

LAMPIRAN

HASIL KALIBRASI

A. Data Pelanggan

1. Nama Pelanggan : Teknik Elektromedik UMY
2. Nama Alat : Autoclave
3. Merek : Getinge
4. Tipe : 533HC
5. No. Seri : URA011127 / AM-0837

B. Pelaksanaan Kalibrasi

1. Tempat/Ruangan : Laboratorium
2. Tanggal : 5 September 2017
3. Petugas : Khresna Bayu

C. Kondisi Lingkungan

1. Suhu : 26,5 °C
2. Kelembaban : 72 % RH

D. Pengukuran Kinerja

1. Data 1

Rata-rata Modul (°C)	Rata-rata autoclave (°C)	Simpangan	Error (%)	Koreksi (°C)	Ketidakpastian
55,716	58	2,284	4%	2,284	6.771646

2. Waktu

Pembacaan Standar	
Menit	Detik
90	0

METODE ANALISIS DATA

1. PERHITUNGAN DATA I

a. Rata – rata

$$\text{Rata – Rata } (\bar{X}) = \frac{\sum X_i}{n}$$

Dimana : \bar{X} = rata-rata

$\sum X_i$ = Jumlah nilai data

n = Banyak data (1,2,3,...,n)

1) Rata – rata pengukuran suhu

a) Rata-rata suhu pada modul TA

$$\begin{aligned} \text{Rata – Rata } (\bar{X}) &= \frac{\sum X_i}{n} \\ &= (25.25+37.94+50.64+63.33+76.03+88.72+101.42+88.72+76.0 \\ &3+63.33+50.64+37.94+25.25+25.25+25.25)/15 \\ &= 55.716 \end{aligned}$$

b) Rata-rata suhu pada alat pembanding (Autoclave)

$$\begin{aligned} \text{Rata – Rata } (\bar{X}) &= \frac{\sum X_i}{n} \\ &= (25+40+55+65+75+90+105+90+80+65+50+40+25+25+25) \\ &/15 \\ &= 57 \end{aligned}$$

b. Simpangan

\bar{X}

$$\text{Simpangan} = Y -$$

Dimana : Y = data setting

\bar{X} = rata-rata hasil pengukuran

$$\text{Simpangan} = Y - \bar{X}$$

$$= 57 - 55,716$$

$$= 1,284$$

c. Error %

$$\text{Error} = \left(\frac{\text{data setting} - \text{rata-rata}}{\text{data setting}} \right) \times 100\%$$

$$\text{Error} = \left(\frac{57 - 55,716}{57} \right) \times 100\%$$

$$= 2\%$$

2. PERHITUNGAN DATA II

a. Rata-rata

$$\text{Rata-rata} (\bar{X}) = \frac{\sum Xi}{n}$$

Dimana : \bar{X} = rata-rata

$\sum Xi$ = Jumlah nilai data

n = Banyak data (1,2,3,...,n)

1) Rata-rata pengukuran suhu

a) Rata-rata suhu pada modul TA

$$\begin{aligned} \text{Rata - Rata } (\bar{X}) &= \frac{\sum xi}{n} \\ &= (50.64+63.33+76.03+88.72+101.42+101.42+101.42+114.11+ \\ &114.11+114.11+101.42+101.42+76.03+50.64+37.94)/15 \\ &= 86.184 \end{aligned}$$

b) Rata-rata suhu pada alat pembanding (Autoclave)

$$\begin{aligned} \text{Rata - Rata } (\bar{X}) &= \frac{\sum xi}{n} \\ &= (55+65+75+90+105+105+114+114+114+114+100+100+80+ \\ &60+40)/15 \\ &= 88.73333333 \end{aligned}$$

b. Simpangan

$$\text{Simpangan} = Y - \bar{X}$$

Dimana : Y = data setting

\bar{X} = rata-rata hasil pengukuran

$$\text{Simpangan} = Y - \bar{X}$$

$$= 88.73333333 - 86.184$$

$$= 2.549333333$$

c. Error %

$$\text{Error} = \left(\frac{\text{data setting} - \text{rata}}{\text{data setting}} \right) \times 100\%$$

$$\text{Error} = \left(\frac{88.73333333 - 86.184}{88.73333333} \right) \times 100\%$$

$$= 3\%$$

3. PERHITUNGAN DATA III

a. Rata – rata

$$\text{Rata – Rata } (\bar{X}) = \frac{\sum Xi}{n}$$

Dimana : \bar{X} = rata-rata

$\sum Xi$ = Jumlah nilai data

n = Banyak data (1,2,3,...,n)

