

# PXI

## Aeroflex 3000/3000B/3001B/3001C

PXI Chassis and System Controller

**AEROFLEX**  
A passion for performance.



8-Slot PXI Chassis with/without integrated touch panel display and system controller

### PXI Chassis Features

- Compact 8-slot PXI Chassis compliant with PXI Specification Rev. 2.2
- One system controller slot and seven PXI/CompactPCI peripheral slots
- 0°C to 55°C extended operating temperature range
- 350 W industrial-grade AC power supply
- 41.6 dBA silent operation
- Intelligent chassis management
- Automatic fan speed control
- Round-the-clock chassis status monitoring
- Remote chassis management including on/off control
- 5.9 kg lightweight aluminium-metal construction
- 8.4" built-in LCD with touch panel function
- Power, temperature and fan status indication

### System Controller Features

- PXI 2.2, compliant
- Scalable processors
  - Intel® Core™2 Duo T7500 2.2 GHz processor (3001C)
  - Intel® Pentium® M 760 2.0 GHz processor (3001B)
- On board DDR2 memory
  - 4 GB 667 MHz (3001C)
  - 1.5 GB 400/533 MHz (3001B)
- Integrated Hard Disk Drive
  - 160 GB SATA HDD (3001C)
  - 80 GB SATA HDD (3001B)
- CompactFlash® socket for HDD replacement
- Integrated I/O:
  - Dual Gigabit Ethernet ports
  - Four USB 2.0 Ports
  - Built in GPIB (IEEE488) controller
  - Two RS-232/422/485 ports
  - DVI-I video connector
  - High definition audio I/O
  - Trigger I/O for advanced PXI trigger function
- Programmable watchdog time
- Windows XP™ pre-installed

For the very latest specifications visit [www.aeroflex.com](http://www.aeroflex.com)

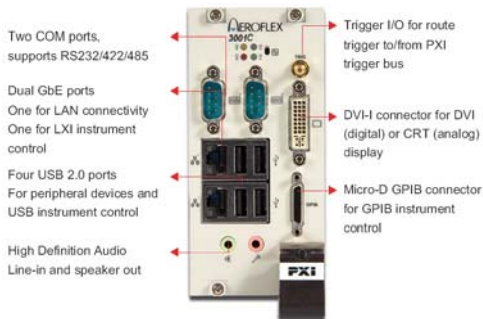
## Introduction

The Aeroflex 3000 and 3000B PXI Chassis are equipped with advanced features and functionality compliant with PXI and CompactPCI specifications. The chassis offers one system slot and seven peripheral slots. These portable and lightweight chassis boast a wide operating temperature range, low operating noise, and a robust design.

The Aeroflex 3001C is the state-of-the-art 3U PXI Dual Core System Controller. It is designed to meet the highest performance requirements for embedded computing and multi-thread processing.

The Aeroflex 3001B is a single core 3U PXI System Controller and provides a more economical alternative for embedded computer processing.

Both 3001B and C comply with PXI specifications Rev. 2.2 and feature hot swappable CompactFlash card, USB 2.0 ports, and gigabit Ethernet. Each are supplied with Window XP™, National Instruments VISA™ and Aeroflex PXI 3000 Series software pre-installed. In addition to their rugged industrial packaging, their extraordinary reliability, high computing performance, and low power consumption make them ideal for test and measurement applications and harsh environments.



The 3000/3000B Chassis populated with Aeroflex 3000 Series instruments, 3001B/C System Controller and Aeroflex application software together form a complete and formidable RF test system for research and development or manufacturing. This open architecture platform is scalable and re-configurable by module exchange.

The 3000/3000B is equipped with an intelligent control board that dynamically monitors and manages the chassis status including the fan speed, system voltages, and internal temperature. A standard RS-232 monitoring port makes remote management possible as chassis status are exported to and viewed from a remote computer using serial communications.

The 3000B variant of the 3000 includes an integrated 8.4" LCD that supports 800 x 600 resolution and touch panel control.



The 3000 and 3000B are equipped with an industrial grade 350 W AC power supply. Front panel LEDs provide continual status indication of cooling, power and temperature.

