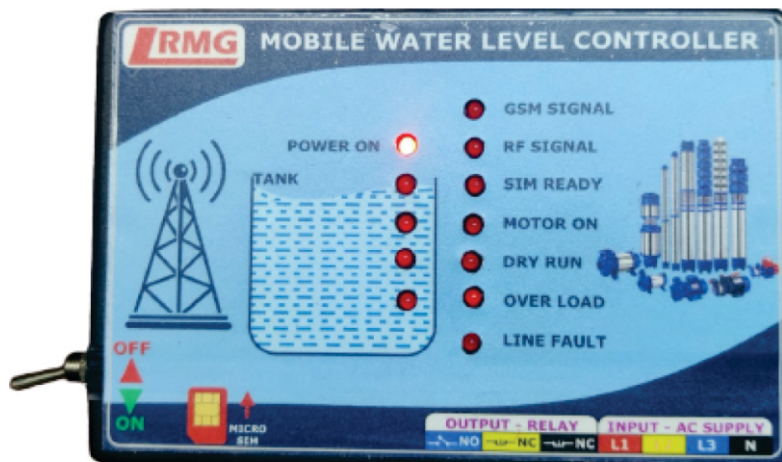


GSM+RF Wireless Water Tank Level Monitoring System

Model : GSM_RF_WDTWLI



User Manual

1. INTRODUCTION

RMG automation introduces a new variant of Wireless Water Level Indicator, where multiple tank levels can be monitored in a single receiver module. GSM features also incorporated in it.

It uses RF module and covers distance up to 700-1000 meters in line of sight. There are two variants available. Single tank and double tank. It can indicate up to 2 tanks status using a single indicator. Each transmitter is required for each tanks.

2. DESCRIPTION

2.1 INDICATOR

- **POWER ON/OFF TOGGLE SWITCH:** used to Power ON/OFF the indicator. It is located on the right side of indicator.
- **Level indicator LEDs** – These LEDs shows the water levels of the particular tank. There are 4 level indications 25%,50%,75% and 100%. (each tank has its own level indicators)
- **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.
- **Fuse Holder:** It has 300mA fuse to protect the controller from power surges. If fuse fails replace them.

2.2 TRANSMITTER

- **POWER ON/OFF Switch** – used to switch ON/OFF the transmitter.
- **POWER ON LED** – shows the ON/OFF status of the device.
- **YELLOW Pairing soft key** – Helps to pair the unit with indicator.

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 & control wiring
- Insulation tape
- Cable

4. INSTALLATION PROCEDURE

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

Step 1: Insert your GSM SIM in the SIM slot given as shown in the GSM indicator. The GSM SIM that is used must support 2G and have a SMS plan.

Step 2: Wall mount the GSM indicator by using the screws in the given slots on its sides near your motor switch/starter location. The location chosen should be near the window or in open space to ensure good signal strength..

Step 3: Give Input AC 230V (phase and neutral) to red and black wire of the GSM indicator unit. (Refer figure. 1).

Step 4: Wall mount the transmitter unit near tank location.

Step 5: Connect AC 230V (phase and neutral) to red and black wire of the transmitter unit. (Refer figure. 2).



Figure1: Indicator

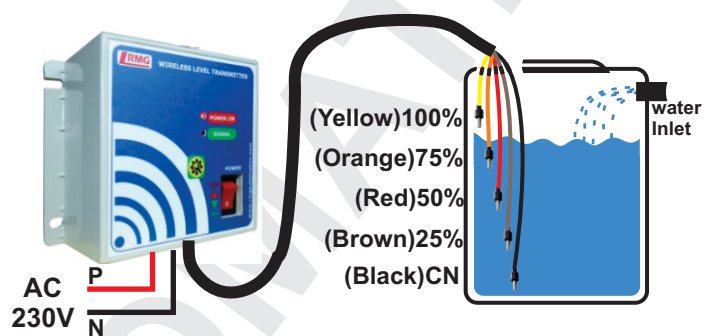


Figure2: contact type sensor connection

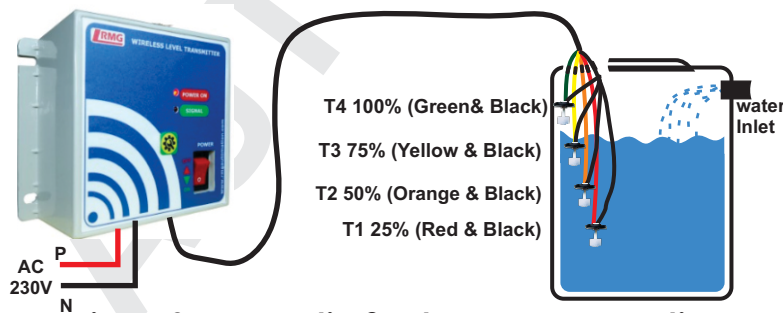


Figure3: magnetic float sensor connection

Step 6: Sensor connection with transmitter

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 figure2).

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 7: Immerse the sensors in the water tank and place at 25%, 50%, 75% and 100% levels. (Refer figure3)

Note: Follow Step 5, 6 and 7 for other tank. (If you have double tank model)

Step 8: Power on the transmitter and Indicator. Power ON LED on transmitter and Indicator glows. RF Signal LEDs on both transmitter and controller starts to blink once in 16 seconds. This means perfect communication.

This completes the installation.

5. OPERATING PROCEDURE

Switch ON the controller using on/off switch of the controller.

- Power ON LED lights up.
- GSM Signal LED blinks every one second trying to get connected to the network. Further, it blinks every 3 seconds ensuring that the GSM unit has been connected to the network.

