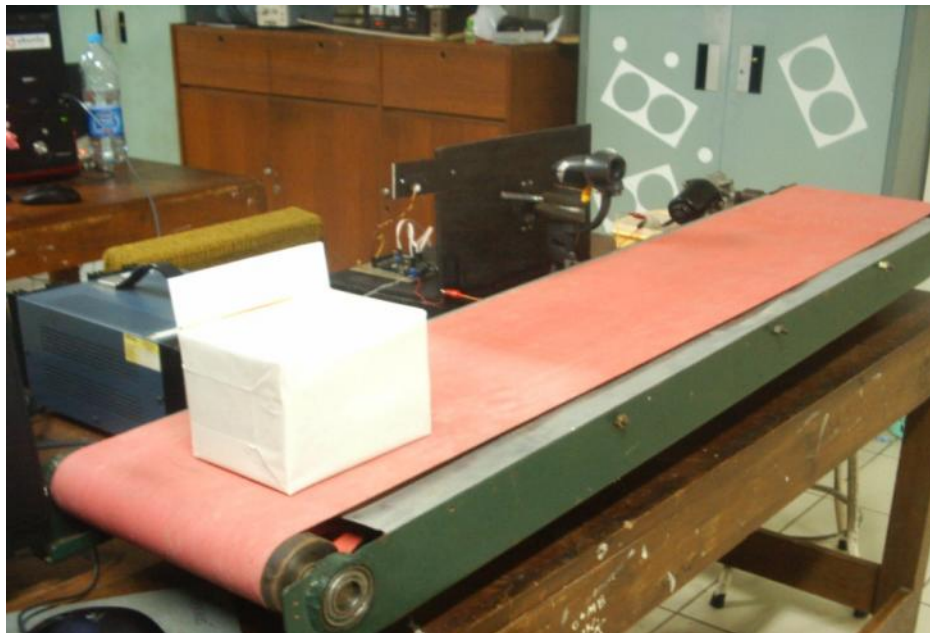


**LAMPIRAN A**  
**FOTO SISTEM**

Tampak Depan



Tampak Samping Kiri



Tampak Depan



Tampak Belakang



**LAMPIRAN B**  
**PROGRAM PADA PENGONTROL**  
**ATMEGA16**

## PROGRAM UTAMA

### **PENGONTROL MIKRO ATMEGA16**

/\*\*\*\*\*\*

This program was produced by the  
CodeWizardAVR V1.25.3 Standard  
Automatic Program Generator  
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<http://www.hpinfotech.com>

Project :  
Version :  
Date : 4/25/2007  
Author : Laboratorium  
Company : Fisika dan Instrumentasi  
Comments:

Chip type : ATmega16  
Program type : Application  
Clock frequency : 11.059200 MHz  
Memory model : Small  
External SRAM size : 0  
Data Stack size : 256

\*\*\*\*\*/

```
#include <mega16.h>
#include <math.h>
#include <stdio.h>
#include <delay.h>
```

```
// Alphanumeric LCD Module functions
#asm
.equ __lcd_port=0x15 ;PORTC
#endasm
#include <lcd.h>
```

```
#define ADC_VREF_TYPE 0x60
```

```
// 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 & 0xff);
// Start the AD conversion
ADCSRA|=0x40;
```

```

// Wait for the AD conversion to complete
while ((ADCSRA & 0x10)==0);
ADCSRA|=0x10;
return ADCH;
}

// Declare your global variables here
char texte[16];
int edde;
int edge;
unsigned int i;
void baca_jarak_barang(void);

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

// Input/Output Ports initialization
// Port A initialization
// Func7=In Func6=In Func5=In Func4=In Func3=In Func2=In Func1=In
Func0=In
// State7=T State6=T State5=T State4=T State3=T State2=T State1=T State0=T
PORTA=0x00;
DDRA=0x00;

// Port B initialization
// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out
Func1=Out Func0=Out
// State7=0 State6=0 State5=0 State4=0 State3=0 State2=0 State1=0 State0=0
PORTB=0x00;
DDRB=0xFF;

// Port C initialization
// Func7=In Func6=In Func5=In Func4=In Func3=In Func2=In Func1=In
Func0=In
// State7=T State6=T State5=T State4=T State3=T State2=T State1=T State0=T
PORTC=0x00;
DDRC=0x00;

// Port D initialization
// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out
Func1=Out Func0=Out
// State7=0 State6=0 State5=0 State4=0 State3=0 State2=0 State1=0 State0=0
PORTD=0x00;
DDRD=0xFF;

```

```

// Timer/Counter 0 initialization
// Clock source: System Clock
// Clock value: Timer 0 Stopped
// Mode: Normal top=FFh
// OC0 output: Disconnected
TCCR0=0x00;
TCNT0=0x00;
OCR0=0x00;

// Timer/Counter 1 initialization
// Clock source: System Clock
// Clock value: Timer 1 Stopped
// Mode: Normal top=FFFFh
// OC1A output: Discon.
// OC1B output: Discon.
// Noise Canceler: Off
// Input Capture on Falling Edge
// Timer 1 Overflow Interrupt: Off
// Input Capture Interrupt: Off
// Compare A Match Interrupt: Off
// Compare B Match Interrupt: Off
TCCR1A=0x00;
TCCR1B=0x00;
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: Timer 2 Stopped
// Mode: Normal top=FFh
// OC2 output: Disconnected
ASSR=0x00;
TCCR2=0x00;
TCNT2=0x00;
OCR2=0x00;

// External Interrupt(s) initialization
// INT0: Off
// INT1: Off
// INT2: Off

```

```

MCUCR=0x00;
MCUCSR=0x00;

// Timer(s)/Counter(s) Interrupt(s) initialization
TIMSK=0x00;

// Analog Comparator initialization
// Analog Comparator: Off
// Analog Comparator Input Capture by Timer/Counter 1: Off
ACSR=0x80;
SFIOR=0x00;

// ADC initialization
// ADC Clock frequency: 691.200 kHz
// ADC Voltage Reference: AVCC pin
// ADC Auto Trigger Source: None
// Only the 8 most significant bits of
// the AD conversion result are used
ADMUX=ADC_VREF_TYPE & 0xff;
ADCSRA=0x84;
PORTD.4=1;
PORTD.5=0;
PORTD.6=1;
// LCD module initialization
lcd_init(16);
lcd_putsf("shin dong won");
delay_ms(1000);

while (1)
{
    // Place your code here
    //lcd_clear();
    baca_jarak_barang();
    delay_ms(200);

    if(edde <= 35)
    {

        PORTD.4=1;
        PORTD.5=0;
        PORTD.6=1;
        delay_ms(9000);
        PORTD.4=0;
        PORTD.5=0;
        PORTD.6=0;
    }
}

```



```

    for(i=0;i<150;i++)
    {
        PORTB.0=1;
        delay_us(600);
        PORTB.0=0;
        delay_ms(19);
    }
    PORTD.4=1;
    PORTD.5=0;
    PORTD.6=1;
    delay_ms(5000);
    PORTD.4=0;
    PORTD.5=0;
    PORTD.6=0;
    for(i=0;i<50;i++)
    {
        PORTB.0=1;
        delay_us(2400);
        PORTB.0=0;
        delay_ms(17);
    }

}

if(edde >= 36)
{
    PORTD.4=1;
    PORTD.5=0;
    PORTD.6=1;
}
};
}

void baca_jarak_barang(void)
{
    edge=read_adc(0);
    if(edge<20)
    edge=20;
    edde=2141.72055 * (pow(edge,-1.078867));

    sprintf(texte,"jrk brng=%3u cm", edde);
    lcd_clear();
    lcd_gotoxy(0,0);
    lcd_puts(texte);
}

