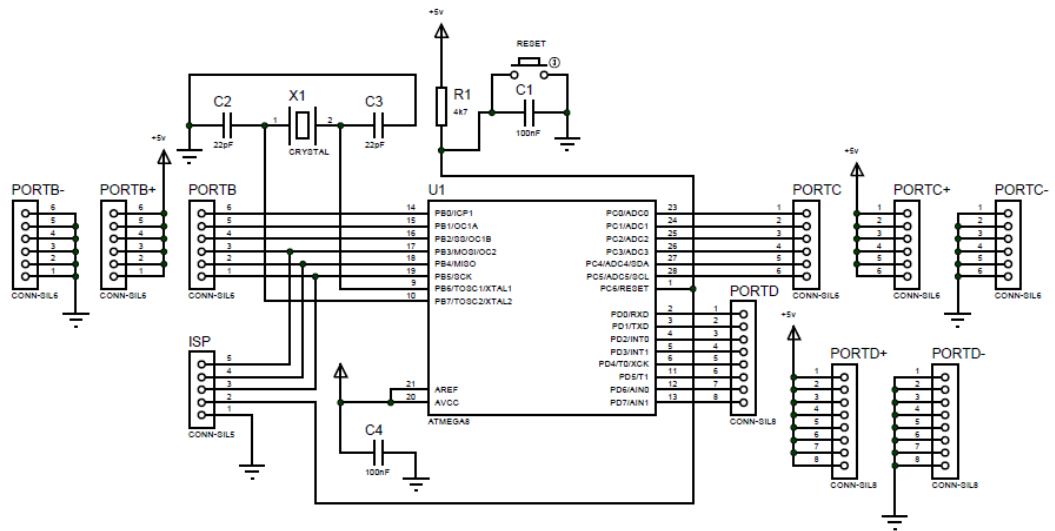
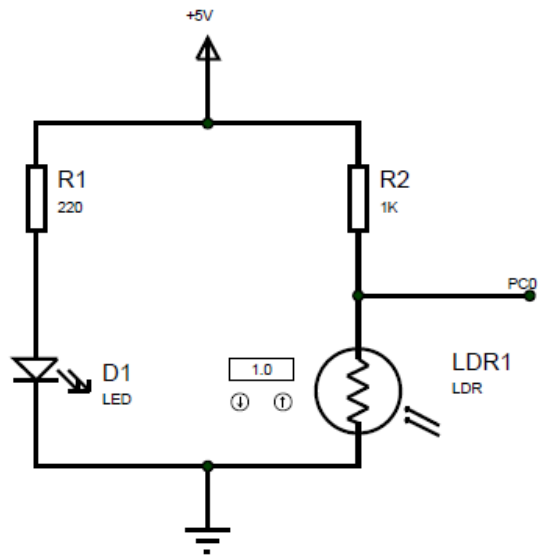


# LAMPIRAN

## Rangkaian Skematik Sistem Minimum



## Rangkaian Skematik Sensor





## Listing Program :

```
#include <mega8.h>
#include <stdio.h>
#include <stdlib.h>
#include <delay.h>

// Alphanumeric LCD functions
#include <alcd.h>

// Declare your global variables here

// Voltage Reference: AREF pin
#define ADC_VREF_TYPE ((0<<REFS1) | (0<<REFS0) | (1<<ADLAR))

unsigned char sensor,baca,tegbat,buf[33],mode=0;
float baterai;
int i=0;
// Read the 8 most significant bits
// of the AD conversion result
unsigned char read_adc(unsigned char adc_input)
{
    ADMUX=adc_input | ADC_VREF_TYPE;
    // Delay needed for the stabilization of the ADC input
    // voltage
    delay_us(10);
    // Start the AD conversion
    ADCSRA|=(1<<ADSC);
    // Wait for the AD conversion to complete
    while ((ADCSRA & (1<<ADIF))==0);
    ADCSRA|=(1<<ADIF);
    return ADCH;
}

void main(void)
{
    // Declare your local variables here

    // Input/Output Ports initialization
    // Port B initialization
    // Function: Bit7=In Bit6=In Bit5=In Bit4=In Bit3=In Bit2=In
    // Bit1=In Bit0=In
```

```

DDRB=(0<<DDB7) | (0<<DDB6) | (0<<DDB5) | (0<<DDB4) |
(0<<DDB3) | (0<<DDB2) | (0<<DDB1) | (0<<DDB0);
// State: Bit7=T Bit6=T Bit5=T Bit4=T Bit3=T Bit2=T Bit1=P
Bit0=P
PORTB=(0<<PORTB7) | (0<<PORTB6) | (0<<PORTB5) | (0<<PORTB4)
| (0<<PORTB3) | (1<<PORTB2) | (1<<PORTB1) | (1<<PORTB0);

// Port C initialization
// Function: Bit6=In Bit5=In Bit4=In Bit3=In Bit2=In Bit1=In
Bit0=In
DDRC=(0<<DDC6) | (0<<DDC5) | (0<<DDC4) | (0<<DDC3) |
(0<<DDC2) | (0<<DDC1) | (0<<DDC0);
// State: Bit6=T Bit5=T Bit4=T Bit3=T Bit2=T Bit1=T Bit0=T
PORTC=(0<<PORTC6) | (0<<PORTC5) | (0<<PORTC4) | (0<<PORTC3)
| (0<<PORTC2) | (0<<PORTC1) | (0<<PORTC0);

// Port D initialization
// Function: Bit7=In Bit6=In Bit5=In Bit4=In Bit3=In Bit2=In
Bit1=In Bit0=In
DDRD=(0<<DDD7) | (0<<DDD6) | (0<<DDD5) | (0<<DDD4) |
(0<<DDD3) | (0<<DDD2) | (0<<DDD1) | (0<<DDD0);
// State: Bit7=T Bit6=T Bit5=T Bit4=T Bit3=T Bit2=T Bit1=T
Bit0=T
PORTD=(0<<PORTD7) | (0<<PORTD6) | (0<<PORTD5) | (0<<PORTD4)
| (0<<PORTD3) | (0<<PORTD2) | (0<<PORTD1) | (0<<PORTD0);

// Timer/Counter 0 initialization
// Clock source: System Clock
// Clock value: Timer 0 Stopped
TCCR0=(0<<CS02) | (0<<CS01) | (0<<CS00);
TCNT0=0x00;

// Timer/Counter 1 initialization
// Clock source: System Clock
// Clock value: Timer1 Stopped
// Mode: Normal top=0xFFFF
// OC1A output: Disconnected
// OC1B output: Disconnected
// Noise Canceler: Off
// Input Capture on Falling Edge
// Timer1 Overflow Interrupt: Off
// Input Capture Interrupt: Off
// Compare A Match Interrupt: Off
// Compare B Match Interrupt: Off

