

HOW2POWER TODAY

Special Series on Designing An Open-Source Power Inverter

This 25-part article series by Dennis Feucht of Innovatia Laboratories was published in the [How2Power Today](#) newsletter, starting with part 1 in the May 2021 issue and concluding with the final part in the April 2025 issue. Links to all the parts in this series are provided below. If you have comments or questions on any aspects of this series, please share them with the [editor](#).

- ["Designing An Open-Source Power Inverter \(Part 1\): Goals And Specifications"](#) by Dennis Feucht, How2Power Today, May 2021.
- [Part 2: Waveshape Selection](#), September 2021.
- [Part 3: Power-Transfer Circuit Options](#), April 2022.
- [Part 4: The Optimal Power-Line Waveshape](#), May 2022.
- [Part 5: Kilowatt Inverter Circuit Design](#), July 2022.
- [Part 6: Kilowatt Inverter Control Circuits](#), August 2022.
- [Part 7: Kilowatt Inverter Magnetics](#), September 2022.
- [Part 8: Converter Control Power Supply](#), November 2022.
- [Part 9: Magnetics For The Converter Control Power Supply](#), December 2022.
- [Part 10: Converter Protection Circuits](#), February 2023.
- [Part 11: Minimizing Switch Loss In Low-Input-Resistance Converters](#), March 2023.
- [Part 12: Sizing The Converter Magnetics](#), May 2023.
- [Part 13: The Differential Boost Push-Pull Power-Transfer Circuit](#), June 2023.
- [Part 14: Boost Push-Pull Or Buck Bridge?](#), July 2023
- [Part 15: Transformer Magnetic Design For the Battery Converter](#), March 2024.
- [Part 16: Transformer Winding Design For the Battery Converter—Efficiency Range And Winding Allotment](#), April 2024.
- [Part 17: Transformer Winding Design For the Battery Converter—Alternative Configurations](#), May 2024.
- [Part 18: Transformer Winding Design For The Battery Converter—Secondary Winding Design](#), July 2024.
- [Part 19: Controller Design For The Battery Converter](#), September 2024.
- [Part 20: Converter Inductor Magnetic Design](#), October 2024.
- [Part 21: Converter Inductor Winding Design](#), November 2024.
- [Part 22: Converter Regulator Dynamics](#), December 2024.
- [Part 23: Inverter Driver Design Refinement](#), January 2025.
- [Part 24: Inverter Output Filter Conundrum](#), February 2025.
- [Part 25: Boost Or Buck For Converters That Increase Voltage?](#), April 2025.

About The Author



Dennis Feucht has been involved in power electronics for 40 years, designing motor-drives and power converters. He has an instrument background from Tektronix, where he designed test and measurement equipment and did research in Tek Labs. He has lately been working on projects in theoretical magnetics and power converter research.