CRS-C3I-3CB1 COTS Rugged System

Cold Plate Cooled 3U CompactPCI Application Ready Computer

Features

- Rugged cold plate cooled chassis
  – 3 slot 3U CompactPCI
  – MIL-C-38999 connectors

- Intel Atom @ 1.6 GHz

- Linux Real-time operating system (Windows, VxWorks 6.7 also available)

- BIT support

- I/O capabilities
  – Ethernet
  – Serial
  – USB
  – MIL-STD-1553
  – ARINC 429
  – CAN Bus
  – DAC
  – ADC
  – Discrete

- Designed for:
  – Military and civilian UAVs
  – Ground vehicles
  – Helicopters
  – Military and commercial aircraft

GE Intelligent Platforms' CRS-C3I-3CB1 COTS Rugged System is a packaged pre-validated control computer system that provides a rugged and highly flexible computing platform suited for all rugged environments such as those found in civilian and military UAVs, manned commercial and military aircraft, helicopters, over- and underwater research vessels, ground vehicles, and locomotives.

GE's COTS-based CRS-C3I-3CB1 Application Ready computer system can be deployed in the field as soon as your application is ready, or use the CRS-C3I-3CB1 as a starting point for multiple application-specific configurations.

The arduous task of integrating off the shelf boards has already been done for you — shortening your time to project completion. You have one point of contact for all issues and a single part number — not a collection of parts.

The CRS-C3I-3CB1 successfully integrates GE's boards, and modules, drawn from their wide selection of COTS boards, into open modular systems that are tested and qualified for rugged systems deployment.

GE Intelligent Platforms' Systems Group is fully compliant with AS9100 processes and brings years of experience designing rugged systems to your project. Our world class program management competencies are tailored to help mitigate your risk.

GE conducts all design, analysis, manufacturing, and testing in compliance with any system appropriate MIL and industry standards such as MIL-STD-810, 704, 461, 1472, and DO-160.

GE has integrated and tested the CRS-C3I-3CB1 and provide Board Support Packages (BSP's) and drivers that you can easily use to integrate your application and reduce your software development cycle time.

To help jump start your project, GE offers Laboratory Development Units, or starter kits, preconfigured for development purposes. Based on the required system controller architecture and bus system, GE can provide the appropriate development system for your specific needs.

GE offers a Product Lifecycle Management (PLM) program of innovative Long-Term Support services to reduce the overall cost of ownership and provide industry-leading safeguards against component obsolescence. GE Intelligent Platforms is committed to supporting customer programs throughout their lifecycle.

The next page illustrates a small subset of the configurations that are available with this system. If you are interested in additional configuration options please contact your sales representative.

CRS-C3I-3CB1 COTS Rugged System

Standard Configurations*	CRS-C3I-3CB1-00	CRS-C3I-3CB1-01	CRS-C3I-3CB1-02	CRS-C3I-3CB1-03
Ethernet Ports	10x 10/100/1000BaseT	2x 10/100/1000BaseT	2x 10/100/1000BaseT	2x 10/100/1000BaseT
Serial Ports	1x RS232 1x RS232/422	1x RS232	1x RS232, 12x RS232/422/485	1x RS232
USB Ports	2x USB 2.0	2x USB 2.0	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	N/A	1x MIL-STD-1553 Redundant Ch	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR
ARINC 429 Channels	N/A	15x ARINC 429 RX Ch 15x ARINC 429 TX Ch	N/A	N/A
CAN Bus	N/A	N/A	N/A	2x CANbus Channels
DAC Channels	N/A	N/A	N/A	N/A
ADC Channels	N/A	N/A	N/A	N/A
Discrete I/O	7x GPIO and PRST	7x GPIO and PRST 13x Discrete	7x GPIO and PRST 20x Discrete**	7x GPIO and PRST 12x Discrete**
Other I/O	1x VGA Video	1x VGA Video 1x IRIG In/Out 12x HL Discrete (SE) In 8x HL Discrete (SE) Out 6x Discrete (DIFF) In/Out	1x VGA Video 1x IRIG In/Out 8x HL Discrete (SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out	1x VGA Video 1x IRIG In/Out 8x HL Discrete (SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out
Power Dissipation (W)	59W (max)	42W (max.)	39W (max.)	38W (max.)
Order Number	920-100847-000	920-100847-001	920-100847-002	920-100847-003

