



## Quick Compare: BDL42-100 vs BDL45-100

	<b>BDL42-100</b>	<b>BDL45-100</b>
		
<b>Applications</b>	<ul style="list-style-type: none"> <li>Control system experiments and workshops</li> <li>ICE &amp; Electric Drive controls</li> <li>Robotics systems</li> <li>Battery Management System (BMS) emulation</li> <li>Uninterruptible Power Supply (UPS) control</li> <li>Microgrid agent control</li> </ul>	As per BDL42-100, plus: <ul style="list-style-type: none"> <li>Power electronics experiments and workshops</li> <li>Converter and inverter controls</li> <li>generator controls</li> <li>Multi-drive system controls</li> <li>Modular Multi-level Converters (MMCs)</li> </ul>
<b>CPU</b>	ARM Cortex A9 1GHz	Intel XEON E3 3.5GHz
<b>CPU Cores</b>	2	4
<b>XILINX FPGA</b>	ZYNQ XC7Z030 SoC	Kintex-7 325T SoC
<b>Connectivity</b>	Dual 5Gbps GTX optical ports	Dual 5Gbps GTX optical ports
<b>Software</b>	RT-Lab 'B Series' (2 CPU cores activated *)	RT-Lab 'B Series' (4 CPU cores activated **)
<b>I/Os</b>	96 included – supplied as 64x digital + 32x analogue	
Digital I/Os	32x channel INPUT, 40ns, 4.5V-50V range, 32 static digital inputs	32x channel INPUT, opto-couplers, 4.5V-50V range, 32 static digital inputs
	32x channel OUTPUT, 65ns, 5V-30V range, 32 static digital inputs	32x channel OUTPUT, 65-200ns, 5V-30V range, 32 static digital inputs, push-pull, FET
Analogue I/Os	16x channel INPUT, 500kS/s*** +/-20V adjustable range, 16 bit resolution	16x channel INPUT, 500kS/s*** +/-20V, 16 bit
	16x channel OUTPUT, 1MS/s*** 1 MS/s per channel simultaneous analogue output +/-16V output range, 16 bit resolution, 15mA	16x channel OUTPUT, 1MS/s*** +/-16V output range, 16 bit, 15mA
<b>Options</b>	<ul style="list-style-type: none"> <li>FPGA IP Digital I/O License for OP4200</li> <li>RT-XSG FPGA Blockset Dev System</li> <li>CANbus driver (2 channels, 1Mbps, half duplex)</li> <li>DB37 to Spring Cage Terminal Adapter</li> <li>DB37 to SMB Adapter</li> </ul>	<ul style="list-style-type: none"> <li>Dual Gigabit Ethernet (required for IP-based comms protocols)</li> <li>RT-Lab FX75 Series</li> <li>eHS64 Electrical Hardware Solver</li> <li>RT-XSG FPGA Blockset Dev System</li> <li>CANbus Interface Kit &amp; driver</li> <li>RS422 Expansion Board</li> <li>DB37 to Spring Cage Terminal Adapter</li> <li>IEC 61850-8-1 GOOSE driver</li> <li>IEC 61850-8-1 Sampled Value driver</li> <li>C37.118 Slave driver</li> <li>C37.118 Master driver</li> <li>DNP3 Outstation Slave driver</li> <li>DNP3 Master driver</li> <li>Modbus Slave driver</li> <li>Modbus Master driver</li> <li>Master Clock Time Synchronisation kit</li> </ul>

\* Supports real-time simulations of grid models of 60-100 3-Phase buses  
 \*\* Supports real-time simulations of grid models of 120-200 3-Phase buses  
 \*\*\* Samples per second