1) Rata – rata pengukuran suhu

a) Rata-rata suhu pada modul TA

$$\text{Rata – Rata } (\bar{X}) = \frac{\sum Xi}{n}$$

$$\begin{aligned} &= (37.94+50.64+63.33+63.33+63.64+63.64+63.33+76.03+76.03 \\ &+76.03+88.72+101.42+101.42+101.42+88.72)/15 \\ &= 74.376 \end{aligned}$$

b) Rata-rata suhu pada alat pembanding (Autoclave)

$$\text{Rata – Rata } (\bar{X}) = \frac{\sum Xi}{n}$$

$$\begin{aligned} &= (40+55+65+65+65+65+65+75+75+75+90+110+110+114+90) \\ &/15 \\ &= 77.26666667 \end{aligned}$$

b. Simpangan suhu

$$\text{Simpangan} = Y - \bar{X}$$

Dimana : Y = data setting

\bar{X} = rata-rata hasil pengukuran

$$\begin{aligned}\text{Simpangan} &= Y - \bar{X} \\ &= 77.26666667 - 74.376 \\ &= 2.890666667\end{aligned}$$

c. Error %

$$\text{Error} = \left(\frac{\text{data setting} - \text{rata-rata}}{\text{data setting}} \right) \times 100\%$$

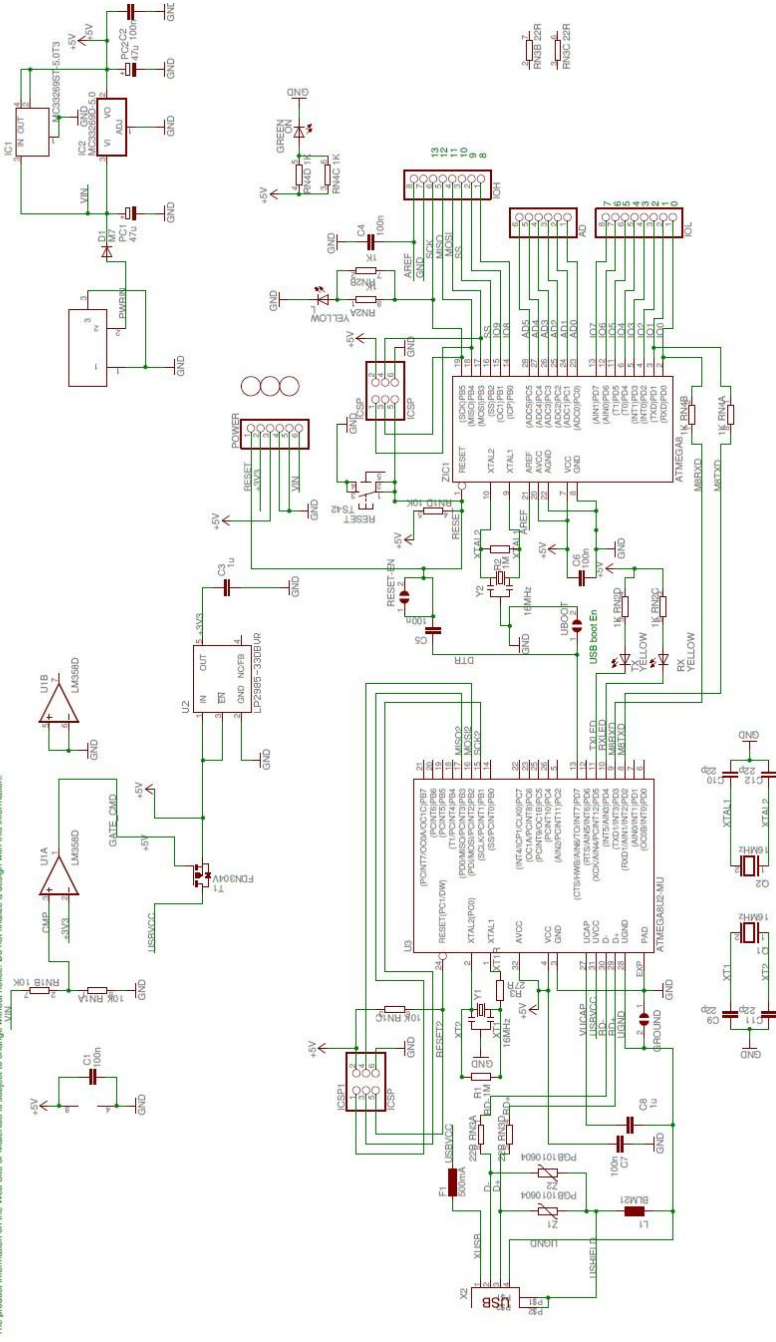
$$\text{Error} = \left(\frac{77.26666667 - 74.376}{77.26666667} \right) \times 100\%$$

