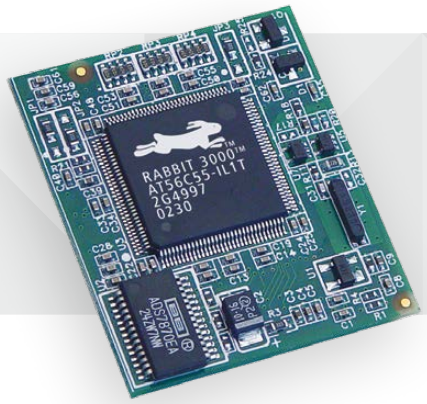
MICROPROCESSOR
CORE MODULE



DIGI RABBITCORE RCM3400 SERIES

The compact, analog-enabled RabbitCore is designed for embedded applications that require analog functionality

The RabbitCore RCM3400 series, featuring the Rabbit® 3000 microprocessor, is designed for embedded control and monitoring applications requiring analog functionality. Its small size and ease of use when paired with Dynamic C® allow engineers to develop a control and monitoring solution for many of today's embedded applications.

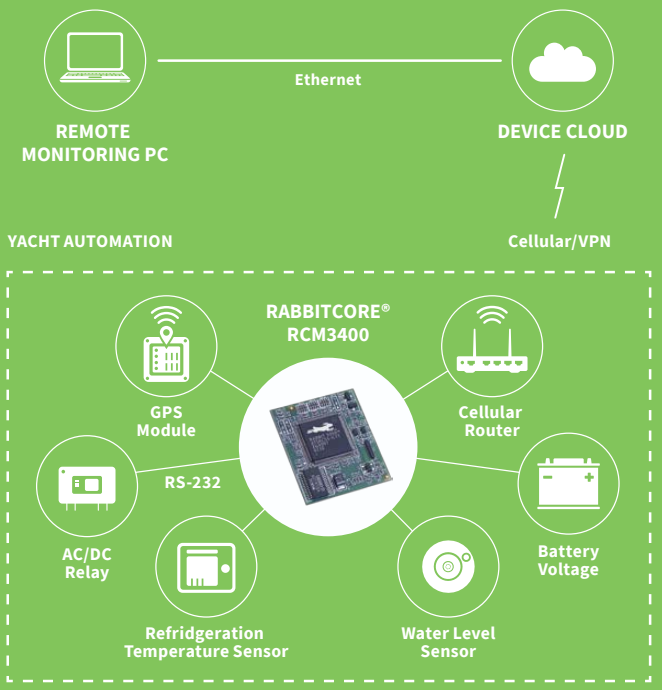
The Ethernet-ready RCM3400 series comes pre-assigned with a MAC ID, along with a development board 10Base-T reference design. Built-in low EMI features, including a clock spectrum spreader, practically eliminate EMI problems, helping to pass CE and RF emissions tests.

Rabbit hardware and Dynamic C are designed in a complementary fashion for maximum performance and ease of use in embedded systems. The additional software components in Dynamic C allow you to add functionality for embedded application customization.

BENEFITS

- Rabbit 3000 microprocessor at 30 MHz
- Up to 512K Flash/512K SRAM
- 8 channel 12-bit A/D with programmable gain
- 47 digital I/O and 5 serial ports (IrDA, HDLC, asynch, SPI)
- MAC ID installed
- Compact size simplifies integration
- Ready-made platform for fast time-to-market, up to 3 months of design integration time savings
- Low-cost embedded microprocessor module

APPLICATION EXAMPLE

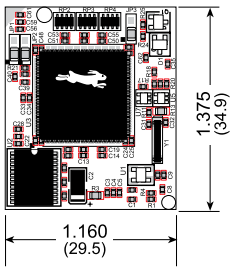


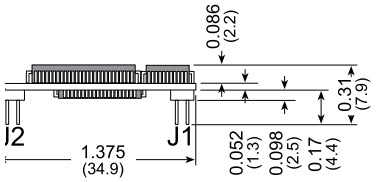
RELATED PRODUCTS

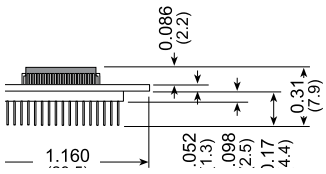


RabbitCore® RCM3000 Series | RabbitCore® RCM3100 Series | RabbitCore® RCM4300 Series | RabbitCore® RCM3600 Series | Dynamic C®

SPECIFICATIONS	RCM3400	RCM3410
FEATURE		
MICROPROCESSOR	Rabbit® 3000 at 30 MHz	
FLASH MEMORY	512K	256K
SRAM	512K	256K
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and SRAM)	
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 COUNT AND DYNAMIC C)	180 µs	
GENERAL-PURPOSE I/O	47 parallel digital I/0 lines: • 41 configurable I/O • 3 fixed inputs • 3 fixed outputs	
ADDITIONAL INPUTS	Startup mode (2), reset in, CONVERT	
ADDITIONAL OUTPUTS	Status, reset out, VREF	
AUXILIARY I/O BUS	Can be configured for 8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write	
SERIAL PORTS	5 shared high-speed, CMOS-compatible ports: • All 5 configurable as asynchronous, 3 as clocked serial (SPI), and 2 as SDLC/HDLC • 1 asynchronous serial port dedicated for programming • Support for MIR/SIR IrDA transceiver	
SERIAL RATE	Maximum asynchronous baud rate = CLK/8	
SLAVE INTERFACE	A slave port allows the RCM3400 to be used as an intelligent peripheral device slaved to a master processor, which may either be another Rabbit 3000 or any other type of processor	
REAL-TIME CLOCK	Yes	
TIMERS	Ten 8-bit timers (6 cascadable), one 10-bit timer with 2 match registers	
WATCHDOG/SUPERVISOR	Yes	
PULSE-WIDTH MODULATORS	10-bit free-running counter and four pulse-width registers	
INPUT CAPTURE	2-channel input capture can be used to time input signals from various port pins	
QUADRATURE DECODER	2-channel quadrature decoder accepts inputs from external incremental encoder modules	
POWER	3.0–3.45 VDC @ 29.4 MHz, 2.8–3.45VDC @ 14.7 MHz 97 mA @ 3.3V, 29.4 MHz; 57 mA @ 3.0V, 14.7 MHz	
OPERATING TEMPERATURE	-40° C to +85° C	
HUMIDITY	5% to 95%, non-condensing	
CONNECTORS	Two 2 × 17, 1.27 mm pitch	
BOARD SIZE	1.160" × 1.375" × 0.31" (29.5 mm ×34.9 mm × 7.9 mm)	
PRODUCT WARRANTY	1 year	







PART NUMBERS	DESCRIPTION
20-101-0561	RCM3400
20-101-0562	RCM3410

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DIGI INTERNATIONAL WORLDWIDE HQ
877-912-3444 / 952-912-3444 / www.digi.com

DIGI INTERNATIONAL GERMANY
+49-89-540-428-0

DIGI INTERNATIONAL JAPAN
+81-3-5428-0261 / www.digi-intl.co.jp

DIGI INTERNATIONAL SINGAPORE
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DIGI INTERNATIONAL CHINA
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