



CEI-430

High Density ARINC 429 Intelligent Interface for PC/104-Plus

Features

- PC/104-Plus or PCI-104 form factors
- Up to 12 Rx and 12 Tx ARINC 429 channels
- 1 Rx, 1 Tx channels of Dual-Mode ARINC 717/573 available
- High performance, high density interface with large buffers
- Bi-directional avionics-level and RS-485 discretes
- Ruggedized, extended temp configurations optional
- Advanced, high-level software API included for Windows XP, 2000, Me, NT, 98, 95, VxWorks and source code
- Supports maximum data throughput on all channels simultaneously
- Independent, software-programmable bit rates for all channels
- Fully independent channel operation
- IRIG-B Receiver/Generator optional

Hardware

Available in a range of configurations, the CEI-430 provides complete, integrated databus functionality for up to 24 channels of ARINC 429/575 along with ARINC 717/573 on a PC/104-Plus platform. The CEI-430 supports maximum data throughput on all 24 ARINC 429 channels while providing on-board message scheduling, label filtering, multiple buffering options, independent software programmable data rates and parity, automatic transmit channel slew rate adjustment, time-tagging and error detection. Support for ruggedized/extended operating temperatures, ARINC 717/573, and IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL) support is optional. The IRIG-B DC output signal can be used to synchronize time stamps across multiple boards. All 24 channels operate independently.

Available in PC/104-Plus (with ISA bus pass-thru) or PCI-104 (no pass-thru), the CEI-430 utilizes the PCI bus for all host communications. The CEI-430 offers up to 16 bi-directional avionics-level discretes, up to 4 bi-directional RS-485 discretes, and 2 MB of on-board RAM. Several configurations offer combinations of ARINC 429 channels along with ARINC 717/573 Dual-Mode functionality. GE Fanuc Embedded Systems' Dual-Mode functionality programmatically supports either HBP (Harvard Bi-Phase) or BPRZ (Bi-Polar Return to Zero) across a wide range of Bit Rate/Subframe combinations.

Software

GE Fanuc Embedded Systems software tools and solutions significantly reduce the time required to integrate ARINC 429 and other avionics protocols into your application. Included with the CEI-430 is our high-level API support for Windows and Linux. This powerful API supports multiple cards, and is compatible with API support on PCI, PC/AT, PC/104, PC/104-Plus, CompactPCI and PCMCIA platforms. LabVIEW support is optional.

Data Handling

Large data buffers and our high-level API are integrated to provide total flexibility in monitoring and generating ARINC bus traffic. Simultaneous Scheduled and Burst Mode (FIFO) messaging is supported on all ARINC 429 transmit channels. Each ARINC 429 receive channel provides simultaneous Dedicated and Buffered Mode storage, along with label/SDI filtering.

CEI-430 High Density ARINC 429, Intelligent Interface for PC/104-Plus

Specifications

ARINC 429 Receive Channels

- Number of channels: up to 12
- Data rates: 12.5 KHz, 100 KHz or 5 KHz to 150 KHz programmable
- Standard input levels: ± 6.5 to ± 13 VDC (A to B)
- Filtering: label and/or SDI
- Parity: odd, even or none
- Error reporting: parity

ARINC 429 Transmit Channels

- Number of channels: up to 12
- Data rates: 12.5 KHz, 100 KHz or 5 KHz to 150 KHz programmable
- Automatic slew rate adjustment
- Output level: ± 10 VDC (A to B)
- Parity: odd, even or none
- Error injection option: parity, gap, high or low bit count

ARINC 717/573 Channels

- Number of channels: 1 Rx, 1 Tx (only in "J" configurations)
- Dual-Mode: supports either HBP (Harvard Bi-Phase) or BPRZ (Bi-Polar Return to Zero)
- Bit rate: 768, 1536, 3072, 6144, 12,288 or 24,576 bits/sec
- Subframe size: 64, 128, 256, 512, 1024 or 2048 words
- Word size: 12 bits

Software

- API
 - Includes high-level API for Windows XP, 2000, NT, and Linux.
 - Source code API library provided (CEI-x30-SW)
- LabVIEW - Optional CEI-LV support is available

Bi-directional Discretes

- Number of avionics-level discretes:
 - 22 and -44 configurations: 4
 - All other configurations: 16
- Number of RS-485 discretes:
 - Not available on -22 and -44 configurations
 - All other configurations: 4

PCI Signal Compatibility

- Universal PCI Signaling
- 33 MHz PCI bus operation

Physical

- Standard PC/104-Plus card size
- Conforms to all standard dimensions

Environmental

- Standard operating temperature range: 0°C to +70°C
- Relative humidity: 5 to 90% (non-condensing)
- Optional ruggedized, extended operating temperature range: -40°C to +85°C

Optional Configurations

- A range of ARINC 429 Rx/Tx and ARINC 717 combinations
- Optional ruggedized, -40°C to +85°C operating temperature range (requires specifying of slot location)
- Optional conformal coating
- Optional IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)
- PC/104-Plus (with ISA pass-thru connector) or PCI-104 (no pass-thru) form factors

Ordering Information

CEI-430-22

ARINC 429 Intelligent PC/104-Plus card with 2 Rx, 2 Tx channels; 4 avionics-level discretes

CEI-430-44

ARINC 429 Intelligent PC/104-Plus card with 4 Rx, 4 Tx channels; 4 avionics-level discretes

CEI-430-88

ARINC 429 Intelligent PC/104-Plus card with 8 Rx, 8 Tx channels; 16 avionics-level discretes, 4 RS-485 discretes

CEI-430-1212

ARINC 429 Intelligent PC/104-Plus card with 12 Rx, 12 Tx channels; 16 avionics-level discretes, 4 RS-485 discretes

CEI-430-44J

Intelligent PC/104-Plus card with 4 Rx, 4 Tx ARINC 429 channels and 1 Rx, 1 Tx Dual-Mode ARINC 717 channels; 16 avionics-level discretes, 4 RS-485 differential discretes CEI-430-88J Intelligent PC/104-Plus card with 8 Rx, 8 Tx ARINC 429 channels and 1 Rx, 1 Tx Dual-Mode ARINC 717 channels; 16 avionics-level discretes, 4 RS-485 discretes

CEI-430-1111J

Intelligent PC/104-Plus card with 11 Rx, 11 Tx ARINC 429 channels and 1 Rx, 1 Tx Dual-Mode ARINC 717 channels; 16 avionics-level discretes, 4 RS-485 discretes

-R suffix

Ruggedized, extended operating temperature range option

-W suffix

IRIG-B Receiver (AM or DC/TTL)/Generator (DC/TTL) option

-E suffix

PCI-104 configuration (no ISA pass-thru connector)

About GE Fanuc Embedded Systems

GE Fanuc Embedded Systems 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 Embedded Systems has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanucembedded.com.

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Additional Resources

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