ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *National Instruments PXI PROFIBUS* at our website: *Click HERE*

PCI, PXI PROFIBUS Interfaces for LabVIEW, LabVIEW Real-Time

PCI PROFIBUS Interface, PXI PROFIBUS Interface *NEW!*

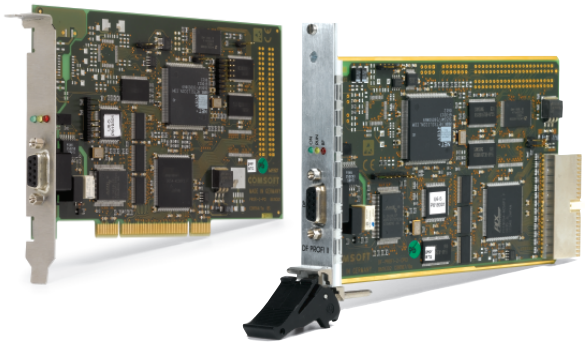
- PXI and PCI 1-port interfaces for PROFIBUS DP industrial networks
- PROFIBUS DP RS485 baud rates from 9.6 to 12000 kb/s
- Graphical Configurator software
  - Configure network timing, masters, and slaves
  - Load .GS* files for configuring slaves
  - Diagnostic utility for in-application troubleshooting
- Supported PROFIBUS DP protocols
  - DPV0 Master Class 1/2, DPV0 Slave, DPV1 Master Class 2
- PROFIBUS master functionality
  - Single- and multimaster modes
  - Onboard processor that downloads and stores PROFIBUS configurations for reliable network master operation
  - Advanced bus parameter customization
  - Integrated hardware watchdog to implement redundant master fail-over systems
- PROFIBUS slave functionality
  - Add PC, PXI, and industrial controllers as powerful PROFIBUS slaves to existing networks

Operating Systems

- Windows XP/2000
- LabVIEW Real-Time ETS

Recommended Software

- LabVIEW



Overview

These PROFIBUS PCI and PXI one-port interfaces connect PC-based controllers to PROFIBUS industrial networks as powerful masters or slaves. They include an NI LabVIEW driver for human machine interface (HMI) and SCADA applications. You can perform PROFIBUS device automated test using these interfaces. With LabVIEW Real-Time support, you can add PXI or PC systems as slave or master nodes to a PROFIBUS industrial network. Featuring more than 20 million installed nodes, PROFIBUS is one of the leading industrial networks for reliably connecting programmable logic controllers (PLCs), I/O, sensors, and drives over long distances in industrial environments.

These PROFIBUS interfaces include a configuration utility to simplify the process of setting up a PROFIBUS network. With the configuration utility and the LabVIEW driver, you can write applications using easy-to-understand tags and avoid programming the low-level details of the PROFIBUS network.

The included LabVIEW API for these PROFIBUS interfaces provides easy-to-use Express VIs for operating systems based on LabVIEW as masters or slaves on PROFIBUS DP (decentralized peripherals) networks. With the interfaces, you have easy access to both process and diagnostic data to cover a wide breadth of applications.

Hardware

The PROFIBUS interfaces are available for both PCI and PXI. They are designed to work on the PROFIBUS DP layer, the core communications layer of PROFIBUS. PROFIBUS provides multiple transmission technologies to fit location requirements for industrial networks. These are assigned to PROFIBUS in IEC 61158 and IEC 61784 and include RS485, Manchester Bus Powered (MBP), intrinsically safe RS485 and MBP, and fiber-optic connections. These PROFIBUS interfaces work with RS485-based networks, the most common transmission technology.

An onboard processor, memory, and flash storage enable the interfaces to reliably communicate with the PROFIBUS network independently of PC performance and jitter. If the host machine has a software failure, the rest of the PROFIBUS network continues to operate normally. With the built-in hardware watchdog and electronic card disable function, the interfaces help you attach a pair of master cards to a network to implement an instant fail-over redundant system for maximum reliability.

Baud Rate (kb/s)	Max Cable Length (m)
9.6	1200
19.2	1200
45.45	1200
93.75	1200
187.5	1000
500	400
1500	200
3000	100
6000	100
12000	100

Table 1. Supported PROFIBUS Baud Rates

Software

These PROFIBUS interfaces are shipped with a LabVIEW driver and a powerful configuration utility. The LabVIEW driver features Express VIs and an API for operating the PROFIBUS interfaces in either master or slave mode. In master mode, a LabVIEW PC or PXI system can control a PROFIBUS DP network of devices such as sensors, drives, and PLCs. In slave mode, the LabVIEW system can operate as a powerful node on an existing PROFIBUS network with another master controlling the node.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

PROFIBUS Master

In master mode, these PROFIBUS interfaces control the timing and arbitration of the network. After the interface configures the network with the included Configurator utility, the API allows the host application to send and receive process data to the interfaces. The host application then sends the data to the network according to the timing parameters.

