

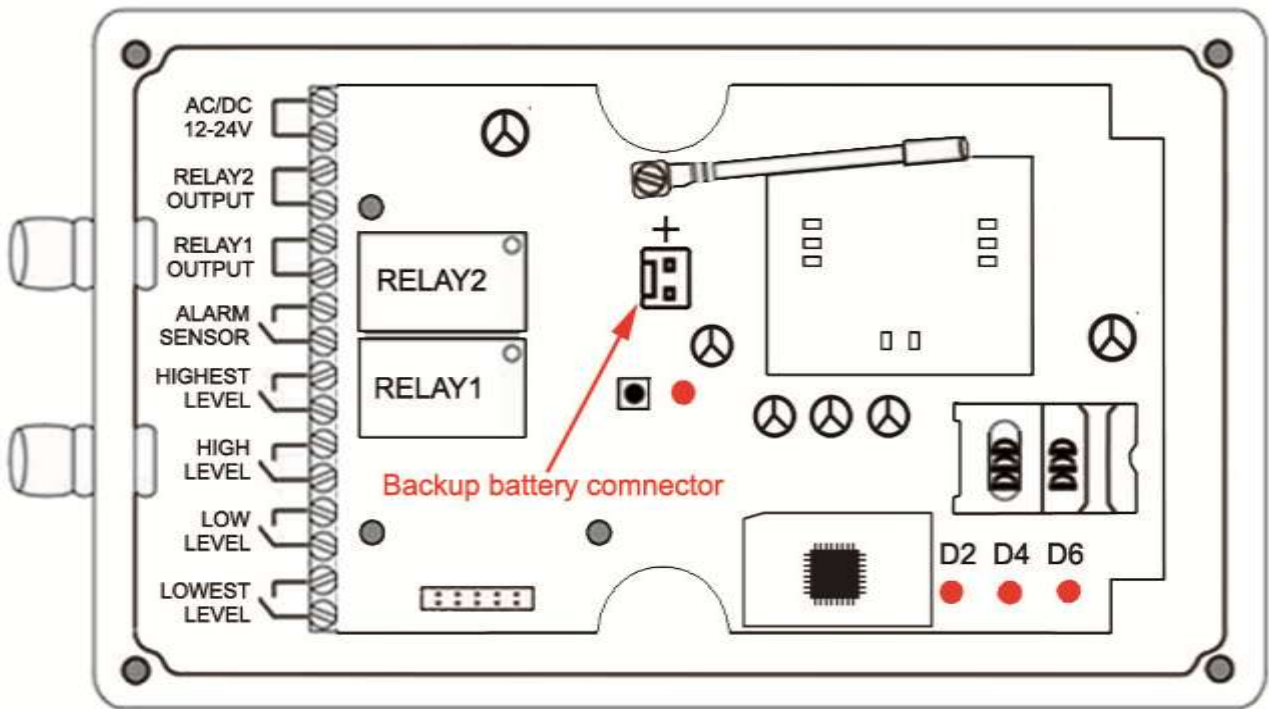
GSM SMS Monitor & Alarm Unit

Model: WF-902

Specially designed for Water tank and Oil tank level monitor and alarm

Controller Description:

During test ,if the port is shorted by water level switch ,that means the water is reached this level



LED D2: SMS Receiver and Transmitter Status

LED D4: MCU Working Status

LED D6: GSM connecting status (Kept lit after connected to GSM net)

1, 2	Lowest alarm water level input	Normally should be closed
3, 4	Low alarm water level input	Normally should be closed
5, 6	High alarm water level input	Normally should be opened
7, 8	Highest alarm water level input	Normally should be opened
9, 10	Water tank lid alarm input (Alarm Sensor Input)	Normally should be closed
11, 12	RELAY1 (For Highest Water Level, Output is shorted when in alarm situation)	Normally opened output
13, 14	RELAY2 (For Lowest Water Level, Output is shorted when in alarm situation)	Normally opened output
15, 16	POWER INPUT(AC/DC12-24V)	
Battery	Backup battery input for 3.7V rechargeable lion battery for power off alarm	

WF-902 Water Tank GSM Alarm and Monitor Unit

Wafer GSM SMS controller is a very simple device which is very specially designed for water or oil tank level monitor and alarm via SMS. Whenever a tank enters into an alarm situation, GSM-TANK will send SMS to all the alarm numbers contained in the ALARM Phone numbers list.