## HIGHLIGHTS

### Integrated 8.4" LCD with Touch Panel (3000B only)

The 3000B has a built-in 8.4" LCD display with touch panel functionality with a resolution of 800x600. The integrated display transforms the chassis into a stand-alone instrument, suitable for bench-top and portable applications.



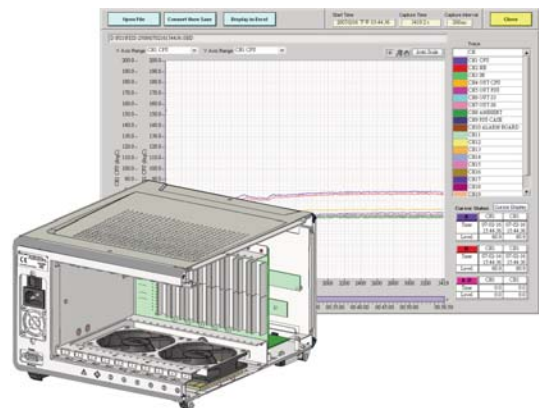
### Intelligent Chassis Management

The 3000 and 3000B have a built-in control board that monitors and manages the chassis internal temperature, fan speed, and DC voltages. The control board outputs status information to an RS-232 port. A software utility then allows remote monitoring and control including power on/off function.



### Extended Operating Temperature Range

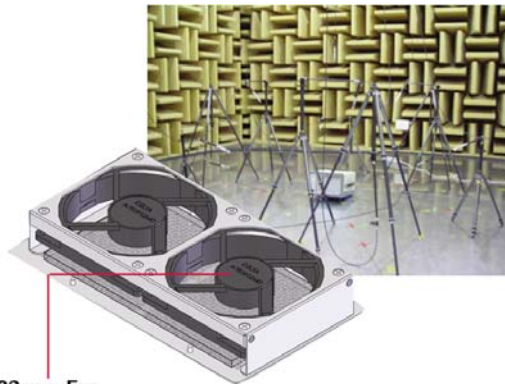
With two 60 CFM fans and efficient direct convection design, the 3000 and 3000B can effectively operate over an extended temperature range of 0°C to 55°C. Test chamber measurements demonstrate that the chassis maintains thermal stability even when subjected to an extremely heavy load and installed at high ambient temperature.



The 3000 and 3000B are equipped with an industrial grade 350 W AC power supply. Front panel LEDs provide continual status indication of cooling, power and temperature.

## Silent Operation

Because chassis fans are major sources of operating noise, the 3000 and 3000B fan speed is automatically controlled according to the current internal temperature. This enables the chassis to operate at an ultra-silent 41.6 dBA at room temperature

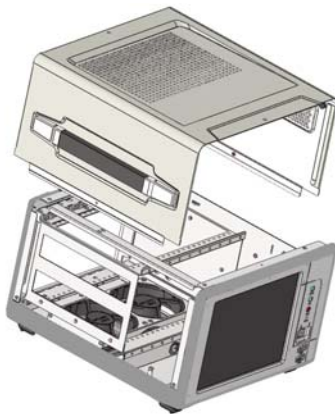


**92 mm Fan**  
3000 RPM, 60 CFM, 38 dBA

## Lightweight Construction

Weight limits portability. That is why the 3000 and 3000B combine lightweight aluminium internal structure with a robust metal shell to provide an easy-to-carry yet rugged PXI system.

The 3000 and 3000B are supplied separately or can be purchased together with a 3001B or 3001C System Controller.



### Notice

The 3001B and 3001C PXI™ controller implements rear I/O. PXI™ controllers with rear I/O are designed to operate with a matching rear transition module which provides internal or external chassis I/O.

### Warning

If the 3001B or 3001C PXI™ controller is used with a chassis that contains a rear transition module that does not match the controller, the rear I/O functionality may not operate and may cause damage to the PXI™ controller or the rear transition module.

