



PROFINET gateways

Easy integration – without additional software tools

With the advance of industrial Ethernet systems, the need to link PROFINET networks with traditional field buses or with other PROFINET networks in automated production environments also increases. Flexible and practicable solutions are called for here. Helmholtz is defining this market trend with a new, strategic gateways portfolio that is being continuously expanded upon.

In the face of the Industry 4.0-specific requirements for performance, integration and real time compatibility, industrial Ethernet systems have a fixed place in factory automation. In 2018, they for the first time surpassed the number of traditional field buses for the number of newly installed network nodes. This trend will continue.

Field buses continue to play an important role in areas where simplicity, manageable costs, and reliability count. Not least, older field bus components, which should or must continue to be used, are used in many existing systems and control systems. For this reason, a rising demand for connecting industrial Ethernet-based automation networks with field bus networks can also be seen for the future.

The automation specialist Helmholtz is therefore further expanding its strategic portfolio of gateways. The solution offering thereby also encompasses application support and other services.

Comprehensive gateway range

The core of the gateways portfolio of Helmholtz is PROFINET, to date the market-defining industrial Ethernet standard. Five gateway types are currently available: the DP/PN coupler for the connection of PROFIBUS to PROFINET networks, the PN/ModbusTCP coupler for PROFINET ModbusTCP links, the PN/CAN gateway for the connection of CAN devices to PROFINET, and the PN/PN coupler for the connection of two autonomous PROFINET networks. There is also now the new PROFINET/Ethernet IP gateway.

All Helmholtz gateways have in common that they work without additional software tools. The PROFINET tool in any case already in use by the user is sufficient for parameterization, configuration, and operation. Gateways can be fully configured there using a GSD or GSDML file integrated into the hardware configurator. Additional tools for parameterization or handling blocks for programming can be dispensed

with. Gateway use is correspondingly simple, which is an important argument for many Helmholtz customers. Alternatively, the web interface of the gateways also provides an overview of the status and configuration of the device, as well as the possibility to carry out a firmware update. Another feature common to Helmholtz Couplers is their small size. The PROFINET-PROFINET model, for example, is only around a quarter of the size of comparable devices from other manufacturers.



PN/EtherNetIP Coupler



PN/CAN gateways

Tradition meets innovation

The DP/PN coupler enables easy and uncomplicated data transfer between the PROFIBUS and the PROFINET network, or more precisely, between the PROFIBUS master and the PROFINET controller.

It is conceived of as a slave (device) on both the PROFIBUS and the PROFINET sides. Received input data on one of the network sides is made available as output data to the other network side. The IO data transfer takes place live and thus as quickly as possible, without additional configuration software.

Helmholz is presenting two new additions to its successful Gateway family. The PN/ModbusTCP coupler impresses with its ability to simply connect ModbusTCP components or machines with PROFINET machines. Also brand-new is the PN/EtherNetIP coupler which guarantees seamless data exchange between PROFINET



PN/Modbus TCP Coupler



DN/PN Coupler

and Ethernet/IP controllers while also acting as MQTT publisher.

The PN/CAN gateway assumes responsibility for the connection of CAN devices with PROFINET. There is a total of five types available for the various CAN protocols. On the PROFINET network, the PN/CAN gateway is a PROFINET I/O device supporting transfer rates up to 100 Mbps full duplex and up to 1 Mbps on the CAN bus. The I/O data of the CAN subscribers is displayed transparently and freely configurable in the PROFINET network and can thus be processed directly in the PLC.

An ever increasing number of PROFIBUS networks are migrating to PROFINET. The need is thus also increasing for connecting separate PROFINET networks with one another. This task is assumed by the PN/PN coupler, in that it allows data transfer between two PROFINET controllers. In the process, it operates on both sides of the PROFINET network as a PROFINET IO device.

Summary

Although industrial Ethernet networks have in the meantime surpassed field buses for new installations, the traditional standards will remain indispensable for factory automation in future. Couplers ensure the necessary data transfer between the two worlds. The gateways from Helmholz convince with especially fast and simple configuration without additional software tools, as well as with a comprehensive service offering.



PN/PN Coupler

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