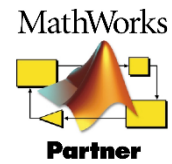




MAKING POWER SYSTEMS WORLDWIDE  
STABLE, RELIABLE, SECURE, AND  
SUSTAINABLE



## Top 10 Reasons Why Customers Purchase SYNDEM Smart Grid Research and Educational Kits

1. Designed by [Dr. Qing-Chang Zhong](#), IEEE Fellow, a globally well-recognized professor in control and power engineering who served as a Distinguished Lecture of three IEEE societies (Control Systems, Power Electronics, and Power and Energy) and an Associate Editor of four *IEEE Transactions* (*Automatic Control*, *Control Systems Technology*, *Power Electronics and Industrial Electronics*) with profound understanding of research and hands-on education in control, power electronics, and power systems. Adopting the Kits offers you direct access to Dr. Zhong for technical inquiries regarding the Kits, as well as broader discussions on research, education, and career development.
2. Trusted by researchers, professors and students in 10+ countries.
3. All-in-one with three built-in phase legs, reconfigurable for 10+ converter topologies: saving time and efforts of researchers, professors and students to get familiar with different boards; saving equipment investment on different boards.
4. Re-programmable with auto-code generation through MATLAB/Simulink: saving even more time and efforts for researchers, professors and students so that they can focus on developing core skills and activities in control and power electronics.
5. No recurring software subscriptions or paywalls necessary. Once you own it, you own it.
6. Built-in with 4 bipolar digital-to-analogue channels (DAC) with the option to re-route currents, voltages and internal control signals to an oscilloscope without the need of using differential probes: saving ~\$4000 on four differential probes for each Kit.
7. Built-in with an independent three-phase 1200V 35A diode bridge, which can be used to generate DC voltage for the DC bus without the need of buying a separate DC power supply: saving another ~\$1000.
8. Built-in with safety and protection as users can start with low voltage, such as 24V or 48V, and then increase the voltage after building up their confidence: saving investment further.
9. Built-in with scalability: suitable for basic educational experiments and advanced research for single-Kit systems or multiple-Kit systems in islanded or grid-tied operation.
10. Capable of building your own solar simulators, wind turbine simulators, battery testing systems etc., saving further equipment investment.

### Videos and Publications

- <http://www.syndem.com/Products.html>
- [Go Real: Power Electronics From Simulations to Experiments in Hours: Versatile Experimental Tool for Next Generation Engineers](#), *IEEE Power Electronics Magazine*, vol. 7, no. 3, pp. 52-61, 2020.
- [Learning-by-Doing: Design and Implementation of a Solar Array Simulator With a SYNDEM Smart Grid Research and Educational Kit](#), *IEEE Power Electronics Magazine*, vol. 11, no. 1, pp. 47-54, 2024.
- [Design and Implementation of an All-in-One Solid-State Wind Turbine Simulator](#), *IEEE Power Electronics Magazine*, vol. 12, no. 3, pp. 84-91, Sept. 2025.

**Where to buy:** Please email [admin@syndem.com](mailto:admin@syndem.com).