

Short Range Advanced System #01250-001-003 Installation and Operation Guide



Short Range Advanced Transmitter



Short Range Advanced Receiver

Introduction

Thank you for choosing Remote Control Technology's Short Range Advanced System. This versatile device has numerous practical applications and will surely become a mainstay in your business and production structure. Although you can customize your system to meet your needs, please keep in mind that the default factory settings are ideal for well-to-tank pumping applications.

This system consists of:

- (1) Wireless radio "Transmitter"
- (1) Wireless radio "Receiver"
- (2) Plastic NEMA 4X enclosures with built-in power supplies
- (2) Sets of wall mounting brackets included with the enclosures
- (2) Omni-directional high-gain antennas

NOTE: Remote Control Technology assumes no liability for damage to peripheral equipment, including pumps, due to incorrect transmitter or receiver settings. Customer must verify proper application operation prior to completing installation (new or existing). Please contact Remote Control Technology for more information.

Before Installation

- Remote Control Technology recommends that you have your new wireless switch system installed by a professional electrician.
- Be sure to install the receiver and transmitter at least 20-40 feet away from any other device that would cause interference such as variable frequency drives, large power transformers, and other radio equipment.
- Keep AC and DC wiring in separate bundles.
- Use a multi-conductor shielded cable to connect any devices.
- Provide a good earth ground to the receiver and transmitter power supply.
- Locate the transmitter and receiver antennas away from any device that would cause interference.
- Be sure to bench test the system before installation.

To Test:

- Separate the transmitter and receiver by at least 50'.
- Never operate radios without first attaching the antennas.



Transmitter Installation

1. Connect a dry contact closure such as a float switch, pressure switch, output of a relay or manual switch to the terminal blocks marked “Com” & “1”.
2. Attach the antenna to the antenna mount assembly.
3. Connect the antenna mount assembly to the coaxial cable provided and connect the cable to the bulkhead connector on the top of transmitter enclosure.

Note: Do not loop excess coaxial cable into a coil. This will cause a radio frequency choke and reduce your signal range. Lay excess cable in a straight line or loosely route it back and forth in an "S" configuration.

4. Affix the wall mounting brackets included with the system to the back of the enclosure and mount the enclosure to a wall or a pole.
5. Connect a 120-240 VAC power source to the provided 12VDC power supply.

Caution: Check all wiring connections before applying power. Failure to do so can result in serious damage to your product.

Receiver Installation

1. Connect one side of the device to be switched to the common (COM) contact of the terminal block. The other side is connected to the normally open (NO) contact or the normally closed (NC) contact.
2. Attach the antenna to the antenna mount assembly.
3. Connect the antenna assembly to the coaxial cable provided and connect the cable to the bulkhead connector on the top of receiver enclosure.

Note: Do not loop excess coaxial cable into a coil. This will cause a radio frequency choke and reduce your signal range. Lay excess cable in a straight line or loosely route it back and forth in an "S" configuration.

4. Affix the wall mounting brackets included with the system to the back of the enclosure and mount the enclosure to a wall or a pole.
5. Connect 120–240 VAC power source to the provided 12VDC power supply.

Caution: Check all wiring connections before applying power. Failure to do so can result in serious damage to your product.

Operation

The Short Range Advanced System is suitable for applications where shorter ranges (up to ½ mile) and simple wireless switching are needed. Operation is simple; connect a switch, relay, or any other device with a dry contact closure to the transmitter input.

When the dry contact is closed, the transmitter will immediately transmit to the receiver, changing the state of the corresponding receiver output. The output relay built into the receiver is a SPDT Class C relay rated for 10 Amps @ 250VAC with Normally Open (NO), Normally Closed (NC), and Common (C) contacts.

Optimizing Your Wireless Switch System

Following these guidelines will help you maximize the range your signal:

- Mount the antennas at least 40 feet away from electric motors, large power transformers, power lines, VFDs, or any equipment that produces ambient electrical noise.
- Mount all antennas outdoors. For equipment located indoors, run a length of LMR-400 coaxial cable from the receiver to an antenna mounted outdoors.
- Mount antennas as high as possible, at least 3 feet away from vertical surfaces and not under roof awnings. If mounting the antenna on a building, mount it at the apex or the highest point of the building.
- When mounting the antenna to a metal pole, mount the antenna at the top of the pole or at least 3 feet away from the pole.
- Avoid mounting the antenna on the same pole as the power service.
- Avoid mounting the antenna on or near a chain link fence. If necessary, the antenna can be mounted at least 3 feet above the fence.
- Use only high-quality antenna and cable connectors, which are available from Remote Control Technology.