```

**LAMPIRAN C**  
**PROGRAM GAMBAS**

## **Form Input**

```
Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC MyRS2 AS Result
PUBLIC vCari AS String
PUBLIC sql AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW finput
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBConnect
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.72"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB txtbarcode_Change()
DIM sql, sql2 AS String
DIM stok, barang AS Integer

stok = 0
barang = 1
IF Len(Trim(txtbarcode.text)) = 13 THEN
sql = "select * from test where barcode =" &
txtbarcode.text
sql2 = "select * from barang where barcode
=" & txtbarcode.text
MyRS = MyConn.EXEC(sql)
MyRS2 = MyConn.Exec(sql2)
txtnama.text = MyRS2!stok_barang
barcode.text = MyRS!barcode
txtnama_barang.text =
MyRS2!nama_barang
stok = txtnama.text + barang
txtjumlah.text = stok
```

```
sql2 = "update barang set stok_barang = " &
txtjumlah.text & " where barcode =" &
txtbarcode.text
MyRS2 = MyConn.Exec(sql2)

txtbarcode.text = ""

ENDIF
END

PUBLIC SUB Button1_Click()

finput.Close
fmenu.Enabled = TRUE
```

END

## **Form Barang**

```
' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC MyRS2 AS Result
PUBLIC vCari AS String
PUBLIC vCari2 AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fbarang
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBConnect
getData
transferData
fillUpListBox
fillUpListCombo
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END
```

```

PUBLIC SUB getData()
DIM sql AS String
DIM sql2 AS String
sql = "select * from barang order by
kode_barang"
sql2 = "select * from merk order by id"
MyRS = MyConn.Exec(sql)
MyRS2 = MyConn.Exec(sql2)
CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB transferData()
vCari = Str(MyRS!kode_barang)
txtKode.Text = MyRS!kode_barang
txtNama.text = MyRS!nama_barang
cmbMerk.Text = MyRS!merk
cmbJenis.text = MyRS!jenis
txtStok.text = MyRS!stok_barang
txtHarga.text = MyRS!harga_barang

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListBox()
DIM i AS Integer
DIM vkode AS String

```

```

ListBox1.Clear
FOR i = 1 TO MyRS.Count
vkode = Space$(3 -
Len(Str(MyRS!kode_barang))) &
Str(MyRS!kode_barang)
ListBox1.add(vkode & " | " &
MyRS!nama_barang)
MyRS.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListCombo()
DIM j AS Integer
DIM vkode AS String

```

```

cmbMerk.Clear
FOR j = 1 TO MyRS2.Count
cmbMerk.add(MyRS2!nama_merk)
MyRS2.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)

```

```

END

```

```

PUBLIC SUB ListBox1_Click()

```

```

DIM sql AS String
btnSimpan.Text = "UBAH"
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from barang where
kode_barang =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)

```

```

END

```

```

PUBLIC SUB btnTambah_Click()

```

```

clear
btnTambah.Enabled = FALSE
btnHapus.Enabled = FALSE
btnSimpan.Text = "SIMPAN"
END

```

```

PUBLIC SUB btnBatal_Click()

```

```

DIM sql AS String
vCari = Trim(Left$(listBox1.text, 3))
IF vCari <> "" THEN
btnTambah.Enabled = TRUE
sql = "select * from barang where
kode_barang =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
ELSE
clear
ENDIF
END

```

```

PRIVATE SUB clear()

```

```

txtKode.text = ""
txtNama.text = ""
cmbMerk.text = ""
cmbJenis.text = ""
txtStok.Text = ""
txtHarga.Text = ""
END

```

```

PUBLIC SUB btnHapus_Click()

```

```

DIM sql AS String

```

```

IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from barang where
kode_barang = " & vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF

END

PUBLIC SUB btnSimpan_Click()

DIM sql AS String

IF btnTambah.Enabled = FALSE THEN
sql = "insert into barang
(kode_barang,nama_barang,merk,jenis,stok_
barang,harga_barang)values(" &
txtKode.text & ", " &
txtNama.text & ", " & cmbMerk.text & ", " &
& cmbJenis.text & ", " &
txtStok.text & ", " & txtHarga.text & ")"
MyRS = MyConn.Exec(sql)
btnTambah.Enabled = TRUE
ELSE
sql = "update barang set "
sql = sql & "kode_barang = " &
txtKode.text
sql = sql & ",nama_barang = " &
txtNama.text
sql = sql & ",merk = " & cmbMerk.text
sql = sql & ",jenis = " & cmbJenis.text
sql = sql & ",stok_barang = " & txtStok.text
sql = sql & ",harga_barang = " &
txtHarga.text & " where kode_barang = " &
vCari
MyRS = MyConn.Exec(sql)
ENDIF
getData
fillUpListBox

CATCH
Message.Error(Error.Text)
END

PUBLIC SUB btnKeluar_Click()

fbarang.Close
fmenu.Enabled = TRUE

END

```

```

PUBLIC SUB txtkode_KeyPress()

END

```

### **Form Contact**

```

' Gambas class file

PUBLIC SUB Button1_Click()

fcontact.Close

END

```

### **Form Customer**

```

' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC vCari AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fcustomer
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBCConnect
getData
transferData
fillUpListBox
END

PUBLIC SUB DBCConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB getData()
DIM sql AS String
sql = "select * from customer order by
kode_customer"
MyRS = MyConn.Exec(sql)
CATCH

```

```

Message.error(Error.text)
END

PUBLIC SUB transferData()
vCari = Str(MyRS!kode_customer)
txtKode.Text = MyRS!kode_customer
txtNama.text = MyRS!nama
txtAlamat.Text = MyRS!alamat
txtTelepon.text = MyRS!telepon
txtFax.text = MyRS!fax
txtEmail.text = MyRS!email
CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListBox()
DIM i AS Integer
DIM vkode AS String

ListBox1.Clear
FOR i = 1 TO MyRS.Count
vkode = Space$(3 -
Len(Str(MyRS!kode_customer))) &
Str(MyRS!kode_customer)
ListBox1.add(vkode & " | " & MyRS!nama)
MyRS.MoveNext
NEXT

CATCH
Message.error(Error.text)
END

PUBLIC SUB ListBox1_Click()

DIM sql AS String
btnSimpan.Text = "UBAH"
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from customer where
kode_customer =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)

END

PUBLIC SUB btnTambah_Click()

clear
btnTambah.Enabled = FALSE
btnHapus.Enabled = FALSE
btnSimpan.Text = "SIMPAN"

END

PUBLIC SUB btnBatal_Click()
DIM sql AS String
vCari = Trim(Left$(ListBox1.text, 3))
IF vCari <> "" THEN
btnTambah.Enabled = TRUE
sql = "select * from customer where
kode_customer =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
ELSE
clear
ENDIF
END

PRIVATE SUB clear()
txtKode.text = ""
txtNama.text = ""
txtAlamat.text = ""
txtTelepon.text = ""
txtFax.Text = ""
txtEmail.Text = ""
END

PUBLIC SUB btnHapus_Click()

DIM sql AS String
IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from customer where
kode_customer =" & vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF
END

PUBLIC SUB btnSimpan_Click()

DIM sql AS String

IF btnTambah.Enabled = FALSE THEN
sql = "insert into customer
(kode_customer,nama,alamat,telepon,fax,em
ail )values(" & txtKode.text & ", " &
txtNama.text & ", " & txtAlamat.text & ", " &
& txtTelepon.text & ", " &
txtFax.text & ", " & txtEmail.text & ")"
MyRS = MyConn.Exec(sql)
btnTambah.Enabled = TRUE

```

```

ELSE
sql = "update customer set "
sql = sql & "kode_customer = " &
txtKode.text
sql = sql & ",nama = " & txtNama.text
sql = sql & ",alamat = " & txtAlamat.text
sql = sql & ",telepon = " & txtTelepon.text
sql = sql & ",fax = " & txtFax.text
sql = sql & ",email = " & txtEmail.text & "
where kode_customer = " & vCari
MyRS = MyConn.Exec(sql)
ENDIF
getData
fillUpListBox

