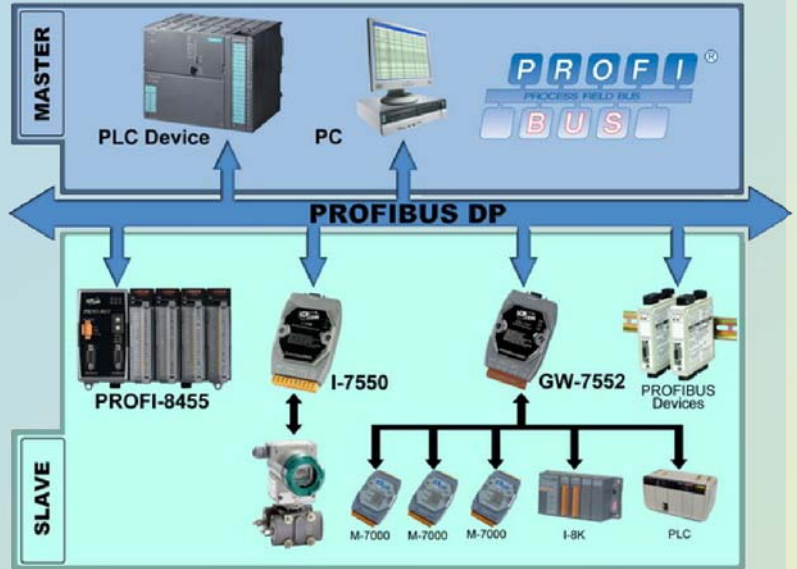


# PROFIBUS: frequently-asked questions

1 What is a Fieldbus?

A fieldbus is a two-way digital communications system for field devices. It includes the connection and operation of sensors and actuators (slaves) to PLCs or PCs (masters), giving real-time control and feedback and data logging.



2 What is PROFIBUS DP?

“Decentralized Peripherals” protocol: the software version used by the master and slave devices for communication. There are three revisions of the PROFIBUS DP protocols, each offering new features: DP-V0, DP-V1 and DP-V2. However, DP-V0 remains the most common. Our DP-V0 pumps will work in systems using *all three* versions, as PROFIBUS ensures backwards compatibility.

3 Are there different PROFIBUS types?

Yes, There are two types of PROFIBUS.  
 DP:Decentralized Peripherals as explained above.  
 PA:Process Automation, a powered bus system for specific application in critical or hazardous environments.

4 Is PROFIBUS new technology?

PROFIBUS was created in Germany in 1989, so it is now celebrating 20 years of success. It currently boasts over 25 million devices in operation worldwide.



5 What is a master?

A master can be a PLC (programmable logic controller) or PC (personal computer) dedicated to controlling the network of slaves.

6

**What is a slave?**

A slave is a device in a fieldbus network under the control of the master. Examples of typical slaves are:

- Temperature sensors
- pH meters
- Valve controllers
- Humidity sensors
- Motor speed control
- And, of course, Pumps!

7

**What is a GSD file?**

A GSD - or General Station Description - file is a text file containing general and device-specific parameters for communication and network configuration.

8

**What is meant by Bus or Network speed?**

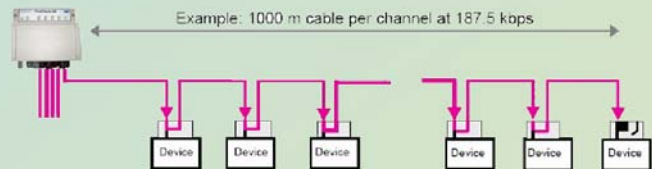
This is the speed at which the information is passed around a network and is also known as the Baud rate. The unit of measure is bits/sec. PROFIBUS runs from 9.6 kbits/sec up to 12 Mbits/sec. The most common network speed in use is 1.5 Mbits/sec, which offers the best compromise between distance and speed.

9

**What distance can PROFIBUS be used over?**

The maximum length of a PROFIBUS segment depends on the network speed: the faster the network speed the shorter the distance. An example of this is shown below. However, PROFIBUS information can be sent via an adaptor through fiber-optical cable (often used when passing through high-EMC environments), which allows these distances to be greatly increased.

Baudrate (kbit/s)	9.6	19.2	45.45	93.75	187.5	500	1500	3000	6000	12000
Segment length (m)	1200	1200	1200	1200	1000	400	200	100	100	100
Segment length (feet)	3940	3940	3940	3940	3280	1310	656	328	328	328



10

**Do I need a gateway?**

You no longer require a gateway to connect Bp pumps into a PROFIBUS network. A gateway will be required if you intend to connect Bp pumps into an alternative fieldbus network such as DeviceNet.

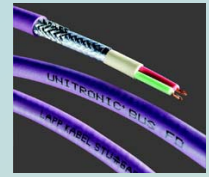


For more information on this type of device follow this link: <http://www.hms.se/products/abxtech.asp>

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**Can any cable be used to connect the pump?**

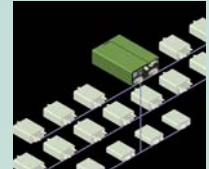
No, PROFIBUS DP connection requires a specific cable type. In fact, the cable for PROFIBUS DP is different from the cable for PROFIBUS PA, so it is important that the customer uses the right one.



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**How many pumps or devices can be connected together?**

Thirty-two devices can be connected together in a segment. If a repeater is used another 32 can be added and so on, up to a maximum of 128 devices (this number includes the master and any repeaters).



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**What is the device or pump address?**

In a PROFIBUS network each device has a unique number that can be set by the PROFIBUS engineer. The network numbers extend from 0 to 127 inclusive, although some addresses are reserved for special functions. These are:

- 126 Default address setting for new devices added to the network.
- 127 Reserved for broadcast communications to all devices on the network.

Although not specifically reserved, addresses 0 and 1 are often assigned to the master.

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**What connectors are used on Bp pumps?**



Marlow PROFIBUS cased pumps use the nine-pin D-connector.

Two types of PROFIBUS connectors are used to connect PROFIBUS devices. The M12 (a round, five-pin connector) or the nine-pin D-connector.

All Watson-



15

**Can you connect a PROFIBUS pump to a PC?**

Yes, there are devices, normally diagnostic ones, that will connect to a PC through the USB port. These are known as PROFIBUS master simulators. They can vary in price, depending on functionality.

