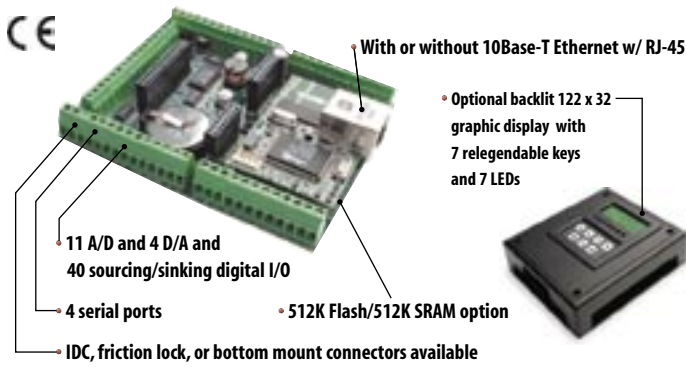


Smartcat Models BL2100, BL2110, BL2120, BL2130



The Smartcat offers optional Ethernet and keypad/displays, plus plenty of sinking/sourcing digital I/O with A/D and D/A. Available in four flexible configurations—two with Ethernet, two without—all Smartcat models feature 40 digital I/O, and 3 RS-232/485 serial ports (plus a programming port) and 512K Flash/512K SRAM. For the most demanding applications, the BL2100 and BL2120 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.

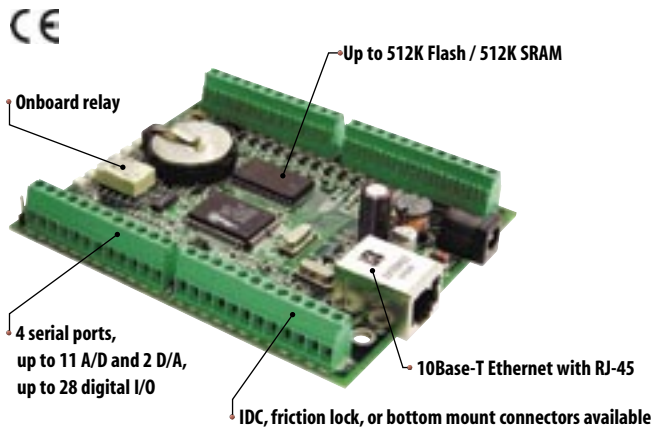
A 7-key, 122 x 32 graphic display module is available as a cost-effective user interface (a panel-mount, water-resistant NEMA 4 version is also available). Keypad legends are easily modified by customizing

Feature	BL2100	BL2110	BL2120	BL2130
Microprocessor	Rabbit 2000 @ 22.1 MHz			
Ethernet Port	10Base-T, RJ-45, link and activity LEDs		None	
Flash Memory	256K (standard)		256K	
SRAM	128K (standard)		128K	
Backup Battery	Socketed 3 V lithium coin-type, 265 mA-h, supports RTC and SRAM			
Digital Inputs	24: protected to ± 36 V DC			
Digital Outputs	16: source/sink 200 mA each, 36 V DC max.			
Analog Inputs	11 at 1 M Ω , 12-bit, ± 10 V DC, up to 4,100 samples/sec.	None	11 at 1 M Ω , 12-bit, ± 10 V DC, up to 4,100 samples/sec.	None
Analog Outputs	Four 12-bit resolution, 0–10 V DC, update rate 12 kHz	None	Four 12-bit resolution, 0–10 V DC, update rate 12 kHz	None
Serial Ports	4 total: two 3-wire (or one 5-wire) RS-232, 1 RS-485, and one 5 V CMOS-compatible (programming)			
Connectors	Screw terminals support max. 14 AWG/1.5 mm ² (standard)			
Power*	9–36 V DC, 1.5 W max. (without display), 3 W max. (with display)			
Board Size	4.14" x 3.41" x 0.93" (105 x 87 x 24 mm)			
Part Number	101-0461	101-0462	101-0463	101-0464
Tool Kit Part Number	U.S. 101-0482 • Int'l 101-0483			

* 13 V DC minimum required for full 0-10 V DC analog output range.

printed paper inserts. 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 via a flat cable.

Wildcat Models BL2000, BL2010, BL2020, BL2030



The Wildcat gives OEM designers optional Ethernet connectivity in a low-cost, high-performance single-board computer. Available in four configurations—two with Ethernet, two without—the Wildcat features up to 28 digital I/O, onboard SPDT relay, LEDs, and optional 512K Flash and/or 512K SRAM.

For the most demanding applications, the BL2000 and BL2020 models include 4 channels of 12-bit resolution A/D input, 5 channels of dual-purpose input, and 2 channels of 12-bit D/A output. For applications not requiring high-resolution analog I/O, the BL2010 and BL2030 offer 4 channels of 10-bit resolution A/D input and 7 channels of dual-purpose input. The dual-purpose inputs are software configurable as analog inputs or programmable-threshold digital inputs.

