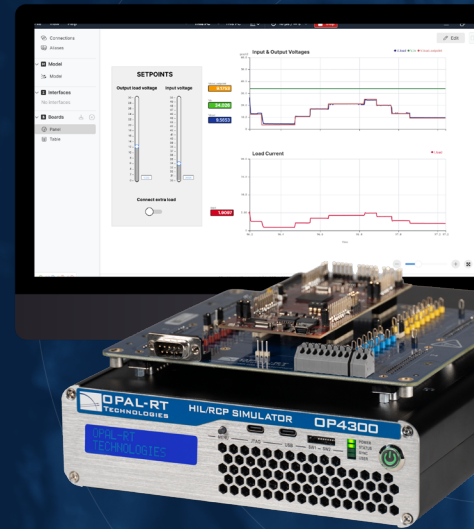


Bring power electronics hardware-in-the-loop (HIL) testing into your lab, **without the complexity.**

Our HIL Starter Kit helps you teach real-world power electronics in minutes, instead of months.



THE CHALLENGE

Students graduate with theory, but no real world experience.

Most teaching labs struggle to adopt hardware-in-the-loop (HIL). This is because HIL is:

- ✗ expensive to deploy
- ✗ complex to implement
- ✗ risky for students

OUR SOLUTION

Presenting the OPAL-RT HIL Starter Kit.

Work with a compact, all-in-one platform that connects real control hardware to real-time power electronics models.



Be up and running in minutes

No setup overhead.



No previous HIL experience required

Designed for first-time users.



Safe for experimentation

No risk to your hardware.



Compact & portable

Fits in any lab environment.

CHOOSE US

OPAL-RT is trusted by educators worldwide. Contact us to request a demo and start teaching real-world power systems today.

- ✓ serving 100+ teaching labs and universities
- ✓ control loops at 1 μ s time steps
- ✓ wide range of power electronics applications



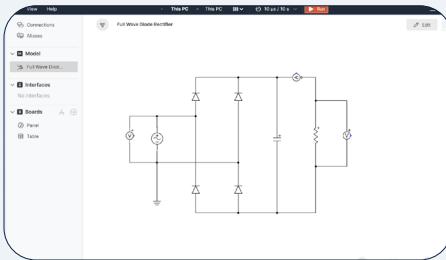
<https://www.opal-rt.com/hil-starter-kit-lp/>

From model to control to validation, all in one platform.



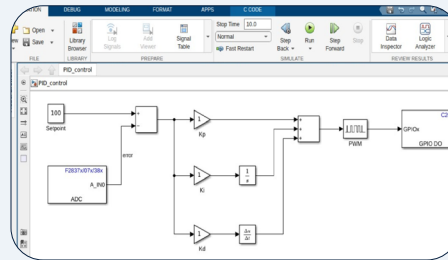
SYSTEM ARCHITECTURE & WORKFLOW

Real-time simulation, control, and validation in one unified workflow.



1) Configure your real-time simulator

Model your power electronics in schematic editor.



2) Configure your control prototype

Deploy your algorithm using MATLAB/Simulink.

```
#!/usr/bin/env python
# -*- coding: utf-8 -*-
"""
    opalrt: Creating a Project
    ~~~~~
    from opalrt.session import start_session, terminate_session, local_sessionconfig
    from opalrt.project import create_project, get_projects, find_project

    # Start session
    print("Starting session...")
    config = local_sessionconfig("C:\\OPAL-RT\\HIL\\OPAL-RT\\1.2.0.0")
    start_session(config)

    try:
        # Create a project
        print("Creating project...")
        project = create_project("my_first_project")
        print("Project created: (project.name)")

        # Access the model
        model = project.model
        print("Model accessed")

        # List all projects
        projects = get_projects()
        print("Number of projects available: (len(projects))")
        for p in projects:
            print(p.name)
    except Exception as e:
        print("Error: " + str(e))
    finally:
        terminate_session()

```

3) Run your scenarios on your Host PC

Automate testing using Python API.

KIT SPECIFICATIONS

Hardware overview			
OP4300 — REAL-TIME SIMULATOR	OP8667 — CONTROL PROTOTYPE (RCP)	INCLUDED	
AMD Kria™ K26: ✓ 32 Digital Inputs / 32 Digital Outputs ✓ 16 Analog Inputs / 16 Analog Outputs	TI C2000™: ✓ 16 Analog Inputs / 6 Analog Outputs ✓ 28 Digital Outputs / 15 Digital Inputs ✓ SPI & UART ✓ Quadrature encoder inputs ✓ Resettable via simulator	✓ Cables ✓ Software ✓ Courseware ✓ Optional transport case	
Other HIL Starter Kit benefits			
INCLUDED TEACHING EXAMPLES	DESIGNED FOR LAB INTEGRATION	ACADEMIC PRICING	WARRANTY & SUPPORT
✓ DC-DC Buck converter ✓ DC-DC Boost converter ✓ AC-DC conversion with Power Factor Correction (PFC) ✓ Regulated DC-AC inverter with switchable RL load ✓ DC-AC inverter with PMSM motor control	✓ Pre-built models and experiments ✓ Structured lab exercises ✓ Ready-to-use teaching material	✓ Entry-level systems designed to fit academic budgets	✓ 1-year warranty ✓ 30-day return policy

LET'S GET IN TOUCH

Contact us to request a demo and start teaching real-world power systems today.

opal-rt.com