```

```

CATCH
Message.Error(Error.Text)
END

```

```

PUBLIC SUB btnKeluar_Click()

```

```

    fcustomer.Close
    fmenu.Enabled = TRUE

```

```

END

```

### **Form Menu**

```

' Gambas class file

```

```

PUBLIC SUB mnExit_Click()

```

```

    fmenu.close
END

```

```

PUBLIC SUB _free()
    fmenu.close
    Message.Info("Terima Kasih telah
menggunakan aplikasi ini..")
END

```

```

PUBLIC SUB mnInputPelanggan_Click()

```

```

    fcustomer.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnInputBarang_Click()

```

```

    fbarang.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnInputMerk_Click()

```

```

    fmerk.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnInputSupplier_Click()

```

```

    fsupplier.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnPembelian_Click()

```

```

    fpembelian.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnPenjualan_Click()

```

```

    fpenjualan.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnDetail_Click()

```

```

    ftransaksi.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB mnProfile_Click()

```

```

    Fprofile.Show

```

```

END

```

```

PUBLIC SUB mnKontak_Click()

```

```

    fcontact.Show

```

```

END

```

```

PUBLIC SUB mnTolong_Click()

```

```

    finput.Show
    fmenu.Enabled = FALSE

```

```

END

```

```

PUBLIC SUB Serial_Click()

    FormSerial.Show

END

Form Merk

' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC vCari AS String

STATIC PUBLIC SUB Main()
    DIM oForm AS form
    oForm = NEW fmerk
    oForm.showModal()
END

PUBLIC SUB _new()
    ME.center
    DBConnect
    getData
    transferData
    fillUpListBox
END

PUBLIC SUB DBConnect()
    MyConn = NEW Connection
    MyConn.Close
    MyConn.Type = "mysql"
    MyConn.Host = "66.40.52.21"
    MyConn.Login = "rifshi_ei"
    MyConn.Password = "8346024"
    MyConn.Name = "rifshi_ei"
    MyConn.Open
    CATCH
    Message.error(Error.text)
END

PUBLIC SUB getData()
    DIM sql AS String
    sql = "select * from merk order by id"
    MyRS = MyConn.Exec(sql)
    CATCH
    Message.error(Error.text)
END

PUBLIC SUB transferData()
    vCari = Str(MyRS!id)
    txtKode.Text = MyRS!kode_merk
    txtNama.text = MyRS!nama_merk

    CATCH
    Message.error(Error.text)

```

```

END

PUBLIC SUB fillUpListBox()
    DIM i AS Integer
    DIM vid AS String

    ListBox1.Clear
    FOR i = 1 TO MyRS.Count
        vid = Space$(3 - Len(Str(MyRS!id))) &
            Str(MyRS!id)
        ListBox1.add(vid & " | " &
            MyRS!nama_merk)
        MyRS.MoveNext
    NEXT

    CATCH
    Message.error(Error.text)
END

PUBLIC SUB ListBox1_Click()
    DIM sql AS String
    btnSimpan.Text = "UBAH"
    vCari = Trim(Left$(ListBox1.text, 3))
    sql = "select * from merk where id =" &
        vCari
    MyRS = MyConn.Exec(sql)
    transferData
    btnHapus.Enabled = TRUE
    btnTambah.Enabled = TRUE
    CATCH
    Message.Error(Error.Text)

END

PUBLIC SUB btnTambah_Click()

    clear
    btnTambah.Enabled = FALSE
    btnHapus.Enabled = FALSE
    btnSimpan.Text = "SIMPAN"

END

PUBLIC SUB btnBatal_Click()
    DIM sql AS String
    vCari = Trim(Left$(listBox1.text, 3))
    IF vCari <> "" THEN
        btnTambah.Enabled = TRUE
        sql = "select * from merk where id =" &
            vCari
        MyRS = MyConn.Exec(sql)
        transferData
        btnHapus.Enabled = TRUE
    CATCH
    Message.Error(Error.Text)

```



```

ELSE
clear
ENDIF
END

PRIVATE SUB clear()
txtKode.text = ""
txtNama.text = ""
END

PUBLIC SUB btnHapus_Click()

DIM sql AS String
IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from merk where id = " &
vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF

END

PUBLIC SUB btnSimpan_Click()

DIM sql AS String

IF btnTambah.Enabled = FALSE THEN
sql = "insert into merk
(kode_merk,nama_merk)values('" &
txtKode.text & "', '" &
txtNama.text & "')"
MyRS = MyConn.Exec(sql)
btnTambah.Enabled = TRUE
ELSE
sql = "update merk set "
sql = sql & "kode_merk = '" & txtKode.text
sql = sql & "',nama_merk = '" &
txtNama.text & "' where id = '" & vCari
MyRS = MyConn.Exec(sql)
ENDIF
getData
fillUpListBox

CATCH
Message.Error(Error.Text)
END

PUBLIC SUB btnKeluar_Click()

fmerk.Close
fmenu.Enabled = TRUE

```

```
END
```

### **Form pembelian**

```

' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC MyRS2 AS Result
PUBLIC MyRS3 AS Result
PUBLIC vCari AS String
PUBLIC vCari2 AS String
PUBLIC vCari3 AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fpembelian
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBConnect
getData
transferData
fillUpListBox
fillUpListCombo
fillUpListCombo2
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB getData()
DIM sql AS String
DIM sql2 AS String
DIM sql3 AS String
sql = "select * from pembelian order by
no_faktur"
sql2 = "select * from supplier order by
kode_supplier"
sql3 = "select * from barang order by
kode_barang"
MyRS = MyConn.Exec(sql)

```

```

MyRS2 = MyConn.Exec(sql2)
MyRS3 = MyConn.Exec(sql3)
CATCH
Message.error(Error.text)
END

PUBLIC SUB transferData()

vCari = Str(MyRS!no_faktur)
vCari3 = Str(MyRS!kode_barang)
txtNo.Text = MyRS!no_faktur
txtTanggal.Text = MyRS!tgl_faktur
cmbSupplier.Text = MyRS!kode_supplier
txtSupplier.text = MyRS!nama_supplier
cmbBarang.text = MyRS!kode_barang
txtBarang.text = MyRS!nama_barang
txtHarga.text = MyRS!harga_barang
txtJumlah.text = MyRS!jumlah
lblTotal.text = MyRS!total
cmbBayar.text = MyRS!cara_bayar
txtRek.text = MyRS!no_rek
DateChooser1.Value = MyRS!tgl_faktur

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListBox()
DIM i AS Integer
DIM vkode AS String

```

```

ListBox1.Clear
FOR i = 1 TO MyRS.Count
vkode = Space$(3 -
Len(Str(MyRS!no_faktur))) &
Str(MyRS!no_faktur)
ListBox1.add(vkode & " | " &
MyRS!nama_supplier & " | " &
MyRS!nama_barang)
MyRS.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListCombo()
DIM j AS Integer
DIM vkode AS String

```

```

cmbSupplier.Clear
FOR j = 1 TO MyRS2.Count
vkode = Space$(3 -
Len(Str(MyRS2!kode_supplier))) &
Str(MyRS2!kode_supplier)

```

```

cmbSupplier.add(vkode)
MyRS2.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListCombo2()
DIM j AS Integer
DIM vkode AS String

```

```

cmbBarang.Clear
FOR j = 1 TO MyRS3.Count
vkode = Space$(3 -
Len(Str(MyRS3!kode_barang))) &
Str(MyRS3!kode_barang)
cmbBarang.add(vkode)
MyRS3.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB ListBox1_Click()

```

```

DIM sql AS String
btnSimpan.Text = "UBAH"
btnSimpan.Enabled = TRUE
txtStok.Visible = FALSE
label14.Visible = FALSE
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from pembelian where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
END

```

```

PUBLIC SUB btnTambah_Click()

```

```

clear
btnTambah.Enabled = FALSE
label14.Visible = TRUE
txtStok.Visible = TRUE
btnSimpan.Text = "SIMPAN"