FEATURE	BL2000	BL2010	BL2020	BL2030
Microprocessor	Rabbit 2000 @ 22.1 MHz			
Ethernet Port	10Base-T, RJ-45, link and activity LEDs		None	
Flash Memory	256K (standard)			
SRAM	128K (standard)			
Backup Battery	Socketed 3 V lithium coin-type, 255 mA-h, supports RTC and SRAM			
LEDs	8: Power On, Processor Error, 4 output status, Ethernet Link, Ethernet Activity,		6: Power On, Processor Error, 4 output status	
Digital Inputs	11, protected to ± 36 V DC			
Digital Outputs	10 : 8 sink 200 mA, 2 sink 750 mA, 40 V DC max.			
Analog Inputs	Four 12-bit Four 10-bit Four 12-bit Four 10-bit 1 M Ω , ± 10 V DC, up to 4,000 samples/sec.			
Analog Outputs	Two 12-bit, 0–4 V DC, update rate 12 kHz	None	Two 12-bit, 0–4 V DC, update rate 12 kHz	None
Dual-Purpose Analog or Digital Inputs	5 at 12 k Ω , 12-bit res., 0–48 V DC	7 at 12 k Ω , 10-bit res., 0–48 V DC	5 at 12 k Ω , 12-bit res., 0–48 V DC	7 at 12 k Ω , 10-bit res., 0–48 V DC
Relay Output	SPDT, 1 A @ 30 V DC, 0.3 A @ 120 V AC Uses 1 digital output			
Serial Ports	4 total: two 3-wire (or one 5-wire) RS-232, 1 RS-485, and one 5 V CMOS-compatible (programming)			
Connectors	Screw terminals support max. 14 AWG/1.5 mm ² (standard)			
Power	9–40 V DC or 24 V AC $\pm 10\%$, 1.5 W max., power jack			
Board Size	3.41" x 4.14" x 0.82" (87 x 105 x 21 mm)			
Enclosure Size	4.9" x 5.6" x 1.1" (124 x 142 x 28 mm)			
Part Number	101-0430	101-0455	101-0456	101-0457
Tool Kit Part Number	U.S. 101-0472 • Int'l 101-0476			

Single-Board Computers

Key Applications

- Building / Home Automation
- Data Acquisition Terminals
- Elevator Control
- Environmental Monitoring
- Fleet Management / GPS Systems
- Ethernet / Internet Interfacing
- Medical Devices
- Wireless Systems
- Food Service Equipment
- Industrial Automation
- Point-of-Sale / Barcode Scanners
- Packaging Equipment
- Consumer Wastewater Systems
- Conveyer Systems
- Military / Transportation Systems
- Remote Monitoring / Control
- Robotics Control
- Test Equipment
- Marine Systems
- Semiconductor Manufacturing Equipment
- Service Processor / Device Monitoring
- Railway Monitoring Systems
- Electric, Gas & Oil Monitoring

Tool Kits and Development Kits

Easy to run out-of-the-box, Z•World SBCs have corresponding tool kits (peripheral hardware and software) or development kits (tool kit plus selected product model) that include demonstration board, Dynamic C development software and documentation on CD-ROM, User's Manual with schematics, serial cable for programming and debugging, and AC adapter (US/Canada only). Kits may also contain products unique for each SBC model.



Z•World single-board computers (SBCs) are the low-cost control and monitoring solution for robust OEM products and systems. Design engineers worldwide use these compact boards that are rich with digital and analog I/O for controlling a broad array of industrial and product applications. Z•World SBCs are easy to use, come in a variety of form factors, and interface easily with other devices. All of our products are capable of multitasking in real-time while providing superior performance.

Ethernet/Internet Control and Monitoring

Systems with built-in Ethernet can be directly controlled and monitored across networks or the Internet and can also open sockets to remote devices, serve web pages, or send e-mail. Ethernet models are ideal for remotely monitoring and supervising another programmable system, or web-enabling new or existing products. All models can be programmed and debugged over Ethernet/Internet using appropriate accessory hardware and/or application software. The Ethernet interface is fully supported by software to enable network and Internet connectivity.

Z•World SBCs support a broad variety of serial communication ports. All RS-232 and RS-485 are rated at 15 kV for ESD protection. The CMOS-compatible programming port can be used in the user's application after programming is completed. Most SBCs support synchronous serial communications, including SPI, SDLC/HDLC, and I²C.

Programming Z•World Products

Each SBC is designed for programming with Dynamic C[®], the first integrated software development system specifically designed for embedded single-board computers. Z•World's proven integration of hardware and software substantially reduces OEM development time and cost. An extensive library of drivers and sample programs is provided, along with our royalty-free TCP/IP stack with source code.

Z•World SBCs feature Rabbit microprocessors, specifically designed for embedded applications. Z•World SBCs, Rabbit processors, and Dynamic C software were designed in a complementary fashion for maximum performance and ease of use in embedded systems. The following table lists the features of Rabbit-based SBCs.

Shared Features of Z•World SBCs

Feature	Rabbit 2000	Rabbit 3000 [®]
Serial Rate	Max. asynchronous burst rate = CLK/32 Max. sustained rate = burst/2	Max. asynchronous burst rate = CLK/8
Real-Time Clock (battery backable)	Yes	
Watchdog	Yes	
Timers	Five 8-bit timers (5 cascadable) and one 10-bit timer with 2 match registers	Ten 8-bit timers (7 cascadable from the first) and one 10-bit timer with 2 match registers
Operating Temperature	-40° to +70°C	
Humidity	5 - 95%, non-condensing	
Keypad/Display	See our "OP" products for serial display options	