

RMT™

Remote Control System



User Guide

Revision 1.0

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Table of Contents

Introduction	4
How it works	5
LED Status Panel	6
Power Supply	7
Antenna Installation	7
Wiring Diagram	8
Digital Inputs/Outputs	9
Relay Connections	10
Safety Precautions	11
Warranty	12

Introduction

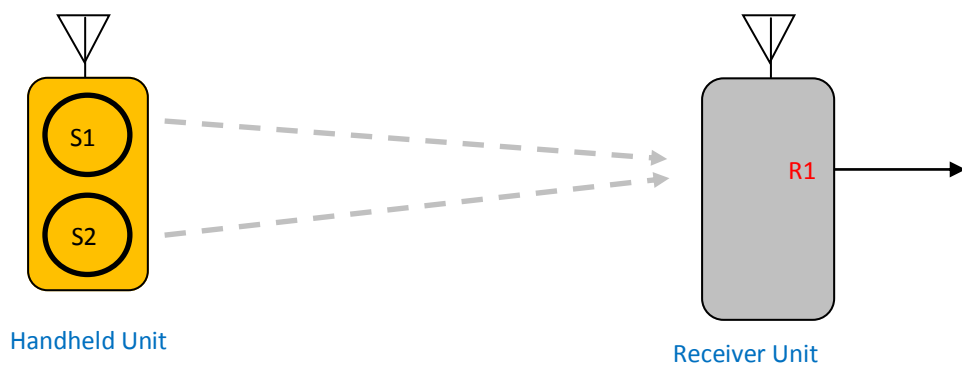
The RMT wireless control system is designed to offer a reliable wireless switching system between a handheld transmitter unit and remotely located equipment. The system is easy to set up and use and requires no tuning or ongoing maintenance.

The system consists of a Handheld unit (2 or 4 button) and a receiver unit.

The system can be supplied to provide Momentary ON functions (outputs ON while transmitter button is being pressed) or Toggle functions (outputs switch ON when a button is pressed and stays on until another button is pressed).



Momentary Function (2 button example): R1 is ON if S1 being pressed, R2 is ON if S2 is being pressed



Toggle Function (2 button example): R1 Stays on after S1 pressed and switches OFF when S2 pressed

How it Works

The system can be supplied to operate in one of two modes.

1. Momentary mode
2. Toggle Mode

The mode of operation is set in the factory and needs to be specified by the time of order placement.

Momentary Mode:

This mode is useful for operating equipment such as hoist or conveyor where the action of the equipment is only required while the operator is pressing the button.

In this mode, each of the buttons on the Handheld transmitter operates a corresponding output (R1 to R4) at the receiver unit. The output remains active for the entire time the transmitter button is being pressed. Approximately 1 second after the operator releases the button, the corresponding output will switch OFF.

Toggle Mode:

This mode is useful for switching equipment that must change state. For instance, switching a Motor or Fan on or off.

Each set of 2 buttons on the Handheld transmitter operates a single output at the receiver.

The first button sets the output ON. The output at the receiver will stay ON even after the button is released. The second switch will turn the output OFF.

Receiver Outputs:

The Outputs of the Receiver are Change-Over relays (voltage-free contacts). The OFF (de-energised) state is Normally-Open. The contacts switch to Normally-Closed position upon activation.

Transmitter Delay:

The transmitter unit has a built-in delay of approximately 1 second after button is pressed until action occurs. This is used to minimise false switching by accidental pressing of any of the buttons on the unit.

Battery:

The Handheld transmitter is supplied with a 3.6V lithium 1/2 AA type battery pre-fitted. Spare batteries are available from Orbit when required. Typical time between battery replacement is dependant on how often the transmitter is used each day. Several months should be typical.

LED Status Panel

The front panel has a number of LEDs that indicate particular conditions for the system.