Standard Configurations*	CRS-C3I-3CB1-04	CRS-C3I-3CB1-05	CRS-C3I-3CB1-06	CRS-C3I-3CB1-07
Ethernet Ports	10x 10/100/1000BaseT	2x 10/100/1000BaseT	10x 10/100/1000BaseT	2x 10/100/1000BaseT
Serial Ports	1x RS232	1x RS232	1x RS232 12x RS232/422/485	1x RS232 12x RS232/422/485
USB Ports	2x USB 2.0	2x USB 2.0	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	N/A	N/A
ARINC 429 Channels	N/A	N/A	N/A	N/A
CAN Bus	N/A	N/A	N/A	N/A
DAC Channels	N/A	4x DAC Ch	N/A	4x DAC Ch
ADC Channels	N/A	5x ADC DIFF Ch	N/A	5x ADC DIFF Ch
Discrete I/O	7x GPIO and PRST 12x Discrete**	15x GPIO and PRST 12x Discrete**	7x GPIO and PRST 8x Discrete	15x GPIO and PRST
Other I/O	1x VGA Video 1x IRIG In/Out 8x HL Discrete (SE) In 4x HL Discrete (SE) Out 2x Discrete (DIFF) In/Out	1x VGA Video 1x IRIG In/Out 12x HL Discrete (SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 3x RTD Ch	1x VGA Video 8x HL Discrete (SE) In 4x HL Discrete (SE) Out 2x Discrete (DIFF) In/Out	1x VGA Video 12x HL Discrete (SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 5x RTD Ch
Power Dissipation (W)	68W (max.)	39W (max.)	68W (max.)	38W (max.)
Order Number	920-100847-004	920-100847-005	920-100847-006	920-100847-007

CRS-C3I-3CB1 COTS Rugged System

Standard Configurations*	CRS-C3I-3CB1-08	CRS-C3I-3CB1-09
Ethernet Ports	2x 10/100/1000BaseT	2x 10/100/1000BaseT
Serial Ports	1x RS232 11x RS232/422/485	1x RS232
USB Ports	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	N/A	N/A
ARINC 429 Channels	N/A	N/A
CAN Bus	2x CANbus Ch	2x CANbus Ch
DAC Channels	N/A	4x DAC Ch
ADC Channels	N/A	5x ADC DIFF Ch
Discrete I/O	7x GPIO and PRST 8x Discrete	7x GPIO and PRST 8x Discrete
Other I/O	1x VGA Video 1x IRIG In/Out 8x HL Discrete (SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out	1x VGA Video 12x HL Discrete (SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 5x RTD Ch
Power Dissipation (W)	38W (max.)	37W (max.)
Order Number	920-100847-008	920-100847-009

* Contact factory for additional modification options. **An additional 6 Discrete channels are available if the RT_ADDR channel is not used.
SE = Single Ended, HL = High Level, DIFF = Differential, PRST = Pushbutton Reset

CRS-C3I-3CB1 COTS Rugged System

Specifications: All Systems

Processor
- Intel Atom @ 1.6 GHz

SBC RAM
- 1 GB DDR2 with ECC

SBC Flash Memory
- 4 GB

Operating System
- Linux, Windows, VxWorks 6.7

Cooling
- Cold plate

Form Factor
- 3U CPCI

Slots
- 3

Dimensions (H x W x D, excludes connectors)
- 5.60 x 4.25 x 8.76 (inches); 14.22 x 10.80 x 22.25 (cm)

Weight
- ~9 lbs (~4 kg)

Input Power (MIL-STD)
- 28V DC nominal (MIL-STD-704E)

Operating Temp. Range (°C)
- -40° to +71° at coldplate (Qual. -40° to +71°)

Shock (operational)
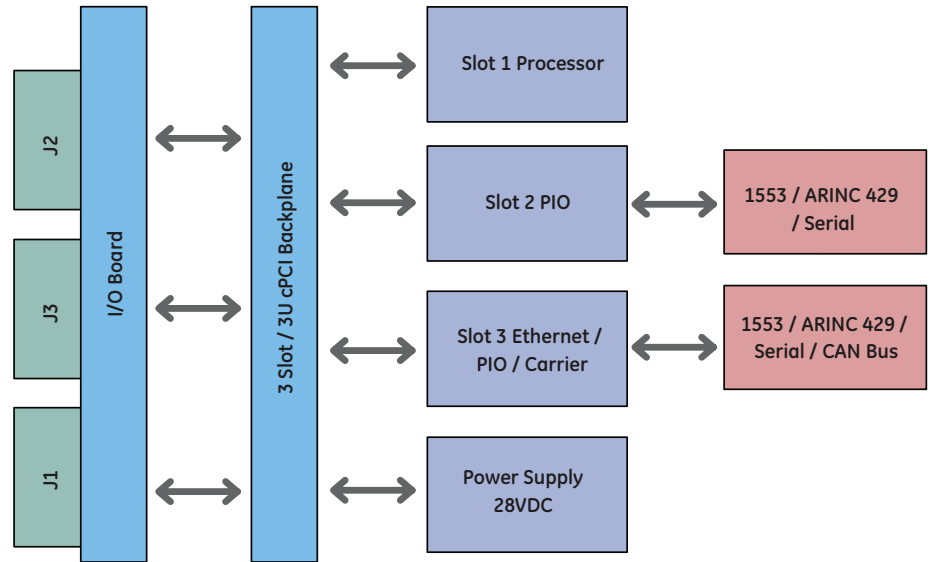- +40g SRS (MIL-STD-810G/1)
  (DO-160Category B)

Random Vibration
- $0.1g^2$/Hz, 15-1000Hz; 6dB/octave decrease, 1000-2000Hz (MIL-STD-810F/1, Method 514.5) (DO-160 Category S1/2, Zone2, Curve E)

Humidity
- 95% non-condensing
  (DO-160 Procedure 6, Category B)

Block Diagram

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit www.ge-ip.com.

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