## SPECIFICATIONS 3000/3000B

### PXI CHASSIS

#### POWER SUPPLY

##### AC INPUT

##### Input voltage range

100 to 240 VAC

##### Input voltage frequency

50 to 60 Hz

##### Input current rating

8 A/115 VAC or 4 A/230 VA

##### DC OUTPUT

Total DC power output: 350 W

VDC	Minimum	Maximum	Load Maximum	
			Regulation	Ripple & Noise
+5 V	3.0 A	35.0 A	±5%	50 mA
+12 V	2.0 A	18.0 A	±5%	120 mA
+3.3 V	1.0 A	20.0 A	±5%	50 mA
-12 V	0.1 A	2.0 A	±10%	150 mA

The combined output power of +5 V and +3.3 V shall not exceed 35 A.

#### INTEGRATED DEVICES (3000B ONLY)

##### Display

8.4" TFT LCD, 800x600 resolution

##### Input device

Built-in touch panel

#### COOLING

##### Fans

2 x 60 CFM fans with filters

##### Per-slot cooling capacity

25 W (verified by 55°C chamber test)

#### ACOUSTIC EMISSIONS

##### SOUND PRESSURE LEVEL (dBA)

[measured at operator position, tested in accordance with ISO 7779:1999/Amd.1:2003(E)]

##### Minimum fan speed

41.6 dB

##### Maximum fan speed

47.3 dB

##### SOUND POWER (dBA)

[tested in accordance with ISO 7779:1999/Amd.1:2003(E)]

##### Minimum fan speed

51.9 dB

##### Maximum fan speed

55.5 dB

## **PHYSICAL**

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**Number of PXI slots: 8 (1 system slot, 7 peripheral slots)**

### **DIMENSIONS**

280 mm x 177 mm x 303 mm (W x H x D)

11" x 4.6" x 11.9" (W x H x D)

### **WEIGHT**

#### **3000**

5.9 kg (13 lbs.)

#### **3000B**

6.4 kg (14 lbs.)

## **OPERATING ENVIRONMENT**

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### **Ambient temperature**

0°C to 55°C

### **Relative humidity**

10% to 90%, non-condensing

## **STORAGE ENVIRONMENT**

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### **AMBIENT TEMPERATURE**

#### **3000**

-20°C to 70°C

#### **3000B**

0°C to 70°C

### **RELATIVE HUMIDITY**

10% to 90%, non-condensing

## **SHOCK AND VIBRATION**

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### **FUNCTIONAL SHOCK**

30 G, half-sine, 11 ms pulse duration

### **RANDOM VIBRATION**

#### **Operating**

5 to 500 Hz, 0.5 GRMS, 3 axes

#### **Non-operating**

5 to 500 Hz, 2.46 GRMS, 3 axes

## **GENERAL**

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### **STANDARD WARRANTY**

24 Months

### **SAFETY**

IEC 61010-1/EN 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

### **ELECTROMAGNETIC COMPATIBILITY**

#### **Emissions**

EN 55011 Class A

#### **Immunity**

EN 61326-1

## **CE COMPLIANCE**

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The 3000 and 3000B meet the essential requirements of applicable European Directives.

## **RECOMMENDED PXI SYSTEM CONTROLLER**

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The Aeroflex 3000 PXI Chassis Controller slot can be used with any 3rd party external or embedded 3U cPCI or PXI compliant System Controller occupying up to a maximum width of 3 slots.

The Aeroflex 3000B should only be used with Aeroflex 3001x system controllers.

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## SPECIFICATION 3001B AND 3001C

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### SYSTEM CONTROLLER

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#### CORE FEATURES

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##### Processor

3001C Intel® Core™2 Duo T7500 2.2 GHz processor  
Supports 800 MHz front side bus (FSB)

3001B Intel® Pentium® M 760 2.0 GHz processor  
Supports 400/533 MHz front side bus (FSB)

##### Chipset

3001C Intel® 965 GM Graphic Memory Control HUB  
Intel® I/O Controller Hub 8 Mobile (ICH8-M)

3001B Intel® 915 GM Graphic Memory Control HUB  
Intel® I/O Controller Hub 6 Mobile (ICH6-M)

