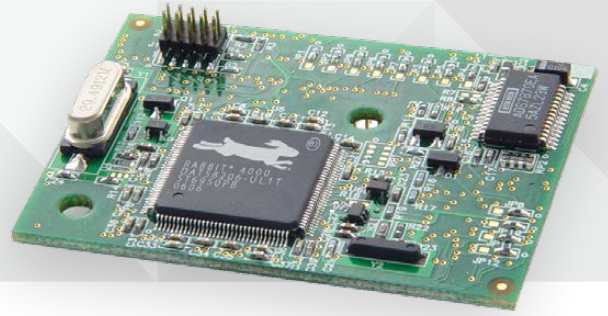




MICROPROCESSOR  
CORE MODULE



# DIGI RABBITCORE RCM4100 SERIES

A compact core module ideal for device control for embedded applications that require I/O control, data handling and peripheral connectivity

The RabbitCore RCM4100 series is the entry platform for the Rabbit® 4000 family of core modules. The RCM4100 is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 40 GPIO lines shared with up to six CMOS-compatible serial ports, and four levels of alternate pin functions that include variable phase PWM, quadrature decoder, and input capture.

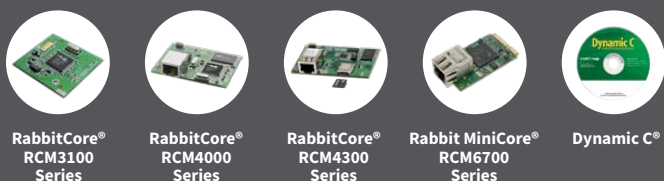
The RCM4100 series, with its robust feature set, ample memory, low-power modes and analog channels, is available for multiple peripheral connectivity options such as a cellular modem or ZigBee device.

Evaluation of the RCM4100 is easy with the RabbitCore RCM4100 development kit, which provides all the necessary hardware and software to quickly get started.

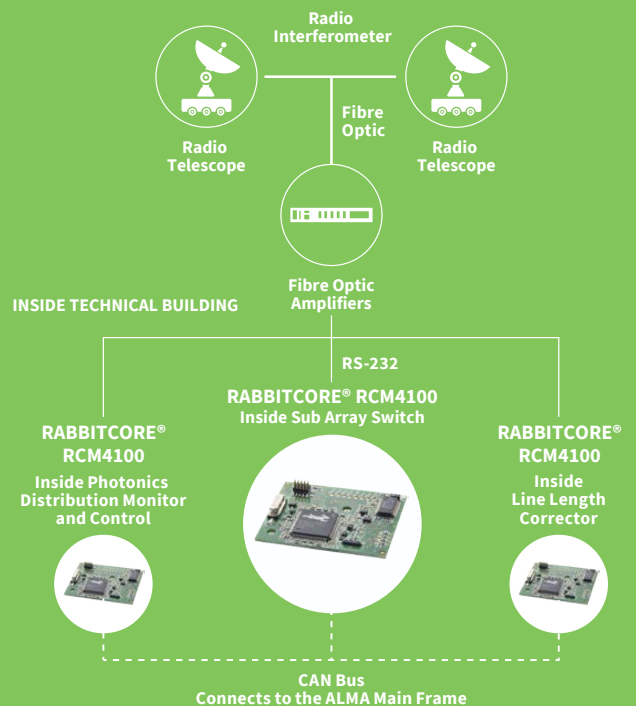
## BENEFITS

- Rabbit 4000 running up to 59 MHz
- 512K Flash, 256K / 512K Data SRAM
- Up to 40 GPIO, up to 6 CMOS-compatible serial ports
- Auxiliary I/O feature for reducing processor bus loading
- 8 channels 12-bit A/D converter (RCM4100)
- Ideal for device intelligence and control
- Well suited for easy integration with peripheral technologies such as GPS, cellular modems, RFID readers, sensors, etc.

