

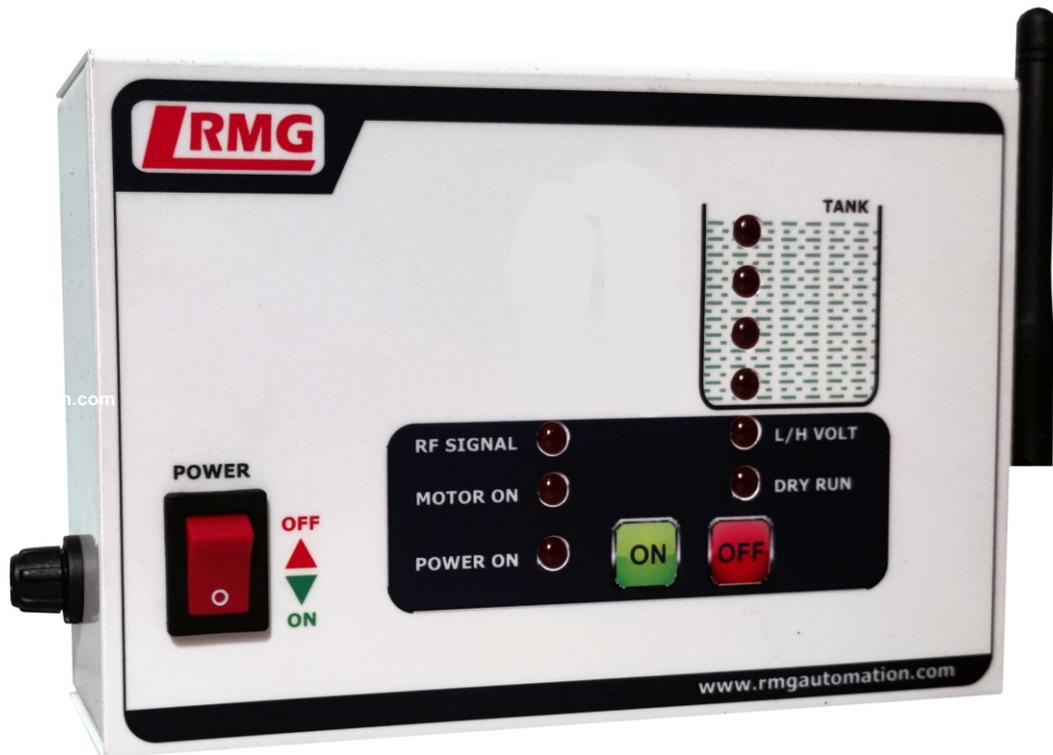


RMG AUTOMATION

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Advanced Wireless Long Range Fully Automatic Water Level Controller

Model : AFWAFLC-040



User Manual

1. INTRODUCTION

Water saving is Lifesaving. RMG Automation introduces an automated way to save water. AFWAFLC-040 is Radio Frequency Based Wireless Water Level Controller with level indicators, in which it helps to ascertain the level of water in the tank as well as automatically control the motor pump. It automatically turns on the motor when water is low in the tank and turns off when tank is full. It also has low/high voltage and dry run protection.

This product can cover up to 700-1000 meters distance in line of sight. It has an outdoor transmitter and an indoor receiver. The transmitter unit is placed near the water tank, whereas the receiver unit is placed near the motor pump control switch/starter location. This product is suitable for Bore well to Tank setup.

2. DESCRIPTION

2.1 CONTROLLER

- **Power ON/OFF switch** – used to switch ON / OFF the controller.
- **Power ON LED** – shows ON/OFF status of controller.
- **ON button** – Used for manual motor ON. And also for pairing the controller with transmitter.
- **OFF button** – Used for manual motor OFF. And to enable/disable dry run option.
- **RF Signal LED** – shows the RF Transmit or Receive signal status. When it blinks the communication between transmitter & controller is good. When it is continuously glowing, it means there is no communication.
- **L/H Volt LED** - shows high/low voltage indication. If the LED glows motor will not run and protect from voltage fluctuations.
- **DRY Run LED** - It indicates the dry running of motor and glows when there is no water in the inlet of the tank for 90 seconds. It will reset after 1 hour automatically.
- **MOTOR ON LED** - It indicates the motor ON/OFF status.
- **Level Indicator LEDs** - These LEDs shows the water levels of the tank. There are 4 level indications 25%,50%,75% and 100%..

