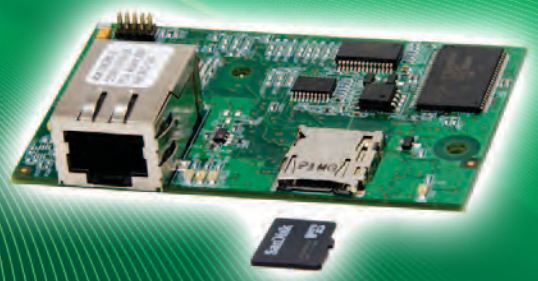
RabbitCore® RCM4300 Series

Communications and Control Processor

The RabbitCore RCM4300 series delivers larger mass storage by allowing you to implement up to 2 GB of hot swappable industry-standard microSD™ memory.



Overview

The RabbitCore RCM4300 series offers larger memory for memory intensive applications. The microSD™ card slot has the ability to store up to 2 GB of data, making this an ideal module for data logging applications. In combination with our FAT file system, users can easily access data via the built-in web server or by simply using the hot-swappable feature. Dynamic C® also adds Megabyte Code Support™ (MCS), which allows the use of 1 MB of on-board SRAM for shared memory and code space.

The RCM4300 series is pin-compatible with other RCM4XXX core modules, enabling migration to other designs with specific requirements.

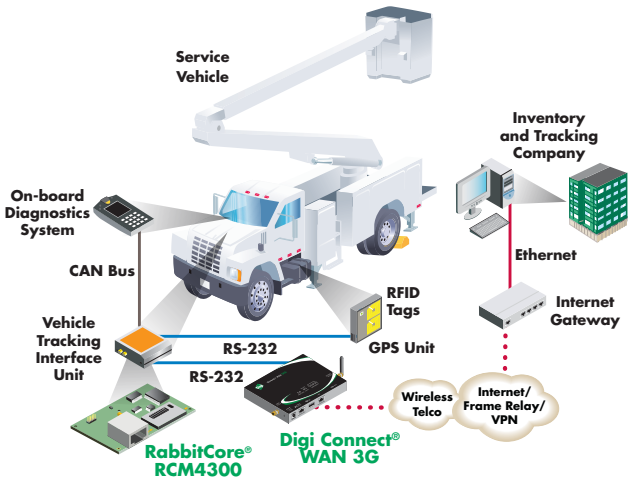
The RabbitCore RCM4300 Development Kit makes evaluation easy with all the hardware and software needed to get started quickly.

Development Kit

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

$299

Application Highlight



Potential Applications: Data logging, automatic meter reading, tank monitoring, utilities and power systems, factory automation, instrumentation

Features/Benefits

- Rabbit 4000 running at 58.98 MHz
- Supports up to 2 GB microSD memory card, 1 MB SRAM for shared code, 512K of battery-backed SRAM, FAT file organization
- 10/100Base-T Ethernet, 36 GPIO, 6 serial ports
- 8 channel 12-bit resolution (RCM4300 only)
- Embedded web server
- Easily implement secure embedded devices with client side SSL or AES encryption
- Includes Remote Program Update allowing for firmware updates from anywhere in the world

Specifications	RCM4300	RCM4310
Features		
Microprocessor	Rabbit® 4000 at 58.98 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	1 MB (8-bit)	512K (8-bit)
Serial Flash Memory (program)	2 MB	1 MB
Memory (data storage)	microSD™ Card 128 MB–2 GB	microSD™ Card 128 MB–2 GB
LED Indicators	LINK/ACT (link/activity) FDX/COL (full-duplex/collisions) SPEED (on for 100Base-T Ethernet connection) SD (microSD™ mounted status)	
Backup Battery	Connection for user-supplied backup battery (to support RTC and data SRAM)	
General-Purpose I/O	28 parallel digital I/O lines: • Configurable with 4 layers of alternate functions	36 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	N/A
	12 bits (11 bits single-ended)	
	180 µs	
Auxiliary I/O Bus	Can be configured for 8 data lines and 5 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 (with IrDA), • 4 as clocked serial (SPI), and 1 as SDLC/HDLC • 1 clocked serial port shared with programming port • 1 clocked serial port shared with A/D converter, serial flash, and microSD™ card	6 shared high-speed, CMOS-compatible ports: • All 6 configurable as asynchronous (with IrDA), • 4 as clocked serial (SPI), and 2 as SDLC/HDLC • 1 clocked serial port shared with programming port • 1 clocked serial port shared with serial flash and microSD™ card
Serial Rate	Maximum asynchronous baud rate = CLK/8	
Slave Interface	Slave port allows the RCM4300 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	4 PWM registers with 10-bit free-running counter and priority interrupts	
Input Capture	2 input capture channels 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 (pins unloaded)	3.0–3.6V DC, 350 mA (typ.) @ 3.3V, 385 mA @ 3.6V and 85° C (max.)	
Operating Temperature	-20° C to +85° C	
Humidity	5% to 95%, non-condensing	
Connectors	One 2 × 25, 1.27 mm pitch IDC signal header; One microSD™ Card socket; One 2 × 5, 1.27 mm pitch IDC programming header	
Board Size	1.84" × 2.85" × 0.84" (47 mm × 72 mm × 21 mm)	
Pricing		
Pricing (qty 1); Part Number	$114; 20-101-1138	$99; 20-101-1139
Development Kit; Part Number	$299; 101-1177	

Visit www.digiembedded.com for part numbers.

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