DAFTAR PUSTAKA

[1] D. Iqbal, "Perancangan Alat Pengukur Temperature Disc Brake Pada Sistem Rem Sepeda motor Berbasis Mikrokontroler", 2021..

[2] M. F. Anjasmara, Y. B. Laras, W. H. Azrie, L. P. Wardiana, and S. Setijo Budi, "Rancang Bangun Sistem Peringatan Suhu Pengereman Berbasis Mikrokontroller ATmega 16," pp. 1–7, 2016, doi: 10.5614/sniko.2015.1.

[3] M. Dr. Lussiana ETP, Ssi., M. Hustinawati, SKom., M. Atit Pertiwi Skom., M. Ary Bima Kurniawan, ST., and Sk. Yogi Permadi, "Mekatronika," *Univ. Gunadarma*, vol. 1, pp. 1–32, 2011.

[4] E. Rijanto, P. Penelitian, T. Lipi, A. Tulisan, and T. Listrik, "Apa itu mekatronik?," pp. 1–5, 2005.

[5] E. Prasetya, "Sistem Pengereman Pada Purwarupa Sepeda Retro Hybrid",2017.

[6] D. T. Rachmadi, "Kajian Unjuk Kerja Sistem Pengereman Depan Dengan Cakram Dan Belakang Dengan Tromol Pada Sepeda Sepeda motor Gas Wisanggeni," Inst. Teknol. Sepuluh Novemb., pp. 1–75, 2014.

[7] I. A. S. Syawaludin, "Perbandingan Pengujian Mekanis Terhadap Kampas Rem Asbes dan Non Asbestos dengan Melakukan uji Komposisi, Uji Kekerasan dan Uji Keausan," *J. Univ. Muhammadiyah Jakarta, Jur. Tek. Mesin*, pp. 1–10, 2008.

[8] A. Rofiq, "Desain Sistem Monitoring Suhu Menggunakan Sensor DS18B20), 2010.

[9] Fariz Novaldy and Anggita Tri, "Rancang Bangun Prototype Counter Barang Berbasis Arduino Uno Skripsi," vol. 8, no. 2, pp. 1–10, 2019.

[10] I. Santoso, M. F. Adiwisastra, B. K. Simpony, D. Supriadi, and D. S. Purnia, "Implementasi Nodemcu Dalam Home Automation Dengan Sistem Kontrol Aplikasi Blynk," *Swabumi*, vol. 9, no. 1, pp. 32–40, 2021, doi: 10.31294/swabumi.v9i1.10459.

[11] R. Oktaviana, "Pengembangan Emergency Lamp Dengan Led Menggunakan Metode Quality Function Deployment (QFD)", 2016.

[12] E. Agung Permadi, "Dwifungsi Led (Light Emitting Diode) Sebagai Transmisi Optik Informasi Audio Satu Arah Dan Penerangan Ruang," *J. Tek. Elektro*, vol. 1, no. 1, pp. 21–28, 2012.

[13] R. Mardiati, F. Ashadi, and G. F. Sugihara, "Rancang Bangun Prototipe Sistem Peringatan Jarak Aman pada Kendaraan Roda Empat Berbasis Mikrokontroler ATMEGA32," *TELKA - Telekomun. Elektron. Komputasi dan Kontrol*, vol. 2, no. 1, pp. 53–61, 2016, doi: 10.15575/telka.v2n1.53-61.

[14] F. Z. Teja Ahyar, "Implementasi Sistem Voice Recognition Sebagai Pengendali Lampu Jarak Jauh Berbasis Android," *J. Ilm. Fak. Tek. LIMIT'S*, vol. 17, no. 1, pp. 18–25, 2021.

[15] Nafsan Upara and Taufik Bayu Laksono, "Analisis Komparasi Kualitas Produk Kampas Rem Cakram Antara Original Dengan Aftermarket," *J. ASIIMETRIK J. Ilm. Rekayasa Inov.*, vol. 1, no. 1, pp. 26–33, 2019, doi: 10.35814/asiimetrik.v1i1.219.

