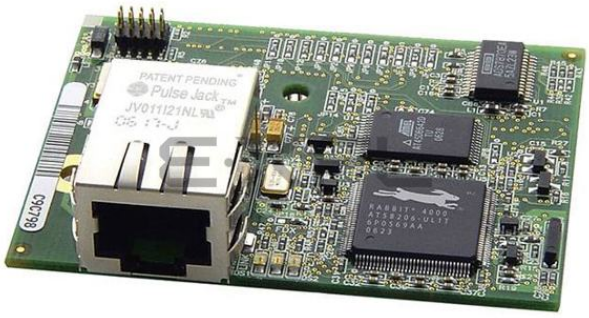


**Welcome to E-XFL.COM**

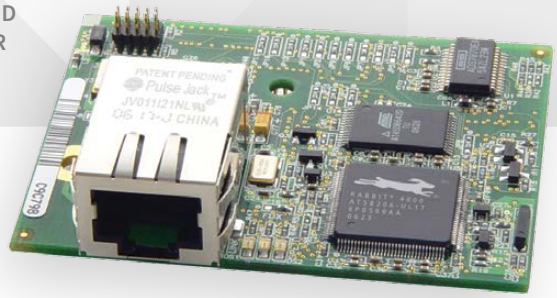
**Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules**

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

**Applications of Embedded - Microcontroller,**

| Details | |
|---|---|
| Product Status | Not For New Designs |
| Module/Board Type | MPU Core |
| Core Processor | Rabbit 4000 |
| Co-Processor | - |
| Speed | 29.49MHz |
| Flash Size | 512KB (Internal), 4MB (External) |
| RAM Size | 512KB |
| Connector Type | IDC Header 2x25, 2x5 |
| Size / Dimension | 1.84" x 2.42" (47mm x 61mm) |
| Operating Temperature | -40°C ~ 85°C |
| Purchase URL | https://www.e-xfl.com/product-detail/digi-international/20-101-1132 |

COMMUNICATIONS AND
CONTROL PROCESSOR



# RABBITCORE® RCM4200 SERIES

## Device intelligence and Fast Ethernet connectivity for data logging and serial to Ethernet applications

The RCM4200 series of core modules are pin-compatible and easily interchangeable with other RCM4XXX based products. The RCM4200 acts as the microprocessor of an embedded system and is designed to mount directly to a user-supplied motherboard, allowing CMOS-compatible digital devices to interface with the motherboard.

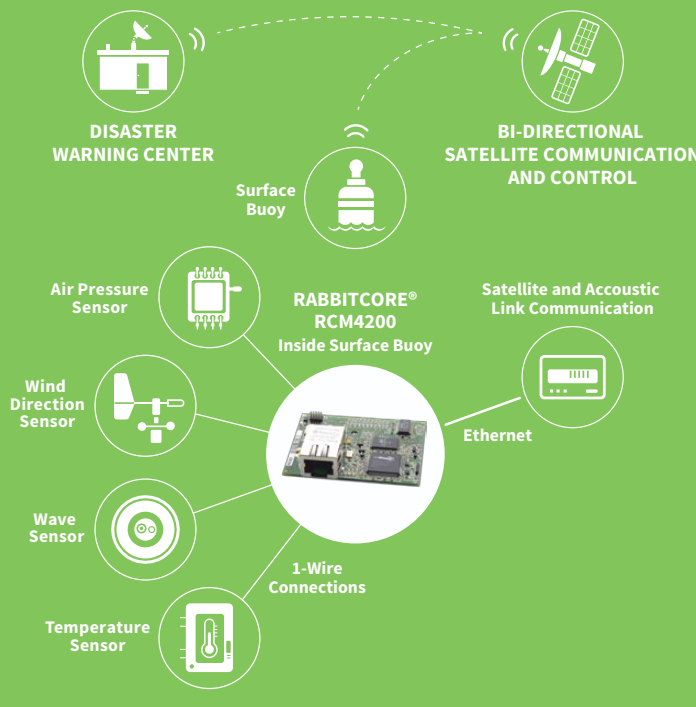
The RCM4200 offers robust features including large memory and Fast Ethernet, making it ideal for intensive communications and data-logging applications. The optional analog helps to diversify your connectivity options.

