DAFTAR PUSTAKA

Abad, M. G. N. M., Ghadimi, A. A., Ebadi, M., & Daeichian, A. (2023). Lyapunov-based model predictive control for a single-phase grid-connected cascaded multilevel asymmetrical inverter. *International Journal of Electrical Power and Energy Systems*, *147*. 1-7. https://doi.org/10.1016/j.ijepes.2022.108789

Avanaki, H. N., Barzegarkhoo, R., Zamiri, E., Yang, Y., & Blaabjerg, F. (2019). Reduced switch-count structure for symmetric multilevel inverters with a novel switched-DC-source submodule. *IET Power Electronics*, *12*(2), 311–321. https://doi.org/10.1049/iet-pel.2018.5089

Bektaş, Y. (2024). Real-time control of Selective Harmonic Elimination in a Reduced Switch Multilevel Inverter with unequal DC sources. *Ain Shams Engineering Journal*, *15*(6). 1-25. https://doi.org/10.1016/j.asej.2024.102719

Devadoss, S., Ramasamy, P., Amit, Agarwal, A., & Gupta, S. (2023). Design of 15 level reduced switches inverter topology using multicarrier sinusoidal pulse width modulation. *Telkomnika (Telecommunication Computing Electronics and Control)*, *21*(1), 214–222. https://doi.org/10.12928 /TELKOMNIKA. v21i1.24263

Jayaraman, M., & Sreedevi, V. T. (2017). Power quality improvement in a cascaded multilevel inverter interfaced grid connected system using a modified inductive-capacitive-inductive filter with reduced power loss and improved harmonic attenuation. *Energies*, *10*(11). 1-23. https:// doi.org/10.3390 /en 10111834

Khadse, S., Mendole, M., & Pandey, A. (2017). A 5-Level Single Phase Flying Capacitor Multilevel Inverter. *International Research Journal of Engineering and Tecnology*, *04*(02), 348–352.

Kubendran, V., Mohamed Shuaib, Y., & Preetha Roselyn, J. (2022). Development of multilevel inverter with reduced switch counts and limited sources for electric vehicles. *Sustainable Energy Technologies and Assessments*, *52*. 1-11. https://doi.org/10.1016/j.seta.2022.102332

Ramu, V., Satish Kumar, P., & Srinivas, G. N. (2022). LSPWM, PSPWM and NLCPWM on multilevel inverters with reduced number of switches. *Materials Today: Proceedings*, 710–727. https://doi.org/10.1016/j.matpr.2021.10.410

Rusdi, M., Samman, F. A., & Sadjad, R. S. (2019, July). FPGA-based electronic pulse generator for single-phase DC/AC inverter. In *2019 International Conference on Information and Communications Technology (ICOIACT)* (pp. 756-760). IEEE.

Sánchez Vargas, O., De León Aldaco, S. E., Aguayo Alquicira, J., Vela Valdés, L. G., & Mina Antonio, J. D. (2022). Differential Evolution Applied to a Multilevel Inverter—A Case Study. *Applied Sciences (Switzerland), 12*(19). 1-15. https://doi.org/10.3390/app12199910

Sharna, V. (2017). Diode clamped multilevel inverter switching topology. *Int. J. Ind. Electron. Electr. Eng*, *5*(11), 31-35.

Thakre, K., Mohanty, K. B., & Chatterjee, A. (2023). Modelling and design of new multilevel inverter for renewable energy systems with less number of unidirectional switches. *Energy and Climate Change*, *4*. 1-10 https://doi.org/10.1016/j.egycc.2023.100094

Thiyagarajan, V., & Somapasundaram, P. (2017). Mathematical modelling and comparative analysis of PWM techniques for photovoltaic fed HERIC inverter. *Proceedings - 2017 2nd International Conference on Recent Trends and Challenges in Computational Models, ICRTCCM 2017*, 130–135. https://doi.org/10.1109/ICRTCCM.2017.65

Umashankar, S., Sreedevi, T. S., Nithya, V. G., & Vijayakumar, D. (2013). A New 7-Level Symmetric Multilevel Inverter with Minimum Number of Switches. *ISRN Electronics*, *2013*, 1–8. https://doi.org/10.1155/2013/476876

