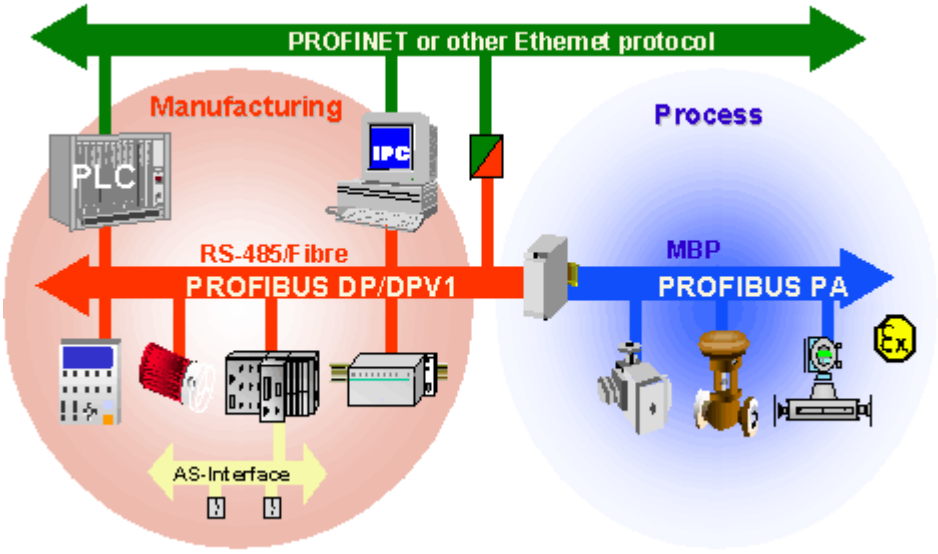
Profibus is a Multi-Master System and makes possible the mutual operation of several automation, engineering or visualizing systems at a Bus. The Masters, also designated as active devices, define the data traffic on the Bus. When in possession of the access permission (Token), they can send data without external requests. The Slaves, designated as passive devices, have no Bus access permission. They can only confirm received messages or send messages when requested by a Master. Baud rates from 9.6 kBaud up to 12 MBaud are supported. A maximum of 126 devices can be operated at the Bus. Profibus also supports Broadcast and Multicast communication.

At the protocol level, Profibus, with the protocol DP (Decentralized Peripherals) and its versions DP-V0 to DP-V2, offers a broad spectrum of options, which enable optimum communication between different applications. Historically speaking, FMS was the first Profibus communications protocol. DP has been designed for *fast data exchange at field level* . Data exchange with the distributed devices is primarily cyclic. The communication functions required for this are specified through the DP basic functions *(version DP-V0)* . Geared towards the special demands of the various areas of application, these basic DP functions have been expanded step-by-step with special functions, so that DP is now available in three versions; DP-V0, DP-V1 and DP-V2, whereby each version has its own special key features.



Version DP-V0
provides the basic functionality of DP, including cyclic data exchange, station, module and channel-specific diagnostics and four different interrupt types for diagnostics and process interrupts, and for the pulling and plugging of stations.

Version DP-V1 contains enhancements geared towards process automation, in particular acyclic data communication for parameter assignment, operation, visualization and interrupt control of intelligent field devices, parallel to cyclic user data communication. This permits online access to stations using engineering tools. In addition, DP-V1 has three additional interrupt types: status interrupt, update interrupt and a manufacturer-specific interrupt.

Version DP-V2 contains further enhancements and is geared primarily towards the demands of drive technology. Due to additional functionalities, such as isochronous slave mode and lateral slave communication (DXB) etc., the DP-V2 can also be implemented as a drive bus for controlling fast movement sequences in drive axes

Where is it used and with what products?
Profibus is the world's leading industrial communication system for manufacturing and process automation in Europe. Strongly supported from Siemens and many other international device manufacturers, the market share in the US and Asia markets are also growing. Nearly all types of automation products on the market today support Profibus.

Profibus & AnyBus
HMS has many products supporting Profibus. HMS Germany is an accredited Profibus Competence Center and holds regular fieldbus trianing seminars with Profibus technology. HMS has an Embedded AnyBus-M DP/DPV1 Master Interface, AnyBus-S DP and DPV1 Slave Interfaces, an enhanced AnyBus-S DPV2 PROFIdrive Interface. An Embedded AnyBus-IC Single Chip Solution. AnyBus-PCI Master & Slave Interfaces. AnyBus Communicator Serial to Profibus Gateway and AnyBus-X Bridge/Gateway giving you a choice to bridge Profibus with any of 14 other fieldbus networks. Added to this are Profibust configuration and simulation tools.

Profibus Facts

Network Size:	Up to 126 nodes
Network Length:	100 - 1200m
Data Rate:	9.6 kBits/s - 12 MBit/s
Bus Topology:	Line with segments
Addressing:	DP: Master/Slave, Cyclic, Polling, DPV1: Cyclic, Polling + acyclic data transfer
System Feature:	Each network segment shall be actively terminated at both sides. Uses GSD file, electronic data sheet when configuring from a Profibus Master

Profibus AnyBus Products

Embedded Products
- AnyBus-M DPV1Master
- AnyBus-S DP Slave
- AnyBus-S DPV1 Slave
- AnyBus-S DPV2 PROFIdrive
- NetTool-PB - Master Config Tool

Embedded Products
- AnyBus-IC Single Chip Controller

PC Interface Products
- AnyBus-PCI DP/DPV1 Master
- AnyBus-PCI DP/DPV1 Slave
- NetTool-PB - Master Config Tool
- Master Simulator

Networking Products
- AB Communicator Serial Gateway

Networking Products
- AnyBus-X Bridge/Gateway

ACP&D Limited
Units 6 & 9A,
Charlestown Industrial Estate,
Robinson Street,
Ashton-under-Lyne,
Lancashire, OL6 8NS.

Tel: +44 (0)161 343 1884
Fax: +44 (0)161 339 0650
e-mail: sales@acpd.co.uk
Websites: www.acpd.com &
www.acpd.co.uk