

DAFTAR PUSTAKA

- [1] Kementerian Energi dan Sumber Daya Mineral, *Rencana Umum Energi Nasional (RUEN)*, Jakarta: KESDM, 2017. [Online]. Available: <https://www.esdm.go.id/assets/media/content/content-rencana-umum-energi-nasional-ruen.pdf>
- [2] D. R. R. P. Putra dan Joko, "Perancangan Alat Monitoring Kinerja PLTS Off Grid Berbasis IoT Menggunakan NodeMCU ESP32 dan Telegram," *Jurnal Teknik Elektro UNESA*, vol. 13, no. 3, hal. 248–255, 2024.
- [3] L. O. Sari, M. F. E. Saputra, dan E. Safrianti, "Sistem Monitoring Arus Listrik Berbasis IoT pada Solar Panel di Laboratorium PLTS UIN Suska Riau," *MALCOM: Indonesian Journal of Machine Learning and Computer Science*, vol. 4, no. 1, 2024.
- [4] A. Triyanto, A. Maulana, J. T. Susilo, dan Y. D. S. Pambudi, "Integrasi IoT pada Evaluasi Efisiensi Panel Surya Off-Grid pada Beban Resistif dan Induktif," *Jurnal Nasional Teknik Elektro dan Teknologi Informasi (JNTETI)*, vol. 15, no. 1, hal. 1–7, 2026.
- [5] Tim Politeknik Aceh, "Sistem Monitoring Panel Surya Berbasis IoT," *J-Innovation*, vol. 11, no. 2, Des. 2022.
- [6] Tim ITN Malang, "Analisis Peningkatan Efisiensi Tracking Panel Surya Dual Axis 100WP Terhadap Suhu Panel," *Magnetika: Jurnal Mahasiswa Teknik Elektro*, 2025.
- [7] Tim Peneliti, "Sistem PLTS 120WP dengan Kontrol IoT untuk Monitoring Real-Time Optimasi Irigasi Sawah," *JUITIK*, 2025.
- [8] Tim Peneliti, "Perancangan Solar Tracker Dual Axis dengan Monitoring Intensitas Cahaya, Arus, Tegangan, Daya, dan Sudut Kemiringan Panel Surya Berbasis IoT," *INFOMATEK*, vol. 27, no. 1, 2025.
- [9] Tim Peneliti, "Analisis Pengaruh Intensitas Radiasi Matahari Terhadap Tegangan dan Arus Pada Panel Surya," *Jurnal Arjuna*, 2023.

- [10] M. Rifaldi dkk., "Analisis Efisiensi Sistem Pembangkit Listrik Tenaga Surya sebagai Sumber Energi Baru Terbarukan," *RETROTEKIN*, vol. 1, no. 1, hal. 16–24, 2023.
- [11] Tim Peneliti, "Analisis Efisiensi Pembangkit Listrik Tenaga Surya (PLTS) Terhadap Penyinaran Matahari Menggunakan Solar Power Meter," *Jurnal Teknik Elektro dan Komputer*, vol. 12, no. 3, 2023.
- [12] A. Rauf, "Analisis Perbandingan Panel Surya Monokristalin dan Polikristalin," *Jurnal Rekayasa Elektrika (RELE) UMSU*, 2020. [Online]. Available: <https://jurnal.umsu.ac.id/index.php/RELE/article/view/4420/4000>
- [13] Nusabot, "Arduino dengan Sensor Cahaya Lingkungan BH1750," 2023. [Online]. Available: <https://nusabot.id/blog/arduino-dengan-sensor-cahaya-lingkungan-bh1750/>
- [14] How2Electronics, "How to Use INA219 DC Current Sensor Module with Arduino," 2023. [Online]. Available: <https://how2electronics.com/how-to-use-ina219-dc-current-sensor-module-with-arduino/>
- [15] ArduTech, "Mengenal ESP32 Development Kit untuk IoT," 2023. [Online]. Available: <https://www.ardutech.com/mengenal-esp32-development-kit-untuk-iot-internet-of-things/>
- [16] ITU-T, "Overview of the Internet of Things," Recommendation Y.2060, 2012. [Online]. Available: <https://www.itu.int/rec/T-REC-Y.2060>
- [17] Built In, "Telegram API: A Complete Guide," 2024. [Online]. Available: <https://builtin.com/software-engineering-perspectives/telegram-api>
- [18] Random Nerd Tutorials, "ESP32 Datalogging to Google Sheets," 2024. [Online]. Available: <https://randomnerdtutorials.com/esp32-datalogging-google-sheets/>
- [19] Last Minute Engineers, "I2C LCD Arduino Tutorial," 2023. [Online]. Available: <https://lastminuteengineers.com/i2c-lcd-arduino-tutorial/> Arduino, "Arduino IDE," 2024. [Online]. Available: <https://www.arduino.cc/en/software>
- [20] Sinar Teknik, "Resistor Keramik 15 Watt 10 Ohm Putih Kotak Resistor 15W 10 Ohm," Tokopedia, 2024. [Online]. Available: <https://www.tokopedia.com/>

- [21] Ixha, "Brosur Power Supply Switching 12V 5A," 2026. [Online]. Available: <https://ixha.com/wp-content/uploads/2026/01/Brosur-Power-supply-switching-12v-5a.pdf>
- [22] Monolithic Power Systems, "MP1584 — 3A, 1.5MHz, 28V Step-Down Converter Datasheet," 2014. [Online]. Available: <https://www.monolithicpower.com/en/mp1584.html>
- [23] Hobby Components, "MLink 4x4 Matrix Keypad," 2023. [Online]. Available: <https://hobbycomponents.com/recently-purchased/1120-mlink-4x4-matrix-keypad>
- [24] International Electrotechnical Commission, *IEC 61215-1:2021: Terrestrial Photovoltaic (PV) Modules — Design Qualification and Type Approval*, IEC, 2021. [Online]. Available: https://www.iec.ch/webstore/books/ft/6113179_fd.pdf
- [25] M. Valerino, M. Bergin, C. Ghoroi, A. Ratnaparkhi, and G. P. Smestad, "Low-cost solar PV soiling sensor validation and size resolved soiling impacts: A comprehensive field study in Western India," *Solar Energy*, vol. 204, pp. 307-315, Jul. 2020. [Online]. Available: <https://doi.org/10.1016/j.solener.2020.03.118>
- [26] D. Hidayat and P. E. Broto, "Analisis Karakteristik Sensor BH1750 Berbasis Mikrokontroler pada Pengukuran Intensitas Cahaya," *Jurnal Sains Fisika: SAINFIS*, vol. 5, no. 2, pp. 1-11, 2025. [Online]. Available: <https://doi.org/10.24252/sainfis.v5i2.63950>
- [27] H. Nugroho, "Penerapan Solar Tracking System Berlengan Ganda dengan Memanfaatkan Potensi Tenaga Surya," *CYCLOTRON: Jurnal Teknik Elektro*, vol. 8, no. 1, 2025. [Online]. Available: <https://doi.org/10.30651/cl.v8i01.23872>