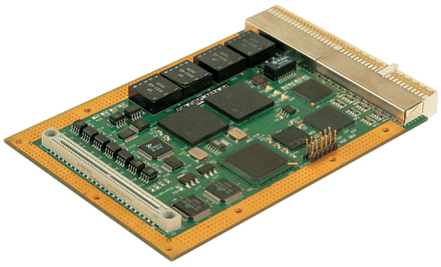
DP-OBC-1011 Rugged cPCI MIL Communication Module

KEY FEATURES AND BENEFITS

- 2 Nodes of MIL-STD-1553B configurable as BC/RT/MT
- 2 Transmit and 4 Receive channels of ARINC 429 protocol
- 10/100 Mbps fast Ethernet port
- RS422/RS232 serial communication channels
- 8 Channels of opto-isolated digital inputs
- 8 Channels of differential digital outputs
- 2 Channels of isolated differential maskable interrupts
- Standard 3U cPCI module
- Low power consumption and dissipation
- Conduction cooled thermal management
- Wedge lock arrangements to meet shocks and vibrations
- Compact and rugged design for On-board applications
- Operating platform: VxWorks/RT Linux
- Ideal for Military and Space requirements

APPLICATIONS

- Avionics & Missile borne subsystems
- Flight control and guidance
- Weapons management



DESCRIPTION

DP-OBC-1011 is the latest rugged 3U cPCI based I/O module that offers generic communication I/Os required for on-board applications.

COMMUNICATION PROTOCOLS

DP-OBC-1011 includes three RS422 and one RS232 serial communication ports. It also features 2 nodes of MIL-STD-1553B and 4 ARINC 429 compatible receivers and 2 transmitters. In order to meet general purpose I/O requirements, differential digital input, interrupt and output channels are also provided.

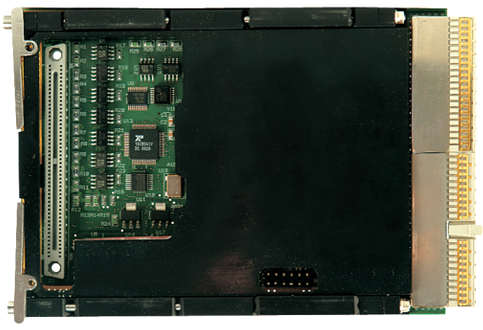
RUGGED ENVIRONMENT

DP-OBC-1011 addresses rugged military and on board applications with conduction cooling that extends the operating temperature range to meet severe environments. Usage of stiffeners and wedge lock arrangements increases its immunity to shocks and vibrations. Conformal coating further enhances its capability to handle high humidity conditions.

This module is specifically designed for limited space applications by using a reduced 3U form factor. At the same time, the board can be populated on a standard 3U slot by using mechanical adaptors.

SOFTWARE SUPPORT

The module is supplied complete with device drivers in Windows 2000 and RT Linux. Please contact factory for support in any other operating system such as VxWorks, QNX, INTime, Lynx, Greenhills Integrity, etc.



DP-OBC-1011 with Ruggediser

DP-OBC-1011

SPECIFICATIONS

RS422 INTERFACE

RS422 driver

No of channels	3
Differential Output	2 to 5V
Common mode output	2.5V
Driver current	25mA
Baud rate	Upto 32.8 Kbps

Opto isolated differential receiver

No of channels	3
Differential input	2 to 3V
Input current	10mA (min)
Isolation voltage	100Vdc

DIGITAL OUTPUTS

Differential driver

No of channels	8
Differential output	2 to 5V
Common mode output	2.5V
Drive current	25mA

DIGITAL INTERRUPTS

Opto-isolated differential receiver

No of Channels	2
Input voltage (high)	2 to 3V
Input voltage (low)	0 to 0.4V
Input current	10mA (min)
Reverse voltage	-12V (max)
Isolation voltage	100Vdc

DIGITAL INPUTS

Opto-isolated differential receiver

No of Channels	8
Input voltage (high)	2 to 3V
Input voltage (low)	0 to 0.4V
Input current	10mA (min)
Reverse voltage	-12V (max)
Isolation voltage	100Vdc

1553 INTERFACE

BU-65864(DDC enhanced mini ACE Chip)

No of channels	2
Terminal types	BC/MT/RT
Data rate	1MHz
Coupling	Transformer / Direct

Transmitter

Direct coupled output	6 to 9 V_{p-p}
Transformer coupled output	18 to 27 V_{p-p}

Receiver

Direct coupled input	1.2 to 20 V_{p-p}
Transformer coupled input	0.85 to 14 V_{p-p}