[16] R. E. K. O. Nugroho, P. Studi, T. Mesin, F. T. Universitas, and M. Surakarta, "Analisis Scanning Electron Microscope (Sem) Dan Energy-Dispersive Xray Spectroscopy (Edx) Pada Pengelasan Brazing Aluminium Seri 6061 Dengan," 2020.

[17] D. Hafidz, “Gaya Tekan Pad Rem Terhadap Disk Rotor Pada Kendaraan Mini Buggy,” *J. Konversi Energi dan Manufaktur*, vol. 3, no. 1, pp. 29–34, 2016, doi: 10.21009/jkem.3.1.5.

[18] R. Kennedy, E. Surojo, and W. Wisnu Raharjo, “Studi Karakteristik Kampas Rem Kendaraan Penumpang Type Oes (Original Equipment Sparepart) Dan Am (Aftermarket) Pada Dry Dan Wet Sliding,” *Mek. Maj. Ilm. Mek.*, vol. 18, no. 1, pp. 28–34, 2019, doi: 10.20961/mekanika.v18i1.35043.

LAMPIRAN

Lampiran 1. Pemrograman Alat *Monitoring* Suhu *Disc Brake*

```
#include <OneWire.h>
#include <DallasTemperature.h>
#include <LiquidCrystal_I2C.h>
#define bus 2
#define pin_buzzer 3
#define led_merah 4
#define led_hijau 5
LiquidCrystal_I2C lcd(0x27,16,2);
String valPembuka ="Pengukur Suhu" ; //Masukkan Nama Proyek , Max 16 Karakter
String valPembukaI ="By : M Daffa Al"; //Masukkan Nama Pembuat , Max 16 Karakter
float suhu;
OneWire oneWire(bus);
DallasTemperature sensor(&oneWire);

void setup(){
lcd.init(); // initialize the lcd
lcd.init();
lcd.backlight(); //Menghapus Text
lcd.setCursor(0,0); //menampilkan Text Startup
lcd.print(valPembuka); //Text StartUp.
delay(2000); //Menjeda 2500Ms / 2,5 detik
```

```
lcd.setCursor(0,1); //menampilkan text start upI.
lcd.print(valPembukaI); //Text StartUpI.
delay(5000); //Menjeda 5000 detik
lcd.clear(); //Menghapus Data Pada Lcd
  Serial.begin(9600);
  pinMode(led_merah,OUTPUT);
  digitalWrite(led_merah,LOW);
  pinMode(pin_buzzer,OUTPUT);
  digitalWrite(pin_buzzer,LOW);
  pinMode(led_hijau,OUTPUT);
  digitalWrite(led_hijau,LOW);
  sensor.begin();
}
void loop(){
  String display_str="SUHU : "+String(suhu)+ " C";
  lcd.setCursor(0,0);
  lcd.print(display_str);
  if(suhu<=50){
    Serial.println("1");
    noTone(pin_buzzer);
    digitalWrite(led_hijau,HIGH);
    digitalWrite(led_merah,LOW);
  }
  else if(suhu>50){
    Serial.println("2");
```

```
    digitalWrite(led_merah,HIGH);
    digitalWrite(led_hijau,LOW);
    tone(pin_buzzer, 1000, 1000);
  }
  sensor.requestTemperatures();
  suhu=sensor.getTempCByIndex(0);
  Serial.println(suhu);
  delay(1000);
}
```

