

**2400 MHz
3-Function Remote Control Receiver
(with On-Board 10-Amp Relays)**

The RCR24SS Series remote control receivers are designed to provide a quick and cost effective solution for a variety of wireless remote control relay applications. The receiver includes an external antenna, decoder and three 10-Amp on-board relays. The receiver utilizes spread spectrum technology and offers excellent electromagnetic interference (EMI) tolerance, often found in AC and DC motor applications. Units are designed to work with Applied Wireless 2400 MHz transmitters. These products will not interfere with or be affected by Wifi systems. This is a learning receiver, and can learn up to 60 different transmitters.



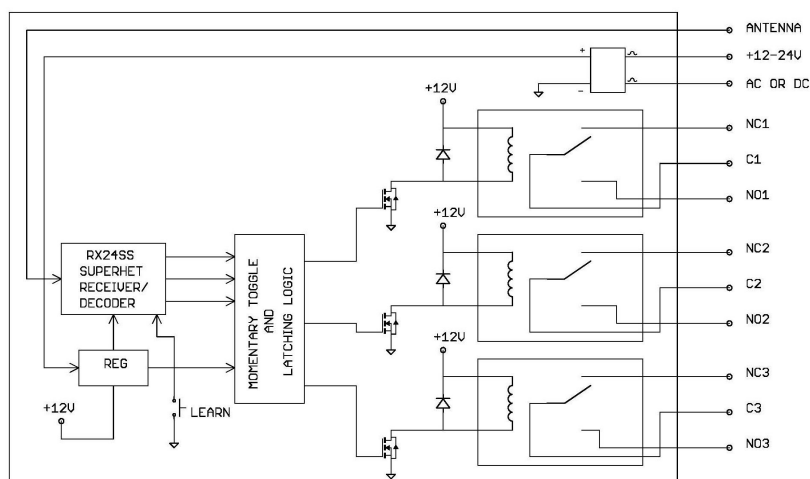
Features

- High EMI Tolerance
- Three 10-Amp SPDT On-Board Relays
- Long Range – 500 ft¹ And More
- Integrated Code-Learning Decoder
- Can Learn up to 60 Transmitter IDs
- 4 Billion+ Unique Transmitter IDs
- Momentary, Latched, or Toggle Operation
- 12-24 Volt DC or AC Operation
- LED Output Activation Indicators

Typical Applications

- Remote Control
- Industrial ON/OFF Applications
- Motor Control
- Solenoid Control
- Lighting Control
- Access Control
- PLC Activation

Block Diagram



¹Unobstructed line of sight range, when used with included 1/4-wave antenna. Longer range can be achieved with higher gain antennas. See Antenna Options table.

Transmitter Models

Specification / Model	KTX24SS Series	PTX Series	KTXW24SS6-x	NTX24SS Series
Frequency (MHz)	2400-2483	2400-2483	2400-2483	2400-2483
Matching Receiver	RCR24SS-3R Series	RCR24SS-3R Series	RCR24SS-3R Series	RCR24SS-3R Series
Transmitter Size (Inches)	2.4 x 1.45 x 0.5	2 x 3 x 0.9	3.4 x 2.6 x 1.0	3.4 x 2.6 x 1.0
Case Type	Keyfob	Dashboard-Portable	Handheld, Watertight	NEMA Wall Mount
No. of Buttons	1, 2, or 3	1	1, 2 or 3	1 or 2
Temperature Range (Deg C)	-20 to +60	-20 to +60	-20 to +60	-20 to +60
Battery	2032 Coin Cell	NA	123	NA