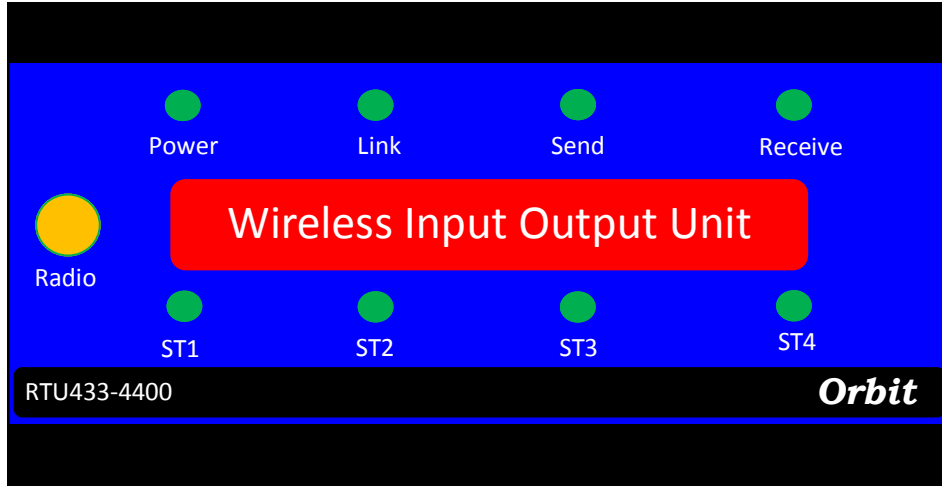


Figure 2. LED Status Panel

LED	Description	Function
Power	Power Indicator	ON when unit has power
Link	Run Indicator	ON when receiving data from RMT
Send	Not used	N/A
Receive	Receive Status	Blinks when receiving an RMT Message
ST1	R1 Status	ON when R1 is activated
ST2	R2 Status	ON when R2 is activated
ST3	R3 Status	ON when R3 is activated
ST4	R4 Status	ON when R4 is activated

Handheld Transmitter Unit

Powered by 1/2AA Lithium battery. 3.6V DC.

Receiver Unit

The Receiver unit must be powered by 12/24V DC (Current requirement < 100mA peak). Several other power supply options are available (230VAC, Solar power, Battery backup).

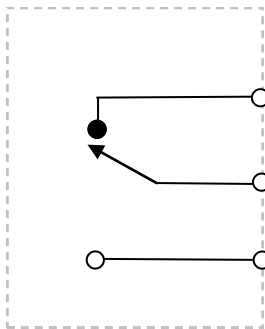
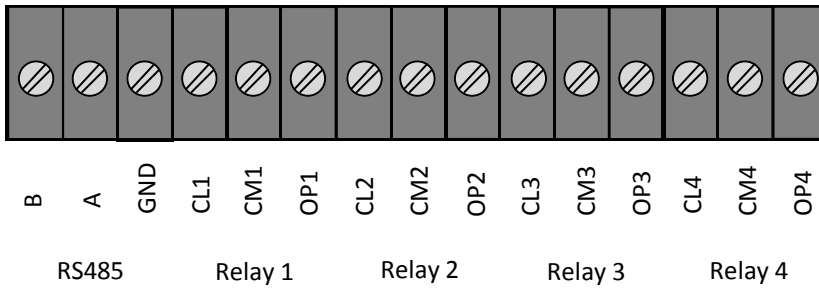
Outputs are change-over (Normally-Open, Normally-Closed, Common).

Antenna

The Antenna is omni-directional (receives from 360 Degrees) and should be mounted in a vertical orientation. The cable enables the antenna to be mounted in a convenient location for best reception. Keep tip of antenna away from metal objects (at least 300mm). Best performance when clear line of sight between transmitter unit and receiver antenna.

Transmitter unit should be operated with antenna vertical if possible.

Top row of Terminals

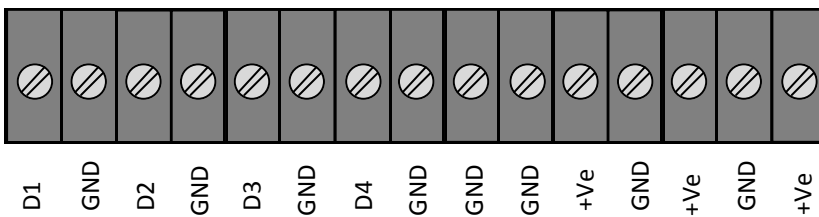


“CLx” = Normally Closed
 “CMx” = Common
 “OPx” = Normally Open

Maximum Voltage = 230 VAC
Maximum Current = 2A

Details of Relay contacts

Bottom row of Terminals

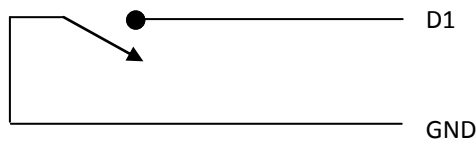


D1 to D4 = Digital input

GND = Power supply negative, ground

+Ve = Power supply positive 12 or 24V DC

Switch, Relay or PLC output



Typical Digital Input wiring

Optional External Relay Connections

The optional relay provides two higher-current changeover relay contacts. The recommended method is to connect the Pump or contactor between Normally OPEN (N/O) and Common contacts (either A or B as shown below). The relay contacts are rated up to 240VAC and current handling capacity to 7 Amps for an inductive load (such as a motor) and 10 Amps for resistive loads.