## RELATED PRODUCTS



## APPLICATION EXAMPLE



SPECIFICATIONS	RCM4100		RCM4110	RCM4120
<b>FEATURES</b>				
<b>MICROPROCESSOR</b>	Rabbit® 4000 at 59 MHz		Rabbit® 4000 at 29 MHz	Rabbit® 4000 at 59 MHz
<b>FLASH MEMORY</b>	512K			
<b>DATA SRAM</b>	512K	256K		512K
<b>FAST PROGRAM-EXECUTION SRAM</b>	512K	None		512K
<b>BACKUP BATTERY</b>	Connection for user-supplied backup battery (to support RTC and data SRAM)			
<b>GENERAL PURPOSE I/O</b>	29 parallel digital I/O lines: Configurable with 4 layers of alternate functions		40 parallel digital I/O lines: Configurable with 4 layers of alternate functions	
<b>ADDITIONAL INPUTS</b>	Startup mode (2), reset in, CONVERT		Startup mode (2), reset in	
<b>ADDITIONAL OUTPUTS</b>	Status, reset out, analog VREF		Status, reset out	
<b>ANALOG INPUTS - A/D CONVERTER RESOLUTION</b>	8 channels single-ended or 4 channels differential. Programmable gain 1, 2, 4, 5, 8, 10, 16 and 20 V/V		None	None
<b>- A/D CONVERTER RESOLUTION</b>	12 bits (11 bits single-ended)			
<b>- A/D CONVERSION TIME (INCLUDING 120 MS RAW COUNT AND DYNAMIC C)</b>	180 µs			
<b>AUXILIARY I/O BUS</b>	Can be configured for 8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write			
<b>SERIAL PORTS</b>	6 high-speed, CMOS-compatible ports: <ul style="list-style-type: none"> <li>All 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC</li> <li>1 asynchronous clocked serial port shared with programming port</li> <li>1 clocked serial port shared with A/D converter</li> </ul>		6 high-speed, CMOS-compatible ports: <ul style="list-style-type: none"> <li>All 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC</li> <li>1 asynchronous clocked serial port shared with programming port</li> </ul>	
<b>SERIAL RATE</b>	Maximum asynchronous baud rate = CLK/8			
<b>SLAVE INTERFACE</b>	Slave port allows the RCM4100 to be used as an intelligent peripheral device slaved to a master processor			
<b>REAL TIME CLOCK</b>	Yes			
<b>TIMERS</b>	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			
<b>WATCHDOG/SUPERVISOR</b>	Yes			
<b>PULSE-WIDTH MODULATORS</b>	4 channels synchronized PWM with 10-bit counter; 4 channels variable-phase or synchronized PWM with 16-bit counter			
<b>INPUT CAPTURE</b>	2-channel input capture can be used to time input signals from various port pins			
<b>QUADRATURE DECODER</b>	2-channel quadrature decoder accepts inputs from external incremental encoder modules			
<b>POWER (PINS UNLOADED)</b>	3.0– 3.6 VDC			
	125 mA @ 3.3V	65 mA @ 3.3V		125 mA @ 3.3V
<b>OPERATING TEMPERATURE</b>	-40° C to +85° C		0° C to +70° C	
<b>HUMIDITY</b>	5% to 95%, non-condensing			
<b>CONNECTORS</b>	One 2 × 25, 1.27 mm pitch IDC signal header; One 2 × 5, 1.27 mm pitch IDC programming header			
<b>BOARD SIZE</b>	1.41" × 1.88" × 0.49" (36 mm × 48 mm × 12 mm)			
<b>PRODUCT WARRANTY</b>	1 year			

PART NUMBERS	DESCRIPTION
20-101-1093	RCM4110
20-101-1154	RCM4120

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DIGI INTERNATIONAL WORLDWIDE HQ  
877-912-3444 / 952-912-3444 / [www.digi.com](http://www.digi.com)

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

DIGI INTERNATIONAL JAPAN  
+81-3-5428-0261 / [www.digi-intl.co.jp](http://www.digi-intl.co.jp)

DIGI INTERNATIONAL SINGAPORE  
+65-6213-5380

DIGI INTERNATIONAL CHINA  
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