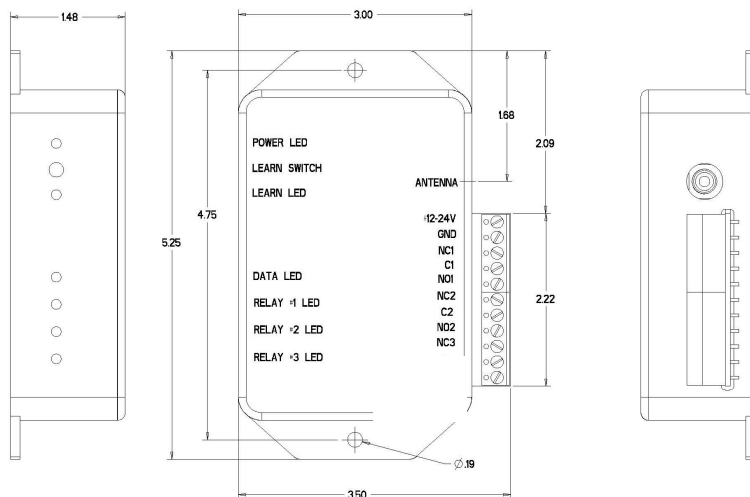
Receiver Models

Specification / Model	RCR24SS3R	RCR24SS3R-OPT14	RCR24SS-N24	RCR24SS-N230
Case Type	ABS	NEMA, POLYCARB	NEMA, POLYCARB	NEMA, POLYCARB
Supply Voltage	12-24 VAC/VDC	12-24 VAC/VDC	12-24 VAC/VDC	90-264VAC
Enclosure Size (Inches)	5.25 ¹ x 3.0 x 1.48	7.6 ¹ x 4.625 x 2.44	7.6 ¹ x 4.625 x 2.44	7.6 ¹ x 4.625 x 2.44
No. of Relays	3	3	3	3
Cover Type		Clear	Clear	Clear
Optional		4-Conductor Cable Included	4 or 2 and 4 Conductor Cables Optional	4 or 2 and 4 Cond. Cables Optional
Options (add as suffix)		Gray Cover	Gray Cover	Gray Cover
-M Option (Multi-code)	Receiver responds to all address codes in default frequency set. No "Learning" required.			
-AC1	w/External Surge Supression			

Note: 15 Alternate Frequency Sets Available. Contact factory for details.

Electrical Characteristics

Sym	Parameter	Min	Typ	Max-Std	Max-15-Amp Option	Unit
I _{IDLE}	Operating Current, Unactivated		20	25	25	mA
I _L	Operating Current, Activated (single relay)		50	60	60	mA
	Relay Contact Ratings at 28 VDC			10	16	Amps
	Relay Contact Ratings at 277 VAC			10	16	Amps
f _c	Operating Frequency Range		2400-2483			MHz
Z _{out}	Antenna Input Impedance		50			Ohms
T _{op}	Operating Temperature	-20		+60	+60	C
	Number of Address Codes			4.2	4.2	Billion

Package Dimensions – RCR24SS-3R


¹ Including Mounting Flanges

Specifications subject to change without notice or obligation.

Learn Mode Instructions

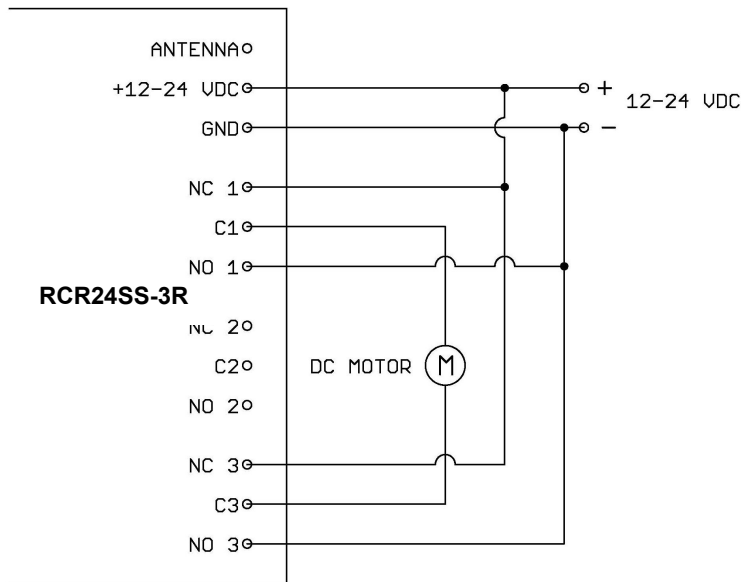
The receiver will learn up to 60 transmitter IDs.

To learn a transmitter:

1. Power up the receiver.
2. Momentarily press the learn button; the light LEARN light will go on.
3. Press any button on the transmitter until the LEARN light goes out.
4. To learn another transmitter, repeat the process.

