PMC825

Intelligent CAN/ARINC825/CANaerospace Interface PMC Module

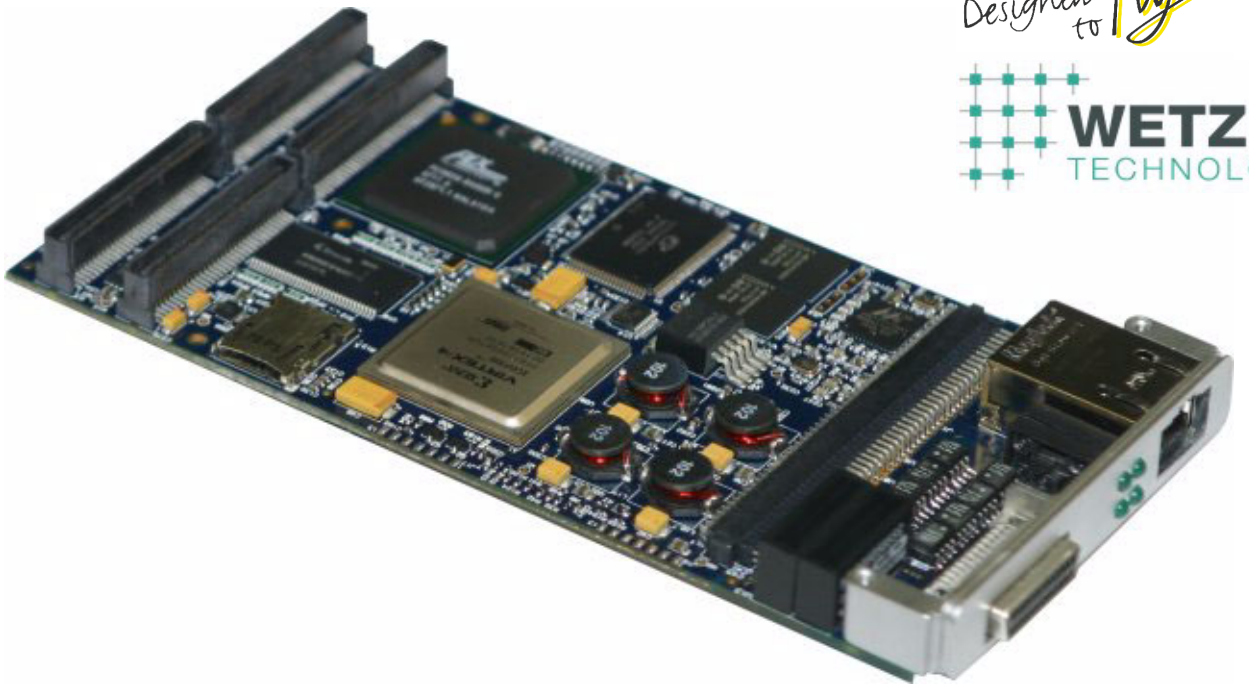
INNOVATIVE CONTROL SYSTEMS, INC

Stock Flight Systems

Designed to fly

MICHAEL STOCK

WETZEL TECHNOLOGY



- Controller Area Network (ISO 11898), ARINC825 and CANaerospace Protocol Compliant Interface Module
- 4 Isolated or 8 Non-Isolated, fully Independant CAN Interfaces
- High Resolution Timestamping for all CAN Messages
- Applicable for PMC, PCI, cPCI, PXI, PCIe and VME Platforms and Standalone Operation
- 10/100/1000 BaseT Ethernet Interface with UDP/IP Protocol and API
- Driver & API Support for Linux, VxWorks and Windows XP/7
- Window-Oriented CAN/ARINC825/CANaerospace Toolbox Software

