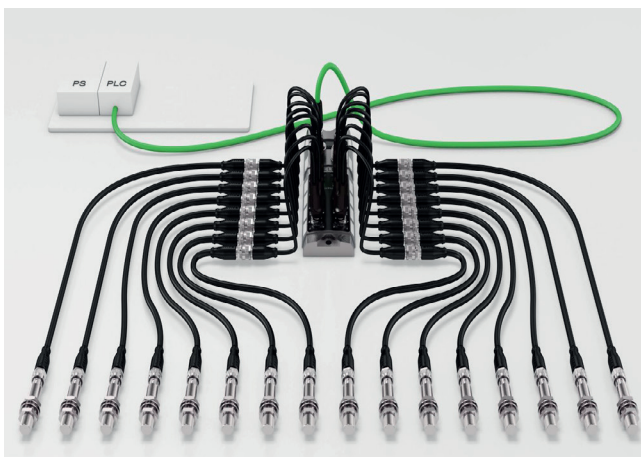


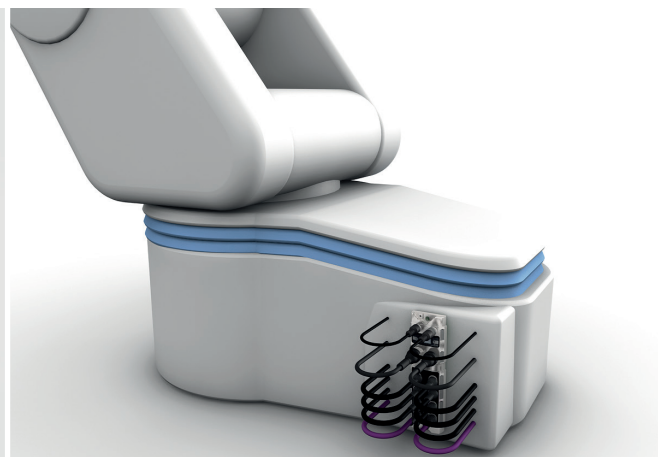
Connecting and Networking – Connecting with fieldbus blocks

HOW DATA TRANSPORT THROUGH FIELDBUS BLOCKS WORKS

In the second decade after the invention of the PLC, production plants grew rapidly. The system parts and components located there became widely distributed. This led to the next evolutionary step in wiring: the introduction of fieldbuses. A fieldbus is a digital communication network which collects the signals from the individual components through so-called hubs and transports them in the form of telegrams serially to the central PLC. We will show you how the transport works.



Connecting devices to the PLC through a fieldbus block



Production machine with fieldbus block

Every production machine in an industrial plant has a variety of signals. These signals are transported within a machine (between sensors/ actuators/ and the PLC) or across the plant (between different PLCs) via fieldbuses.

The advantage of these fieldbuses is not only in the communication over great distances, but also in the diagnostic function. In addition, signal transmission with a fieldbus requires fewer wires than signal transmission using a junction block.



Ethercat fieldbus block in metal housing for field use (8 slots)



Fiberglass reinforced Ethernet/IP fieldbus block for especially harsh environments (8 slots)



Profinet fieldbus block in stainless steel for hygienic areas (8 slots)



Fieldbus cable for connecting the fieldbus block to the controller

There is a variety of different fieldbus blocks:

They differ in their housing material, which is selected depending on the conditions where they will be used. If they are used, for example, in a welding environment, then a block made of fiberglass reinforced plastic is the right choice. Stainless steel is recommended for use in hygienic environments.

They also differ in their connection type, which depends on the bus system being used. Common systems include Profinet, Ethernet/IP or EtherCAT. The fieldbus block is connected to the controller using a fieldbus cable.