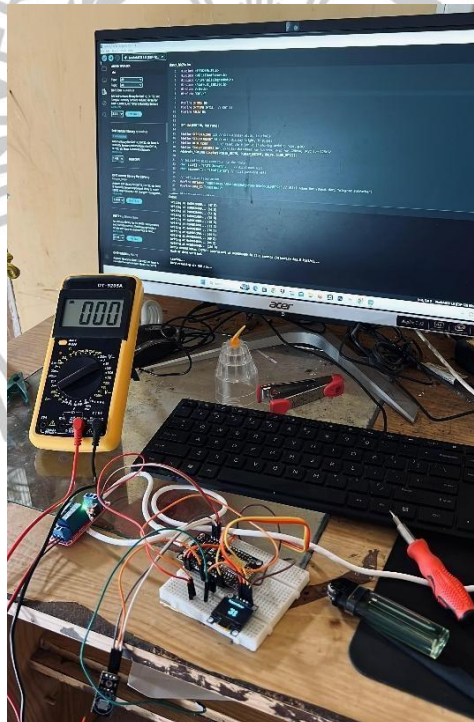


LAMPIRAN



Gambar 1 Pemasangan Heatsink



Gambar 2 Perakitan Automaticfan

```

ta2025.ino
1  #include <ESP8266WiFi.h>
2  #include <WiFiClientSecure.h>
3  #include <UniversalTelegramBot.h>
4  #include <Adafruit_SSD1306.h>
5  #include <Wire.h>
6  #include "DHT.h"
7
8  #define DHTPIN D5
9  #define DHTTYPE DHT11 // DHT 11
10 #define RELAY D3
11
12
13 DHT dht(DHTPIN, DHTTYPE);
14
15 #define SCREEN_WIDTH 128 // OLED display width, in pixels
16 #define SCREEN_HEIGHT 64 // OLED display height, in pixels
17 #define OLED_RESET -1 // Reset pin # (or -1 if sharing Arduino reset pin)
18 #define SCREEN_ADDRESS 0x3C ///< See datasheet for Address; 0x3D for 128x64, 0x3C for 128x32
19 Adafruit_SSD1306 display(SCREEN_WIDTH, SCREEN_HEIGHT, &Wire, OLED_RESET);
20
21 // Initialize Wifi connection to the router
22 char ssid[] = "Rozik"; // diisi nama wifi
23 char password[] = "27102000"; // diisi password wifi
24
25 // Initialize Telegram BOT
26 #define BOTtoken "7883310485:AAEc1SeB2ZBb6QCot66-8HWxD6QsLrW5P2o" // diisi Token
27 #define CHAT_ID "7883310485"
28

