

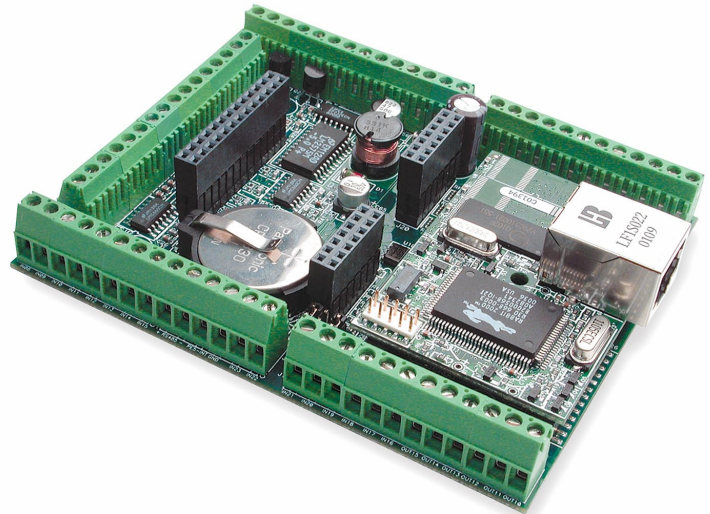


# BL2100 Smartcat™

Single Board Computer

Models BL2100, BL2110, BL2120, BL2130

Designed for medium-scale control and monitoring applications, the Smartcat is a high-performance single-board computer that gives OEM designers Ethernet and keypad/display options all in one low-cost package. The Smartcat offers sinking/sourcing digital I/O with A/D and D/A, providing comprehensive integrated control capabilities in a compact 4.14" x 3.41" (105 x 87 mm) form factor. Ethernet models are ideal for remotely monitoring and supervising another programmable system or web-enabling new or existing products. The Ethernet interface is fully supported by software to enable network and Internet connectivity.



## Features

- Rabbit 2000 microprocessor @ 22.1 MHz
- 40 sinking/sourcing digital I/O
- 11 A/D and 4 D/A
- 4 serial ports
- 10Base-T Ethernet with RJ-45
- Optional 512K Flash/512K SRAM
- Software support enables network connectivity, E-mail, web server
- Optional backlit 122 x 32 pixel graphic display, 7 user-relegendable keys, 7 LED

Available in four flexible configurations—two with Ethernet, two without—all Smartcat models feature 40 digital I/O, 3 RS-232/485 serial ports (plus one programming port), Rabbit 2000™ microprocessor at 22.1 MHz, 7 timers, and battery-backed real-time clock. Memory configurations up to 512K Flash and 512K SRAM are available. For the most demanding applications, the BL2100 and BL2120 models include 11 channels of 12-bit resolution A/D input and 4 channels of 12-bit D/A output. The Smartcat's 16 digital push/pull outputs allow per-point sinking or sourcing, addressing the needs of both the domestic and international markets.



A 7-key, 122 x 32 graphic display is available as a cost-effective user interface. A panel-mount, water-resistant NEMA 4 version is also available. Keypad legends are easily modified using customizing printed paper inserts. User-programmable LEDs provide quick-status feedback. The entire board/display/keypad assembly mounts in an integrated plastic enclosure.

The Smartcat is available as an unenclosed printed circuit board, mounted on a plastic baseplate, in a plastic enclosure with a display, or with a panel-mounted display connected to the board with a flat cable.

## Programming the Smartcat

Programs are developed using Z-World's industry-proven Dynamic C® software development system via RS-232 interface. Software libraries and a built-in converter program facilitate display of international characters, bitmap images, and graphic constructs such as circles, lines, and squares. An extensive library of drivers and sample programs is provided, along with royalty-free TCP/IP stack with source. All Smartcat models can be programmed and debugged over Ethernet/Internet using appropriate accessory hardware.

## BL2100 Smartcat Specifications

Features	BL2100	BL2110	BL2120	BL2130
<b>Microprocessor</b>	Rabbit 2000T @ 22.1 MHz			
<b>Ethernet Port</b>	10Base-T, RJ-45, link and activity LEDs		None	
<b>Flash</b>	256K (standard)		256K	
<b>SRAM</b>	128K (standard)		128K	
<b>Backup Battery</b>	Socketed 3-V lithium coin-type, 265 mA h, supports RTC and SRAM			
<b>Keypad/Display</b>	See keypad/display option (below) and our "OP" products (for serial display options)			
<b>Digital Inputs</b>	24: protected to $\pm 36$ V DC			
<b>Digital Outputs</b>	16: source/sink 200 mA each, 36 V DC max.			
<b>Analog Inputs</b>	11 at 1 M $\Omega$ , 12-bit resolution, $\pm 10$ V DC up to 4,100 samples/sec.	None	11 at M $\Omega$ , 12-bit resolution, $\pm 10$ V DC up to 4,100 samples/sec	None
<b>Analog Outputs</b>	Four 12-bit resolution 0-10 V DC* 0-10 V DC update rate 12 kHz	None	Four 12-bit resolution 0-10 V DC* 0-10 V DC update rate 12 kHz	None
<b>Serial Ports</b>	4 total: two 3-wire (or one 5-wire) RS-232, 1 RS-485, and one 5 V CMOS-compatible (programming)			
<b>Serial Rate</b>	Max. burst rate = CLK/32 Max. sustained rate = burst/2			
<b>Connectors</b>	Screw terminals support max. 14 AWG/1.5 mm <sup>2</sup> (standard)			
<b>Real-Time Clock</b>	Yes			
<b>Timers</b>	Five 8-bit timers (four cascadable from the first) and one 10-bit timer with 2 match registers			
<b>Watchdog/Supervisor</b>	Yes			
<b>Power</b>	9-36 V DC, 1.5 W max. (without display)			
<b>Operating Temp.</b>	-40° to +70°C			
<b>Humidity</b>	5-95% non-condensing			
<b>Board Size</b>	4.14" x 3.41" x 0.93" (105 x 87 x 24 mm)			
<b>Pricing (qty. 1/100) Part Number</b>	\$339 / 298 101-0461	\$249 / 219 101-0462	\$299 / 263 101-0463	\$209 / 184 101-0464
<b>Starter Packages Part Number</b>	\$539 U.S 101-0482 Int'l 101-0483	\$449 U.S 101-0482 Int'l 101-0483	\$499 U.S 101-0482 Int'l 101-0483	\$409 U.S 101-0482 Int'l 101-0483

## Keypad / Display Options

Feature	Specification
<b>LCD Panel</b>	122 x 32 graphic LCD in two stacked sections (with programmable backlight), relegendable keypad with 7-key / 7-LED interface.
<b>LEDs</b>	7 user-programmable: 1 red, 4 green, 2 yellow
<b>Operating Temp.</b>	0°-50°C
<b>Board Size</b>	3.00" x 2.60" x 0.75" (76 x 66 x 19 mm)
<b>Enclosure Size</b>	5.600" x 4.875" x 1.500" (142 x 124 x 38 mm)