GE Fanuc
Intelligent Platforms

RAR-EC

RoHS Dual Port ARINC 429 ExpressCard Interface

Features

- Up to seven Rx, four Tx ARINC 429 channels
- Optional 573/717 Rx and Tx
- Four bi-directional avionics-level discretes
- Fully independent channel operation
- ExpressCard
- Easy-to-use BusTools/ARINC Windows-based GUI Bus Analyzer available
- High-level Windows® XP, 2000, NT, Linux® and Visual Basic software API support
- 64-bit, 1 microsecond time-tagging
- Available with ARINC 615 Data Loader, Data Loader GUI and ARINC 615 cabling
- Optional IRIG

The GE Fanuc Intelligent Platforms RAR-EC is an intelligent, high-density, ExpressCard interface that provides up to 11 total Tx/Rx fully independent ARINC 429/575 channels, along with up to four bi-directional avionics level I/O discretes. Features include programmable data rates and parity, error detection, multiple buffering modes, timetagging and automatic transmit slew rate adjustment.

Configuration options include selection of channel count, along with a mix of ARINC 429 and ARINC 573/717.

Software

GE Fanuc Intelligent Platforms software tools significantly reduce the time required to integrate ARINC protocols and I/O discretes into your portable application. Included with the RAR-EC is high-level API (Application Programming Interface) library support for Windows XP, 2000, NT, Linux and Visual Basic software development. BusTools/ARINC, GE Fanuc Intelligent Platforms' Windows-based GUI solution for bus analysis, simulation and data logging, is an available option. It provides an easy-to-use interface to avionics data. ARINC 615 Data Loader and LabVIEW support are optionally available.

Architecture

The flexible design of the RAR-EC provides a powerful hardware foundation that supports multiple avionic protocols in a single, integrated, portable package. Bi-directional discretes support TTL to avionics-level inputs while low-side switch outputs enhance application flexibility. GE Fanuc Intelligent Platforms' powerful API libraries provide total flexibility in receiving and generating ARINC bus traffic.

Tools and Solutions

BusTools/ARINC is an easy-to-use Windows XP/2000/Me/NT/98/95-based ARINC 429 bus analysis, simulation and data monitoring solution that is optionally available on the portable RAR-EC and other GE Fanuc Intelligent Platforms hardware products.

- Monitor multiple channels in real-time.
- Display and enter time-tagged data in hex, binary or engineering units (standard or user defined).
- Filter received data by label and/or SDI.
- View discrete descriptors and user-bit-encoded values.
- Display historical and real-time charts of individual labels.
- Use BusTools/ARINC to send multiple messages of varying sizes with automatic ramping.
- Log all time-tagged data from multiple channels to a single disk file.
- Replay recorded data on transmit buses.

GE FANUC

RAR-EC RoHS Dual Port ARINC 429 ExpressCard Interface

Specifications

ARINC 429 Receive Channels

- Number of channels: up to 7
- Baud rates: Programmable 5 KHz to 200 KHz
- Input levels: ± 6.5 to ±13 VDC (A to B)
- Parity: enable/disable
- Error reporting: parity
- Receive Channel Buffering
  - 2048 messages per channel or merged mode buffer, independently selectable for each channel
  - 64-bit, 1 µsecond resolution time-tag with each message

ARINC 429 Transmit Channels

- Number of channels: up to 4
- Baud rates: Programmable 5 KHz to 200 KHz
- Automatic slew rate adjustment
- Output level: ±10 VDC (A to B)
- Parity: odd, even or none
- Buffering: 2048 labels per channel

Additional Protocols Supported

- ARINC 573/717 Bi-Polar RZ and Harvard Bi-Phase, (Rx and Tx)

Software

- API – High-level API libraries for Windows XP, 2000, NT, Linux and Visual Basic included
- LabVIEW – Support optional

Physical / Environmental

- Express Card
- Cabling to 37-pin D-type receptacle connector provided (CONRAR-EC)
- Card operating temperature: 0° C to 70° C
- Relative humidity: 5 to 90% (non-condensing)

Discrete Inputs/Outputs

- Number of bi-directional lines: 4
- Inputs: support avionics-levels (open/gnd or high/low) and TTL/CMOS
- Outputs: low side switches, each capable of sinking 0.5 ampere

Power (typical)

- 3.3 VDC, 750mA

Ordering Information

RAR-EC-22: ARINC 429 Express Card with 2 Rx, 2 Tx channels
RAR-EC-44: ARINC 429 Express Card with 4 Rx, 4 Tx channels
RAR-EC-74: ARINC 429 Express Card with 7 Rx, 4 Tx channels
RAR-EC-43J: ARINC 429 Express Card with 4 Rx, 3 Tx channels, and 1 ARINC 573/717 RxTx
RAR-EC-63J: ARINC 429 Express Card with 6 Rx, 3 Tx channels, and 1 ARINC 573/717 RxTx
-W suffix : IRIG-B Receiver (AM or DC/TTL) Generator (DC/TTL)

Optional Software

BusTools/ARINC: ARINC Bus Analysis and Datalogging software for Windows®
ARINC 615 Data Loader: GUI

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.gefanuc.com

02.08 GFA-1051