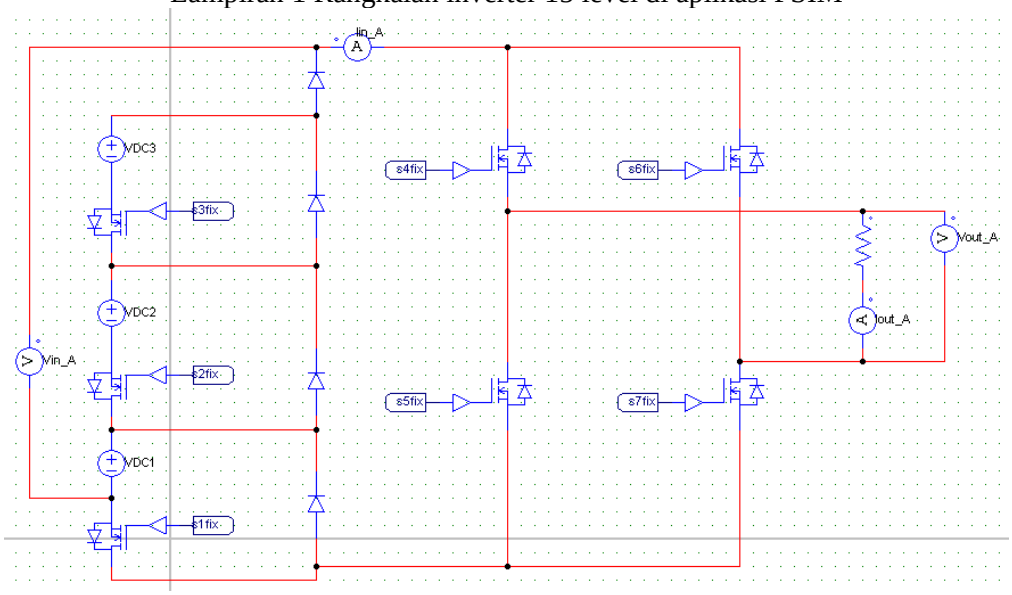
Vijayakumar, A., Alexander Stonier, A., Peter, G., Kumaresan, P., & Reyes, E. M. (2022). A Modified Seven-Level Inverter with Inverted Sine Wave Carrier for PWM Control. *International Transactions on Electrical Energy Systems*, *2022*. 1-12 https://doi.org/10.1155/2022/7403079

Yarlagadda, A. K., & Verma, V. (2022). A novel multilevel inverter topology with reduced number of component count and total standing voltage for renewable

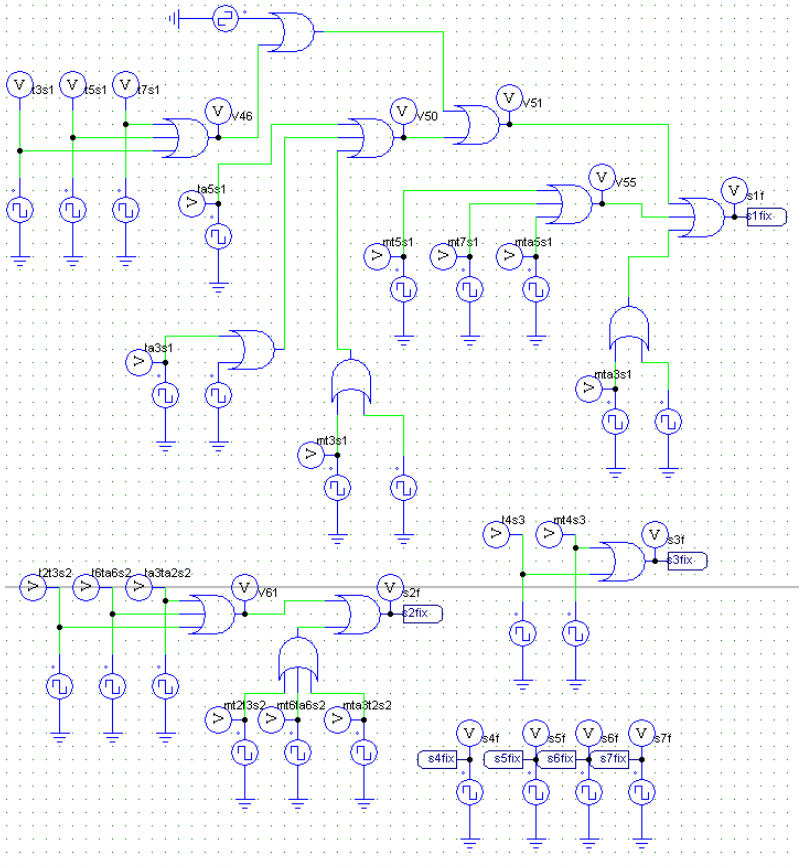
energy conversion system. *Renewable Energy Focus*, *43*, 84–92. https://doi.org/10.1016/j.ref.2022.09.004