2.2 TRANSMITTER

- **RF signal LED** – It blinks once when the battery is inserted. It also blinks for transmit or receive data.
- **Charging LED** – glows when battery is charging (red LED)
- **Charging complete LED**– glows when battery is fully charged (blue LED)
- **Solar panel** – 6V/100mA solar panel for charging battery.
- **Li-ion battery** – 3.7V rechargeable battery.

3. TOOLS REQUIRED

- Drill gun
- Simple hammer
- Wooden gattas
- Screws for mounting units on wall
- Line tester, Wire stripper,
- 1.5Sq.mm Wire for power connections
- Cable - 6 core, Insulation tape

4. INSTALLATION PROCEDURE

Caution: Switch off the main power while doing the Power Connection.

Step 1: Wall mount the Controller unit nearby motor pump switch/starter location. The location chosen should be near the window or in open space for good signal strength.

Step 2: As per the model purchased, check the label and connect AC supply (AC 230/440V) to 1st and 2nd terminal of the controller (Refer figure 1 or figure 2).

Step 3: For SWITCH or MCB type motor control, connect 3rd and 4th terminal of controller in parallel to the switch as shown in figure 1.

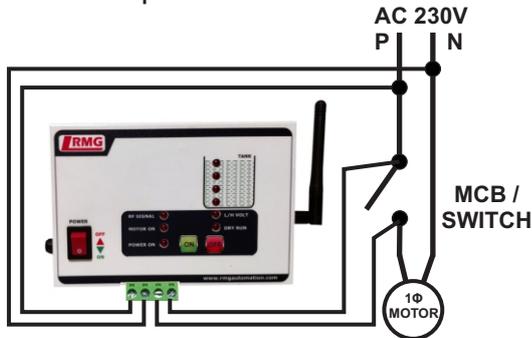


Figure 1: 1Φ SWITCH/MCB

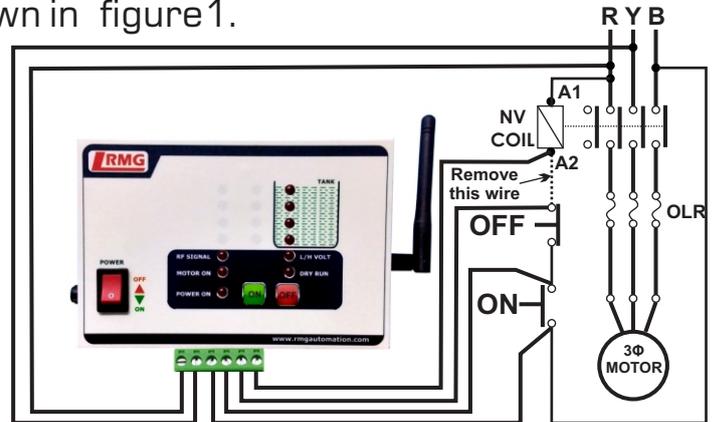


Figure 2: 3Φ Starter

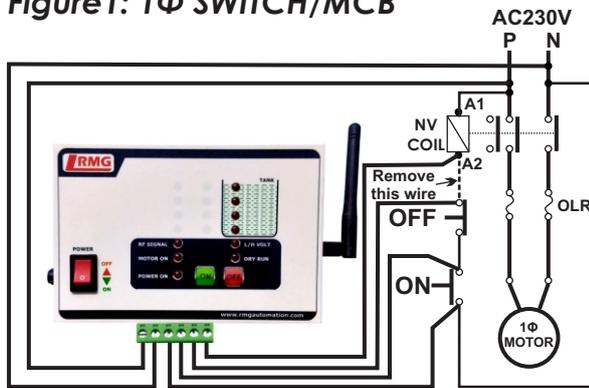


Figure 3: 1Φ Starter

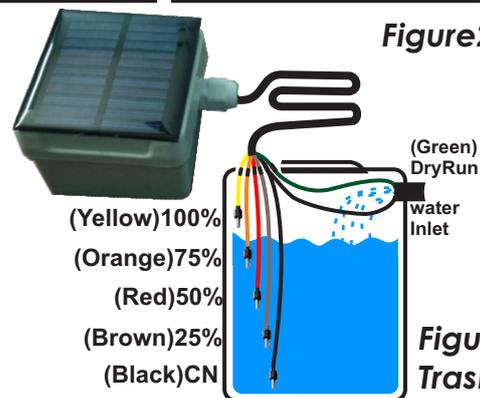


Figure 4: Transmitter

Step 4: For starter type connection refer Figure 2 & Figure 3. In case of any doubts in connection what's app to 9940594413 or call 044-43180017

Step 5: Turn ON the controller. Now, Power ON LED will glow. Unscrew the top panel of transmitter. There is a battery holder inside it. Put the given Li-ion battery inside the case, according to polarity. RF Signal LED blinks once.

Step 6: Take the transmitter near the tank. To check the communication between transmitter and controller, Press the push button inside transmitter for more than 16 seconds. RF Signal LED blinks two times with 5 seconds interval. This ensures the perfect communication between them. .

Step 7: Now power off the controller unit. **Contact type sensor connection:** Take the sensors and cut them according to the levels of the tank and join them with the sensors lines of transmitter as per color coding. (Refer figure 4).

Magnetic float sensor connection: These sensors has 2 wires. Use any one wire in each sensor as common. Other wire left in each can be used for levels.

Step 8: Immerse the sensors in the water tank and place at 25%, 50%, 75%, 100% levels. Dry run sensor should be fixed in the inlet of the tank. Join black and green wire of transmitter to this sensor. (Refer figure 4)