Evaluation of the RCM4200 is easy with the RabbitCore RCM4200 development kit, which provides all the necessary hardware and software to quickly get started.

### BENEFITS

- Rabbit 4000 running at 59 MHz
- 10/100Base-T Ethernet, RJ-45 jack
- 512K Flash / 512K Data SRAM
- 4 MB or 8 MB Serial Flash for data storage
- Up to 35 GPIO, up to 5 serial ports
- 8 channels 12-bit A/D converter option
- Embedded device networking, intelligence, I/O control and web server capability
- Abilty to remotely update firmware

### APPLICATION EXAMPLE




### RELATED PRODUCTS

RabbitCore® RCM3209 Series | RabbitCore® RCM4000 Series | RabbitCore® RCM4300 Series | Rabbit® SBC BL4S200 Series | Dynamic C®

| SPECIFICATIONS | RCM4200 | RCM4210 |
|---|---|---|
| **FEATURES** | | |
| MICROPROCESSOR | Rabbit® 4000 at 59 MHz | Rabbit® 4000 at 29 MHz |
| EMI REDUCTION | Spectrum spreader for reduced EMI (radiated emissions) | |
| ETHERNET PORT | 10/100Base-T, RJ-45, 3 LEDs | |
| DATA SRAM | 512K (8-bit) | |
| PROGRAM EXECUTION FAST SRAM | 512K (8-bit) | N/A |
| FLASH MEMORY | 512K (8-bit) | |
| SERIAL FLASH MEMORY | 8 MB | 4 MB |
| BACKUP BATTERY | Connection for user-supplied backup battery (to support RTC and data SRAM) | |
| GENERAL-PURPOSE I/O | 25 parallel digital I/O lines:<br>Configurable with 4 layers of alternate functions | 35 parallel digital I/O lines:<br>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 | N/A |
| A/D CONVERTER RESOLUTION | 12 bits (11 bits single-ended) | N/A |
| A/D CONVERSION TIME (INCLUDING 120 MS RAW) | 180 µs | N/A |
| 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 | 4 shared high-speed, CMOS-compatible ports:<br>• All 4 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI)<br>• 1 asynchronous clocked serial port shared with programming port<br>• 1 clocked serial port shared with serial flash<br>• 1 clocked serial port shared with A/D converter | 5 shared high-speed, CMOS-compatible ports:<br>• All 5 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 1 as SDLC/HDLC<br>• 1 clocked serial port shared with serial flash<br>• 1 asynchronous clocked serial port dedicated for programming |
| SERIAL RATE | Maximum asynchronous baud rate = CLK/8 | |
| SLAVE INTERFACE | Slave port allows the RCM4200 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 | • 3 channels synchronized PWM with 10-bit counter<br>• 3 channels variable-phase or syn-chronized PWM with 16-bit counter | • 4 channels synchronized PWM with 10-bit counter<br>• 4 channels variable-phase or syn-chronized PWM with 16-bit counter |
| INPUT CAPTURE | 2 input capture channels can be used to time input signals from various port pins | |
| QUADRATURE DECODER | 1 quadrature decoder channel accepts inputs from external incremental encoder modules | 2 quadrature decoder channel accepts inputs from external incremental encoder modules |
| POWER (PINS UNLOADED) | 3.0–3.6 VDC, 240 mA (typ.) @ 3.3V,<br>275 mA @ 3.6V and 85°C (max.) | 3.0–3.6 VDC, 200 (typ.) mA @ 3.3V,<br>225 mA @ 3.6V and 85°C (max.) |
| OPERATING TEMPERATURE | -40° C to +85° C | |
| HUMIDITY | 5% to 95%, non-condensing | |
| CONNECTORS | One 2 × 25, 1.27 mm pitch IDC signal header, One 2 × 5, 1.27 mm pitch IDC programming header | |
| BOARD SIZE | 1.84” × 2.42” × 0.84” (47 mm × 61 mm × 21 mm) | |

| PART NUMBERS | DESCRIPTION |
|---|---|
| **20-101-1131** | RCM4200 |
| **20-101-1132** | RCM4210 |

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