Codes cannot be deleted individually. The entire list of learned codes can be cleared by pressing and holding the LEARN switch for at least 10 seconds and then releasing it. The LEARN light will flash on and off for a few seconds to indicate the entire list of learned transmitters is empty.

Application Circuit – DC Motor Forward/Reverse Circuit



ANTENNA OPTIONS

Model	Description	Gain (dBi)	Notes
800253A-3-RC	110mm Rubber Duck	3	Included
800253A-5-RC	190mm Rubber Duck	5	

RELATED PRODUCTS

600279-8	ANTENNA BULKHEAD EXTENSION CABLE, 8.5"
600279-L100E-xx	ANTENNA BULKHEAD EXTENSION CABLE, xx=12, 18 or 24 Inches.
600279-xxF-L200	ANTENNA BULKHEAD EXT. CABLE, xx=3, 6, 10, 15, 20 or 25 Feet.
OPTION 14	NEMA ENCLOSURE WITH CABLE GLANDS

Application Note: The number of buttons on the KTX transmitter determines which relay in the RCRC-3R receiver responds to each button, as illustrated below:

Transmitter Type	Transmitter Button Number	Corresponding Relay in RCRC-3R Receiver
Single Button KTX	1	Relay #2
Two-Button KTX	1	Relay #1
	2	Relay #3
Three-Button KTX	1	Relay #1
	2	Relay #2
	3	Relay #3

RCR24SS Series

Relay Response Mode Selection Jumpers (SV1, SV2 & SV3)

RCR24SS remote control receivers may be configured for three different output response modes:

1. Momentary Mode (factory-default),
2. Latched Mode, or
3. Toggle Mode (sometimes called “Push On / Push Off” Mode).

The configuration selected applies to all three of the receiver’s on-board relays. This section describes the characteristics of, and configuration settings for, the three Relay Response Modes.

<p>SV1</p> <table border="0"> <tr><td>M1</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Momentary</td><td>Relay 1 Mode</td></tr> <tr><td>T1</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Toggle</td><td>Control Settings</td></tr> <tr><td>L1</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Latching</td><td></td></tr> <tr><td>U2</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 2</td><td></td></tr> <tr><td></td><td><input type="radio"/></td><td><input type="radio"/></td><td>No Connection</td><td></td></tr> <tr><td>U3</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 3</td><td></td></tr> </table> <p>SV2</p> <table border="0"> <tr><td>M2</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Momentary</td><td>Relay 2 Mode</td></tr> <tr><td>T2</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Toggle</td><td>Control Settings</td></tr> <tr><td>L2</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Latching</td><td></td></tr> <tr><td>U1</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 2</td><td></td></tr> <tr><td></td><td><input type="radio"/></td><td><input type="radio"/></td><td>No Connection</td><td></td></tr> <tr><td>U3</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 3</td><td></td></tr> </table> <p>SV3</p> <table border="0"> <tr><td>M3</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Momentary</td><td>Relay 3 Mode</td></tr> <tr><td>T3</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Toggle</td><td>Control Settings</td></tr> <tr><td>L3</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Latching</td><td></td></tr> <tr><td>U1</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 2</td><td></td></tr> <tr><td></td><td><input type="radio"/></td><td><input type="radio"/></td><td>No Connection</td><td></td></tr> <tr><td>U2</td><td><input type="radio"/></td><td><input type="radio"/></td><td>Unlatch with 3</td><td></td></tr> </table>	M1	<input type="radio"/>	<input type="radio"/>	Momentary	Relay 1 Mode	T1	<input type="radio"/>	<input type="radio"/>	Toggle	Control Settings	L1	<input type="radio"/>	<input type="radio"/>	Latching		U2	<input type="radio"/>	<input type="radio"/>	Unlatch with 2			<input type="radio"/>	<input type="radio"/>	No Connection		U3	<input type="radio"/>	<input type="radio"/>	Unlatch with 3		M2	<input type="radio"/>	<input type="radio"/>	Momentary	Relay 2 Mode	T2	<input type="radio"/>	<input type="radio"/>	Toggle	Control Settings	L2	<input type="radio"/>	<input type="radio"/>	Latching		U1	<input type="radio"/>	<input type="radio"/>	Unlatch with 2			<input type="radio"/>	<input type="radio"/>	No Connection		U3	<input type="radio"/>	<input type="radio"/>	Unlatch with 3		M3	<input type="radio"/>	<input type="radio"/>	Momentary	Relay 3 Mode	T3	<input type="radio"/>	<input type="radio"/>	Toggle	Control Settings	L3	<input type="radio"/>	<input type="radio"/>	Latching		U1	<input type="radio"/>	<input type="radio"/>	Unlatch with 2			<input type="radio"/>	<input type="radio"/>	No Connection		U2	<input type="radio"/>	<input type="radio"/>	Unlatch with 3		<p>To implement any of the three modes, place a horizontal jumper at the location of the desired mode in the first 3 rows.</p> <p>The UNLATCH jumpers in the last three rows should be left vertical (not connected) unless the LATCHING mode is selected.</p> <p>For example, if connector SV1-U2 has a horizontal jumper, button 2 on the transmitter will turn RELAY 1 off unless it is already off. Jumpers at L1, U2 and L2, U1 would configure Relay 1 and 2 as a latching pair.</p>
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“Off” Response Time Jumper (J6)