Step 9: Close the top panel of the transmitter using the screws. Place the solar panel facing sun light using the double side tape.

This completes the installation.

5. OPERATING PROCEDURE

- Power ON the controller unit.
 - Depending upon the water level in tank, the level indication LEDs are ON.
 - If the water level goes low, controller automatically TURNS ON the motor, during this time MOTOR ON LED glows. When the tank becomes full, controller unit automatically TURNS OFF the motor.
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- **PAIRING PROCEDURE:** The units are generally paired and given. In case of any trouble at the time of installation, users can pair the units once again.
 - Press the Green ON button and do not take the finger out while doing this. Turn ON the controller. All the tank level LEDs will blink. It means the device is ready for pairing.
 - In transmitter, there is a Push button inside it. By pressing the push button and without taking out the finger from it, insert the battery into the battery holder. Now the RF Signal LED inside transmitter blinks once and all the tank level LEDs goes off in the controller unit. Thus pairing is completed.
 - **DRY RUN ENABLE/DISABLE:** Set the controller in pairing mode. Use the OFF button to enable or disable the dry run function which is denoted with Dry Run LED indication.

6. TROUBLE SHOOTING METHODS

S. No.	Error	Solutions
1	No communication between controller and transmitter .	<p>a. Check whether any obstacles are there in between transmitter and receiver units like large trees, buildings etc. (Repeater can be added if necessary).</p> <p>b. Check the battery in transmitter whether it is connected correctly without any loose contacts.</p> <p>c. Check whether the battery is completely drained out, If so, charge the battery using the USB port in it for instant charging.</p>
2	Dry run is not working	<p>a. Check whether dry run option is enabled in controller unit. Keep the controller in pairing mode. Press ON button and without removing the finger turn ON the controller. If DRY RUN LED is ON, the dry run option is enabled. If DRY RUN LED is in OFF state, the dry run is disabled.</p> <p>b. Check the dry run connection on the tank whether it has any loose contacts. If so, correct it.</p>
3	Tank level indicator LEDs are off	<p>If one or all the level indicator LEDs are not glowing,</p> <p>a. Check common sensor connection is correctly made. If any loose contacts correct it.</p> <p>b. Check all the sensor connections if they are having any loose contacts. 3 Also, check if the cable lines are intact.</p>