ARINC INTERFACE

No of channels	2Tx / 4Rx
Data rate	100Kbps or 12.5Kbps
I/O voltage range	±5V

RS232 INTERFACE

RS232 driver

No of Channel	1
Output Voltage Range	±5.4V
Driver current	10mA
Baud Rate	Up to 112Kbps

Rs232 receiver

No of Channel	1
Input Voltage Range	±12V

ETHERNET

No of ports	1 (10/100 BaseT)
Transfer rate	10/100 Mbps

POWER REQUIREMENT

Input: 5Vdc, 3.3Vdc, ±15Vdc

CONNECTORS

Backplane	cPCI Interface
Field Interface	100 pin I/O connector

MECHANICAL

100 mm x 140 mm x 2 mm (with ruggedizer)

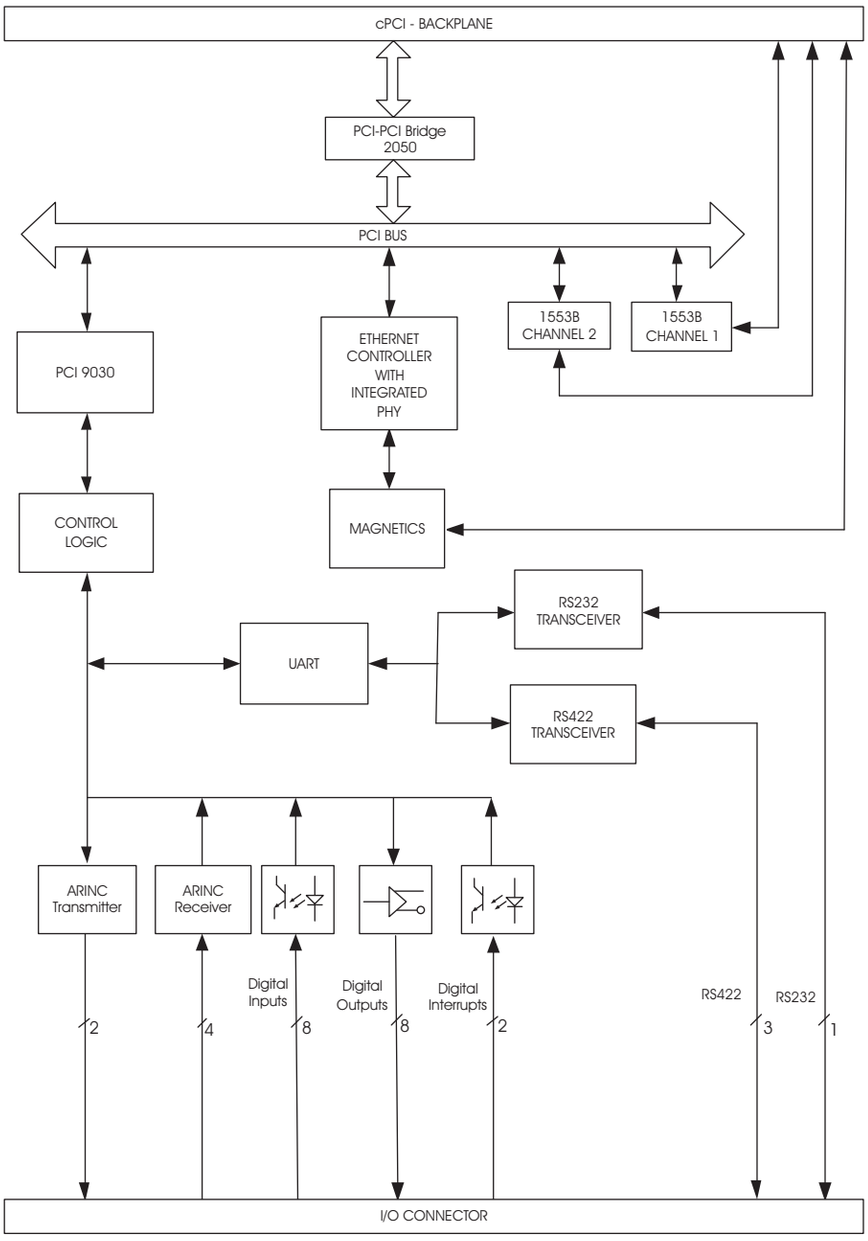
ENVIRONMENT

Rugged version only

ORDERING INFORMATION

DP OBC 1011 6 0 0

- Factory options specified based on applications
- 6 - Rugged version

DP-OBC-1011

BLOCK DIAGRAM OF DP-OBC-1011