(c) 2010 Innovative Control Systems, Stock Flight Systems, Wetzel Technology

PMC825

Intelligent CAN/ARINC825/CANaerospace Interface PMC Module

INNOVATIVE CONTROL SYSTEMS, INC

Stock Flight Systems

Designed to fly

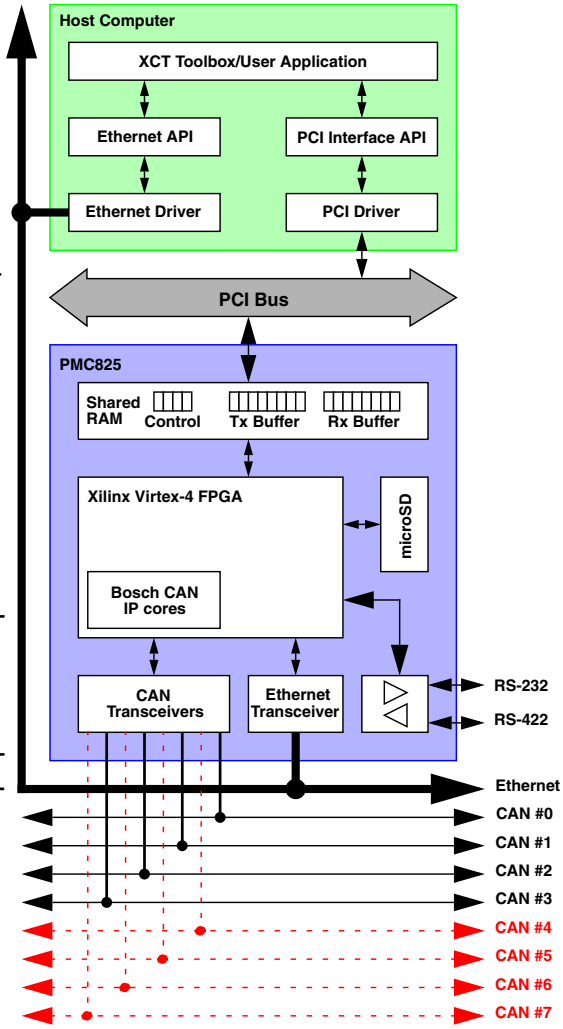
MICHAEL STOCK

WETZEL TECHNOLOGY

Overview

The PMC825 is an intelligent CAN/ARINC825/CANaerospace interface module implemented on a PMC (PCI Mezzanine Card) form factor module. The PMC825 supports 4 fully independent, optically-isolated or 8 fully independent non-isolated CAN/ARINC825/CANaerospace channels. Each module also contains a 10/100/1000 BaseT Ethernet interface and a Bus Mastering PCI interface operating at up to 64 bits and 66 MHz with 3.3V or 5V signaling for data exchange with the host platform.

The PMC825 hardware uses a Xilinx Virtex-4 FPGA with dual embedded PowerPC 405 processors running at 200 MHz each. The CAN 2.0B interfaces are implemented with licensed Bosch C_CAN controller IP cores to ensure compatibility with the Bosch CAN standard and to allow precise hardware timing and control over the transmission and reception of CAN/ARINC825/CANaerospace messages. The Xilinx FPGAs and the PMC825 firmware provide local buffering and 30ns time stamp resolution for all CAN messages and implement ARINC825/CANaerospace specific protocol functions including record/playback functionality to offload the host. All CAN channels work under sustained 100% bus load without dropping any messages. The PMC825 also supports CAN listen only and loopback modes. An on-board MicroSD interface is included on each module for data acquisition storage and for module configuration information.



System Architecture

The PMC825 is a powerful standalone computer system that interfaces to host computers via PCI Bus and Ethernet. Each interface is serviced by a dedicated PowerPC processor so that both interfaces may be used at the same time without any loss of data. Communication between the PMC825 and the PCI/Ethernet interfaces is accomplished through a shared RAM that contains data and communication structures. PMC825 modules can work as either standalone systems linked to host computers via Ethernet/UPD/IP or as plug-in boards for computer hosts offering PMC, PCI, Compact-PCI, PCI-X, PCI-Express or VME interfaces.

Additional RS-232/422 and discrete inputs/outputs are available and may be utilized for customized PMC825 firmware options available on request.

 (c) 2010 Innovative Control Systems, Stock Flight Systems, Wetzel Technology

PMC825

Intelligent CAN/ARINC825/CANaerospace Interface PMC Module

INNOVATIVE CONTROL SYSTEMS, INC

Stock Flight Systems

Designed to fly

MICHAEL STOCK FLIGHT SYSTEMS

WETZEL TECHNOLOGY

The standalone version (PowerNECS) integrates the PMC825 module into a rugged aluminum box that can be powered from 9-36 VDC allowing it to run from standard 14V or 28V DC aircraft power buses and may be used for flight test applications.