LAMPIRAN

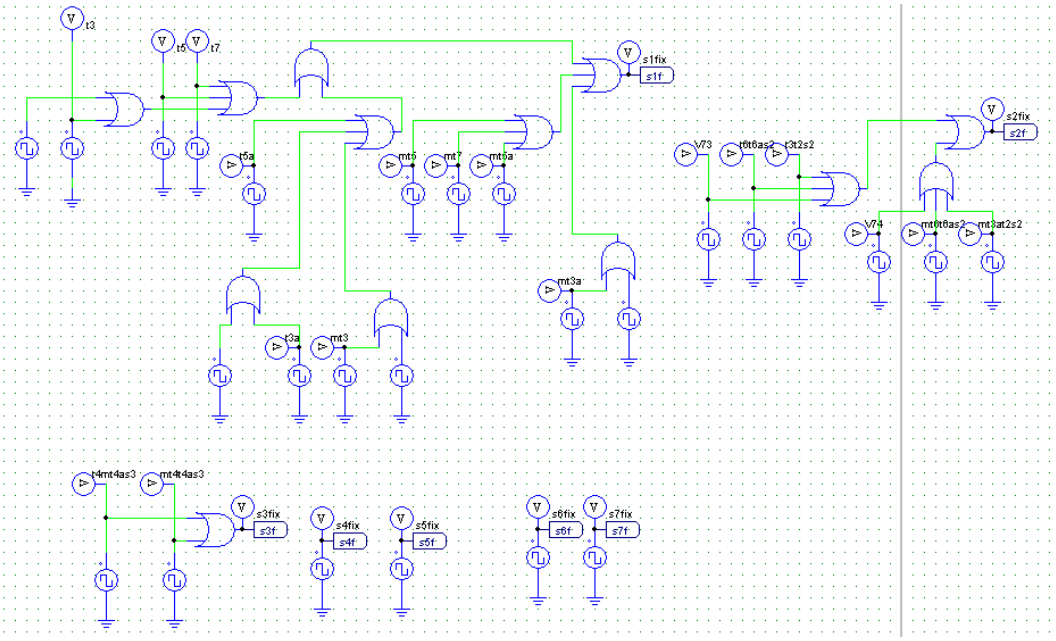
Lampiran 1 Rangkaian inverter 15 level di aplikasi PSIM



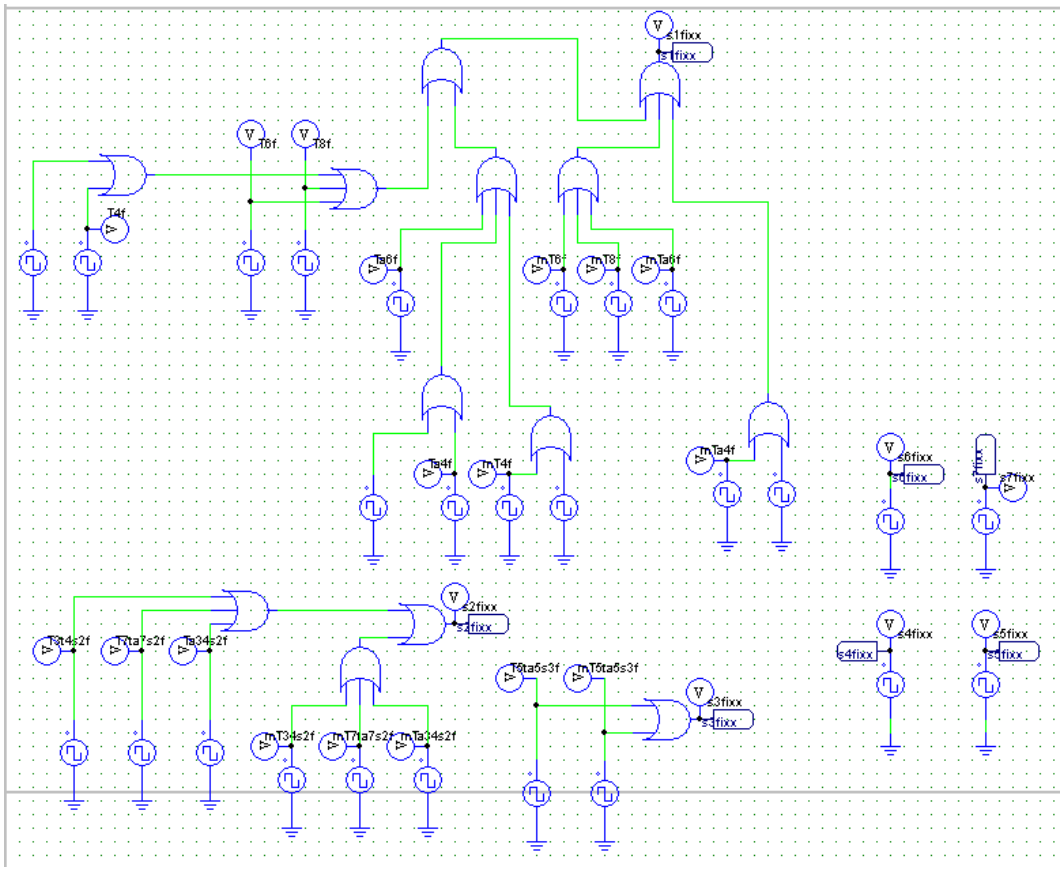
Lampiran 2 Rangkaian pembangkit PWM 15 level teknik modulasi konvensional