```

```

TCCR1A=(0<<COM1A1) | (0<<COM1A0) | (0<<COM1B1) | (0<<COM1B0)
| (0<<WGM11) | (0<<WGM10);
TCCR1B=(0<<ICNC1) | (0<<ICES1) | (0<<WGM13) | (0<<WGM12) |
(0<<CS12) | (0<<CS11) | (0<<CS10);
TCNT1H=0x00;
TCNT1L=0x00;
ICR1H=0x00;
ICR1L=0x00;
OCR1AH=0x00;
OCR1AL=0x00;
OCR1BH=0x00;
OCR1BL=0x00;

// Timer/Counter 2 initialization
// Clock source: System Clock
// Clock value: Timer2 Stopped
// Mode: Normal top=0xFF
// OC2 output: Disconnected
ASSR=0<<AS2;
TCCR2=(0<<PWM2) | (0<<COM21) | (0<<COM20) | (0<<CTC2) |
(0<<CS22) | (0<<CS21) | (0<<CS20);
TCNT2=0x00;
OCR2=0x00;

// Timer(s)/Counter(s) Interrupt(s) initialization
TIMSK=(0<<OCIE2) | (0<<TOIE2) | (0<<TICIE1) | (0<<OCIE1A) |
(0<<OCIE1B) | (0<<TOIE1) | (0<<TOIE0);

// External Interrupt(s) initialization
// INT0: Off
// INT1: Off
MCUCR=(0<<ISC11) | (0<<ISC10) | (0<<ISC01) | (0<<ISC00);

// USART initialization
// USART disabled
UCSRB=(0<<RXCIE) | (0<<TXCIE) | (0<<UDRIE) | (0<<RXEN) |
(0<<TXEN) | (0<<UCSZ2) | (0<<RXB8) | (0<<TXB8);

// Analog Comparator initialization
// Analog Comparator: Off
// The Analog Comparator's positive input is
// connected to the AIN0 pin
// The Analog Comparator's negative input is
// connected to the AIN1 pin

```

```

ACSR=(1<<ACD) | (0<<ACBG) | (0<<ACO) | (0<<ACI) | (0<<ACIE)
| (0<<ACIC) | (0<<ACIS1) | (0<<ACIS0);

// ADC initialization
// ADC Clock frequency: 750.000 kHz
// ADC Voltage Reference: AREF pin
// Only the 8 most significant bits of
// the AD conversion result are used
ADMUX=ADC_VREF_TYPE;
ADCSRA=(1<<ADEN) | (0<<ADSC) | (0<<ADFR) | (0<<ADIF) |
(0<<ADIE) | (1<<ADPS2) | (0<<ADPS1) | (0<<ADPS0);
SFIOR=(0<<ACME);

// SPI initialization
// SPI disabled
SPCR=(0<<SPIE) | (0<<SPE) | (0<<DORD) | (0<<MSTR) |
(0<<CPOL) | (0<<CPHA) | (0<<SPR1) | (0<<SPR0);

// TWI initialization
// TWI disabled
TWCR=(0<<TWEA) | (0<<TWSTA) | (0<<TWSTO) | (0<<TWEN) |
(0<<TWIE);

// Alphanumeric LCD initialization
// Connections are specified in the
// Project|Configure|C Compiler|Libraries|Alphanumeric LCD
menu:
// RS - PORTD Bit 2
// RD - PORTD Bit 1
// EN - PORTD Bit 3
// D4 - PORTD Bit 4
// D5 - PORTD Bit 5
// D6 - PORTD Bit 6
// D7 - PORTD Bit 7
// Characters/line: 16
lcd_init(16);
lcd_gotoxy(0,0);
lcd_putsf("DETEKSI TINGKAT ");
lcd_gotoxy(0,1);
lcd_putsf("  DEHIDRASI  ");
delay_ms(2000);
lcd_clear();

while (1)
{

