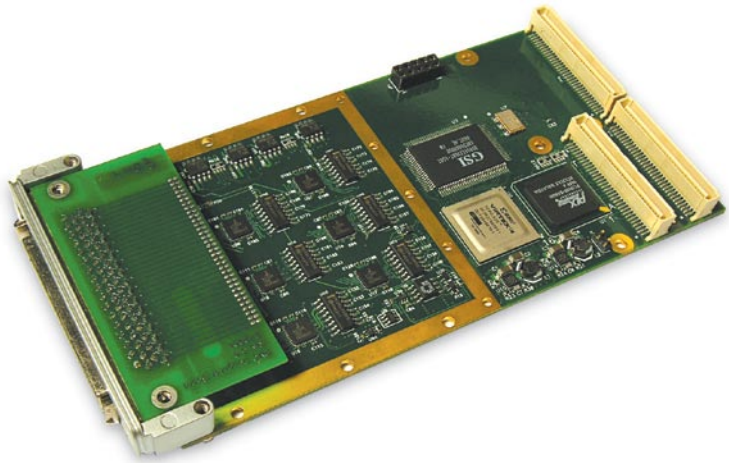
GE Fanuc
Embedded Systems



P-SER

Intelligent, 12-Channel RS-485/422/232 Serial Communications PMC Interface

Features

- High Density Serial Communications PMC Interface
- Large 2 Mbyte Buffering shared between channels
- 12 Independent RS-232/422/485 Channels
- Advanced API with Windows and VxWorks Drivers
- Flexible Transmit Command Processor Supporting Message Scheduling, Delays and Triggers.
- Operation up to 10 MHz
- PCI, cPCI, and PCI Express™ Carrier Options
  - 32bit, 66MHz
  - 5V & 3.3V compatible
  - Commercial Temp standard
  - Extended Temp and Conduction Cooled optional
  - SCSI-III, 68 pin bezel connector
  - P14 I/O optional
- Configurations are available which have "balanced" differential transmit capability to support MIL-STD-188-114A Balanced Type I Operation

The P - SER I/O product is a native PMC form factor interface providing real-time digital, analog and serial input and output with high time-precision reception/input time-stamping, scheduled transmission/output, event triggering, and interrupt support. This interface is designed to meet the needs of both the simulation/test and the real-time embedded applications whether in Windows or VxWorks environments. Optionally available on PCI, cPCI and PCI Express backplane carriers, the P-SER product is distributed with an API library and source code, and are compatible with both Windows and VxWorks operating systems.

Standard features include:

- PMC/PCI Interface
  - Standard single-width CMC module
- RS485/RS422/RS232 Serial Channels
  - 12 bi-directional channels
  - Each channel can individually programmed for differential or single-ended operation
  - Automatic parity generation on transmit
  - Programmable transmit and receive buffers for each channel.
  - Baud rate, number of data bits, and parity are software programmable for each channel.
  - 64-bit, 20 nanosecond time-tag stored with each data element in the receive buffer
- Discrete I/O
  - Eight avionics-level discrete I/O lines
  - Low side switch for each line
  - Each output can sink up to 500mA
  - Diode-protected inputs
  - Programmable threshold on inputs
- IRIG-B Input
  - Supports AM or DC level encoding
- IRIG-B Generator
  - +5.0V signal level
  - DC level encoding only, NOT synchronized to an actual IRIG timebase

GE FANUC

P-SER

Specifications

Physical
- PMC Mezzanine Card (74mm x 149mm without bezel)
- Standard configuration has front panel I/O

Weight
- 3.1 ounces with front bezel I/O
- 1.9 ounces without front bezel I/O

Environmental
- Standard operating temperature range: 0° to +70°C
- -40° to +85°C Rugged/Extended Temp/ Conduction Cooled

Software Support
- API library in source code provided with support for Windows XP, 2000, NT, and VxWorks. Contact factory for Linux and Integrity O/S support.

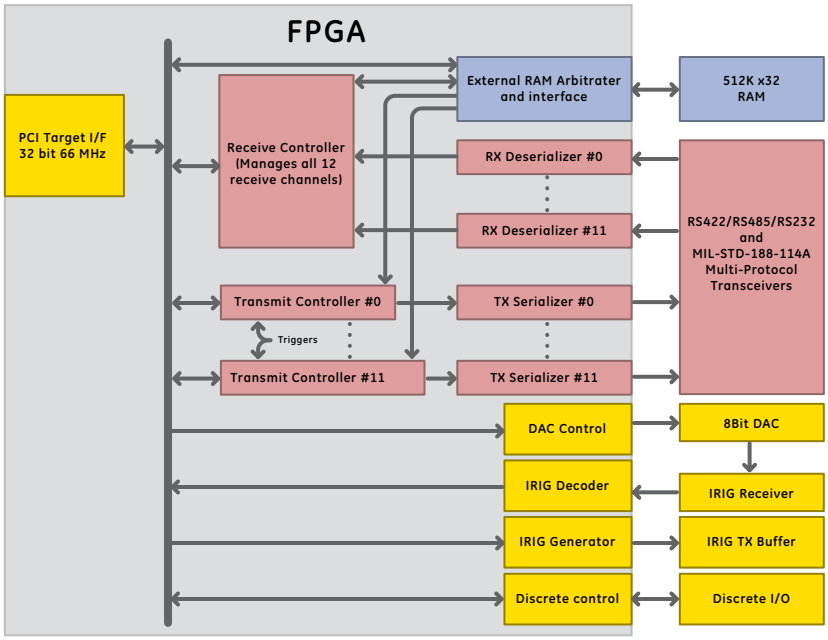
Connections Operational Modes
- 12 Channel RS-485/422/232 Interface
- Asynchronous Mode Only
- Transmit Message Scheduling
- Time Tagged Data Reception
- 64-bit, 20 nsec time stamps
- IRIG-B Decode Option
- Large, 2Mbyte Buffer
- 8 Avionics Level Discretes

Power
- Standard Configuration
  - 400 mA maximum @ +3.3V
  - 200 mA maximum @ +5V
- MIL-STD-188-114A balanced transmit option
  - 400 mA maximum @ +3.3V
  - 500 mA maximum @ +5V

PCI Signal Compatibility
- Universal (5V or 3.3V)
- Supports 66 MHz PCI bus operation
- PCI-X compatible

Configuration Options
- Front or P14 I/O
- VITA compliant conductive cooling -40° to +71°C rail temp
- Conformal coating
- MIL-STD-188-114A Balanced Type I transmit support

Block Diagram



Ordering Information

P-SER
PMC Serial Interface with 12 selectable serial channels of RS485/RS-422/RS232

P-SER-X
PCI Serial (PMC on PCI carrier) with 12 selectable serial channels of RS485/RS-422/RS232

P-SER-3
cPCI Serial Interface (PMC on 3U cCPI carrier) with 12 selectable serial channels of RS485/RS-422/RS232

P-SER-E
PCI Express (PMC on one lane PCI Express Carrier) with 12 selectable serial channel of RS485/RS-422/RS232

Note

Contact factory for MIL-STD-188-114A Balanced Transmit Option

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 head-quartered 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

For more information, please visit the GE Fanuc Embedded Systems web site at:

www.gefanucembedded.com