

LISTING PROGRAM

```
#include <SerialGSM.h>

#include <SoftwareSerial.h>

#include <OneWire.h>

SerialGSM cell (11, 12);

boolean sendonce=true;


#define E1 6

#define E2 5 //kipas

OneWire ds(A1);

int pin = 1;

int pirpin = 13;

int ods = 2;

int kunci =9;

int kipas1 =8;

int kipas2 =7;

int bpintu = 3;

int tpintu = 4;

int inputPin = A0;

int pirState = LOW;

int val = 0;

int pinSpeaker = 10;

int Kondisi_kunci;

int Kondisi_pintu;
```

```

float temp_thresh = 0.50;

void setup() {
  Serial.begin(9600);
  pinMode(E1, OUTPUT);
  pinMode(E2, OUTPUT);
  pinMode(pin, OUTPUT);
  pinMode(kipas1,OUTPUT);
  pinMode(kipas2,OUTPUT);
  pinMode(bpintu, OUTPUT);
  pinMode(tpintu, OUTPUT);
  pinMode(pirpin, OUTPUT);
  pinMode(inputPin, INPUT);
  pinMode(ods, OUTPUT);

  digitalWrite(ods, LOW);
  digitalWrite(pirpin, HIGH);
  cell.begin (9600);
  cell.Boot();
  cell.FwdSMS2Serial();
  cell.Rcpt("081367499710");
  cell.Message("alat siap");
  cell.SendSMS();
}

```

```

Serial.println("Ready");

}

void loop(){

  baca_pir();

  if (cell.ReceiveSMS()){

    String sender = cell.Sender();

    String message = cell.Message();

    if (message=="kunci pintu") {

      Serial.println("kunci");

      kunci_pintu();

    }

    else if (message=="buka kunci") {

      Serial.println("buka kunci");

      buka_kunci();

      while(1){

        baca_suhu();

        if (cell.ReceiveSMS()){

          String sender = cell.Sender();

          String message = cell.Message();

          if (message=="kunci pintu"){

            Serial.println("kunci");

```

```

kunci_pintu();

break;

}

}

}

}

else if (message=="tutup pintu") {

    Serial.println("tutup pintu");

    tutup_pintu();

}

else if (message=="alarm off") {

    Serial.println("alarm off");

    alarm_off();

}

else if (message=="alarm on") {

    Serial.println("alarm on");

    alarm_on();

}

else if (message=="buka pintu") {

    Serial.println("buka pintu");

    buka_pintu();

    delay(5);

    while(1){

        baca_suhu();

        if (cell.ReceiveSMS()){

```

```

String sender = cell.Sender();

String message = cell.Message();

if (message=="kunci pintu"){

Serial.println("kunci");

kunci_pintu();

break;

}

}

}

}

else {

digitalWrite(pin, HIGH);


}

}

}

//=====Sistem Keamanan=====//

void baca_pir()

{

digitalWrite(pirpin, HIGH);

val = digitalRead(inputPin);

if (val == HIGH) {

digitalWrite(pinSpeaker, HIGH);

playTone(300, 160);

{

```

```

    notifke_tr();
}

delay(1);

if (pirState == LOW) {

    Serial.println("Terdeteksi suatu pergerakan!");

    pirState = HIGH;

    digitalWrite(pinSpeaker, HIGH);

}

}

else {

    playTone(0, 0);

    delay(3);

    if (pirState == HIGH){

        Serial.println("Motion ended!");

        pirState = LOW;

        digitalWrite(pinSpeaker, LOW);

    }

}

}

```

```

void playTone(long duration, int freq) {

    duration *= 3000;

    int period = (1.0 / freq) * 1000;

    long elapsed_time = 0;

```

```

while (elapsed_time < duration) {

    digitalWrite(pinSpeaker,HIGH);

    delayMicroseconds(period / 2);

    digitalWrite(pinSpeaker, LOW);

    delayMicroseconds(period / 2);

    elapsed_time += (period);

}

}

//=====Sistem Keamanan=====//

//=====Sistem Buka Tutup Pintu=====//

void kunci_pintu(){

    digitalWrite(pirpin, HIGH);

    baca_pir();

    digitalWrite (ods, LOW);

    digitalWrite(E2, 0);

    cell.begin (9600);

    cell.Boot();

    cell.DeleteAllSMS();

    cell.FwdSMS2Serial();

    cell.Rcpt("08988321533");

    cell.Message("pintu dikunci");

    cell.SendSMS();

    digitalWrite(kunci, HIGH);

    digitalWrite(pirpin, HIGH);

