GE Fanuc
Intelligent Platforms

R15-AMC

High Density AMC Module

Features

- 1, 2, or 4 dual-redundant MIL-STD-1553A/B Notice II channels
- x4 PCI-Express Interface
- Simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor
- High-level API for Windows® XP, Vista, Server 2003, 2000, Me, NT, 98, 95 and Linux®. Integrity, LynxOS®, VxWorks® and Solaris® available upon request.
- Multi-function and single-function versions
- Optional IRIG-B receiver/generator
- 45-bit, microsecond time-tagging
- Complete message programmability
- Flexible message status/interrupt generation
- I/O triggering and error injection/detection
- Transition cabling to 1553 cable jacks included
- Optional extended temperature, variable voltage output, and differential discretes

GE Fanuc Intelligent Platforms' R15-AMC is the latest generation of performance and flexibility for MIL-STD-1553A/B Notice II on an AMC module. Available in commercial and ruggedized version with one, two or four dual-redundant channels, the R15-AMC includes advanced API (Application Programming Interface) software that reduces application development time. Standard features include 1 MByte of RAM per channel, 45-bit message timetagging, triggers, extensive BC & RT link-list structures, error injection/detection, avionics level discretes, automatic/manual RT Status Bit and Mode Code responses, along with advanced BC functionality. IRIG-B signal Receiver/Generator with GPS synchronization, variable voltage output and RS-485 differential discretes are optionally available. R15-AMC Bus Monitors provide unparalleled error detection and 100% monitoring of fully loaded buses.

Multi-function Interfaces

R15-AMC multi-function interfaces are easily configured to operate with simultaneous Bus Controller, 31 Remote Terminals and Bus Monitor functionality.

Single-function Interfaces

Single-function R15-AMC interfaces have all the features and functionality of the multi-function versions, but only one major operational mode is enabled at a time. Each interface can emulate either a Bus Controller or 31 Remote Terminals or a Bus Monitor.

Software

GE Fanuc Intelligent Platforms provides our advanced 1553 API in source code, along with support for Windows XP, Vista, Server 2003, 2000, Me, NT, 98, 95 and Linux. Integrity, LynxOS, VxWorks and Solaris are available upon request. To access 1553 functionality without software development, BusTools/1553, GE Fanuc Intelligent Platforms' MIL-STD-1553 bus analysis simulation and data logging/monitoring solution is available.

R15-AMC High Density AMC Module

Specifications

Physical
- "Mid-size", single-width AMC form factor

Environmental
- Standard operating temperature range: 0° to +70° C
- Relative humidity: 5 – 90% (non-condensing)
- Optional ruggedized, extended temperature configurations available

Software Support
- API – High-level API libraries with source code included for Windows Vista, XP, Server 2003, 2000, Me, NT, 98, 95 and Linux. Integrity, LynxOS, VxWorks and Solaris available upon request.
- GUI – Optional BusTools/1553 GUI bus analysis, simulation and data logging software

Connections
- Direct or transformer coupling
- I/O triggers; 18 avionics-level discretes
- Transition cabling to 1553 cable jacks included
- Optional RD-485 differential discretes

Multi-function Operational Modes
- Simultaneous BC, 31 RTs and BM

Single-function Operational Modes
- BC or 31 RTs or BM

Power (4 channels at maximum duty cycle)
- 8 watts maximum

On-board dual-port RAM
- 1 MByte (per dual-redundant channel)

PCI Express Interface
- 4 lane

IPM
- Per AMC R2.0

Optional Configurations
- 1, 2, or 4 dual-redundant channels
- Optional ruggedized, -40° to +85° C operating temperature range
- Optional conformal coating
- Optional IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)
- Optional Full-Size and Compact Heights available. Contact factory.

Description

Bus Controller
- Programmable control over:
  - Major and minor frame content and timing
  - Intermessage gap times
  - Response time-out and late response
- Modify messages, data or setup while card is running
- Insert aperiodic messages into a running BC list
- "Oneshot" mode for simplified BC operation
- Conditional message sequencing based on real-time message data or status
- Selectable interrupt generation and status messages
  - Full range of system conditions
  - All detected errors
- Full error detection
  - Invalid word
  - Bit count error
  - High word
  - Low word
  - Inverted sync
  - Manchester
  - Late response
  - Early response
  - No response
  - Incorrect RT address
  - Parity error
- Extensive programmable error injections (on a per word basis)
- Synchronize BC operation to external time source

Remote Terminal
- Multiple RT simulation (up to 31 RTs)
- Programmable message content (linked message buffers)
- Modify data, status words or setup while card is running
- Programmable message content (linked message buffers)
- Selectable interrupts upon multiple conditions
- RT Map Monitoring

Bus Monitor
- Capture 100% fully loaded bus traffic with:
  - Time-tagging
  - Word status
  - RT response time
  - Error status
  - Message status
- Interrupts can be selected by RT / SA / WC
- Extensive filtering and triggering options
  - By individual RT/subaddress
  - Transmit, receive or broadcast mode codes
  - Internal or external triggering
  - Trigger output on user specified data
- Real-time bus playback with RT edit mode
- 45-bit, microsecond resolution timetagging
- IRIG/GPS synchronization

Ordering Information

R15-AMC-1S	MIL-STD-1553 single-function, single dual-redundant channel AMC interface
R15-AMC-2S	MIL-STD-1553 single-function, two dual-redundant channel AMC interface
R15-AMC-4S	MIL-STD-1553 single-function, four dual-redundant channel AMC interface
R15-AMC-1M	MIL-STD-1553 multi-function, single dual-redundant channel AMC interface
R15-AMC-2M	MIL-STD-1553 multi-function, two dual-redundant channel AMC interface
R15-AMC-4M	MIL-STD-1553 multi-function, four dual-redundant channel AMC interface
- W Suffix	IRIG timing
- R Suffix	Ruggedized, extended temperature
- K Suffix	Conformal coating

Optional Software

BusTools/1553	MIL-STD-1553 Bus Analysis & Data Logging software for Windows (multi-function boards only)
LV-1553	Lab/View support for MIL-STD-1553

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

GE Fanuc Intelligent Platforms Information Centers

Americas:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
+81 3 5544 3973

EMEA:
Germany: +49 821 5034-0
UK: + 44 1327 359444

Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

www.gefanucavionics.com