Process data flowing to the host application (process image) is hardware timestamped by the PROFIBUS interfaces for reliable timing and control. With average-sized PROFIBUS configurations (approximately 3 KB of I/O data), you can achieve 1 ms control resolution. When you use these interfaces with the LabVIEW Real-Time operating system, you can achieve deterministic control of devices over a PROFIBUS network and maximum reliability.

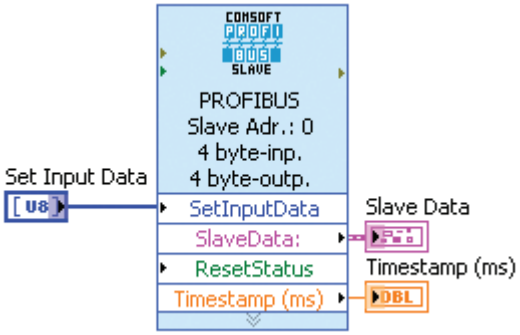


Figure 1. The PROFIBUS Slave Express VI simplifies adding a LabVIEW or LabVIEW Real-Time system to an existing PROFIBUS network.

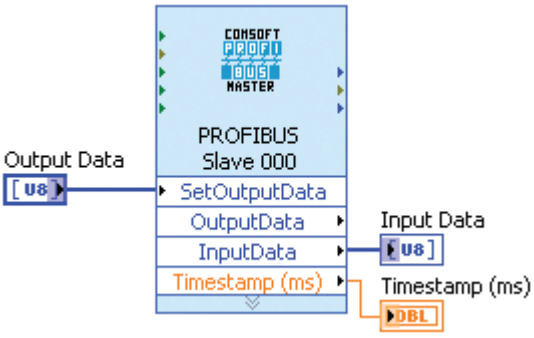


Figure 2. The PROFIBUS Master Express VI enables simple and fast access to the PROFIBUS network.

PROFIBUS Slave

When using one of these PROFIBUS interfaces as a slave on a PROFIBUS network, you can turn a PC or PXI system into a powerful PROFIBUS device. As a slave, the interface helps you integrate NI high-performance data acquisition, motion, vision, and modular instruments into PROFIBUS-enabled machines and processes.

Configurator Software

Using the Configurator software included with these PROFIBUS interfaces, you can quickly and easily set up a PROFIBUS configuration. By working with device manufacturer-supplied .GS* files, you can select and configure the I/O you access with the master application. You also can use the Configurator to monitor the values of device I/O to quickly identify the correct I/O addresses for an application.

With the graphical interface of the Configurator, you can maintain larger networks with ease. The Configurator uses an XML-based configuration storage format for easy integration with third-party applications. Once configured, the software makes the configuration available to the LabVIEW Express VIs for quick PROFIBUS application development.

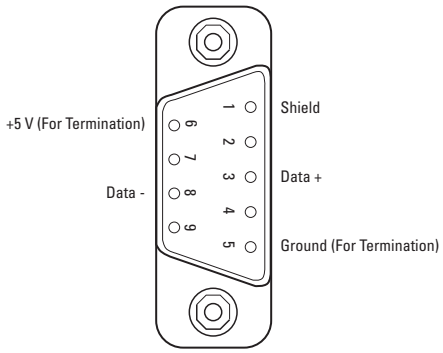


Figure 3. 9-Pin D-Sub Connector

Ordering Information

PCI PROFIBUS Interface for LabVIEW, LabVIEW Real-Time 780160-01

PXI PROFIBUS Interface for LabVIEW, LabVIEW Real-Time 780161-01

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/profibus**.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Specifications

Host CPU	NetSilicon NET+ARM 40 @ 33 MHz
PROFIBUS chip	Siemens ASPC 2 @ 48 MHz
RAM	2 MB
Flash memory	1 MB
PCI interface	5 and 3.3 V compatible
PROFIBUS isolation voltage	500 V
Physical layer	RS485
PROFIBUS connector	D-Sub 9-pin
Number of ports	1
DP services	DPV0 Master Class 1/2, DPV0 Slave, DPV1 Master Class 2
DP/DPV1 services	DPV1 Class 2 Master-Slave MSAC2_initiate, MSAC2_read, MSAC2_write, MSAC2_data_transport, MSAC2_abort
Process image data size	Maximum 8 KB
Hardware watchdog	Yes
Operating temperature	0 to 55 ºC
Certifications	CE, EN 50082-1, EN 50082-2, and EN 50081-1
PCB dimensions	
PXI	3U, 1-slot, PXI/CompactPCI module; 16 by 10 cm (6.3 by 3.9 in.)
PCI	17.4 by 9.8 cm (6.8 by 3.85 in.)

BUY ONLINE at **ni.com** or **CALL 800 813 3693 (U.S.)**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP