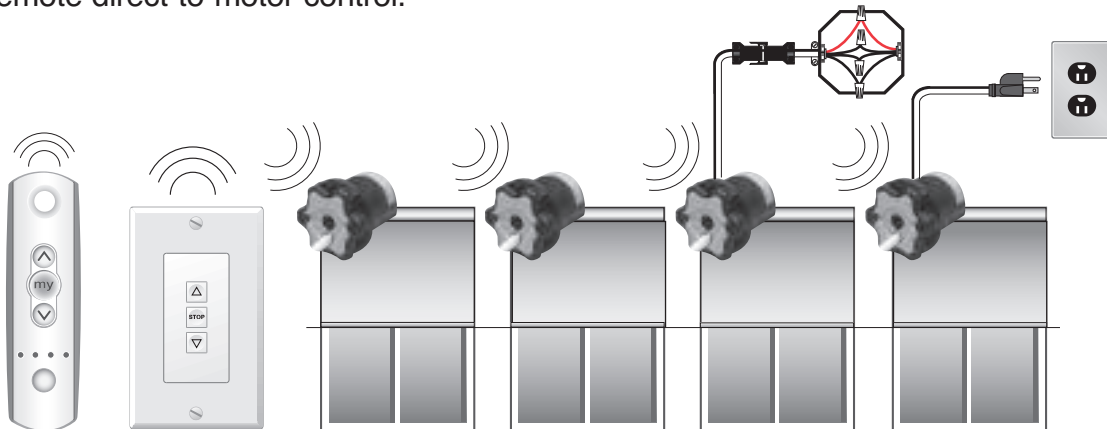
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Wireless Controls

RTS™ Motors and Controls

Wireless remote direct-to-motor control.



The RTS™ system offers direct-to-motor radio frequency wireless control to any RTS intelligent motor within a 65 foot range of an RTS equipped switch or remote.

Features:

- An integrated system of new wireless RF controllers including the RTS hand-held transmitter and RTS wall switch.
- Eliminates the need for wires between switch and motors.
- The RTS tubular motor, with built in antenna features user programmable top and bottom limit switches, can memorize up to 12 transmitters, one (1) intermediate stop position and is controlled by a special radio frequency which prevents interference from other systems.
- With the RTS four channel hand-held transmitter or RTS wireless wall switch you can program individual, group and master control so that with the touch of a button you can control all the shades in the room or on the entire floor (within the range).
- For greater security the RTS control points are equipped with 16 million rolling codes which dramatically reduce interference. You can also choose and change the position of the control point according to your needs.
- The RTS system not only provides the ease and convenience of a remote, but also eliminates the need for long wire runs to connect switches or the need for accessibility to a control unit.
- The RTS motors can be wired in parallel.

* RF control should be evaluated for acceptability in Healthcare, government, airport and/or other facilities where RF signals may interfere with life critical operating systems.

Electrical Specifications

Star Head Motor:

115 Volts	60 HZ	2.1 Amps	240 Watts Maximum
230 Volts	50/60 Hz.	1 Amp	240 Watts Maximum

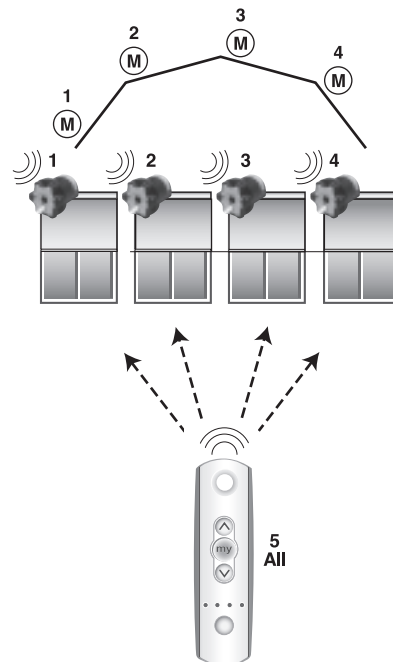
RTS hand-held RF transmitter:

3V Lithium battery, type CR 2430

RTS RF Wall Switch:

3V Lithium battery, type CR 2430

Operating frequency: 433.42 MHz, and has a range of 90 ft. (30m) in open space and 65 ft. (20m) through two concrete walls.



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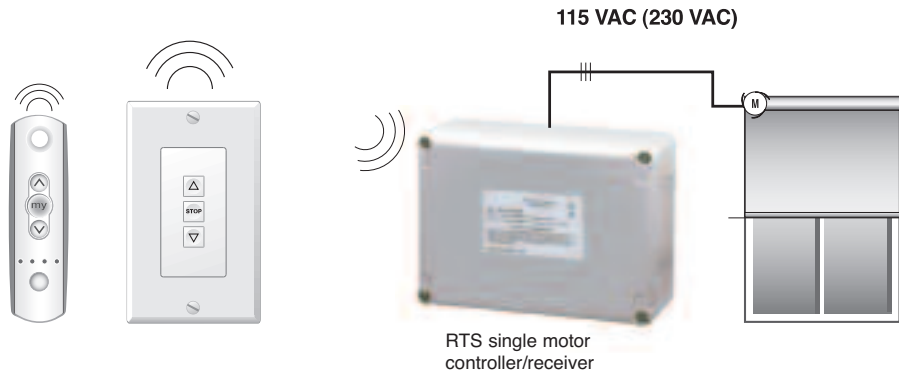
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Internet Web Site: <http://www.mechoshade.com>

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Wireless Controls

Standard Motor RTS™ Control System



The RTS™ Single Motor Controller provides remote control of any standard motor within a 65 foot range of an RTS-equipped switch or remote. This controller offers all the same ease and convenience of the RTS™ System without the need for an intelligent motor.