WF-902 Remote water level monitor and alarm unit should perform the following;

1) When water down to minimum level –" **LOWEST** "

The first input sensor should detect, the WF-902 will trigger input and sent SMS upto 5 persons mobile phone. For example, SMS inform users – “TANK Water Down to **LOWEST** positon” (Alarm text can be predefined by user through SMS command) and also the RELAY for lowest water level would be triggered, customer can use the RELAY output to control the alarm light or the alarm beeper.

2) The 2nd input will detect the second level of water –" **LOWER** "

When 2nd sensor detect the level which reach the certain lower level, it will trigger the 2nd input, WF-902 will then send the alarm message.

3) When customer turns on the water pump, Water level goes up to the level– " **HIGHER** "

Water level sensor will trigger WF-902 and sent the alarm SMS to user.

4) If the water level is reached to the level – " **HIGHEST** "

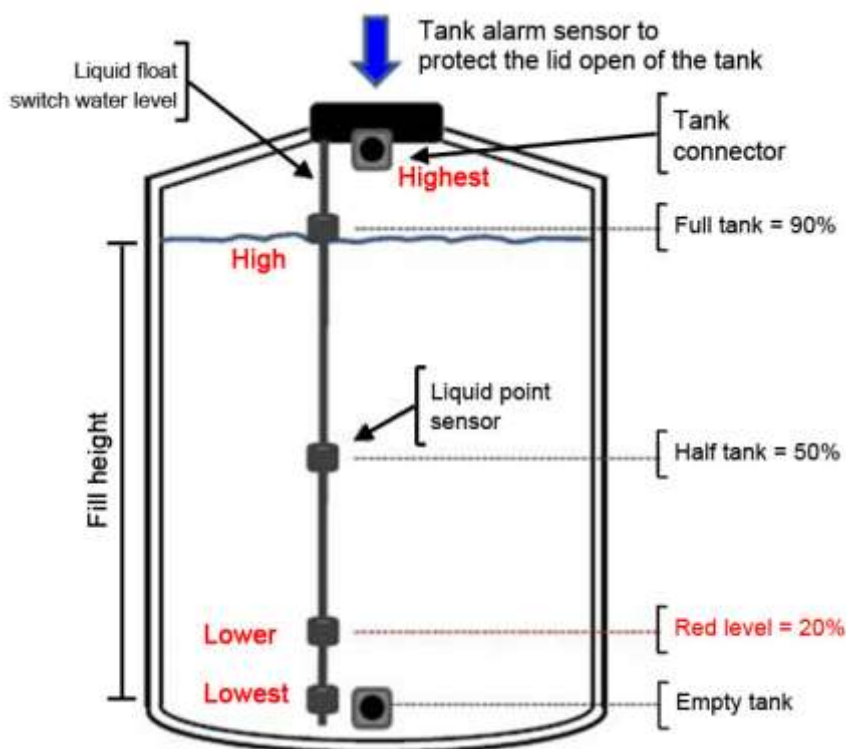
WF-902 will be triggered and send a message to the users. “Water Level Highest”, and also the RELAY for Highest water level would be triggered, customer can use the RELAY output to control another alarm light or the alarm beeper.

5) Every time when open the **LID** of the water tank,the **LID** sensor will detect the input and send Alarm SMS to the user.