```

```

END

```

```

PUBLIC SUB btnBatal_Click()
DIM sql AS String

```

```

vCari = Trim(Left$(listBox1.text, 3))
IF vCari <> "" THEN
btnTambah.Enabled = TRUE
sql = "select * from pembelian where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
ELSE
clear
ENDIF
END

PRIVATE SUB clear()
txtNo.text = ""
txtTanggal.text = ""
cmbSupplier.text = ""
txtSupplier.text = ""
cmbBarang.text = ""
txtBarang.Text = ""
txtHarga.Text = ""
txtJumlah.text = ""
lblTotal.text = ""
cmbBayar.text = ""
txtRek.text = ""
DateChooser1.Refresh
txtStok.Text = ""
END

PUBLIC SUB btnHapus_Click()

DIM sql AS String
IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from pembelian where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF

END

PUBLIC SUB btnSimpan_Click()

DIM sql, sql2 AS String
DIM total, stok, jumlah, jumlahstok AS
Integer

IF btnTambah.Enabled = FALSE THEN
total = 0
stok = 0
jumlah = 0
jumlah = txtJumlah.Text
stok = txtStok.Text
total = txtHarga.Text * txtJumlah.Text
lblTotal.Text = total
jumlahstok = txtStok.Text - txtJumlah.Text
IF Jumlah <= stok THEN
txtStok.Text = jumlahstok
sql = "insert into pembelian
(no_faktur,tgl_faktur,kode_supplier,nama_s
upplier,kode_barang,nama_barang,
harga_barang, jumlah, total,
cara_bayar,no_rek) values ( " & txtNo.text
& "," & txtTanggal.Text & "," &
cmbSupplier.text & "," & txtSupplier.text
& "," & cmbBarang.text & "," &
txtBarang.text & "," &
txtHarga.text & "," & txtJumlah.text & ","
& lblTotal.text & "," & cmbBayar.text &
"," & txtRek.text & ")"
sql2 = "update barang set "
sql2 = sql2 & "stok_barang = " &
txtStok.text & " where kode_barang = " &
vCari3
MyRS = MyConn.Exec(sql)
MyRS = MyConn.Exec(sql2)
btnTambah.Enabled = TRUE
txtStok.Visible = FALSE
ELSE
Message.Info("Jumlah barang tidak sesuai
dengan stok", "OK")
ENDIF
ELSE
total = txtHarga.Text * txtJumlah.Text
lblTotal.Text = total
sql = "update pembelian set "
sql = sql & "no_faktur = " & txtNo.text
sql = sql & ",kode_supplier = " &
cmbSupplier.text
sql = sql & ",nama_supplier = " &
txtSupplier.text
sql = sql & ",kode_barang = " &
cmbBarang.text
sql = sql & ",nama_barang = " &
txtBarang.text
sql = sql & ",harga_barang = " &
txtHarga.text
sql = sql & ",total = " & lblTotal.text
sql = sql & ",cara_bayar = " &
cmbBayar.text
sql = sql & ",no_rek = " & txtRek.text & "
where no_faktur = " & vCari
MyRS = MyConn.Exec(sql)
txtStok.Visible = FALSE

```

```

ENDIF
getData
fillUpListBox

CATCH
Message.Error(Error.Text)
END

PUBLIC SUB btnKeluar_Click()

    fpembelian.Close
    fmenu.Enabled = TRUE

END

PUBLIC SUB cmbSupplier_Click()

    DIM sql2 AS String
    vCari2 = Trim(Left$(cmbSupplier.text, 3))
    sql2 = "select * from supplier where
kode_supplier =" & vCari2
    MyRS2 = MyConn.Exec(sql2)
    txtSupplier.Text = MyRS2!nama_supplier
    CATCH
    Message.Error(Error.Text)

END

PUBLIC SUB cmbBarang_Click()
    DIM sql3 AS String
    vCari3 = Trim(Left$(cmbBarang.text, 3))
    sql3 = "select * from barang where
kode_barang =" & vCari3
    MyRS3 = MyConn.Exec(sql3)
    txtBarang.Text = MyRS3!nama_barang
    txtHarga.Text = MyRS3!harga_barang
    txtStok.Text = MyRS3!stok_barang
    CATCH
    Message.Error(Error.Text)

END

Form Penjualan

' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC MyRS2 AS Result
PUBLIC vCari AS String
PUBLIC vCari2 AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fpembelian
oForm.showModal()

```

```

END

PUBLIC SUB _new()
ME.center
DBConnect
getData
transferData
fillUpListBox
fillUpListCombo
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB getData()
DIM sql AS String
DIM sql2 AS String
sql = "select * from penjualan order by
no_faktur"
sql2 = "select * from customer order by
kode_customer"
MyRS = MyConn.Exec(sql)
MyRS2 = MyConn.Exec(sql2)
CATCH
Message.error(Error.text)
END

PUBLIC SUB transferData()
vCari = Str(MyRS!no_faktur)
txtNo.Text = MyRS!no_faktur
txtTanggal.Text = MyRS!tgl_faktur
cmbCustomer.Text = MyRS!kode_customer
txtCustomer.text = MyRS!nama
cmbBayar.text = MyRS!cara_bayar
txtRek.text = MyRS!no_rek

CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListBox()
DIM i AS Integer
DIM vkode AS String

ListBox1.Clear

```

```

FOR i = 1 TO MyRS.Count
vkode = Space$(3 -
Len(Str(MyRS!no_faktur))) &
Str(MyRS!no_faktur)
ListBox1.add(vkode & " | " & MyRS!nama)
MyRS.MoveNext
NEXT

CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListCombo()
DIM j AS Integer
DIM vkode AS String

cmbCustomer.Clear
FOR j = 1 TO MyRS2.Count
vkode = Space$(3 -
Len(Str(MyRS2!kode_customer))) &
Str(MyRS2!kode_customer)
cmbCustomer.add(vkode)
MyRS2.MoveNext
NEXT

CATCH
Message.error(Error.text)
END

PUBLIC SUB ListBox1_Click()

DIM sql AS String
btnSimpan.Text = "UBAH"
btnSimpan.Enabled = TRUE
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from penjualan where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
END

PUBLIC SUB btnTambah_Click()

clear
btnTambah.Enabled = FALSE
btnSimpan.Text = "SIMPAN"

END

PUBLIC SUB btnBatal_Click()
DIM sql AS String
vCari = Trim(Left$(listBox1.text, 3))
IF vCari <> "" THEN
btnTambah.Enabled = TRUE
sql = "select * from penjualan where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
ELSE
clear
ENDIF
END

PRIVATE SUB clear()
txtNo.text = ""
txtTanggal.text = ""
cmbCustomer.text = ""
txtCustomer.text = ""
cmbBayar.text = ""
txtRek.text = ""
END

PUBLIC SUB btnHapus_Click()

DIM sql AS String
IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from penjualan where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF

END

PUBLIC SUB btnSimpan_Click()

DIM sql, sql2 AS String

IF btnTambah.Enabled = FALSE THEN
sql = "insert into penjualan
(no_faktur,tgl_faktur,kode_customer,nama,c
ara_bayar,no_rek) values (" & txtNo.text &
"," & txtTanggal.Text & "," &
cmbCustomer.text & "," &
txtCustomer.text & "," & cmbBayar.text &
"," & txtRek.text & ")"
MyRS = MyConn.Exec(sql)
btnTambah.Enabled = TRUE
ELSE

```

```

sql = "update penjualan set "
sql = sql & "no_faktur = " & txtNo.text
sql = sql & ",kode_customer = " &
cmbCustomer.text
sql = sql & ",nama = " & txtCustomer.text
sql = sql & ",cara_bayar = " &
cmbBayar.text
sql = sql & ",no_rek = " & txtRek.text & "
where no_faktur = " & vCari
MyRS = MyConn.Exec(sql)
ENDIF
getData
fillUpListBox
DIM sql2 AS String
vCari2 = Trim(Left$(cmbCustomer.text,
3))
sql2 = "select * from customer where
kode_customer = " & vCari2
MyRS2 = MyConn.Exec(sql2)
txtCustomer.Text = MyRS2!nama
CATCH
Message.Error(Error.Text)

