



GAMA Electronics, Inc.

WEB: www.gamainc.com
E-MAIL: gama@gamainc.com

P.O. Box 1488 Crystal Lake, IL 60039 TEL: (815) 356-9600 FAX: (815) 356-9603

RF Receiver Model T-SC-12V Instruction Manual

Overview:

Model T-SC-12V is a 12VDC Polarity Reversing Remote Control with speed control and is designed to provide variable speed bi-directional control of DC motors. Output relays rated at 30A @12VDC. The outputs can be programmed for either momentary or latching operation. In the momentary mode, the outputs are active only when either the up or down arrow button on the transmitter is depressed. In the latching mode, pressing the up or down arrow button starts the motor and it will continue to run until the stop button is pressed. This control incorporates a waterproof transmitter. By utilizing pulse width modulation, the output voltage and thus the speed of the DC motor can be varied from 1% to 100% power in 1% increments. The receiver is housed in a metal enclosure and the electronics are encapsulated for waterproofing. The control is suitable for use in harsh environments. Operating temperature range - 0° F to 160° F. Up to 12 transmitters can be used with each receiver. The control uses code learning to program transmitters. Transmit range is greater than 300 feet under normal operating conditions. Additionally, there are three lead wires that can be connected to an external switch which allows the receiver to be operated without using the remote transmitter. **The black switch lead wire is common.** With the auxiliary switch leads, the motor will operate at the last speed selected on the transmitter.

Maximum Ratings: Power for the receiver can be in the range of 10 to 15Vdc. The receiver is reverse polarity protected. The relay contacts are rated at 30 Amps @ 13.8Vdc. **Power consumption:** 10mA when the relays are de-energized, 45mA when the relay is energized.

Input Power Connection: 12Vdc power connects to the 12V and Ground terminals. Transmitter uses an A23 battery.

Output Connection: The output of the receiver is connected to the motor + & - terminals.

Momentary or Latching Output: The transmitter and receiver can be configured for momentary or latching operation. In the momentary mode, the outputs are active only when either the up or down arrow button on the transmitter is depressed. In the latching mode, pressing the up or down arrow button starts the motor and it will continue to run until the stop button is pressed.

Programming Instructions: Each transmitter has its own unique internal address. The receiver needs to be programmed to respond only to the specific transmitter it is intended to operate with. The following steps configure the receiver to operate with a transmitter or transmitters.

1. The long-range antenna must be plugged into the receiver and power must be connected. Locate the pushbutton switch labeled "PROGRAM" on the receiver. Press and hold this switch until the red LED next to the program switch illuminates (approximately 3 seconds). The receiver is now in the transmitter program mode, release the switch. At this point all previously programmed transmitter addresses are erased from the receiver's memory.
2. For momentary operation, press and release the "UP Arrow" or "DOWN Arrow" switch on the transmitter. The red program LED on the receiver will blink once. For latching output, press and release the same switch a second time, the program LED will blink on and off rapidly.
3. Repeat previous step for additional transmitters that you desire the receiver to respond to.
4. The receiver will return to normal mode if no transmitter switches are pressed for 5-seconds. The receiver is now in the normal mode of operation. This completes the programming instructions. The receiver will retain all its programming even when power is removed.

Transmitter Operation: The two arrows next to the display adjust the speed of the motor. Select the desired speed and then press either the up or down arrow button to start the motor. In the momentary mode, the outputs are active only when either of these buttons on the transmitter is depressed. In the latching mode, pressing the up or down arrow button starts the motor and it will continue to run until the stop button is pressed. In the latching mode the output speed of the motor can be adjusted by changing the arrow switches next to the display, without stopping the motor.