

PORTABLE READER

MODEL M350



OPERATOR'S MANUAL

FCC Statement

PORTABLE RFID READER
MODEL M350

RFID SOLUTIONS S.L.

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FCC ID: OOQ-M350

This device complies with part 15 of the FCC rules, Operation is subject to the following conditions (1) This device may not cause harmful interference, and (2) This device must accept any interference, including Interference that may cause undesired operation of the device.

CAUTION!

Any change or modification to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment

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YOUR NEW PORTABLE RFID READER

Congratulations on your new RFID Reader. Before using read the entire manual to understand all features and operation

TEST READER

Before scanning to find a tag it is important to test the reader. Use any Test Disc Tag to verify if the RFID Reader is functioning properly.

BATTERY INSTALLATION

Batteries do not come installed in the reader

Battery: 8 X 1.2V- Type AA

Rechargeable Nickel Metal Hydrate batteries

To install the batteries, first remove the battery door located at the back end of the reader by removing four screws. Insert the 1.2V rechargeable batteries into each slot making sure that each battery polarity is in the right orientation by observing that the spring coils in the battery slots are for the negative side of the batteries (flat end of battery) , then replace the battery compartment door by inserting it back, then securing with the four screws removed initially.

OPERATION

GENERAL INFORMATION

The portable reader Model M350 is a compact, battery powered unit that read radio frequency identification microchips or tags. The device allows you to identify the selected microchip type that belongs to a particular company by displaying the information in its 16 X 2 LCD display. Other RFID microchips that may have other different identifier numbers may activate the reader if they are in the same frequency range giving a sound only (Locator) but may not give the particular ID number.

PREPARING FOR OPERATION

Remove the Portable Reader from the shipping package and install the eight 1.2 volts (AA) rechargeable batteries supplied with the reader. See section for battery installation instructions.

HOW RFID IDENTIFICATION WORKS

The portable Reader generates an electromagnetic field which is used to energize the microchip programmed with a unique ID number. This microchip is packaged in different formats but mainly as a disc type in general. The electromagnetic field provides the operating energy needed for the microchip to transmit its ID number back to the Portable Reader. The Portable Reader decodes the information and displays the programmed message in the LCD display. The operating frequency of the Portable Reader is 125 KHz.

READING WITH THE PORTABLE READER

When you turn on the Portable Reader by pressing for 1 sec. the POWER button located at the bottom left side of the reader, the reader will go to Reading Mode. Now a green LED light will illuminate indicating the power is on, then the LCD display will show the message “Portable Reader Model M350” with a message at the bottom right of the display giving the software issue in use followed by a beep sound. This message will remain only for 1 sec. then it will change to display a number with a percentage value and then the letter M: also with a percentage value. The first number with a percentage value, is the indication of the noise level of the Detector for reading the tags. For the percentage value with the letter M indicates the amount of memory space left for recording the tag numbers in the Detector. In this mode the Detector will remain for 150 sec. (programmable values) and if no tag was read the Detector will shut off automatically followed by a beep. But if a tag was read or detected, the shut off time is reset and the time count will start at zero value and shut off automatically at the preset value 150 sec. or other value selected.

The Portable Reader “Detector” will read two types of tags:

Type one, the **LID** tags and

Type two, the **Transensor** tags

When any of these two tags comes within range of the Detector, a beeping will start with a low rate interval and as the tag comes closer to the antenna the beeping sound rate will increase and the red **Read** light should illuminate with LCD display showing the tag number. As the antenna gets closer to the tag the beeping sound should increase the rate indicating the tags in below the antenna. This type of the reader indication will be the same for the two types of tags with the **transensor tag in a non-activity state**. If the transensor tag has been disturbed by the termites or active, the display will flash intermittently between the number of the tag and the word “**Active**”.

PROGRAMMABLE FUNCTIONS

The Reader “Detector” has some programmable functions and are Performed via the yellow key called **AUX**

-**Volume**

-**Back light**

-**Shut Down time**

-**Signal level**

-**Send tags**

-**Erase tags**

-**BT Pairing**

Volume

The volume function will allow changing the volume of the buzzer from **OFF state** to seven steps upward volume level. To change the volume, press momentary the AUX button and the display will indicate the volume level set in the reader. To continue changing, keep toggling the AUX switch until the desired level then stop. The volume has now being changed to the level selected. The reader will leave the programming state in about 2 sec.