```

END

### **Form Profile**

' Gambas class file

```

PUBLIC SUB Button1_Click()

```

```

    Fprofile.Close

```

END

### **Form supplier**

' Gambas class file

```

PUBLIC MyConn AS Connection

```

```

PUBLIC MyRS AS Result

```

```

PUBLIC vCari AS String

```

```

STATIC PUBLIC SUB Main()

```

```

    DIM oForm AS form

```

```

    oForm = NEW fsupplier

```

```

    oForm.showModal()

```

END

```

PUBLIC SUB _new()

```

```

    ME.center

```

```

    DBConnect

```

```

    getData

```

```

    transferData

```

```

    fillUpListBox

```

END

```

PUBLIC SUB DBConnect()

```

```

    MyConn = NEW Connection

```

```

    MyConn.Close

```

```

    MyConn.Type = "mysql"

```

```

    MyConn.Host = "66.40.52.21"

```

```

    MyConn.Login = "rifshi_ei"

```

```

    MyConn.Password = "8346024"

```

```

    MyConn.Name = "rifshi_ei"

```

```

    MyConn.Open

```

```

    CATCH

```

```

    Message.error(Error.text)

```

END

```

PUBLIC SUB getData()

```

```

    DIM sql AS String

```

```

    sql = "select * from supplier order by

```

```

    kode_supplier"

```

```

    MyRS = MyConn.Exec(sql)

```

```

    CATCH

```

```

    Message.error(Error.text)

```

END

```

PUBLIC SUB transferData()

```

```

    vCari = Str(MyRS!kode_supplier)

```

```

    txtKode.Text = MyRS!kode_supplier

```

```

    txtNama.text = MyRS!nama_supplier

```

```

    txtAlamat.Text = MyRS!alamat

```

```

    txtTelepon.text = MyRS!telepon

```

```

    txtFax.text = MyRS!fax

```

```

    txtEmail.text = MyRS!email

```

```

    CATCH

```

```

    Message.error(Error.text)

```

END

```

PUBLIC SUB fillUpListBox()

```

```

    DIM i AS Integer

```

```

    DIM vkode AS String

```

```

    ListBox1.Clear

```

```

    FOR i = 1 TO MyRS.Count

```

```

        vkode = Space$(3 -

```

```

        Len(Str(MyRS!kode_supplier))) &

```

```

        Str(MyRS!kode_supplier)

```

```

        ListBox1.add(vkode & " | " &

```

```

        MyRS!nama_supplier)

```

```

MyRS.MoveNext
NEXT

CATCH
Message.error(Error.text)
END

PUBLIC SUB ListBox1_Click()

DIM sql AS String
btnSimpan.Text = "UBAH"
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from supplier where
kode_supplier =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)

END

PUBLIC SUB btnTambah_Click()

clear
btnTambah.Enabled = FALSE
btnHapus.Enabled = FALSE
btnSimpan.Text = "SIMPAN"

END

PUBLIC SUB btnBatal_Click()
DIM sql AS String
vCari = Trim(Left$(listBox1.text, 3))
IF vCari <> "" THEN
btnTambah.Enabled = TRUE
sql = "select * from supplier where
kode_supplier =" & vCari
MyRS = MyConn.Exec(sql)
transferData
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)
ELSE
clear
ENDIF
END

PRIVATE SUB clear()
txtKode.text = ""
txtNama.text = ""
txtAlamat.text = ""
txtTelepon.text = ""
txtFax.Text = ""
txtEmail.Text = ""

END

PUBLIC SUB btnHapus_Click()

DIM sql AS String
IF Message.Question("Anda yakin akan
menghapus data ini?", "Ya", "Tidak") = 1
THEN
sql = "delete from supplier where
kode_supplier = " & vCari
MyRS = MyConn.Exec(sql)
getData
transferData
fillUpListBox
ENDIF

END

PUBLIC SUB btnSimpan_Click()

DIM sql AS String

IF btnTambah.Enabled = FALSE THEN
sql = "insert into supplier
(kode_supplier,nama_supplier,alamat,telepo
n,fax,email )values(" & txtKode.text & ", "
&
txtNama.text & ", " & txtAlamat.text & ", "
& txtTelepon.text & ", " &
txtFax.text & ", " & txtEmail.text & ") "
MyRS = MyConn.Exec(sql)
btnTambah.Enabled = TRUE
ELSE
sql = "update supplier set "
sql = sql & "kode_supplier = " &
txtKode.text
sql = sql & ",nama_supplier = " &
txtNama.text
sql = sql & ",alamat = " & txtAlamat.text
sql = sql & ",telepon = " & txtTelepon.text
sql = sql & ",fax = " & txtFax.text
sql = sql & ",email = " & txtEmail.text & "
where kode_supplier = " & vCari
MyRS = MyConn.Exec(sql)
ENDIF
getData
fillUpListBox

CATCH
Message.Error(Error.Text)
END

PUBLIC SUB btnKeluar_Click()
' Gambas class file
PUBLIC MyConn AS Connection

```

```

PUBLIC MyRS AS Result
PUBLIC vCari AS String

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fuser
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBConnect
getData
fillUpListCombo
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21:41243 "
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB getData()
DIM sql AS String
DIM i AS Integer
sql = "select * from user order by id"
MyRS = MyConn.Exec(sql)
CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListCombo()
DIM j AS Integer
DIM vkode AS String
ListBox1.Clear
FOR j = 1 TO MyRS.Count
vkode = Space$(3 - Len(Str(MyRS!id))) &
Str(MyRS!id)
ListBox1.add(vkode & " | " &
MyRS!username)
MyRS.MoveNext
NEXT

CATCH
Message.error(Error.text)
END

```

```

PRIVATE SUB clear()
txtUsername.text = ""
txtPassword.text = ""
END

PUBLIC SUB Button1_Click()

IF txtUsername.Text = MyRS!username
AND txtPassword.Text = MyRS!password
THEN
    ME.Hide
    fmenu.Show
ELSE
    message.Warning("Username atau
password yang anda masukan salah", "ok")
txtPassword.Text = ""
ENDIF
END

PUBLIC SUB Button3_Click()

ME.Close

END

PUBLIC SUB ListBox1_Click()

DIM sql AS String
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select * from user where id =" &
vCari
MyRS = MyConn.Exec(sql)
txtUsername.Text = MyRS!username
CATCH
Message.Error(Error.Text)

END

fsupplier.Close
fmenu.Enabled = TRUE

```

### **Form Transaksi**

```

' Gambas class file
PUBLIC MyConn AS Connection
PUBLIC MyRS AS Result
PUBLIC MyRS2 AS Result
PUBLIC MyRS3 AS Result
PUBLIC vCari AS String
PUBLIC vCari2 AS String
PUBLIC vCari3 AS String