Lampiran 2. Perbandingan Unsur Kampas Rem *Original* Dan *Aftermarket*

No	Unsur	Kampas Rem *Original*									Kampas Rem *After Market*								
		Pengujian 1	Pengujian 2	Pengujian 3	Pengujian 4	Pengujian 5	Pengujian 6	Pengujian 7	Pengujian 8	Total	Pengujian 1	Pengujian 2	Pengujian 3	Pengujian 4	Pengujian 5	Pengujian 6	Pengujian 7	Pengujian 8	Total
1	C	16.39%	23.43%	29.93%	14.91%	11.49%	10.72%	14.52%	32.62%	**19.25%**	54.85%	46.12%	68.21%	60.19%	57.65%	60.87%	52.56%	65.13%	**58.20%**
2	O	28.63%	20.52%	15.85%	14.49%	7.71%	26.19%	27.52%	20.40%	**20.16%**	32.10%	32.83%	29.42%	33.50%	30.09%	33.74%	33.50%	30.38%	**31.95%**
3	Fe	22.48%	21.45%	13.90%	6.79%	5.01%	19.16%	23.58%	14.02%	**15.80%**	2.20%	3.40%	0.22%	0.47%	4.33%	0.67%	2.65%	0.57%	**1.81%**
4	Si	0.40%	0.64%	2.51%	0.62%	0.32%	0.39%	0.40%	0.79%	**0.76%**	1.91%	3.17%	0.24%	0.57%	1.61%	0.86%	2.42%	0.59%	**1.42%**
5	Ba	2.31%	1.92%	3.68%	1.53%	0.98%	1.85%	2.78%	2.26%	**2.16%**	1.79%	2.94%	0.00%	1.34%	1.59%	0.53%	2.44%	0.41%	**1.38%**
6	Cu	18.16%	24.10%	23.94%	54.77%	72.63%	33.51%	19.56%	20.78%	**33.43%**	1.74%	4.20%	0.23%	0.76%	0.48%	0.33%	0.73%	0.32%	**1.10%**
7	Mg	0.33%	0.60%	1.74%	0.20%	0.00%	0.16%	0.26%	0.98%	**0.53%**	1.40%	2.75%	0.42%	0.83%	1.43%	0.86%	2.12%	0.72%	**1.32%**
8	Ca	0.00%	0.33%	1.32%	0.00%	0.00%	0.00%	0.00%	0.35%	**0.25%**	1.31%	2.03%	0.21%	1.14%	0.60%	0.55%	0.79%	0.40%	**0.88%**
9	Zn	3.96%	1.83%	2.02%	2.14%	0.92%	4.00%	4.24%	2.18%	**2.66%**	0.64%	0.20%	0.00%	0.00%	0.21%	0.00%	0.41%	0.00%	**0.18%**
10	Al	0.00%	0.25%	0.50%	0.00%	0.00%	0.00%	0.00%	0.45%	**0.15%**	0.47%	0.57%	0.09%	0.10%	0.29%	0.18%	0.39%	0.13%	**0.28%**
11	S	1.13%	0.76%	1.99%	0.69%	0.26%	0.95%	1.14%	0.93%	**0.98%**	0.47%	0.73%	0.00%	0.26%	0.33%	0.12%	0.69%	0.07%	**0.33%**
12	K	0.26%	0.14%	0.23%	0.00%	0.00%	0.00%	0.26%	0.15%	**0.13%**	0.37%	0.38%	0.36%	0.32%	0.51%	0.45%	0.51%	0.48%	**0.42%**
13	Cr	3.21%	3.12%	1.58%	0.99%	0.68%	2.72%	3.45%	1.98%	**2.22%**	0.27%	0.19%	0.00%	0.00%	0.14%	0.00%	0.16%	0.00%	**0.10%**
14	Cl	0.00%	0.20%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.07%**	0.22%	0.23%	0.26%	0.23%	0.35%	0.37%	0.26%	0.38%	**0.29%**
15	Na	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**	0.29%	0.24%	0.34%	0.29%	0.39%	0.45%	0.35%	0.42%	**0.35%**
16	Mn	0.40%	0.41%	0.00%	0.00%	0.00%	0.37%	0.43%	0.29%	**0.24%**	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**
17	Ti	0.52%	0.31%	0.48%	0.00%	0.00%	0.48%	0.62%	0.68%	**0.39%**	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	**0.00%**

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