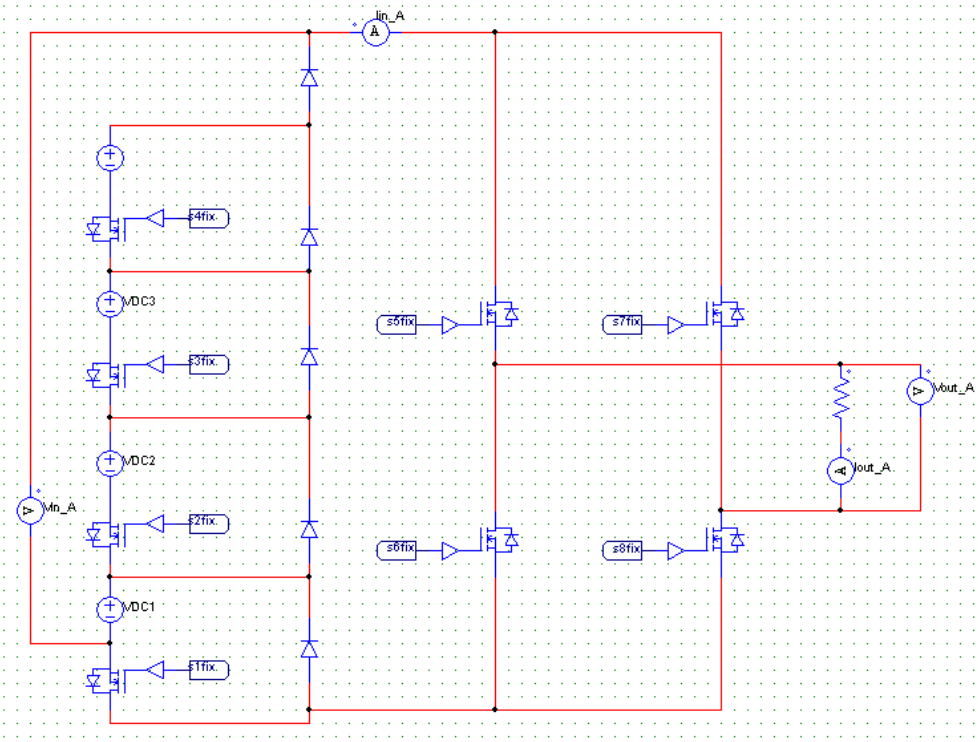
Lampiran 3 Rangkaian pembangkit PWM 15 level teknik modulasi NLCPWM tanpa level nol



Lampiran 4 Rangkaian pembangkit PWM 15 level teknik modulasi NLCPWM dengan level nol



Lampiran 5 Rangkaian inverter 31 level di aplikasi PSIM



Lampiran 6 Rangkaian pembangkit PWM inverter 31 leve teknik modulasi NLCPWM dengan level nol