```



```

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW ftransaksi
oForm.showModal()
END

PUBLIC SUB _new()
ME.center
DBConnect
getData
transferData
fillUpListBox
fillUpListCombo2
END

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21"
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

PUBLIC SUB getData()
DIM sql AS String
DIM sql2 AS String
DIM sql3 AS String
sql = "select * from transaksi order by id"
sql2 = "select * from penjualan order by
no_faktur"
sql3 = "select * from barang order by
kode_barang"
MyRS = MyConn.Exec(sql)
MyRS2 = MyConn.Exec(sql2)
MyRS3 = MyConn.Exec(sql3)
CATCH
Message.error(Error.text)
END

PUBLIC SUB transferData()
vCari = Str(MyRS!id)
cmbFaktur.Text = MyRS!no_faktur
cmbBarang.text = MyRS!kode_barang
txtBarang.text = MyRS!nama_barang
txtHarga.text = MyRS!harga_barang
txtBanyak.Text = MyRS!banyak
txtJumlah.text = MyRS!jumlah_bayar

CATCH
Message.Error(Error.Text)

END

PUBLIC SUB btnKeluar_Click()
ftransaksi.Show
fpenjualan.Hide
END

PUBLIC SUB cmbCustomer_Click()
CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListBox()
DIM i, jumlah AS Integer
DIM vkode AS String
Clear
ListBox1.Clear
FOR i = 1 TO MyRS2.Count
vkode = Space$(3 -
Len(Str(MyRS2!no_faktur))) &
Str(MyRS2!no_faktur)
ListBox1.add(vkode & " | " &
MyRS2!tgl_faktur & " | " & MyRS2!nama)
MyRS2.MoveNext
NEXT
CATCH
Message.error(Error.text)
END

PUBLIC SUB fillUpListCombo2()
DIM j AS Integer
DIM vkode AS String
cmbBarang.Clear
FOR j = 1 TO MyRS3.Count
vkode = Space$(3 -
Len(Str(MyRS3!kode_barang))) &
Str(MyRS3!kode_barang)
cmbBarang.add(vkode)
MyRS3.MoveNext
NEXT
CATCH
Message.error(Error.text)
END

PUBLIC SUB btnTambah_Click()
clear
Label7.Visible = TRUE
btnTambah.Enabled = FALSE
btnSimpan.Text = "SIMPAN"
END

PUBLIC SUB btnBatal_Click()
DIM sql AS String

```

```

vCari = Trim(Left$(listBox1.text, 3))
IF vCari <> "" THEN
    btnTambah.Enabled = TRUE
    sql = "select * from transaksi where id =" &
    vCari
    MyRS = MyConn.Exec(sql)
    btnHapus.Enabled = TRUE
    CATCH
    Message.Error(Error.Text)
    ELSE
    clear
    ENDIF
    END

PRIVATE SUB clear()
    cmbBarang.text = ""
    txtBarang.Text = ""
    txtHarga.Text = ""
    txtBanyak.text = ""
    txtJumlah.text = ""
    END

PUBLIC SUB btnHapus_Click()

    DIM sql AS String
    IF Message.Question("Anda yakin akan
    menghapus data ini?", "Ya", "Tidak") = 1
    THEN
        sql = "delete from transaksi where id =" &
        vCari
        MyRS = MyConn.Exec(sql)
        getData
        fillUpListBox
        ENDIF

    END

PUBLIC SUB btnSimpan_Click()

    DIM sql, sql2 AS String
    DIM total, stok, jumlah, jumlahstok AS
    Integer

    IF btnTambah.Enabled = FALSE THEN
        total = 0
        stok = 0
        jumlah = 0

        jumlah = txtBanyak.Text
        stok = txtStok.Text

        total = txtHarga.Text * txtBanyak.Text
        txtJumlah.Text = total
        jumlahstok = txtStok.Text - txtBanyak.Text

        IF Jumlah <= stok THEN
            txtStok.Text = jumlahstok
            sql = "insert into transaksi
            (no_faktur,kode_barang,nama_barang,
            harga_barang, banyak,jumlah_bayar) values
            ( " & cmbFaktur.text & "," &
            cmbBarang.text & "," & txtBarang.text &
            "," &
            txtHarga.text & "," & txtBanyak.text & "," &
            & txtJumlah.text & ")"
            sql2 = "update barang set "
            sql2 = sql2 & "stok_barang = " &
            txtStok.text & " where kode_barang = " &
            vCari3
            MyRS = MyConn.Exec(sql)
            MyRS = MyConn.Exec(sql2)
            btnTambah.Enabled = TRUE
            ListBox2.Refresh
            txtStok.Visible = FALSE
            ELSE
            Message.Info("Jumlah barang tidak sesuai
            dengan stok", "OK")
            ENDIF
            ENDIF
            getData
            fillUpListBox

        CATCH
        Message.Error(Error.Text)
        END

PUBLIC SUB btnKeluar_Click()

    ftransaksi.Close
    fmenu.Enabled = TRUE

    END

PUBLIC SUB cmbBarang_Click()
    DIM sql3 AS String
    vCari3 = Trim(Left$(cmbBarang.text, 3))
    sql3 = "select * from barang where
    kode_barang =" & vCari3
    MyRS3 = MyConn.Exec(sql3)
    txtStok.Visible = TRUE
    txtBarang.Text = MyRS3!nama_barang
    txtHarga.Text = MyRS3!harga_barang
    txtStok.Text = MyRS3!stok_barang
    CATCH
    Message.Error(Error.Text)

    END

PUBLIC SUB ListBox1_Click()
    DIM j AS Integer

```

```

DIM sql, sql2, vkode AS String

btnSimpan.Enabled = TRUE
vCari = Trim(Left$(ListBox1.text, 3))
sql = "select sum(jumlah_bayar) as total
from transaksi where no_faktur =" & vCari
sql2 = "select * from transaksi where
no_faktur =" & vCari
MyRS = MyConn.Exec(sql)
MyRS2 = MyConn.Exec(sql2)
txtTotal.text = MyRS!total
cmbFaktur.Text = vCari
ListBox2.Clear
FOR j = 1 TO MyRS2.Count
vkode = Space$(3 - Len(Str(MyRS2!id)))
& Str(MyRS2!id)
ListBox2.add(vkode & " | " &
MyRS2!nama_barang & " | Rp." &
MyRS2!jumlah_bayar)
MyRS2.MoveNext
NEXT
txtStok.Visible = FALSE
Label7.Visible = FALSE
btnHapus.Enabled = TRUE
CATCH
Message.Error(Error.Text)

```

END

```

PUBLIC SUB ListBox2_Click()

```

```

    DIM i AS Integer
    DIM sql2 AS String
    txtBanyak.Enabled = FALSE
    cmbBarang.Enabled = FALSE
    btnSimpan.Enabled = FALSE
    btnBatal.Enabled = FALSE
    vCari = Trim(Left$(ListBox2.text, 3))
    sql2 = "select * from transaksi where id ="
    & vCari
    MyRS = MyConn.Exec(sql2)
    transferData
    txtStok.Visible = FALSE
    Label7.Visible = FALSE
    btnHapus.Enabled = TRUE
    CATCH
    Message.Error(Error.Text)

```

END

### Form User

```

' Gambas class file
PUBLIC MyConn AS Connection

```

```

PUBLIC MyRS AS Result
PUBLIC vCari AS String

```

```

STATIC PUBLIC SUB Main()
DIM oForm AS form
oForm = NEW fuser
oForm.showModal()
END

```

```

PUBLIC SUB _new()
ME.center
DBConnect
getData
fillUpListCombo
END

```

```

PUBLIC SUB DBConnect()
MyConn = NEW Connection
MyConn.Close
MyConn.Type = "mysql"
MyConn.Host = "66.40.52.21:41243 "
MyConn.Login = "rifshi_ei"
MyConn.Password = "8346024"
MyConn.Name = "rifshi_ei"
MyConn.Open
CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB getData()
DIM sql AS String
DIM i AS Integer
sql = "select * from user order by id"
MyRS = MyConn.Exec(sql)
CATCH
Message.error(Error.text)
END

```

```

PUBLIC SUB fillUpListCombo()
DIM j AS Integer
DIM vkode AS String
ListBox1.Clear
FOR j = 1 TO MyRS.Count
vkode = Space$(3 - Len(Str(MyRS!id))) &
Str(MyRS!id)
ListBox1.add(vkode & " | " &
MyRS!username)
MyRS.MoveNext
NEXT