Back Light

This function allows turning off the back light of the LCD display in order to minimize power consumption. To turn off the LCD back light press momentary the AUX button, the LCD display will show the volume level, then press and hold the AUX button until the back light function appears, release the button, then press and hold again the AUX button to select the function, toggle for the desired function then press and hold again to set that function until the display will indicates “**value changed**”

Shut Down time

This functions allows to change the automatic **shut off** time of the reader after initialization or after a tag is momentary read.

The reader has four steps:

Off, 60 sec., 150 sec., and 5 min.

The best setting for maximum power saving of the batteries is 60 sec. The Reader **automatic default setting shut off time is 150 sec.**

To change the automatic default time, press momentary the AUX button, then the LCD display will show the volume level, then press and hold the AUX button until the back light function appears, toggle the AUX button until the **shut off** function appears (or desired function), to select this function press and hold again the button until the shut off values appears (or desired function), toggle for the desired value then press and hold again until the display indicates “**Value changed**”

Signal Level

The signal level number is shown at the bottom left side of the LCD display. It is a percentage value of the noise or signal level that the detector is capturing when the reader is in the on state. The Detector triggers the buzzer according to the signal level set in it memory. The normal signal level setting is 15 meaning 15% value of the signal received by the reader. If the signal level reaches the set value in the memory of the computer, (default value set in the memory is 15) the buzzer activates, and as the tag approaches the reader this value will change increasing to a value maximum of 100%. If in the field of application the noise level of the environment is too high, this level can be changed to avoid false buzzer activation. The reader is activated by two factors, one if the value of the signal level reaches the signal level settings or

if the reader has detected a valid number tag even if the signal level did not reach the set value. To change the set signal level value, just follow the step as in the Shut Down time instructions, but only stop at the section of signal level, then continue the instructions to select either the level of, 10, 15, 20 or 25. The detector signal level setting of 10 is normally used when the reader signal level indication is 3 or 4%, but if the signal level indication is about 6 to 7% you may change the level at the memory to 15 or 20%.

Send Tags

This function is only used when the reader is paired with an external storage device via the Bluetooth function. When the reader is paired with the external device this function allows that the reader may send its memory stored data via the Bluetooth connection.

Erase Tags

This function allows the reader to erase its memory stored data. Follow Instructions as given above in the Shut Down function. At the end of this set up function, please wait until the reader finishes erasing the files.

BT Pairing

This function allows the reader to set up the pairing with an external storage device. See instructions for Bluetooth set up.

BATTERY CHARGING

The reader was designed to operate with a good range of change of the battery voltage. It will operate from 12VDC to 7.5 VDC. Giving many hours of operation. It is recommended after many hours of operation to recharge the batteries. Connect the supplied battery charger to the reader by plugging the battery charging jack to the reader battery connector input, and then connect the battery charger to the AC power. Immediately after the AC Power is connected, the **Charge light** should illuminate. When the battery is fully charged the **Charge** light should turn off. If the batteries no longer can accept charge, meaning that the batteries have little capacity, the **Replace** light should illuminate, now is the time to replace with new rechargeable batteries.

READING RANGE

The reading range of the Portable Reader is 8 inches and the reading procedure should be accomplished by moving the reader in a circular motion around the tag target.

TROUBLE SHOOTING

Performance can be affected by metal objects and computer equipment. These items can cause a reduced read range for identifying tags. Operate this unit clear of these devices for optimal performance.

Microchip is not detected.

Verify the Reader with test tag

Reader does not start

Verify if batteries were installed correctly and are fully charged

Reader turns off quickly

Recharge the batteries/Change batteries

SPECIFICATIONS

Dimensions	L: 104 cm W: 7.5 cm H: 6.0 cm
Weight	1.374 Kg
Color	Black
Material	Polycarbonate plastic
Operating temperature	0° to 50° C
Temperature Storage	-20° to 65°C
Humidity	10% to 90% Non-condensing
Batteries voltage	8 x “AA” 1.2V
Battery type	Rechargeable Nickel Metal Hydrate

WARRANTY

The Portable RFID Reader “**Detector**” Model M350 is warranted against defects in material and workmanship, under normal use and service for one (1) year from the day of shipment. This warranty will not apply if adjustment, repair or parts replacement is required because of accident, damage during transportation or causes other than ordinary use. RFID Solutions sole responsibility under this warranty shall be at its option, to either repair or replace any product which fails during the warranty period. In no event shall RFID Solutions be liable for any indirect or consequential damages or loss of profit.