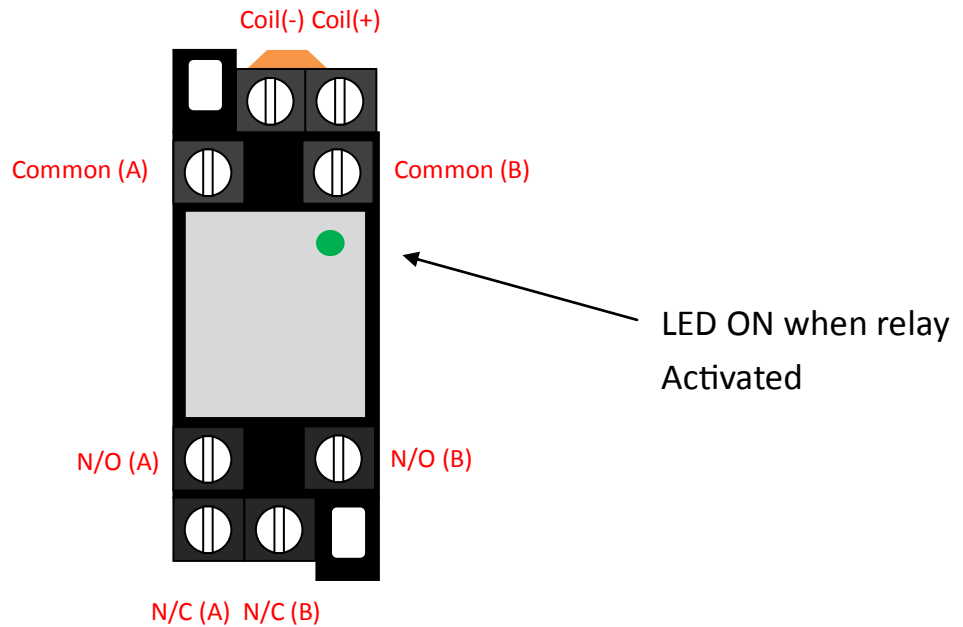


Figure 4. Relay Contact Details

Safety Precautions

The following safety precautions must be observed whenever the Orbit wireless device system is in operation or in service. Failure to comply with these precautions violates the safety standards of the design, manufacture and intended use of the product

- The system is not to be used:

In hospitals or places where medical equipment may be in use.

In an aircraft (whether on the ground or in the air)

Refuelling points

Explosive areas

- Restricted use of the Orbit wireless device

Near any chemical plant

Near any Fuel depot

The Orbit wireless device system receives and transmits radio frequency energy while switched on, therefore interference can occur if the Orbit wireless device is located near TVs, radios, PCs or any inadequately shielded equipment.

WEEE directive 2002/96/EC, disposal of old electronic equipment

This product shall not be treated as household waste. It must be placed at an appropriate collection point for the recycling of electrical and electronic equipment. By ensuring the correct disposal of this equipment, it will help the environment and human's health. The recycling will help to conserve the natural resources.

Important

Due to the nature of wireless systems, transmission and reception of data can never be guaranteed. Data may be corrupted (i.e. Have errors) or be totally lost at certain times due to the environment, other machinery or malfunction of electronic components. Although significant loss of data are rare when wireless devices such as the Orbit wireless device system are used in a normal manner, Orbit's wireless device system should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death or loss of property. Orbit Communications Pty Ltd accepts no responsibility for damages of any kind resulting from errors in data transmitted or received using Orbit's Orbit wireless device systems, or for the failure of the Orbit wireless device system to transmit or receive such data.

Do not operate the Orbit wireless device system in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, near life support equipment, or any equipment which may be susceptible to any form of radio interference, in such areas, Orbit's wireless device system must be powered OFF.

Do not operate Orbit wireless device system in any aircraft, whether the aircraft is on the ground or in flight. In an aircraft the Orbit wireless device system must be powered OFF.

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Warranty

All products manufactured by Orbit Communications Pty Ltd are warranted to be free from defects in materials and workmanship under normal use and service for 36 months from the date of shipment unless otherwise specified. Orbit Communications' obligation under this warranty is limited to repairing or replacing (at Orbit's discretion) defective products. The customer shall assume all costs of removing, reinstalling and shipping defective products to Orbit Communications. Orbit Communications will return such products by surface carrier prepaid. This warranty shall not apply to any Orbit product that has been subject to modification, misuse, neglect, accidents of nature or shipping damage. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. Orbit Communications is not liable for special, indirect, accidental, or consequential damages.

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