```

Gambar 3 Program Arduino



Gambar 4 Perakitan Panel



Gambar 5 Pengambilan Data



Gambar 6 Lux Meter



Gambar 7 Thermalgun



Gambar 8 DC Wattmeter

Selasa 22. April 2025

Waktu (WIB)	I (lux)	Tanpa sistem pendingin				dengan sistem pendingin			
		V (V)	I (A)	T atas	T bawah	V (V)	I (A)	T atas	T bawah
10,00	1321 x100	17.33	3.05	45.9	42.0	17.24	4.02	36.0	39.2
10,10	1298 x100	17.03	3.17	50.5	55.6	17.29	3.68	42.9	49.9
10,20	1390 x100	17.16	3.75	51.7	50.5	17.40	3.98	41.7	40.4
10,30	1351 x100	15.95	3.90	52.9	56.2	16.97	3.98	43.9	45.5
10,40	1363 x100	15.92	4.32	52.0	56.7	15.71	4.68	43.1	44.7
10,50	1545 x100	17.95	3.73	56.6	59.5	15.08	4.62	43.1	44.1
11,00	1410 x100	16.79	3.63	54.2	57.6	15.01	4.67	42.1	49.5
11,10	1489 x100	15.68	4.07	52.4	59.4	15.39	4.59	41.1	46.7
11,20	1464 x100	16.43	3.76	52.4	56.0	14.70	4.33	43.0	46.6
11,30	1591 x100	16.00	4.35	54.9	57.6	15.49	4.66	45.9	46.9
11,40	1716 x100	15.81	4.31	58.2	60.7	15.57	4.69	43.8	45.7
11,50	1686 x100	16.78	4.27	53.9	56.4	14.73	5.28	44.1	45.7
12,00	1722 x100	15.22	4.67	57.0	61.2	14.85	5.10	42.6	45.4
12,10	1695 x100	14.92	4.72	56.3	57.5	14.62	4.67	43.9	45.6
12,20	1698 x100	15.03	4.72	57.2	60.0	15.92	4.83	45.9	49.0
12,30	1677 x100	15.38	4.50	57.9	61.9	15.27	4.88	43.6	48.3
12,40	1555 x100	15.31	4.41	59.2	57.9	16.28	4.31	43.1	46.3
12,50	1512 x100	15.93	4.17	53.2	55.3	15.01	4.79	50.0	47.6
13,00	1465 x100	14.97	4.74	54.3	55.9	14.57	4.94	45.9	46.3

Gambar 9 Tabel Hasil Pengujian 22 April 2025

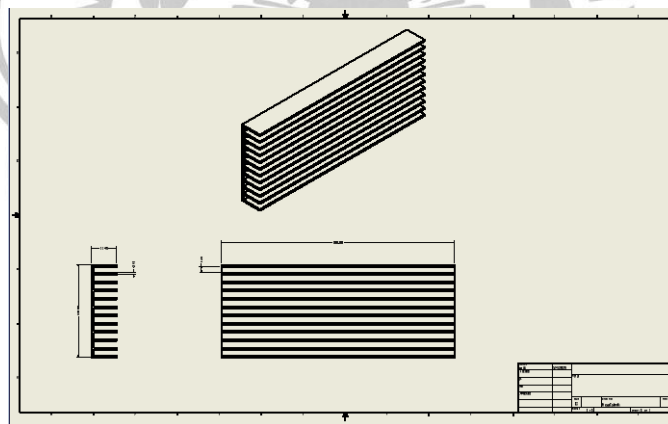
Rabu 23. April 2025 Mendung

Waktu (WIB)	I (lux)	Tanpa sistem pendingin				dengan sistem pendingin			
		V (V)	I (A)	T atas	T bawah	V (V)	I (A)	T atas	T bawah
10,00	1317 x100	17.33	3.02	45.9	46.1	15.06	4.74	37.2	43.3
10,10	1202 x100	17.15	3.60	50.8	61.0	16.51	4.74	50.5	48.5
10,20	2110 x100	13.78	1.40	44.7	46.0	13.76	1.43	36.0	37.3
10,30	1876 x100	13.29	1.34	35.0	38.0	13.85	1.39	30.6	32.6
10,40	1936 x100	13.60	1.44	31.0	32.5	13.20	1.14	27.3	30.3
10,50	1613 x100	13.71	1.17	32.3	35.1	14.01	1.23	28.3	30.5
11,00	2675 x100	13.66	1.27	34.1	36.3	14.24	1.32	28.6	32.1
11,10	2125 x100	14.12	1.13	34.1	36.4	13.60	1.20	30.4	32.3
11,20	1590 x100	13.64	1.16	34.4	36.5	14.31	1.17	31.0	32.7
11,30	5666 x100	14.36	1.77	44.2	47.7	13.91	1.41	36.8	39.7
11,40	7207 x100	14.04	1.92	46.0	49.6	14.00	1.96	39.6	41.0
11,50	1056 x100	14.48	0.78	38.6	40.4	13.64	0.80	31.5	35.0
12,00	7410	14.22	0.50	32.3	33.5	13.16	0.52	32.8	31.2
12,10	1541 x100	13.85	0.91	30.7	31.0	13.80	0.91	29.9	30.5
12,20	2249 x100	13.68	1.27	34.3	36.4	13.43	1.22	31.0	32.0
12,30	3336 x100	13.85	1.77	34.3	36.4	13.57	1.71	32.2	33.4
12,40	6356 x100	14.92	3.71	43.6	46.1	14.48	3.86	36.7	40.8
12,50	1252 x100	16.20	3.83	54.9	57.0	17.11	3.26	45.0	49.1
13,00	1020 x100	17.58	4.47	43.4	46.8	17.89	4.98	34.0	37.3

