

RT-LAB | OP4200

Small all-purpose rapid control prototyping (RCP) system

BDL42-100

AFFORDABLE ENTRY-
LEVEL SOLUTION FOR
YOUR RCP/HIL NEEDS



Dimensions: 11.2 "(W) x 8.7 "(D) x 9,75" (H)

HIGHLIGHTS

- Unsurpassed connectivity including CAN bus and SFP optical interfacing to meet various industry needs.
- High-precision PWM capture and generation, and other timed signals (Encoder, Resolver, Hall Effect).

DESCRIPTION

The OP4200 RCP system offers Rapid Control Prototyping (RCP), data acquisition and I/O expansion capabilities in a desktop-friendly package combined with RT-LAB software. Create more advanced FPGA RCP applications by adding the RT-XSG toolbox for FPGA real-time simulation.

PURPOSE

Quickly move from your MATLAB/Simulink® designed control systems into real time with RT-LAB, our platform for powering your innovative industrial and research RCP tests and validation.

APPLICATIONS

Combustion engine control, robotics, battery management system emulation, Uninterruptible Power Supply (UPS) control, motor drive controller, microgrid agent control, classroom experiments, workshops and more.



KEY PERFORMANCE SPECS

- Outer control loop frequency (CPU): < 10 kHz
- Fast control loop frequency (FPGA): < 1 MHz (option)
- Advanced PWM generation: up to 200 kHz, resolution 5 ns

TYPICAL USE CASE

RCP Process



System Configuration

Baseline

HARDWARE

OP4200 Simulator ARM® Cortex® A9 CPU - 2 cores - 1 GHz, Xilinx Zynq®

FPGA Kintex™7 125K LUT



Connectivity - Ethernet port 10/100/1000 Mbps (RJ45).

RS232 (DB9), USB2.0, 5-Gbit/s high-speed fiber optic link (2x SFP)

Digital input | 32 channels, 4.5V to 50V, 40 ns typical propagation delay

Digital output | 32 channels, 5V to 30V, 65 ns typical propagation delay

Analog input | 16 channels, 16 bits, 500 kS/s, +/-20V, adjustable range

Analog output | 16 channels, 16bits, 1 MS/s, +/-16V

Analog input | 16 channels, 16 bits, 2MS/s, +/-20V

Timed generation and measurement firmware | Selectable 32 timed digital inputs and 32 timed digital outputs for OP4200

SOFTWARE

RT-LAB | Real-time Simulation Software



RT-XSG | RT-XSG toolbox for FPGA real-time simulation

COMMUNICATION PROTOCOLS

CAN bus interface board

SFP | RS-232 | optical synchronization link | USB | JTAG | RJ45 Ethernet port



** Optional