```



```

// Place your code here

if(mode==0)
{
    tegbat=read_adc(1);//baca tegangan baterai
    baterai=(float) tegbat*5/255;
    lcd_gotoxy(3,0);
    sprintf(buf,"Batt :%0.1f",baterai
    lcd_puts(buf);
    lcd_gotoxy(12,0);
    lcd_putsf("V");
    lcd_gotoxy(0,1);
    lcd_putsf(" Tekan Mulai");
    delay_ms(500);
    lcd_clear();
}
if(PINB.1==0)
{
    while(PINB.1==0)
    {}
    mode=1;
    lcd_clear();
}
if(mode==1)
{
    for(i=0;i<100;i++)
    {
        baca=read_adc(0);
        lcd_gotoxy(0,1);
        lcd_putsf(" Memeriksa..");
        delay_ms(10);
        lcd_clear();
        sensor=baca;
    }
    mode=2;
    i=0;
}
if(mode==2)
{
    if(sensor>=0&&sensor<=74)
    {
        lcd_gotoxy(0,0);
        sprintf(buf,"Nilai: %d",sensor);
        lcd_puts(buf);
        lcd_gotoxy(0,1);
    }
}

```

```

        lcd_putsf("    Zona Aman    ");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("    Pertahankan    ");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("Konsumsi Cairan ");
        delay_ms(1000);
    }
    if(sensor>=75&&sensor<=110)
    {
        lcd_gotoxy(0,0);
        sprintf(buf,"Nilai: %d",sensor);
        lcd_puts(buf);
        PORTD.1=1;
        delay_ms(50);
        PORTD.1=0;
        delay_ms(50);
        lcd_gotoxy(0,1);
        lcd_putsf("Dehidrasi Ringan");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("Segera Konsumsi ");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("    Cairan    ");
        delay_ms(1000);
    }
    if(sensor>=111&&sensor<=200)
    {
        lcd_gotoxy(0,0);
        sprintf(buf,"Nilai: %d",sensor);
        lcd_puts(buf);
        PORTD.1=1;//buzzer
        lcd_gotoxy(0,1);
        lcd_putsf("Dehidrasi Berat ");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("    Secepatnya    ");
        delay_ms(1000);
        lcd_gotoxy(0,1);
        lcd_putsf("Konsumsi Cairan ");
        delay_ms(1000);
    }
    delay_ms(100);

```

```
lcd_clear();
if(PINB.2==0)
{
while(PINB.2==0)
{
PORTD.1=0;
}
PORTD.1=0;
mode=0;
lcd_clear();
}
}
}}
```

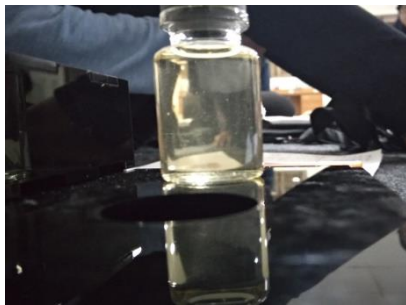
**Gambar Sampel :**



Isma



Ozi



Gina



Anisa, Maya



Dewinta



Inta



Hana



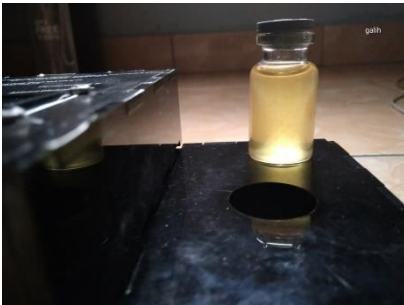
Kika



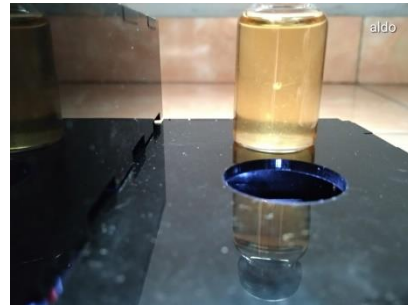
Pramukti



Rino



Galih



Aldo



Adi



Dewanti