```

```

{
    {
        notifke_tr2();
    }
    cell.DeleteAllSMS();
}
Kondisi_kunci == 1;
baca_pir();
}

```

```

void buka_kunci(){
    digitalWrite(pirpin, LOW);
    digitalWrite (ods, HIGH);
    cell.begin (9600);
    cell.Boot();
    cell.DeleteAllSMS();
    cell.FwdSMS2Serial();
    cell.Rcpt(cell.Sender());
    cell.Message("kunci dibuka");
    cell.SendSMS();
    digitalWrite(kunci, LOW);
    {
        {

```



```

        notifke_tr3();
    }

    cell.DeleteAllSMS();
}

Kondisi_kunci == 0;
}

```

```

void alarm_on ()
{
    digitalWrite(pirpin, HIGH);
    cell.begin (9600);
    cell.Boot();
    cell.DeleteAllSMS();
    cell.FwdSMS2Serial();
    cell.Rcpt("08988321533");
    cell.Message("alarm on");
    cell.SendSMS();
    cell.DeleteAllSMS();
}

```

```

void alarm_off()
{
    digitalWrite(pirpin, LOW);
    cell.begin (9600);
    cell.Boot();
}

```

```

cell.DeleteAllSMS();

cell.FwdSMS2Serial();

cell.Rcpt("08988321533");

cell.Message("alarm off");

cell.SendSMS();

cell.DeleteAllSMS();

}

```

```

void tutup_pintu (){

    digitalWrite(pirpin, LOW);

    digitalWrite (ods, LOW);

    digitalWrite(E1, 30);

    digitalWrite(tpintu, HIGH);

    cell.begin (9600);

    cell.Boot();

    cell.DeleteAllSMS();

    cell.FwdSMS2Serial();

    cell.Rcpt(cell.Sender());

    cell.Message("pintu ditutup");

    cell.SendSMS();

    cell.DeleteAllSMS();

    delay (1);

    digitalWrite(E1, 0);

    digitalWrite(tpintu, LOW);

```

```

Kondisi_pintu == 1;

{
    notifke_tr5();
}

}

void buka_pintu(){
    digitalWrite(pirpin, LOW);
    digitalWrite(ods, HIGH);
    digitalWrite(E1, 30);
    digitalWrite(bpintu, HIGH);
    cell.begin (9600);
    cell.Boot();
    cell.DeleteAllSMS();
    cell.FwdSMS2Serial();
    cell.Rcpt(cell.Sender());
    cell.Message("pintu dibuka");
    cell.SendSMS();
    cell.DeleteAllSMS();
    delay (1);
    digitalWrite(E1, 0);
    digitalWrite(bpintu, LOW);
    Kondisi_pintu = 0;
}

```

```

void notifke_tr(){

    cell.begin (9600);

    cell.Boot();

    cell.FwdSMS2Serial();

    cell.Rcpt("08988321533");

    cell.Message("alarm aktif, segera periksa keadaan rumah anda");

    cell.SendSMS();

    cell.DeleteAllSMS();

}

```

```

void notifke_tr1() {

    cell.begin (9600);

    cell.Boot();

    cell.FwdSMS2Serial();

    cell.Rcpt("08988321533");

    cell.Message("alarm dimatikan via sms, segera periksa siapa itu");

    cell.SendSMS();

}

```

```

void notifke_tr2(){

    cell.begin (9600);

    cell.Boot();

    cell.FwdSMS2Serial();

    cell.Rcpt("08988321533");

