GITHUB LINK:

The following is the repository link of the same:
https://github.com/Ci-Daniels/GSM-ann-dertank-system

INTRODUCTION

The SIM800L GSM/GPRS module can be used to control your household appliances remotely. This expands from wanting to monitor your house or listen to what is happening to your house when you are miles away or want to turn off your lights, pump, or even activate your sprinkler just ith a silent call or a text message; this module serves as a solid launching point for you to get started with IoT.

I want to use the module to control an underground tank to receive the level of water in the tank remotely from my phone through a text message to and from the system.

SIM800L GSM/GPRS module is a miniature GSM modem that can be integrated into many IoT projects. It requires up to 5V of power supply to function. You can use this module to accomplish almost anything a normal cell phone can; SMS text messages, make or receive phone calls, connecting to the internet through GPRS, TCP/IP, and more! To top it off, the module supports quad-band GSM/GPRS network, meaning it works pretty much anywhere in the world.

LED NETWORK STATUS INDICATORS ON THE GSM

- Blink every 1 second

  -The module is running but hasn't made the connection to the cellular network yet.

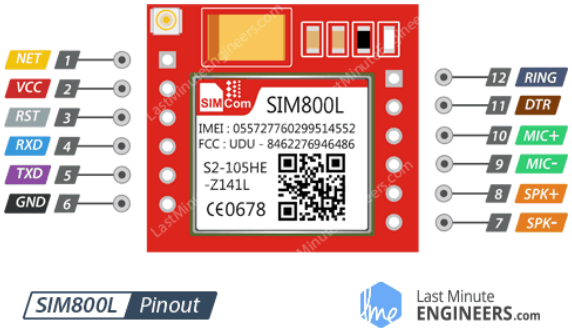
- Blink every 2 seconds

-The GPRS data requested is active

❖ Blink every3 seconds

-The module has made contact with the cellular network and can send/ receive SMS and calls.

PINOUT



PIN	FUNCTION
1	Where you can solder or connect the antenna
2	Connect the power supply;3.3 to 5v
3	Hard resets the module
4	Used for serial communication it acts as the receiver
5	Used for serial communication used as the transmitter.
6	It is ground the module
7	It is a differential speaker
8	It is a differential speaker
9	It is a differential microphone
10	It is a differential microphone
11	It activates and deactivates the sleep mode -pulling it HIGH it will put the module to

	sleep mode -pulling it LOW will wake the module
12	It is the ring indicator or the interrupt

GSM COMMANDS

COMMAND	FUNCTION
AT	-Initialises the handshake and will return okay to show that the module understands you. -It also initializes the auto-baud'er -Once initialized, it allows you to send and receive commands to and from the module.
AT+CSQ	-checks for signal strength
AT+CCID	-checks for the sim card number
AT+CREG?	-check whether the sim card is in a registered network. 1 for a home network. 5 for a roaming network
ATI	-Gets the module name and version
AT+COPS?	-Checks that you are connected to the network
AT+COPS=?	-Return the list operators in the network
AT+CBC	-Return the lipo battery state.(0,90,4V) The second number is the % full (in this case its 90%) and the third number is the actual voltage in mV (in this case, 4 V)
SENDING AN SMS; sends SMS to the phone	
COMMAND	FUNCTION
AT+CMGF=1	Selects SMS message format as TEXT
AT+CMGS=+ZZxxx	Send SMS to the phone number identified where ZZ represents the country code and xxx represents the specific phone number
READING SMS; read incoming messages from the phone	
AT+CNMI=1,2,0,0,0	-Specifies how newly received messages should be handled. -You can tell the SIM800L module either to forward newly arrived SMS messages directly to the PC, or to save them in message storage

	and then notify the PC about their locations in message storage. -The first field is phone number. The second field is the name of the person sending SMS. The third field is a timestamp while fourth field is the actual message.
MAKE A CALL	
COMMAND	FUNCTION
ATD+ +ZZxxxxxx;	-Dials the number that is specified (;)modifier separates the dial string into multiple dial commands; all but the last must end with a semicolon
ATH	-Hangs up the call
RECEIVE A CALL	
ATA	-Accepts incoming calls

PROBLEM

The GSM could not send or receive messages from my phone because it did not connect to my network. As such I could not use it in my water monitoring system. Reported the issue;still waiting for the replacement of the GSM;in the meantime I have taken the approach of a telegram bot to send and receive commands to and from the system.