PowerCore™ 3800 Series

MODELS | PowerCore 3800 | PowerCore 3810 |

Embedded Module with Power On-board

Key Features

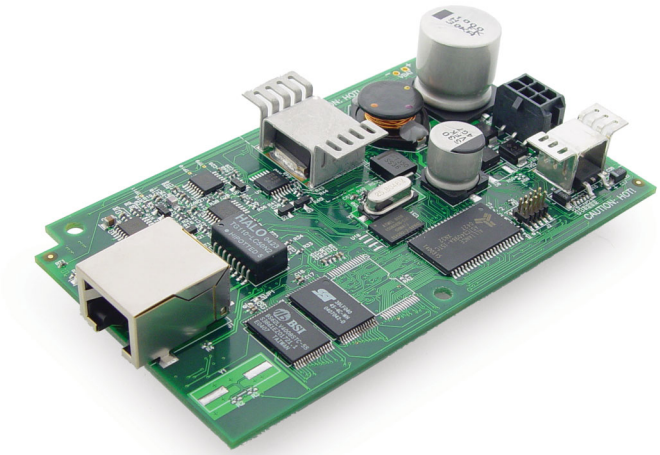
- Rabbit® 3000 microprocessor running at up to 51.6 MHz
- Onboard Power Supply (10-60 VAC, 8-43 VDC)
- On-board analog
- 39 general-purpose I/O
- Ethernet

Design Advantages:

- Fast time-to-market using a fully engineered, proven hardware
- Very cost-effective compared to designing and building custom product
- Easy C – language program development and real-time debugging with integrated Dynamic C® environment
- On-board regulated power supply, which can be used to power external circuits
- AC zero-crossover detection allows TRIAC control
- Temperature compensation with on-board ramp generator to allow 10-bit A/D conversion with temperature sensor

Applications

- Network-enabling security and access systems
- Home automation
- HVAC systems
- Industrial controls



PowerCore 3800 Series – Bridging the Gap Between Microprocessors and Single-Board Computers

The PowerCore 3800 series, based on the Rabbit® 3000 microprocessor, is designed to facilitate rapid development and implementation of embedded systems. The PowerCore plugs directly onto a user-designed motherboard and is supported by the plastic stand-offs. A 50-pin connector brings the various I/Os, the I/O bus, and the onboard power supply to the customer's motherboard.

The PowerCore 3800 series is powered by high-performance 8-bit Rabbit microprocessor with extensive integrated features and a C-friendly instruction set designed for use with the Dynamic C integrated development environment. The PowerCore 3800 core mounts on a user-designed motherboard and acts as the controlling microprocessor for the user's system. PowerCore 3800 modules also offer an on-board power supply to provide power to the motherboard. Small in size but packed with powerful features, these core modules give designers a complete package for control and communication.

The Ethernet port frees designers from the limitations of serial-port communications and control and also permits instant local

or worldwide connectivity using low-cost networking hardware. Embedded systems using an Ethernet RabbitCore® module can be controlled and monitored – as well as programmed and debugged when using appropriate accessory hardware – across any network or the Internet.

Developing with PowerCores

The PowerCore 3800 series is supported by the powerful Dynamic C integrated development environment that includes extensive libraries to support networking and the Internet.

PowerCore 3800 modules are programmed over a standard PC serial port through a programming cable supplied with the development kit. They can also be programmed through a USB port with an RS-232/USB converter, or directly over an Ethernet link via a RabbitLink™.

Development Kit

Jump-start your evaluation and design efforts with a development kit. The kit includes a PowerCore 3800 or PowerCore 3810, a prototyping board, serial cable for programming and debugging, Dynamic C with royalty-free TCP/IP stack and source, Getting Started Manual, AC Transformer, and miscellaneous parts and connectors.

PowerCore™ 3800 Series Specifications			
Feature		PowerCore 3800	PowerCore 3810
Microprocessor		Rabbit 3000 @ 51.6 MHz	Rabbit 3000 @ 25.8 MHz
Ethernet		Yes	No
Input Power Options	DC	Unregulated 8-43VDC (draws 13.3 W)	Unregulated 8-40VDC (draws 6.7 W)
	AC	24-60VAC with center-tapped transformer (draws 13.3 W)	19-57VAC with center-tapped transformer (draws 6.7 W)
		12-36VAC with untapped standard transformer (draws 13.3 W)	10-29VAC with untapped standard transformer (draws 6.7 W)
Memory		• 512K Flash • 1 MB SRAM (512K Code, 512K data) • 1 MB Serial Flash	• 512K Flash • 256K SRAM • No Serial Flash
On-board Analog		Ramp Generator, AC Crossover Detection, Temperature Sensor	
General Purpose I/O		39 I/O	
Additional Inputs		2 Startup Mode, RESET	
Additional Outputs		STATUS, RESET	
Auxiliary I/O Bus		8 data and 6 address lines (shared with general purpose I/O)	
Serial Ports		Five 3.3 V CMOS-compatible • 5 configurable as asynchronous • 3 configurable as clocked serial (SPI) • 2 configurable HDLC • 1 configurable SDLC • 1 assynchronous serial port dedicated for programming	
Serial Rate		Max. asynchronous baud rate = CLK/8	
Slave Interface		Slave port permits use as master or intelligent peripheral with master controller	
Real-Time Clock		Yes	
Timers		Ten 8-bit timers (6 cascadable from the first) and one 10-bit timer with 2 match registers	
Watchdog/Supervisor		Yes	
AC/DC Voltage Outputs		AC/DC Input, 5 V (up to 1.8 A), 3.45 V (up to 550 mA)	
Operating Temp.		–40° C to +70° C	
Humidity		5–95%, non-condensing	
Core Module Interface		2 x 25 pin header (0.1″ pitch)	
Power Input Connector		6-pin, 3 mm polarized locking	
Board Size		4.00″ x 2.35″ x 1.08″ (60 mm x 102 mm x 28 mm) (without wiring harness)	
Pricing			
Price (qty. 1/100) Part Number		$133/$109 20-101-1006	$75/$62 20-101-1006
Development Kit Part Number		$169 U.S. 101-1016 Int'l 101-1017	$129 U.S. 101-1018 Int'l 101-1019

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