1.MASTER USER REGISTRATION

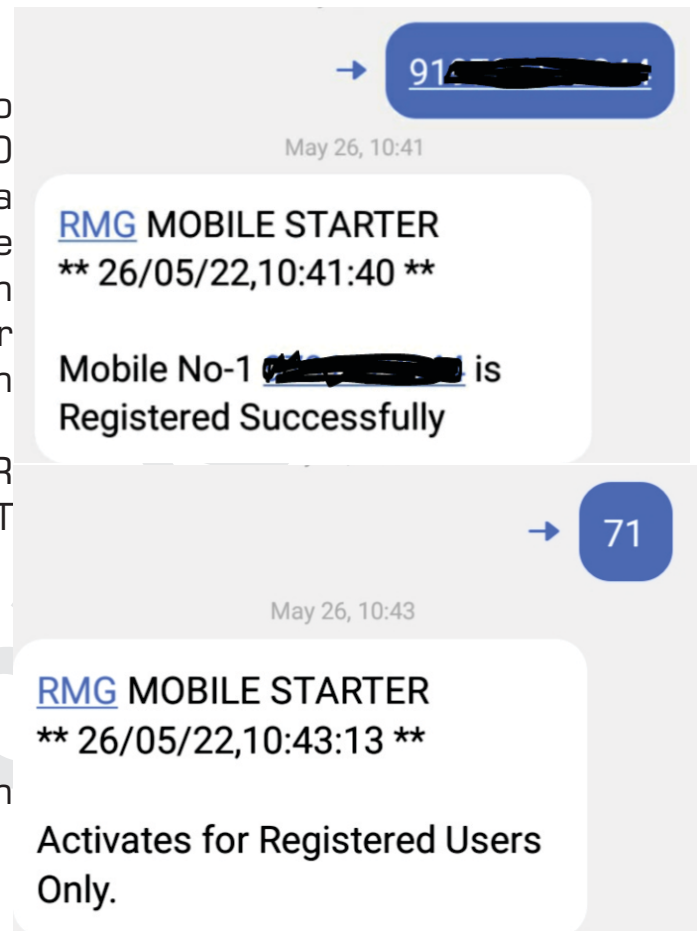
Send SMS to the GSM SIM inserted into controller as "91YYYYYYYYYY" (Y is your 10 digit mobile number). Now you will receive a message on your mobile that your mobile number is registered successfully. (You can register up to 5 users, procedure for registration and other commands are given in "List of commands").

Note: PLEASE REGISTER THE 1ST USER NUMBER (MASTER USER) WITHOUT FAIL.

2.ACTIVATION FOR REGISTERED USER

Send SMS command 71 to activate for registered user. Now the GSM unit responds to the registered user only. Other SMS commands are given below in "**List of Commands**"

- Switch ON Power transmitter, now POWER ON LED will glow. RF SIGNAL LEDs in both GSM unit and Transmitter unit blinks in every 16 seconds confirming that proper communication is established.
- Depending upon the water levels in tank, the level indication LEDs are ON. furthermore, the levels of tank will get updated in every 16 seconds.
- In indicator unit, depending upon the water levels in each tank, the level indication LEDs are ON. Furthermore, the levels of the each tank will be monitored every 16 seconds and the change in water level will be updated to the indicator.
- If the water level goes low, all LEDs will be OFF and you will receive SMS in your phone. If water goes to high level all LEDs will be ON and you will receive SMS in your phone.



Pairing Procedure:

The units are generally paired and dispatched. In case of any trouble at the time of installation, users can pair the units once again.

- Send SMS command PM1 to controller unit. Now, all the tank level LEDs will blink. It means the gsm indicator. All the level indicator LEDs will blink. It means indicator is ready for pairing.
- In Transmitter unit, Long press the pairing switch (yellow switch) of the Transmitter. Without taking out the finger from the pairing switch, switch ON the power ON/OFF switch. The indicator unit is now paired with Transmitter.

NOTE: Do not cover the transmitter and controller with metal enclosure. It may disturb / loss the RF communication.

7. LIST OF COMMANDS

The GSM Mobile Starter is used to switch ON or OFF your motor pump from anywhere in the world. It will control your motor pump via SMS or giving CALL.

SL. NO	SMS COMMAND TO GSM SIM	EXAMPLE	DESCRIPTION
1	70	70	Activates for ANY USERS
2	71	71	Activates for REG. USERS
3	80	80	It disables the AUTO REPLY SMS facility
4	81	81	It enables the AUTO REPLY SMS facility
5	90	90	It gives the registered users list.
6	9XY	91919940594413 92YYYYYYYYYY 93YYYYYYYYYY	It helps to store the user numbers (X-User 1, 2, 3, 4, 5 YYYYYYYYYY-Mobile number).
7	*	*	It helps us to know the setting status.

8	Pm1	Pm1	Pairing mode enable
9	TIO	TIO	Tank level notification disable
10	TI1	TI1	Tank level notification ENable
11	AI1	AI1 AI2	Alarm for 10 seconds. (1 for 10 seconds, 2 for 20 seconds so on)

6. TROUBLE SHOOTING METHODS

S.No.	Error	Solutions
1.	RF Signal LED glows continuously	a. Check whether any obstrucles are there in between transmitter and receiver units like large trees, buildings etc.(Repeaters can be addred if necessary).
2.	Tank level indicator LEDs are off	If one or all the level indicator LEDs are not glowing, a. Check common sensor connection is correctly made. If any loose contact correct it. b. Check all the sensor connections are having any loose contact.
3	Power fail	a. Check whether input supply is correctly given. b. Check whether the GSM power switch position is "ON" Check fuse is in good condition. If fuse is failed or burnt replace it with 300 Milliamps. Don't use more than that.