```

```

CATCH
Message.error(Error.text)
END

```

```
PRIVATE SUB clear()
txtUsername.text = ""
txtPassword.text = ""
END
```

```
PUBLIC SUB Button1_Click()
```

```
IF txtUsername.Text = MyRS!username
AND txtPassword.Text = MyRS!password
THEN
    ME.Hide
    fmenu.Show
ELSE
    message.Warning("Username atau
password yang anda masukan salah", "ok")
    txtPassword.Text = ""
ENDIF
END
```

```
PUBLIC SUB Button3_Click()
```

```
    ME.Close
```

```
END
```

```
PUBLIC SUB ListBox1_Click()
```

```
    DIM sql AS String
    vCari = Trim(Left$(ListBox1.text, 3))
    sql = "select * from user where id =" &
vCari
    MyRS = MyConn.Exec(sql)
    txtUsername.Text = MyRS!username
    CATCH
    Message.Error(Error.Text)
```

```
END
```

## **LAMPIRAN D**

### **DATASHEET**

<b>Sensor Inframerah (GP2D12)</b> .....	D-1
<b>Motor Servo GWS S04 BBM</b> .....	D-5

# GP2D12/GP2D15

## General Purpose Type Distance Measuring Sensors

### ■ Features

1. Less influence on the color of reflective objects, reflectivity
2. Line-up of distance output/distance judgement type  
Distance output type (analog voltage) : **GP2D12**  
Detecting distance : 10 to 80cm  
Distance judgement type : **GP2D15**  
Judgement distance : 24cm  
(Adjustable within the range of 10 to 80cm)
3. External control circuit is unnecessary
4. Low cost

### ■ Applications

1. TVs
2. Personal computers
3. Cars
4. Copiers

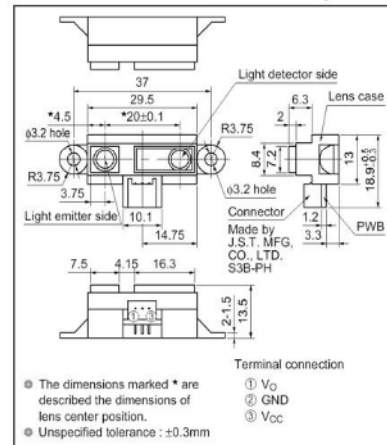
### ■ Absolute Maximum Ratings

( $T_a=25^\circ\text{C}$ ,  $V_{CC}=5\text{V}$ )

Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	-0.3 to +7	V
Output terminal voltage	$V_O$	-0.3 to $V_{CC}+0.3$	V
Operating temperature	$T_{opr}$	-10 to +60	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +70	$^\circ\text{C}$

### ■ Outline Dimensions

(Unit : mm)



Notice In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.  
Internet Internet address for Electronic Components Group: <http://www.sharp.co.jp/ecg/>

■ Recommended Operating Conditions

Parameter	Symbol	Rating	Unit
Operating supply voltage	V <sub>CC</sub>	4.5 to +5.5	V

■ Electro-optical Characteristics

(T<sub>a</sub>=25°C, V<sub>CC</sub>=5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range	ΔL	<sup>*1</sup> <sup>*3</sup>	10	—	80	cm
Output terminal voltage	V <sub>O</sub>	GP2D12 V <sub>O</sub> L=80cm <sup>*1</sup>	0.25	0.4	0.55	V
		GP2D15 V <sub>O</sub> H Output voltage at High <sup>*1</sup>	V <sub>CC</sub> -0.3	—	—	V
		GP2D15 V <sub>O</sub> L Output voltage at Low <sup>*1</sup>	—	—	0.6	V
Difference of output voltage	ΔV <sub>O</sub>	GP2D12 Output change at L=80cm to 10cm <sup>*1</sup>	1.75	2.0	2.25	V
Distance characteristics of output	V <sub>O</sub>	GP2D15 <sup>*1</sup> <sup>*2</sup> <sup>*4</sup>	21	24	27	cm
Average Dissipation current	I <sub>CC</sub>	L=80cm <sup>*1</sup>	—	33	50	mA

Note) L : Distance to reflective object.

\*1 Using reflective object : White paper (Made by Kodak Co. Ltd. gray cards R-27 : white face, reflective ratio : 90%).

\*2 We ship the device after the following adjustment : Output switching distance L=24cm±5cm must be measured by the sensor.

\*3 Distance measuring range of the optical sensor system.

\*4 Output switching has a hysteresis width. The distance specified by V<sub>O</sub> should be the one with which the output L switches to the output H.

Fig.1 Internal Block Diagram

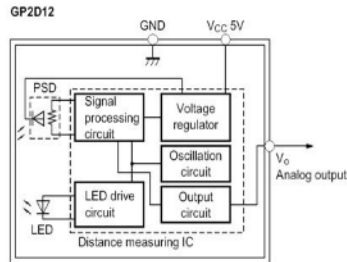


Fig.2 Internal Block Diagram

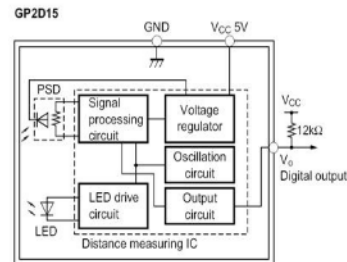


Fig.3 Timing Chart

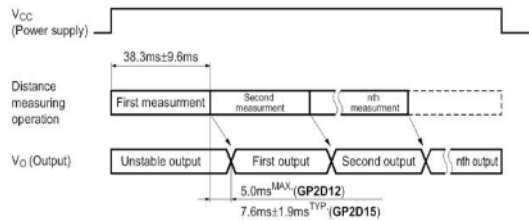


Fig.4 Distance Characteristics

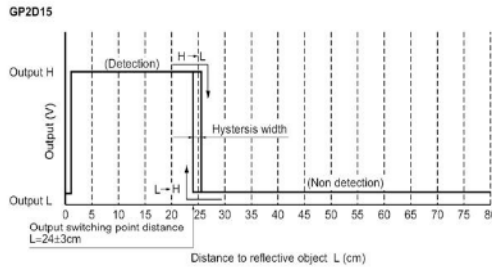


Fig.5 Analog Output Voltage vs. Surface Illuminance of Reflective Object

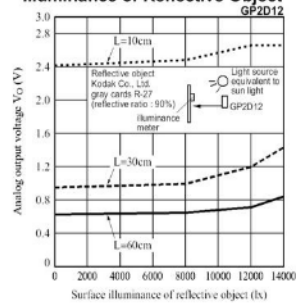


Fig.6 Analog Output Voltage vs. Distance to Reflective Object

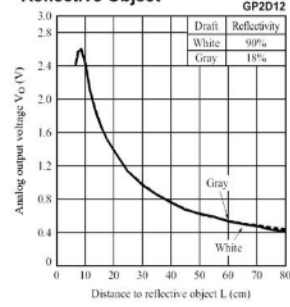


Fig.7 Analog Output Voltage vs. Ambient Temperature

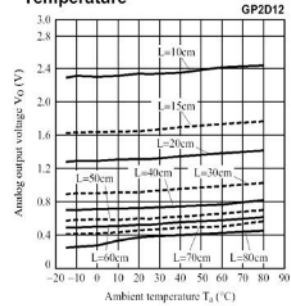
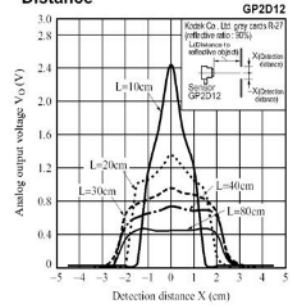


Fig.8 Analog Output Voltage vs. Detection Distance





### 33 ► SERVO MOTOR

เปิดโลกของการใช้งานในแบบมืออาชีพ ในการทำเครื่องกล, ทำหุ่นยนต์, รถหุ่นยนต์, แขนกล

ด้วย SERVO MOTOR จาก อิทีที

คุณ ... สามารถทำหรือสร้างระบบเครื่องกลต่างๆ แขนกล, หุ่นยนต์, ต่างๆ ได้เองได้อย่าง ง่ายระบบ SERVO MOTOR ไม่ต้องออกแบบในส่วนที่เกี่ยวกับ ส่วนควบคุมต่างๆ ใช้สัญญาณเพียง 1 เส้น ในการควบคุม รวมทั้งในเรื่องของแรงบิด แรงยก โดยไม่มีเกียร์ได้ตั้งแต่ 2.3 Kg-CM ถึง 28.8 Kg-CM ไม่ต้องกลัวเรื่องมีแรงบิดรวมกับมอเตอร์อีกแล้ว ...

