RT-LAB | OP4200

Small all-purpose Rapid Control Prototyping (RCP) system

Affordable entry-level solution for your RCP needs

HIGHLIGHTS

- Flexible 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 to perform your innovative industrial and research RCP tests and validation.

APPLICATIONS

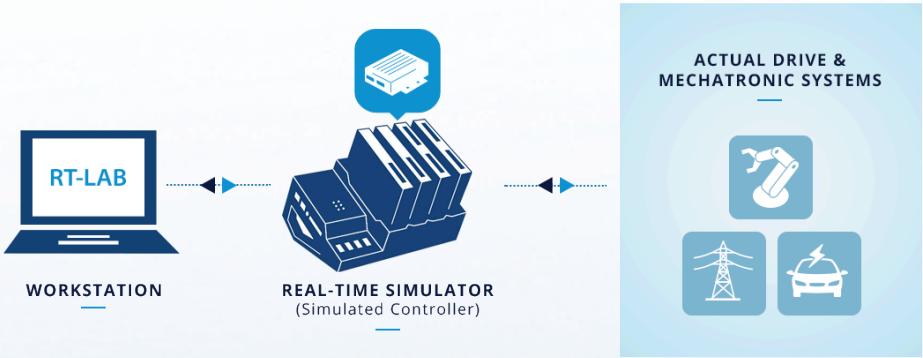
Combustion engine control, robotics, battery management system emulation, Uninterruptible Power Supply (UPS) control, motor drive controller, microgrid agent control, classroom experiments, workshops and more.

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	***
SOFTWARE	
RT-LAB | Real-time Simulation Software	✔
RT-XSG | RT-XSG toolbox for FPGA real-time simulation	***
COMMUNICATION PROTOCOLS	
CAN Bus interface board	***

*** Optional

Bundle No: OP42BDL-RCP-SPS