# EXC-4000PCIe

The EXC-4000PCIe is part of Excalibur's 4000 family of multiprotocol carrier boards. This PCI Express interface board supports up to four independent, removable modules. Each module can be any of the 4000 family modules.

The EXC-4000PCIe supports Direct Memory Access (DMA), which enables the board to access system memory for reading and writing independently of the computer's CPU. This results in faster data transfer to and from the board, with much less CPU overhead than when not using DMA.

## General Features

♦ Supported Protocols: (up to 6 removable modules)
- ARINC 429/575 (5 or 10 ch. per module)
- ARINC 708/453 (2 ch. per module)
- MIL-STD-1553 (1 ch. per module, single or multifunction)
- MIL-STD-1760 (1 ch. per module, single or multifunction)
- Discrete I/O (20 ch. per module)
- Serial RS485/RS422/RS232 (2 or 4 ch. per mod.)
- ARINC 825 (CAN) (5 ch. per module)
- ARINC 717 (2 ch. per module)
- H009 (1 ch. per module)
- CAN (2, 4, or 6 ch. per module)
- MMSI/AS5652 (8 ch. per module)

♦ 16-bit Count Down Timer
- 1–65,635 μs resolution
- Interrupt or global reset upon count down

♦ Extended temperature option

## IRIG B Time Code Input

♦ Standard IRIG B120 Serial Time Code

♦ Carrier wave:
- 1KHz Amplitude modulated sine wave

♦ Rate Designation: 100 peaks per second

♦ Modulation ratio: 3:1

♦ Input Amplitude: 0.8–3.5 Vpp (3 Vpp Typ)

♦ Coded Expressions supported:
- BCD time-of-year code word
- Control functions
- Straight Binary Seconds (SBS) time-of-day

♦ Application:
- Synchronization of Time Tags, display and IRIG B time

## Physical Characteristics

♦ Dimensions: 188.0 mm x 106.9 mm

♦ Weight: 133 g (without modules)

## Operating Environment

♦ Temperature: 0°–70°C standard temperature
-40° to +85°C extended temperature (optional)

♦ Humidity: 5%–90% noncondensing

♦ MTBF: 359,100 hours at 25°C, $G_F$, S217F

## Host Interface

♦ PCI Express compliance: x1 lane PCIe v1.1

♦ Memory space occupied:
512 Kbytes (128K per module)

♦ Interrupts: INTA# virtual wire

♦ Power: Depends on configuration. For more details, see the user's manual.

## Software Support

♦ *Excalibur* Carrier *Board Family Software Tools*:
- ♦ Intuitive and flexible API with source code
- ♦ Compatible with 32/64-bit Windows 7/8/10/11 & Linux kernel 3.x/4.x/5.x
- ♦ Includes application interface for NI LabView & CVI

♦ *Exalt Plus:* Excalibur Analysis Laboratory Tools for Windows (optional)

♦ GUI driven software for many of our supported protocols

## Ordering Information

♦ **EXC-4000PCIe/*xx***
Multiprotocol interface board for PCIe compatible systems

♦ **EXC-4000PCIeHC/*xx***
Half-sized multiprotocol interface board for up to two modules

**Note:** Replace "*xx*" with module codes. See **Ordering Information** in the board's user's manual.

♦ Additional Options:
- **-E** Extended temperature option
- **-001** With conformal coating

*These specifications are subject to change without notification*

ISO 9001 CERTIFIED COMPANY

AS 9100 CERTIFIED COMPANY

CE

**EXCALIBUR SYSTEMS**