

Configurations involving several DP master systems



Configuration methods involving two or more DP master systems

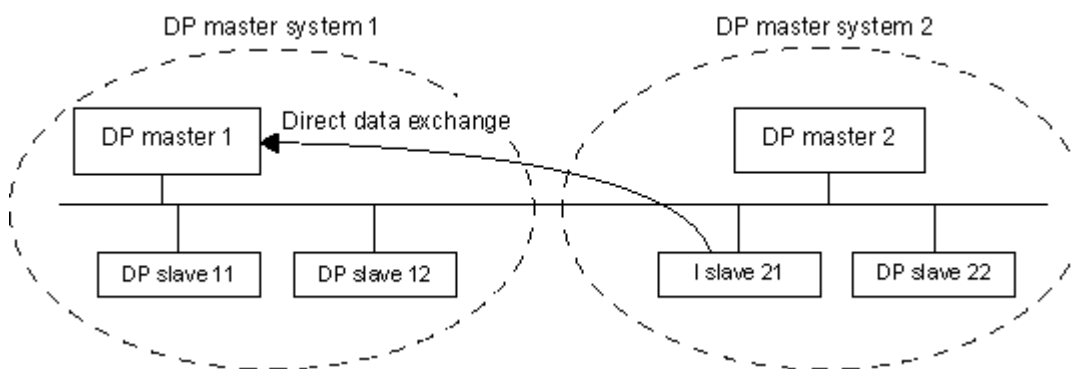
When more than one DP master system is connected to a physical PROFIBUS DP subnet it is sometimes called a multi-master system.

You can use various methods to connect these DP master systems via PROFIBUS DP:

- Without logical connection of the DP master systems to each other
- Direct DP slave > DP master data exchange
- Direct DP slave > I-slave data exchange

Direct DP slave > DP master data exchange

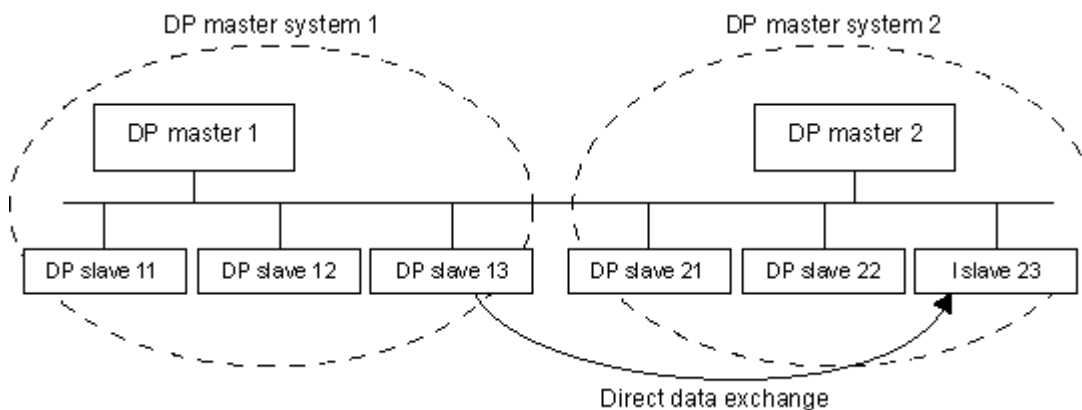
For the configuration of multi-master systems, input data of DP slaves of DP masters can be read on the same physical PROFIBUS DP subnet.



Direct DP slave > I-slave data exchange

This means that an intelligent DP slave (I-slave), such as a CPU 315-2 DP, can support the direct transfer of input data from DP slaves with different DP master systems to its input data area.

In principle, DP slaves of a certain version or higher can make selected input data available for the purpose of direct data exchange. However, only intelligent DP slaves are able to make further use of this input data.



Configurations involving intelligent DP slaves



Definition

DP slaves that feature their own preprocessing program are referred to as intelligent DP slaves (I-slaves). Examples of intelligent DP slaves include:

- CPU 315-2 DP
- CPU 317-2 DP
- CPU 319-3 PN/DP

Configurations involving intelligent DP slaves

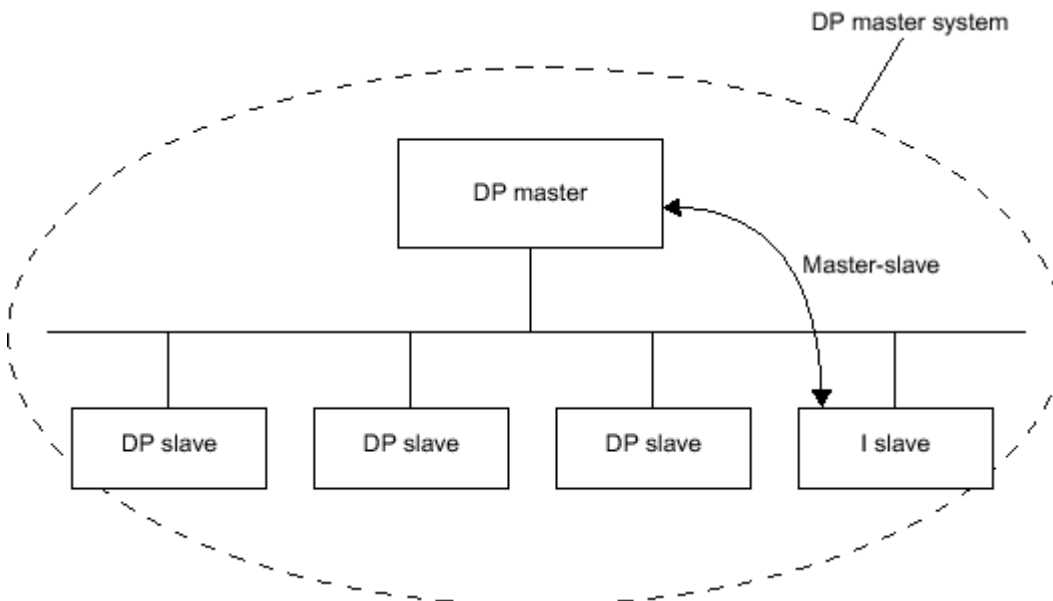
There are two methods for configuring intelligent DP slaves using PROFIBUS DP:

- I-slave <> DP master data exchange
- Direct DP slave > I-slave data exchange

I-slave <> DP master data exchange

A higher-level automation system processes the automation task, which is broken down into sub-tasks. The necessary control tasks are processed separately and efficiently in a CPU as preprocessing programs. This CPU can be implemented in the form of an intelligent DP slave.

In the case of configurations involving intelligent DP slaves, for example CPU 315-2 DP, the DP master merely accesses the address area of the I-slave CPU, rather than the I/O modules of the intelligent DP slave. The address area must not be assigned to any actual I/O modules on the I-slave. The assignment must be made during I-slave configuration.



Direct DP slave > I-slave data exchange

With this configuration, input data from simple DP slaves can be transferred to intelligent DP slaves on the PROFIBUS DP subnet at high speed.

In principle, all simple DP slaves (of a certain version or higher) and intelligent DP slaves can make their input data available for the purpose of direct data exchange. Intelligent DP slaves can be used as recipients of this data.