Response time is the time from button de-press to relay de-activation.

SLOW (default setting): 500ms.

FAST: 20ms

Learned Address Codes/All Address Codes Jumper (J7)

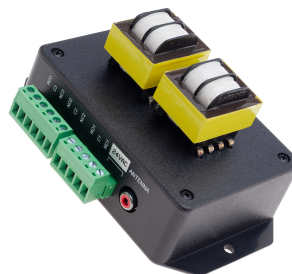
In the LEARNED mode, the receiver only responds to address codes from transmitters “Learned” into the receiver. See “Learn Mode” instructions.

In the MULTICODE mode, the receiver “learn” function is disabled and the receiver responds to all KTX24SS transmitter address codes for the set frequency.

Optional Configurations



RCR24SS-3R-OPT14
RCR24SS-3R-N230
RCR24SS-3R-N24



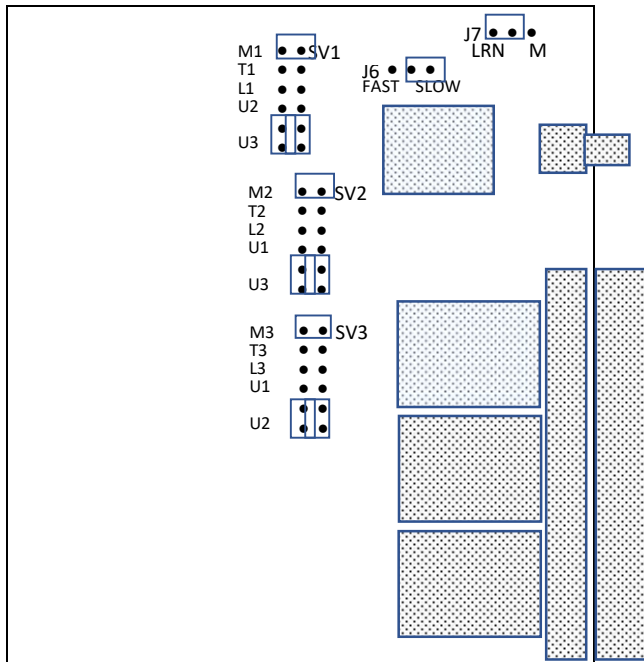
RCR24SS3R-AC1
External Surge Suppression

Specifications subject to change without notice or obligation.

www.appliedwireless.com • Tel: (805) 383-9600 • Fax (805) 383-9001

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Jumper Settings Layout



SV1-Relay 1 Control Mode Settings- Shown set for MOMENTARY (Default setting)

SV2-Relay 1 Control Mode Settings-Shown set for MOMENTARY (Default setting)

SV3-Relay 1 Control Mode Settings-Shown set for MOMENTARY (Default setting)

J6- Response Time Setting-Show set for SLOW (Default setting)

J7- Learning/Multicode Setting- Shown set for LEARNING