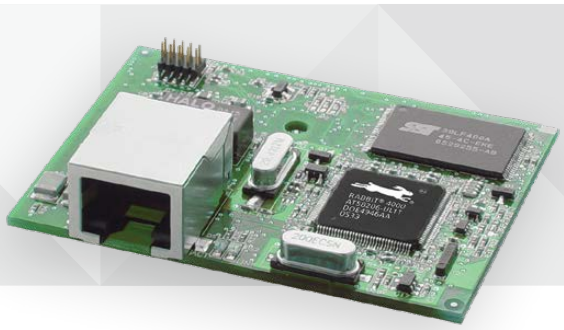
COMMUNICATIONS AND
CONTROL PROCESSOR



DIGI RABBITCORE RCM4000 SERIES

A powerful embedded Ethernet control device with the intelligence and Internet connectivity needed for remote monitoring and control of your devices

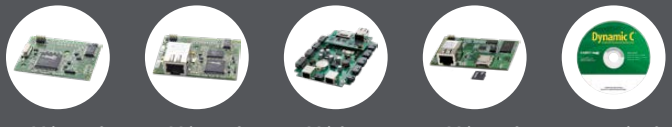
The RCM4000 series is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 28 GPIO lines shared with up to five serial ports and four levels of alternate pin functions that include variable phase PWM, quadrature decoder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

The RCM4000 series, 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.

BENEFITS

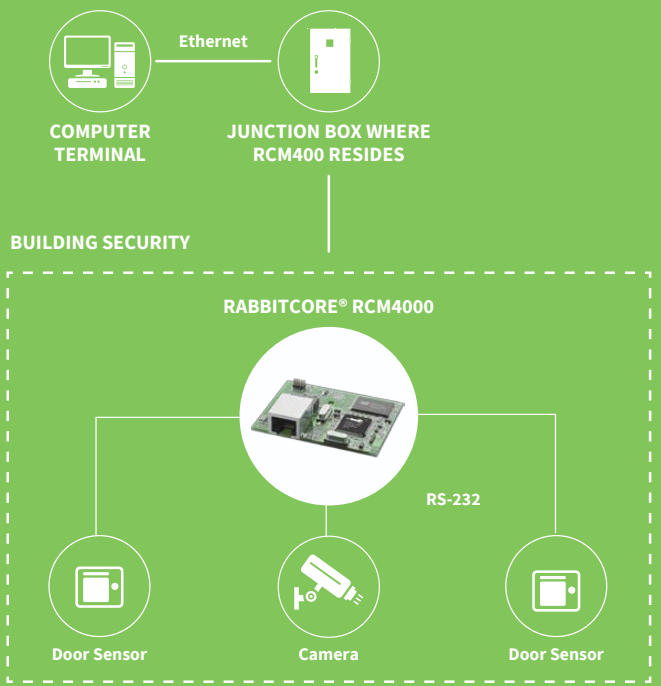
- Rabbit 4000 running at 59 MHz
- Up to 1 MB (16-bit) Program Flash, 1 MB (16-bit) SRAM, 32 MB of Flash memory
- 10Base-T Ethernet (RJ-45 connector), up to 28 GPIO, up to 5 serial ports
- 8 channels 12-bit A/D converter
- Web server capability and remote device control
- Low-cost and easily deployable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

RELATED PRODUCTS



RabbitCore® RCM4100 Series | RabbitCore® RCM4200 Series | Rabbit® SBC BL4S200 Series | RabbitCore® RCM4300 Series | Dynamic C®

APPLICATION EXAMPLE



SPECIFICATIONS	RCM4000	RCM4010
FEATURES		
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	
FLASH MEMORY (16-BIT) (PROGRAM)	512K	
SERIAL MEMORY (DATA) (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
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 MS 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
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
QUADRATURE DECODER	—	2-channel quadrature decoder accepts inputs from external incremental encoder modules
POWER	3.0– 3.6 VDC, 90 mA @ 3.3V (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)	
PRODUCT WARRANTY	3 years	

PART NUMBERS	DESCRIPTION
20-101-1094	RCM4000
20-101-1112	RCM4010

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