##### Video

3001C Intel® GMA X3100 graphic media accelerator

3001B Intel® GMA 900 graphic media accelerator

##### DVI

Single channel TMDS via SDVO to DVI controller

Supports up to 1280 x 1024 resolution

##### CRT

Analog CRT route to DVI-I connector on the faceplate

Supports up to 2048 x 1536 resolution

##### LVDS (for rear I/O only)

Single 18-bit LVDS channel route to rear transition module

Supports LCD backlight control

DVI-I connector for both digital and analog video signal outputs

##### Memory

3001C Supports dual-channel DDR2 SDRAM, 667 MHz  
4 GB SO-DIMM memory

3001B Supports dual-channel DDR2 SDRAM, 400/533 MHz  
512 MB on-board soldered memory

One DDR2 SO-DIMM socket fitted with 1 GB memory extension

#### SHOCK AND VIBRATION

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##### Functional shock

30 G, half-sine, 11 ms pulse duration

##### Random vibration

Operating: 5 to 500 Hz, 0.5 G<sub>RMS</sub>, 3 axes

Non-operating: 5 to 500 Hz, 2.46 G<sub>RMS</sub>, 3 axes

#### CERTIFICATE

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EMC/EMI: CE, FCC Class A

#### PHYSICAL

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##### Dimension

3-slot 3U PXI™ module

##### Slot requirements

1 system slot and 2 controller expansion slots

##### Weight

0.9 kg

#### ENVIRONMENT

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##### Operating temperature

0 to 55°C

##### Storage temperature

-20 to 80°C

##### Relative humidity

5 to 95%, non-condensing

#### I/O CONNECTIVITY

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##### Hard Drive

3001C 160 GB SATA hard drive, 7200 RPM

3001B 80 GB SATA hard drive, 5400 RPM

##### Ethernet

Dual Gigabit Ethernet controllers

Two RJ-45 connectors with speed/link/active LED on the faceplate

##### USB

Four USB 2.0 ports on the faceplate

##### GPIO

On-board IEEE488 GPIO controller

Micro-D 25-pin connector on the faceplate (GPIO cable not included)

##### Serial Port

Two 16C550 UART compatible COM ports on the faceplate

Supports RS-232, RS-422 and RS-485, configurable by jumper setting

##### Audio

Supports high definition audio input/output

Two audio jacks on the faceplate for line-in and speaker-out

##### Trigger I/O

SMB connector on the faceplate to route an external trigger signal to/from PXI™

trigger bus

##### CompactFlash® socket

Type II CF Socket, supporting PIO and DMA modes

#### GENERAL

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##### STANDARD WARRANTY

24 Months

## **VERSIONS, OPTIONS AND ACCESSORIES**

When ordering please quote the full ordering number information.

### **Ordering**

#### **Numbers**

#### **Versions**

3000 8 Slot PXI Chassis with 350 W power supply

Supplied with:

EMC blanking panels

2 x spare dust filers

Driver CDROM

3000B 8 Slot PXI Chassis with 8.4" touch panel display

Supplied with:

EMC blanking panels

Stylus (for LCD)

2 x spare dust filters

Driver CDROM

3001C 3U PXI™ Intel® Core™2 Duo T7500 2.2 GHz system controller with DVI-I/GbE/GPIB and Windows XP™

Supplied with:

Recovery CD ROM

3001B 3U PXI™ Pentium® M 760 2.0 GHz system controller with DVI-I/GbE/GPIB and Windows XP™

Supplied with:

Recovery CD ROM

3001C 3U PXI™ Intel® Core™2 Duo T7500 2.2 GHz system controller with DVI-I/GbE/GPIB and Windows XP™

Supplied with:

Recovery CD ROM

#### **Accessories**

#### **Cable Accessory**

ACL-IEEE488-MD1 Connectors: Micro-D 25 pins to IEEE488 24 pins length: 1 m

23448-906 GPIB Cable adapter 1 m

46885/386 MXI-4 PXI to PCI interface kit with coaxial cable 3 m

46885/416 MXI-express PXI to PCIe interface kit with coaxial cable 3 m

46662/767 PXI hard carry case (for use with 3000, 3000B)

#### **High Capacity Chassis**

18 Slot PXI chassis

18 slot PXI chassis with MXI-4 PCI-PXI interface

20 Slot PXI chassis with MXI-4 interface and rack mount

20 Slot PXI chassis with MXI-express interface and rack mount

82565

82545

82547

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.