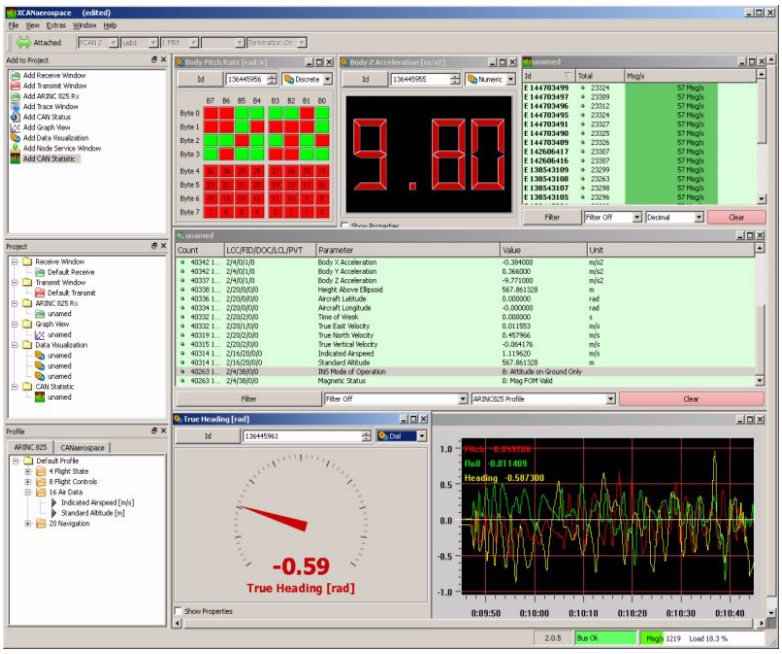
PowerNECS

Software Support

PMC825 modules can work as either standalone systems linked to host computers via Ethernet/ UPD/IP or as a plug-in board for computer hosts offering PMC, PCI, CompactPCI, PCI-X, PCI-Express or VME interfaces. The PMC825 is supplied with VxWorks, Linux and Windows XP/7 drivers and Application Programming Interfaces (API) for Ethernet/ UDP/IP, VxWorks, Linux and Windows XP/7 as well as the eXtended CAN Tool (XCT) software, a powerful window-oriented ARINC825 network toolbox for Linux and Windows XP/7. Additionally, it is fully integrated into the TechSAT ADS2 System Integration Bench (SIB) and ADS3 New Generation Test System (NGTS).

eXtended CAN Toolbox (XCT) Software

The PMC825 is delivered with the eXtended CAN Tool (XCT) software, a powerful window-oriented CAN/ARINC825/CANaerospace network toolbox for Linux and Windows XP/7. Among other features, XCT contains an ARINC825 Communication Profile reader and editor, realtime data visualization in raw and ARINC825/ CANaerospace formats, network traffic/ error statistics and an interface for ARINC825 Periodic Health Status Messages and Node Services. XCT is compliant with the original ARINC specification 825 as well as supplement 1 which will be released January, 2010. In addition, it provides full support for the CANaerospace protocol and the ARINC specifications 812 and 826 which are



PMC825

Intelligent CAN/ARINC825/CANaerospace Interface PMC Module

both based on ARINC825. XCT provides all necessary functions for ARINC825 network compatibility verification, ARINC825/CANaerospace end system testing, CAN network analysis, flight data recording and ARINC825 communication profile generation and analysis. XCT allows to trigger on events like identifier and/or message payload content, provides realtime record and playback of ARINC825 data and supports synthetic CAN/ARINC825/CANaerospace signal generation. XCT project configuration files allow to save and reload XCT configurations and exchange them with other XCT users.

Ordering Information and Pricing

Ordering Number	Product	Price
TP2004-901	PMC825 with 4 optically isolated CAN channels, PCI driver software, PCI/Ethernet API and XCT toolbox	USD 9,800
TP2008-901	PMC825 with 8 non-isolated CAN channels, PCI driver software, PCI/Ethernet API and XCT toolbox	USD 9,800
TP9050-901	PCI/PCI-X carrier board option for TP2004-901 or TP2008-901	USD 690
TP9052-901	PCIe carrier board option for TP2004-901 or TP2008-901	USD 790
TP9053-901	3U cPCI/PXI carrier board option for TP2004-901 or TP2008-901	USD 1,050
TP9054-901	6U cPCI/PXI carrier board option for TP2004-901 or TP2008-901	On Request
TP9055-901	3U VME carrier board option for TP2004-901 or TP2008-901	On Request
TP9056-901	6U VME carrier board option for TP2004-901 or TP2008-901	On Request
TP9003-901	PowerNECS enclosure option with 9-36VDC power input according to EN 2282, for TP2004-901/TP2008-901, including 120/240V AC adaptor for laboratory use	USD 2,100

PMC825

Intelligent CAN/ARINC825/CANaerospace Interface PMC Module

CAN Aviation Alliance (PMC825 Consortium)

Innovative Control Systems, Inc.
10801 N 24th Ave. Suite 103
Phoenix, AZ 85029
USA
phone: +1-602-861-6984
fax: +1-602-588-9440
e-mail: support@icsaero.com
website: www.icsaero.com

Wetzel Technology GmbH
Hermann-Oberth-Straße 11
85640 Putzbrunn
Germany
phone: +49-89-460892-62
fax: +49-89-460892-63
e-mail: info@wetzel-technology.com
website: www.wetzel-technology.com

Stock Flight Systems
Schützenweg 8a
82335 Berg/Farchach
Germany
phone: +49-8151-9607-0
fax: +49-8151-9607-30
e-mail: info@stockflightsystems.com
website: www.stockflightsystems.com

Distributors

TechSAT GmbH
Gruber Strasse 46 b
85586 Poing
Germany
phone: +49-8121-703-0
fax: +49-8121-703-177
e-mail: ts-info@techsat.com
web: www.techsat.com

Reiser Systemtechnik GmbH
Oberer Lüßbach 31
85335 Berg/Höhenrain
Germany
phone: +49-8171-4373-0
fax: +49-8171-4373-30
e-mail: info@wreiser.de
web: www.reiser-systemtechnik.de

ARINC825/CANaerospace Websites

www.arinc.com
www.arinc825.com
www.canaerospace.net