RTS features:

- Wireless control of non-proprietary AC motors.
- An integrated system of new wireless RF controllers including the RTS hand-held transmitter and the RTS wall switch.
- Eliminates wiring between switch and controller.
- With the RTS four channel hand-held transmitter or RTS wireless wall switch you can program the Inteo receiver/controller for individual, group and master control so that with the touch of a button you can control all the shades in the room or on the entire floor (within the range).
- For greater security the RTS control points are equipped 16 million rolling codes which dramatically reduce interference. You can also choose and change the position of the control point according to your needs.
- The RTS system not only provides the ease and convenience of a remote, but also eliminates the need for long wire runs to connect switches.
- The RTS control receiver provides up to 2 user-programmable intermediate stop positions.

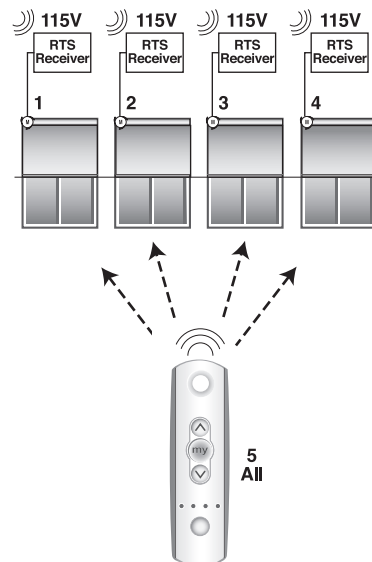
Electrical Specifications

RTS Receiver: 120 VAC

RTS hand-held RF transmitter:
3V Lithium battery, type CR2430

RTS RF Wall Switch:
3V Lithium battery, type CR2430

Operating frequency: 433.42 MHz, and has a range of 90 ft. (30m) in open space and 65 ft. (20m) through two concrete walls.



* RF control should be evaluated for acceptability in Healthcare, government, airport and/or other facilities where RF signals may interfere with life critical operating systems.

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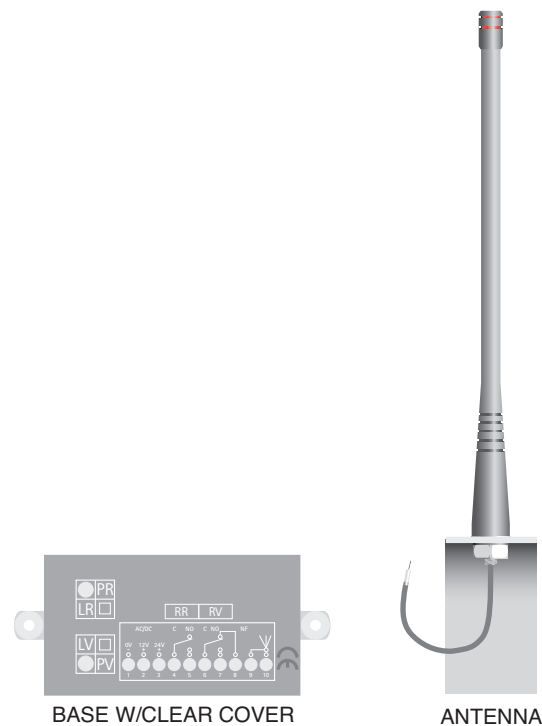
Electronic Control Systems: RTS™ Wireless

RTS Peripherals

RTS™ Receiver with Contact Outputs:

This RTS radio frequency receiver allows operation of low voltage-hardwired controls from RTS-equipped switches, transmitters, timers and other accessories. It offers dry contact outputs controlled by RTS radio signals.

P/N: RTSR 0450 CO CL



RTS Sun/Wind Sensor and Remote Receiver:

Single motor control. Set includes an integrated radio receiver, sun sensor, wind sensor and low voltage switch inputs. Solar brightness is continuously monitored, triggering the control to raise/lower the shades automatically as needed.

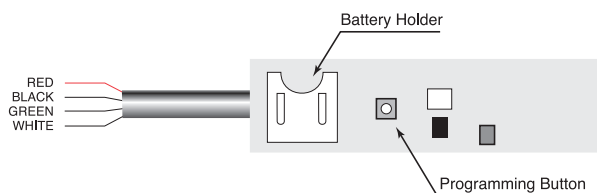
P/N: STRS 1051 KT 01



RTS Dry-Contact Interface:

The RTS Dry-Contact Interface enables wireless control of RTS motors and controllers from home automation or other third party systems.

P/N: INTE 0454 DR CO



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