$$= 4\%$$

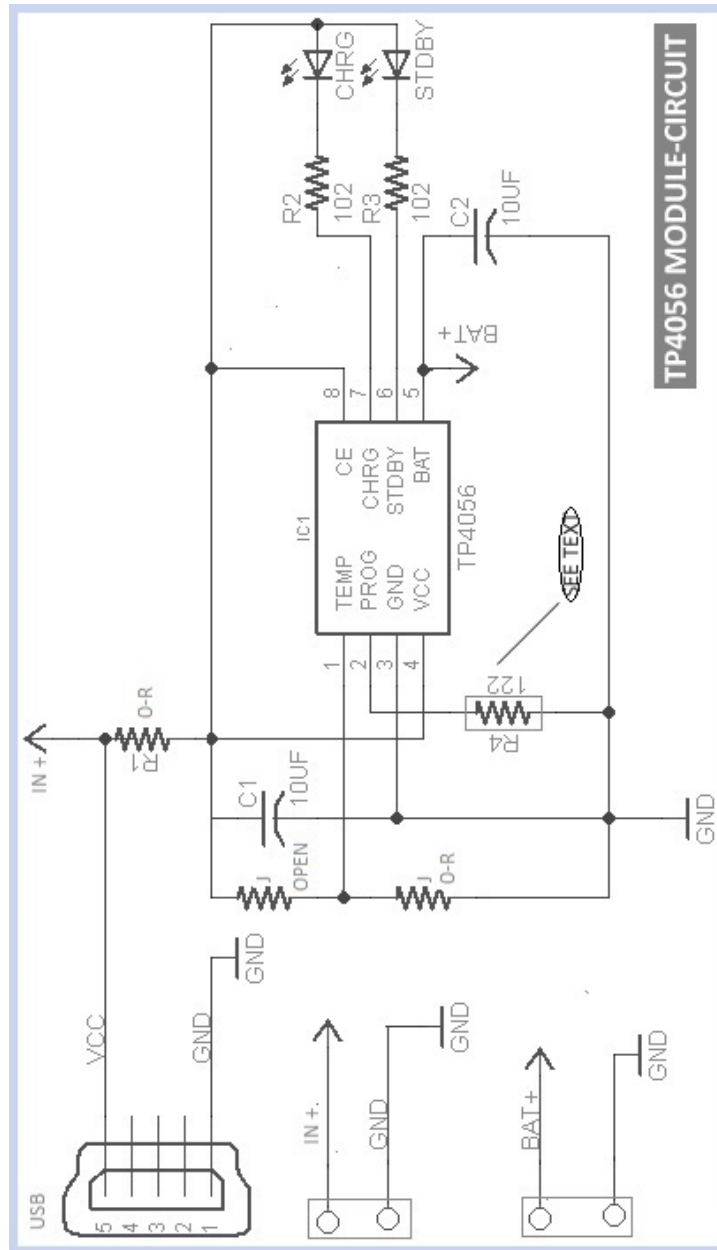
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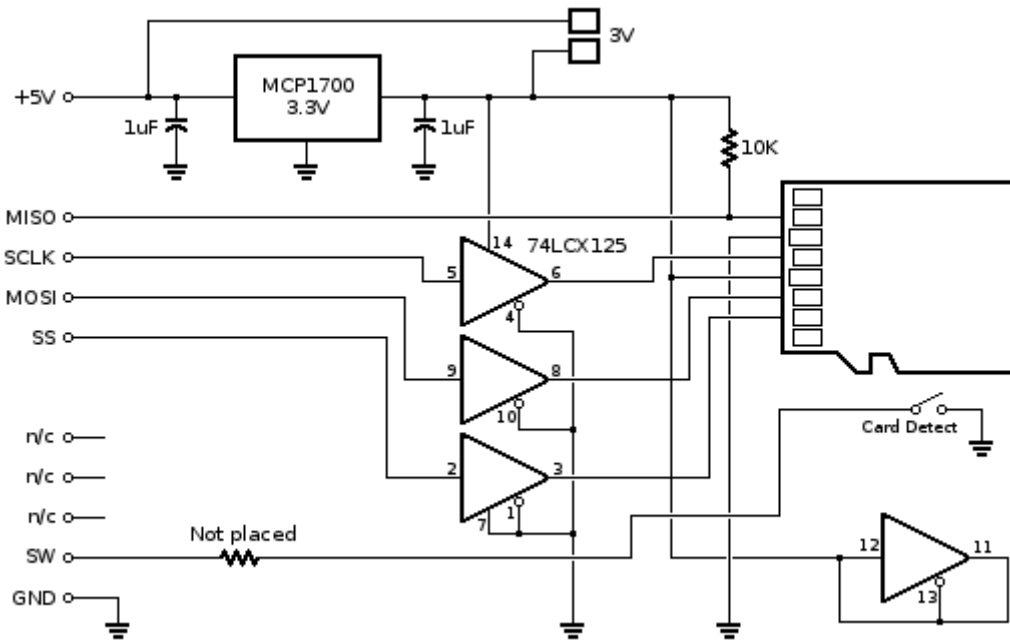
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