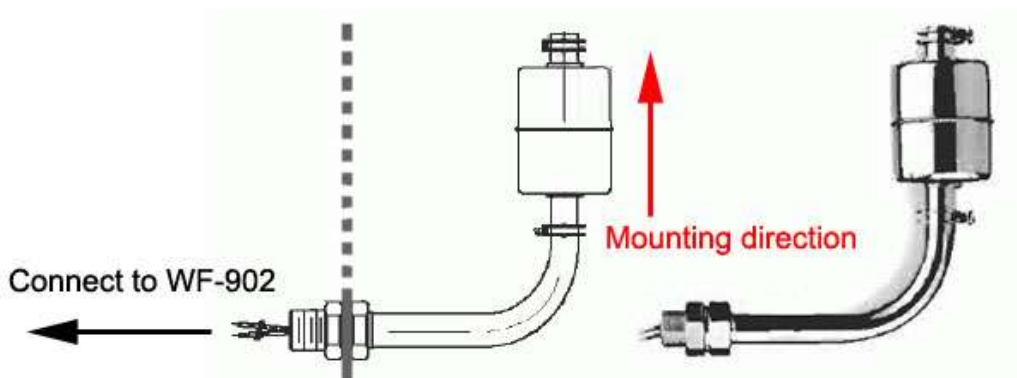
Water Level Description:

In this system,we defined the "LOWEST","LOW","HIGH","HIGHEST" and “NORMAL ” water levels ,that means that has five postion water level.

the NORMAL=ON ,that means when the water level comes back to normal water level from low alarm level or high alarm level. that SMS or phone calling is triggered or not.



Water level sensor mounting



For water level float sensor, when water level reaches the sensor, the output wire would be closed.

SMS COMMAND TO PROGRAM THE DEVICE

STEP1: Config the WHL control number for the water tank monitor

(1). Setup the control number (Maximum number is 05)

```
#PWD123456#WHL04=13564121668
```

(2). Check all the control numbers

```
#PWD123456#WHL=ALL?
```

STEP2: Config the alarm number for the water tank monitor

(1). Setup the alarm number (when the water level is reached at the specified position, then would send the alarm message to these phone numbers)

```
#PWD123456#ALARM02=18017370819
```

```
REPLY: ALARM01 SET TO 18017370819 OK
```

(2). Erase the alarm number

```
#PWD123456#ALARM02=0000
```

(3). Check the alarm number

```
#PWD123456#ALARM=ALL?
```

```
REPLY: ALARM IS:13564121668:0000:0000:0000:0000
```

STEP3: Alarm mode setup

```
#PWD123456#SET:LOWEST=ON,LOW=ON,HIGH=ON,HIGHEST=ON,NORMAL=ON,RELAY1=ON,RELAY2=ON,TIMER=5,BATTERY=ON,LIDALARM=ON,ALARM=SMS;
```

LOWEST, LOW, HIGH, HIGHEST, NORMAL alarm enable=ON or OFF, that means when the water level reaches that position, that alarm is enabled or inhibited.

RELAY1=ON, When the water is reached at LOWEST position, the relay1 would be closed

RELAY2=ON, When the water is reached at HIGHEST position, the relay2 would be closed

TIMER=5, that means when the **LOWEST** or **HIGHEST** water alarm level is reached, the alarm message or phone calling would be repeated at this specified minutes.

ALARM=SMS or ALARM=PHONE is used to setup the alarm method, through SMS or phone calling to the alarm number that is stored inside the controller.

STEP4: Setup the alarm text for Water level alarm

```
#PWD123456#UDI: AAAAAAAAAA,BBBBBBBBBBB,CCCCCCCCCCC,DDDDDDDDDDDD
```

Where AAAAAAAAAA,BBBBBBBBBBB,CCCCCCCCCCC,DDDDDDDDDDDD is the LOWEST, LOW, HIGH,

HIGHEST position alarm text

RELAY: UDI:lowest-alarm,lower-alarm,higher-alarm,highest-alarm OKAY

STEP5: Setup the alarm text for Battery alarm and Lid alarm

#PWD123456#ALARM-TEXT: Battery-low-alarm,Lid-alarm,Normal-power-alarm,Backup-power-alarm

Reply: ALARM-TEXT:Battery-low-alarm,Lid-alarm,Normal-power-alarm,Backup-power-alarm OKAY

#PWD123456#ALARM-TEXT?

