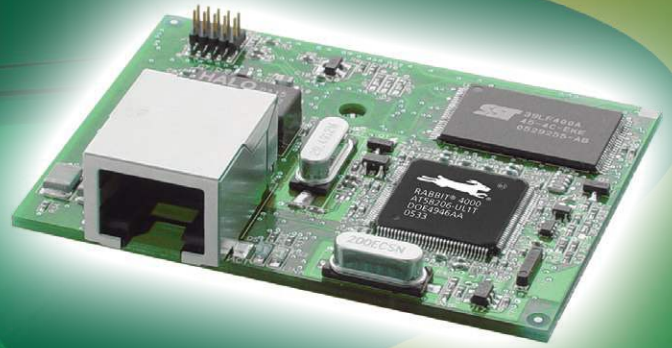


RabbitCore® RCM4000

Microprocessor Core Module

The RCM4000 is a powerful embedded Ethernet control device with the intelligence and Internet connectivity needed for remote monitoring and control of your devices.



Overview

The RCM4000 is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 28 GPIO lines shared with up to five serial ports and four levels of alternate pin functions that include variable phase PWM, quadrature decoder and input capture.

The RCM4000, with its robust feature set, ample memory, 10Base-T Ethernet and analog, is ready for network connectivity and I/O control for true device Internet communication and control.

Evaluation of the RCM4000 is easy with the RCM4000 development kit. To Learn more about the RCM4000, please visit www.rabbit.com/products/rcm4000/.

Development Kit

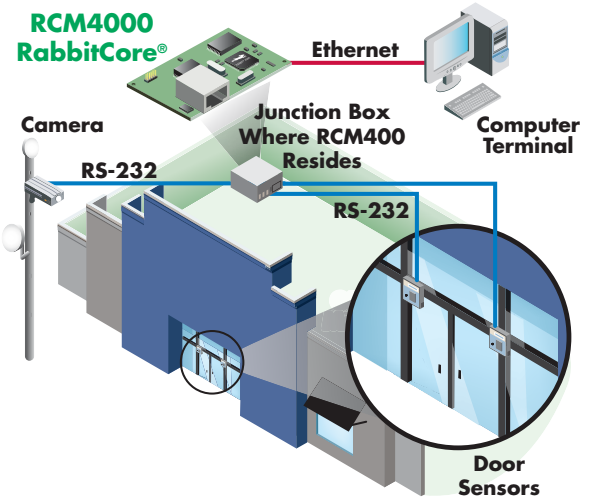
This low-cost development kit includes everything you need to get started

as low as

\$239



Application Highlight



Potential Applications: Serial-to-Ethernet applications, remote monitoring and communications, web-enabling devices

Features and Benefits

- Rabbit 4000 running at 59 MHz
- Up to 1 MB (16-bit) Program Flash, 1 MB (16-bit) SRAM, 32 MB of Flash memory
- 10Base-T Ethernet (RJ-45 connector), up to 28 GPIO, up to 5 serial ports
- 8 channels 12-bit A/D converter
- Web server capability and remote device control
- Low-cost and easily deployable platform for non-critical embedded security
- Security-key feature with "tamper detect" and encryption capabilities

RabbitCore® RCM4000 Specifications

Feature	RCM4000	RCM4010	RCM4050
Microprocessor	Rabbit® 4000 at 59 MHz		
EMI Reduction	Spectrum spreader for reduced EMI (radiated emissions)		
Ethernet Port	10Base-T, RJ-45, 2 LEDs		
SRAM (16-bit)	512K		1 MB
Flash Memory (16-bit) (program)	512K		1 MB
Serial Memory (data) (NAND flash)	32 MB (NAND flash)	—	32 MB (NAND flash)
Backup Battery	Connection for user-supplied backup battery (to support RTC and data SRAM)		
General Purpose I/O	22 parallel digital I/O lines: • Configurable with 4 layers of alternate functions	28 parallel digital I/O lines: • Configurable with 4 layers of alternate functions	22 parallel digital I/O lines: • Configurable with 4 layers of alternate functions
Additional Inputs	2 startup mode, reset in, CONVERT	2 startup mode, reset in	
Additional Outputs	Status, reset out, analog VREF	Status, reset out	
Analog Inputs	8 channels single-ended or 4 channels differential programmable gain 1, 2, 4, 5, 8, 10, 16 and 20 V/V	—	—
A/D Converter Resolution	12 bits (11 bits single-ended)	—	—
A/D Conversion Time (including 120 µs raw counted and Dynamic C)	180 µs	—	—
Auxiliary I/O Bus	8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write		
Serial Ports	4 shared high-speed, CMOS-compatible ports: • All 4 configurable as asynchronous (with IrDA) or as clocked serial (SPI) • 1 asynchronous clocked serial port shared with programming port • 1 clocked serial port shared with A/D converter	5 shared high-speed, CMOS-compatible ports: • All 5 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 1 as SDLC/HDLC • 1 asynchronous clocked serial port shared with programming port	4 shared high-speed, CMOS-compatible ports: • All 4 configurable as asynchronous (with IrDA) or as clocked serial (SPI) • 1 asynchronous clocked serial port shared with programming port
Serial Rate	Maximum asynchronous baud rate = CLK/8		
Slave Interface	Slave port allows the RCM4000 to be used as an intelligent peripheral device slaved to a master processor		
Real Time Clock	Yes		
Timers	Ten 8-bit timers (6 cascadable from the first), one 10-bit timer with 2 match registers, and one 16-bit timer with 4 outputs and 8 set/reset registers		
Watchdog/Supervisor	Yes		
Pulse-Width Modulators	—	2 channels: • Synchronized PWM with 10-bit counter • Variable-phase synchronized PWM with 16-bit counter	2 channels: • Synchronized PWM with 10-bit counter • Variable-phase synchronized PWM with 16-bit counter
Quadrature Decoder	—	2-channel quadrature decoder accepts inputs from external incremental encoder modules	—
Power	3.0– 3.6 VDC, 90 mA @ 3.3 V (preliminary, pins unloaded)		
Operating Temperature	0° C to +70° C		
Humidity	5% to 95%, non-condensing		
Connectors	Programming header		
Board Size	1.84" × 2.42" × 0.77" (47 mm × 61 mm × 20 mm)		
Pricing			
Pricing (qty 1/100)	\$89 / \$72	\$69 / \$56	\$105 / \$99
Part Number	20-101-1094	20-101-1112	20-101-1215
Development Kit	\$249	\$239	—
Part Number	101-1146	101-1115	—



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