SERVO MOTOR ... คือ มอเตอร์ไฟฟ้ากระแสตรง DC MOTOR ที่ถูกปรับจูนร่วมกับชุดเกียร์ และส่วนควบคุมต่างๆ ไว้ในชุดเดียวกัน โดยจะมีสัญญาณใช้งาน 1 เส้น และอีก 2 เส้น เป็น VCC และ GND เท่านั้น ซึ่งสามารถควบคุมให้ตัว SERVO MOTOR หมุนทวน หรือ ขวาก็ได้ +90 องศา - 90 องศา (180 องศา) โดยสามารถตั้งมุมในการหมุนใหม่ไปได้ตามองศาต่างๆที่ต้องการ โดยตัวของ SERVO MOTOR เช่น แรง ทorque หมุน 1 องศา หรือ 15 องศา ก็ได้ ไม่ต้องมีตัวควบคุม หรือ SENSOR ใดๆ สวมกับมาตรวจสอบอีก ทำให้ง่าย และสะดวกในการนำไปประยุกต์ใช้งานต่างๆ ได้จริง ...



- การควบคุมการทำงานของ SERVO MOTOR ทำได้โดยการป้อนสัญญาณความถี่ของพัลส์ให้กับตัว SERVO MOTOR ซึ่งจะได้ทิศทางการหมุนและตำแหน่งของการหมุน
- สามารถใช้งานกับไฟ DC ได้ 4 - 6 VOLT, หมุนได้ 180 องศา และสามารถปรับแรงบิดตัว SERVO MOTOR ให้สามารถหมุนได้รอบตัว ( 360 ° ) ก็ได้ เช่น ทำเป็นชุดล้อรถหุ่นยนต์
- ตัวจะยังเป็นแบบมาตรฐาน หัว JR TYPE
- มีจำหน่ายในเวลาที่ด้วยกับอยู่ 15 แบบด้วยกัน เป็นของบริษัท GWS ของบริษัท HITEC รุ่น HS-322 และของบริษัท FUTABA รุ่น S3003

- ♦ GWS รุ่น MICRO/STD/JR (A-MO-M-00007) เป็นรุ่นที่มีขนาดเล็กน้ำหนักเบา
- ♦ GWS รุ่น S03N/STD/JR (A-MO-M-00005) เป็นรุ่นมาตรฐานใช้งานทั่วไป
- ♦ GWS รุ่น S03NXF/STD/JR (A-MO-M-00044) เป็นรุ่นที่มี SPEED เร็วและมีแรงบิดต่ำกว่า S03N
- ♦ GWS รุ่น S03T/STD/JR (A-MO-M-00006) เป็นรุ่นมาตรฐานและจะมีแรงบิดสูงกว่า S03N
- ♦ GWS รุ่น S03T/2BB/J (A-MO-M-00073) เป็นรุ่นขนาดเดียวกับ S03T มีจุดหมุนเป็น Ball Bearings
- ♦ GWS รุ่น S03T/2BB/MG/J (A-MO-M-00074) เป็นรุ่นมีจุดหมุนเป็น Ball Bearings และเพื่อใช้เป็นโลหะของเฟือง
- ♦ GWS รุ่น S03TXF/STD/JR (A-MO-M-00045) เป็นรุ่นที่มี SPEED เร็วและมีแรงบิดต่ำกว่า S03T
- ♦ GWS รุ่น S04/BBM/JR (A-MO-M-00008) เป็นรุ่นที่ใหญ่ที่สุดมีแรงบิด 13 Kg-CM
- ♦ GWS รุ่น S666/STD/JR (A-MO-M-00009) เป็นรุ่นที่ใหญ่ที่สุดมีแรงบิด 15Kg-CM
- ♦ GWS รุ่น S666/NMG/J (A-MO-M-00075) เป็นรุ่นมีจุดหมุนเป็น Ball Bearings และเพื่อใช้เป็นโลหะของเฟือง แรงบิด 28.8Kg-cm
- ♦ GWS รุ่น PICO/STD/JR (A-MO-M-00023) เป็นรุ่นที่มีขนาดเล็กที่สุด น้ำหนักเบา 5.4g
- ♦ GWS รุ่น MICRO/2BB/MG/JR (A-MO-M-00037) เป็นรุ่นที่มีขนาดเล็กน้ำหนักเบา, ชุดเกียร์เป็นแบบโลหะ
- ♦ HITEC รุ่น HS-322 (A-MO-M-00004) เป็นรุ่นมาตรฐานของ HITEC มี แรงบิด 3.5 Kg-CM
- ♦ FUTABA รุ่น S3003 (A-MO-Y-00025) เป็นรุ่นมาตรฐานของ FUTABA มีแรงบิด 4.1 kg-CM



Model	STD	BBM	Size (L x W x H) Mm/in	Weight		4.8V				6V				Modify 360 °
				g	oz	SPEED (sec / 60°)	Torque		SPEED (sec / 60°)	Torque				
							Kg-cm	Oz-in		Kg-cm	Oz-in			
Micro	✓		28 x 14 x 29.8 1.1 x 0.55 x 1.17	16	0.63	0.16	1.8	25	0.13	2.30	32	✓		
S03N	✓		39.5 x 20.0 x 35.6 1.56 x 0.79 x 1.40	41	1.44	0.23	2.40	47	0.18	4	56	✓		
S03NXF	✓		39.5 x 20.0 x 35.6 1.56 x 0.79 x 1.40	41	1.45	0.15	2.20	31	0.12	2.45	34	✓		
S03T	✓		39.5 x 20.0 x 39.6 1.56 x 0.79 x 1.56	46	1.62	0.33	7.20	100	0.27	8	111	✓		
S03TXF	✓		39.5 x 20.0 x 39.6 1.56 x 0.79 x 1.56	46	1.62	0.21	5	69	0.17	6.20	86	✓		
S04		✓	54.4 x 26.5 x 51.5 2.14 x 1.04 x 2.03	114	4	0.25	10	138.88	0.20	13	180.5			
S666	✓		63.0 x 32.0 x 61.6 2.48 x 1.26 x 2.43	142.4	5.02	0.28	13	181	0.22	15	208	✓		
PICO	✓		22.8 x 9.5 x 15.5 0.90 x 0.37 x 0.61	5.40	0.19	0.12	0.70	10	0.09	0.84	12	✓		
MICRO/ 2BBM		✓	28 x 14 x 29.8 1.1 x 0.55 x 1.17	16	0.63	0.16	1.80	25	0.13	2.30	32	✓		
HS-322	✓		40 x 20 x 36.5 1.57 x 0.78 x 1.43	43	1.51	0.19	3	41.66	0.15	3.5	48.6	✓		
S3003	✓		41 x 20 x 36 1.6 x 0.8 x 1.4	37.2	1.3	0.23	3.2	44	0.19	4.1	56.8	✓		
S03T/ 2BB/J		✓	39.5 x 20.0 x 39.6 1.56 x 0.79 x 1.56	46.0	1.62	0.33	7.2	100	0.27	8	111	✓		
S03T/2B BMG/J		✓	40.5 x 20.0 x 42.8 1.60 x 0.79 x 1.70	73	2.57	0.33	7.4	103	0.27	8.6	119	✓		
S666/ NMG/J		✓	63.0 x 32.0 x 61.6 2.48 x 1.26 x 2.43	180	6.35	0.24	24	333	0.2	28.8	400	✓		

- STD = Oiliness Bearing    2BB = 2 Ball Bearings    MG = Metal Gear With Ball Bearings    NMG = 2BBMG