This command is used to check the lid alarm and battery alarm text

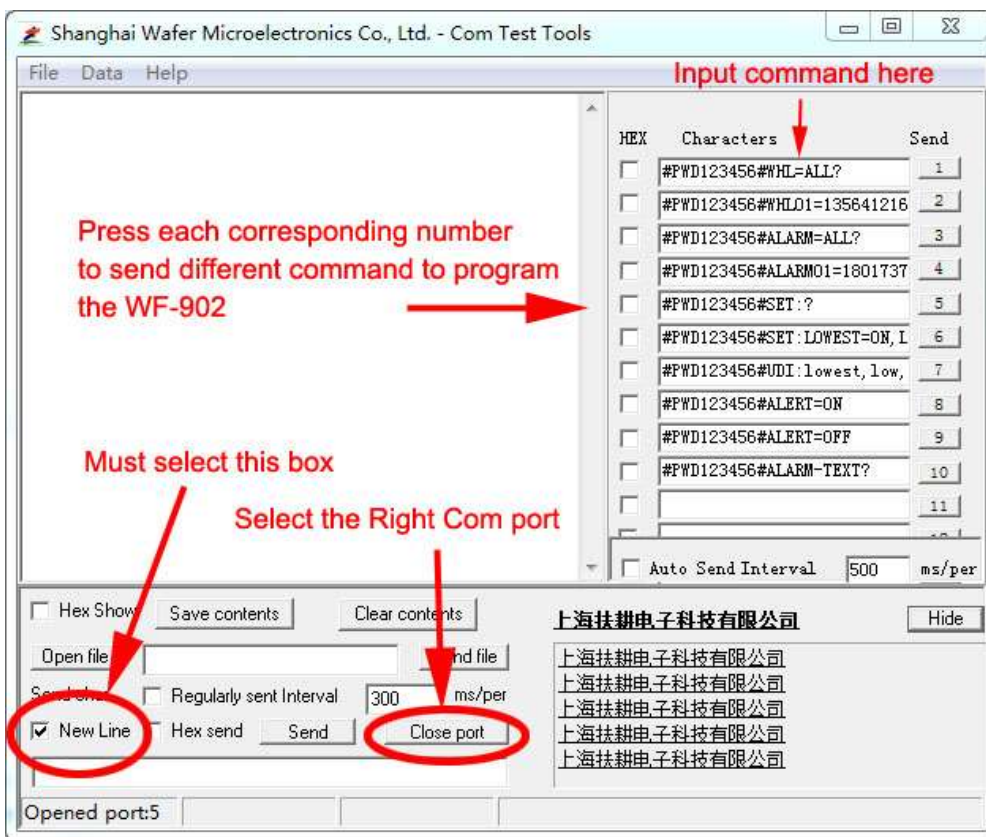
Reply: ALARM TEXT IS: Battery-low-alarm,Lid-alarm,Normal-power-alarm,Backup-power-alarm

STEP6: Enable alarm or disable enable function

#PWD123456#ALERT=OFF

#PWD123456#ALERT=ON

Use the PC com port tools to program:



SYSTEM USER Note:

1. When water level back from higher or lower to normal water position, will send the alarm text:

TANK Water level back to Normal

2. Check the config parameters

#PWD123456#SET:?

REPLY:

BREAD:LS=ON,L=ON,H=OFF,HS=ON,NORMAL=ON,RLY1T=ON,RLY2T=ON,TIMER=05,ALARM=SMS,ALERT=ON,WATER=HIGHEST,RLY1=OFF,RLY2=N,BATTERY=ON,LIDALARM=ON

3. Backup battery

WF-902 can use a backup battery to work, when normal power supply is off, the board would be powered by the backup battery and send the alarm SMS: "Power failure alarm" and When normal power supply is working, it will

WF-902 Water Tank GSM Alarm and Monitor Unit

send the information SMS :” Normal power working ”

4. Backup battery voltage low alarm

WF-902 can use the backup battery to work,when the backup battery voltage is lower than 3.7V,then would send the alarm SMS.

5. Triggles the Relay1 and Relay2 temporarily around 2 Seconds

#PWD123456#TRIG1

REPLY: TRIG RELAY1 SUCCESSFUL

#PWD123456#TRIG2

REPLY: TRIG RELAY2 SUCCESSFUL