```

```
cell.Message("pintu dikunci via sms, segera periksa siapa itu");  
cell.SendSMS();  
}
```

```
void notifke_tr3(){  
    cell.begin (9600);  
    cell.Boot();  
    cell.FwdSMS2Serial();  
    cell.Rcpt("08988321533");  
    cell.Message("kunci dibuka via sms, segera periksa siapa itu");  
    cell.SendSMS();  
}
```

```
void notifke_tr4(){  
    cell.begin (9600);  
    cell.Boot();  
    cell.FwdSMS2Serial();  
    cell.Rcpt("08988321533");  
    cell.Message("pintu dibuka via sms, segera periksa siapa itu");  
    cell.SendSMS();  
}
```

```
void notifke_tr5(){  
    cell.begin (9600);
```

```

cell.Boot();

cell.FwdSMS2Serial();

cell.Rcpt("08988321533");

cell.Message("pintu ditutup via sms, segera periksa siapa itu");

cell.SendSMS();

}

//=====Sistem Buka Tutup Pintu=====//

//=====Sistem Baca Suhu=====//

void baca_suhu(){

    digitalWrite(pirpin, LOW);

    byte i;

    byte present = 0;

    byte type_s;

    byte data[12];

    byte addr[8];

    float celsius, fahrenheit;

    digitalWrite(ods, HIGH);

    if ( !ds.search(addr)) {

        Serial.println();

        ds.reset_search();

        delay(750);

        return;

```

```

}

ds.reset();

ds.select(addr);

ds.write(0x44, 1);

delay(750);

present = ds.reset();

ds.select(addr);

ds.write(0xBE);

for ( i = 0; i < 9; i++) {

    data[i] = ds.read();

}

int16_t raw = (data[1] << 8) | data[0];

if (type_s) {

    raw = raw << 3;

    if (data[7] == 0x10) {

        raw = (raw & 0xFFF0) + 12 - data[6];

    }

}

else {

    byte cfg = (data[4] & 0x60);

    if (cfg == 0x00) raw = raw & ~7;

    else if (cfg == 0x20) raw = raw & ~3;

    else if (cfg == 0x40) raw = raw & ~1;

}

{

```

```

celsius = (float)raw / 16.0;

fahrenheit = celsius * 1.8 + 32.0;

Serial.print(" Temperature = ");

Serial.print(celsius);

Serial.print(" Celsius, ");

Serial.print(fahrenheit);

Serial.println(" Fahrenheit");
}

{

float temp = celsius;

Serial.print(" Kondisi Ruangan ");


if (temp >= 29 && temp < 30.50) {

    Serial.print("Sejuk Kipas ON");

    Serial.print("Kipas 1 on kipas 2 off");

    analogWrite(E2, 100);

    digitalWrite(kipas1, HIGH);

    digitalWrite (kipas2, LOW);

}

//on

else if (temp >= 30.50 && temp < 32) {

    Serial.print(" Hangat ");

    Serial.print("Kipas 1 on kipas 2 off");

    analogWrite(E2, 155);

    digitalWrite(kipas1, HIGH);

```



```

    digitalWrite (kipas2, LOW);
}

//hangat
else if (temp >= 32 && temp < 33) {

    Serial.print("HANGAT");

    Serial.print("Kipas 1 on kipas 2 off");

    analogWrite(E2, 210);

    digitalWrite(kipas1, HIGH);

    digitalWrite(kipas2, LOW);

    ;
}

//panas
else if (temp >= 33 && temp < 34) {

    Serial.print("KIPAS 1 & 2 ON = PANAS");

    analogWrite(E2, 150);

    digitalWrite(kipas1, HIGH);

    digitalWrite(kipas2, HIGH);

}

//sangat panas
else if (temp >= 34 && temp < 36 ) {

    Serial.print("KIPAS 1 & 2 ON = SANGAT PANAS ");

    analogWrite(E2, 200);

    digitalWrite(kipas1, HIGH);

    digitalWrite(kipas2, HIGH);

}

```

```

else if (temp >= 36) {

    Serial.print("KIPAS 1 & 2 ON = Suhu Ruangan SANGAT PANAS ");

    analogWrite(E2, 200);

    digitalWrite(kipas1, HIGH);

    digitalWrite(kipas2, HIGH);

}

else {

    (temp <= 28);

    {

        Serial.print("Kipas 1 off kipas 2 off");

        Serial.print("Dingin");

        analogWrite(E2, 0);

        digitalWrite(kipas1, LOW);

        digitalWrite(kipas2, LOW);

    }

}

}

}

```