PRESS RELEASE
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New Family of High Performance Embedded PC/104 Analog Output Modules

Ideal for Rugged Add-on Analog Output with DIO for Embedded Applications

Mountain View, California — June 27, 2013

Diamond Systems, a leading global supplier of compact, rugged, embedded computing solutions for real-world applications in a broad range of markets, today introduced a new family of rugged PC/104 and PC/104-*Plus* analog output modules. The Ruby-MM-1616A family provides up to 16 channels of 16-bit resolution analog outputs with either voltage and/or current outputs. The modules also provide 48 lines of digital I/O, a waveform generator, 4 pulse width modulators, 2 counter/timers, and HART signal handling capability on four channels. This new family of analog output modules provides the highest accuracy analog outputs using ultra low drift references and lifetime digital calibration, all in a small form factor module. The boards also include 48 lines of digital I/O, making them ideal for embedded and OEM applications needing analog output with digital I/O.

The Ruby-MM-1616A family offers 4, 8 or 16 channels of 16-bit analog output with four voltage output ranges and three current output ranges, all independently selectable channel-by-channel. The analog outputs also feature simultaneous updating of all channels either with a software command or in response to an external signal. The 48 digital I/O lines consist of both bit- and byte-wide lines, all of which have programmable direction. The waveform generator can be used on up to eight channels with simultaneous output of independent waveforms. The four 24-bit pulse width modulators are all independent waveforms with programmable polarity and 0-100% duty cycles that can be generated simultaneously.

The Ruby-MM-1616 family's key features and functions are tabulated below.

Key Features and Functions

- 4, 8, or 16 16-bit analog outputs
- 0-5V, 0-10V, +/-5V, and +/-10V voltage output ranges
- 0-20mA, 4-20mA, and 0-24mA current output ranges
- Independent output range for each channel
- Simultaneous update of all channels
- External trigger capability
- Waveform generator on up to 8 channels
- 2 32-bit programmable counter/timers
- 4 24-bit pulse width modulators
- 48 digital I/O lines, 8 bit-wide and 40 byte-wide
- HART signal handling capability on four channels
- Universal Driver support for Windows, Linux and DOS
- PC/104 or PC/104-*Plus* I/O expansion
- Rugged design: -40°C to +85°C operating temperature
- PC/104 form-factor: (3.55 x 3.775 in. / 90 x 96mm)

All Ruby-MM-1616A modules ship with Diamond's Universal Driver software for C language programming under Windows 7, Windows Embedded 7, Windows XP, Linux and DOS. All major functions of the module are supported by the driver and example programs are also included. The Ruby-MM-1616A analog output family has an extended temperature capability of -40°C to +85°C which enables the modules to operate in environments with extreme temperature swings, such as on vehicles or in outdoor installations. In addition, the modules may be custom configured with 0-ohm resistors in place of jumpers for increased ruggedness in high-vibration environments.

Pricing and Availability

Shipments of the Ruby-MM-1616A family of PC/104 analog output modules begin in July, 2013. Single unit pricing starts at US$250. Contact Diamond Systems for quantity pricing and special-order options.

About Diamond Systems

Founded in 1989 and based in Mountain View, California, Diamond Systems Corporation is a leading global provider of compact, rugged, board- and system-level real world embedded computing solutions to companies in a broad range of markets, including transportation, energy, aerospace, defense, manufacturing, medical, and research. The company is renowned as an innovator of embedded I/O standards and technologies; it originated the FeaturePak I/O modules standard, was an early adopter of PC/104 module technology, and holds a patent for a unique analog I/O autocalibration technique.

Diamond's extensive product line includes compact, highly integrated single-board computers (SBCs); an extensive line of expansion modules for analog and digital I/O, wired and wireless communications, GPS, solid-state disk, and power supply functions; and complete system-level solutions. In support of performance-critical embedded application requirements, these products are engineered to operate reliably over wide operating temperature ranges, such as –40°C to +85°C, and at high levels of shock and vibration. Additionally, the company offers a comprehensive hardware, software, and system integration and customization services.

For further information, please visit www.diamondsystems.com or call +1-800-367-2104.

MEDIA RESOURCES

- Ruby-MM-1616A webpage
- Ruby-MM-1616A datasheet (pdf)
- Ruby-MM-1616A photo (jpg)

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