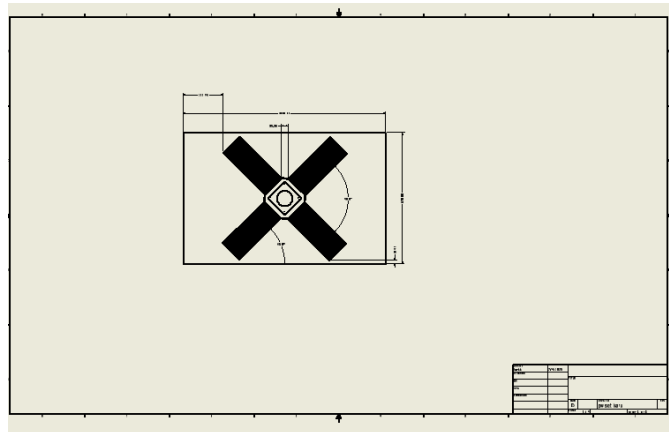
Gambar 10 Tabel Hasil Pengujian 23 April 2025

Waktu (WIB)	I (lux)	Tanpa sistem pendingin				dengan sistem pendingin			
		V (V)	I (A)	T atas	T bawah	V (V)	I (A)	T atas	T bawah
10,00	1981 x 100	14.05	4.62	35.6	40.9	14.01	4.71	32.9	34.4
10,10	1552 x 100	15.20	4.80	50.4	52.8	16.448	4.73	43.9	45.2
10,20	1815 x 100	14.91	4.92	53.2	55.9	16.79	4.21	41.0	47.8
10,30	1869 x 100	15.40	4.50	51.6	56.7	15.30	4.69	45.7	50.4
10,40	1670 x 100	14.68	4.95	53.4	55.3	14.30	4.95	49.7	46.5
10,50	1765 x 100	14.33	4.43	53.3	57.7	14.30	4.96	47.7	49.1
11,00	1788 x 100	14.27	4.96	55.8	59.6	15.63	5.66	49.5	50.1
11,10	1735 x 100	15.07	4.987	54.8	59.0	16.27	5.47	41.9	46.3
11,20	1699 x 100	14.62	5.06	53.7	57.3	14.94	6.04	45.9	49.5
11,30	1689 x 100	14.55	5.12	56.2	60.8	14.91	6.05	43.7	49.6
11,40	1559 x 100	16.63	4.74	57.4	63.3	14.60	6.20	53.9	55.0
11,50	1614 x 100	15.40	4.72	57.3	61.2	15.68	5.66	44.7	52.4
12,00	1533 x 100	16.90	4.29	57.2	60.2	16.06	6.01	51.2	48.7
12,10	1735 x 100	14.45	5.01	55.7	56.2	14.55	6.04	44.6	40.2
12,20	1427 x 100	14.31	4.96	55.7	59.3	14.85	5.91	45.8	47.8
12,30	1520 x 100	14.60	4.77	54.7	59.6	14.40	5.91	47.8	46.2
12,40	1521 x 100	14.31	4.99	53.5	57.7	14.45	6.04	43.6	49.5
12,50	2099 x 100	12.46	1.01	45.8	51.0	12.83	2.27	38.1	42.9
13,00	2087 x 100	12.84	0.77	36.2	39.0	12.71	1.97	32.5	34.9

Gambar 11 Tabel Hasil Pengujian 5 Mei 2025



Gambar 12 Dimensi Heatsink



Gambar 13 Rancang Peletakan Sistem Pendingin

