FNL – Fieldbus Network Link
Ethernet / PROFIBUS Gateway

Description

FNL – for an optimum connection of fieldbuses and Ethernet networks up to 100 Mbit/s.

FNL – for communication transparency in automatic hierarchies, offering access to fieldbus devices from any arbitrary work station via Ethernet, Intranet or Internet. FNL allows the connection to all PROFIBUS DP networks based on RS485 (up to 12 Mbit/s) and supports DP Master class 1/2 on the basis of DP and DPV1 services as well as DP Slave.

The access to FNL is carried out through a TCP/IP socket interface. The interface is operating system independent, well documented and because of its quickness convincing.

The Ethernet based operation mode as MODBUS TCP/IP Slave provides easy integration of FNL as PROFIBUS DP Master into a large number of visualisation and control systems. The PROFIBUS DP based diagnostics and IO data are dynamically compiled into the MODBUS TCP/IP structure and do not have to be configured additionally.

Various access options are offered on the network side:

CNC – COMSOFT Network Configurator

CNC is a full graphical tool for the integration of FNL in your network. CNC scans the network for available FNL Gateways and allows the calibration of all device-specific network parameters including the TCP/IP address.

COMSOFT PROFIBUS configuration tool CONFIGURATOR II

CONFIGURATOR II is a powerful PROFIBUS configuration tool. It does not charge the user with difficult PROFIBUS details and supports a full graphical GSD file based DP Slave configuration as well as the comfortable compilation of OPC Tags. Powerful and extensive download, analysis and control functions permit an efficient start-up and check-up of the configured PROFIBUS DP network. The compiled PROFIBUS configuration is stored in XML format which allows an easy integration into third party tools.

OPC-Server

The Server allows direct connection of FNL to all OPC-client-capable Windows applications. Today, OPC is supported by all common Scada, control, visualization, and process control systems. Some examples are WIN CC, Siemens; FIX, Intellution; LabVIEW/ BridgeVIEW from National Instruments or Intouch, Wonderware. Standard Windows applications like Visual Basic or Excel can easily be integrated via the "automation interface".

Programming Interface

The FNL TCP/IP socket interface provides the exchange of the DP Slaves' process and diagnostics data as well as all DP/DPV1 Master class 1/2 and DP Slave services. So FNL can be easily integrated in any operation system.

Compared to traditional solutions based on PC interfaces, FNL offers totally new aspects in the PC connection to fieldbus systems:

- No more hardware/driver installation with its typical related problems.
- Access to the respective fieldbus from any arbitrary PC network.
- Trouble-free integration of lower automation levels into the control and design level.

FDT 1.2 Communication DTM

The FDT technology is based on Microsoft's COM technology. FDT allows the standardized configuration of fieldbus devices via different bus systems like HART-Bus, Foundation fieldbus, PROFIBUS DP or Ethernet.

By means of the communication DTM, DF PROFI or FNL – in combination with any FDT 1.2 capable container program – can be used for configuration of any PROFIBUS DP Slave. Container programs are included in many process control systems. They are also available as stand-alone solutions, e.g. Pactware of the Pactware Association.

LabVIEW Driver for FNL DP

The driver can be integrated in a simple manner into every LabVIEW version due to its standard TCP/IP socket interface. Ethernet and PROFIBUS DP configuration are generated via full graphical tools, included in the delivery. The package also includes LabVIEW sample VIs incl. source code for an easy integration.

FNL – DP

☐ Technical Data

Interfaces	Ethernet	10/100BaseT
	PROFIBUS	RS485 (DB9)
	Service Interface	RS232
Baud Rates	Ethernet	max. 100 Mbit/s
	PROFIBUS RS485	max. 12 Mbit/s
	RS232	57.6 Kbit/s
Supported PROFIBUS Protocol Versions	DP/DPV1	Master class 1/2 and DP Slave
Supported Ethernet Protocol Versions	TCP/IP Socket	
	Modbus TCP/IP Socket	

☐ Order Numbers

Order No.	Item
4000-7-G 0 ☐ -3-*	**FNL Hardware with Firmware**
4	PROFIBUS DP/DPV1 Master Ethernet/MODBUS TCP, max. 12 Mbit/s
6	PROFIBUS DP/DPV1 Master Ethernet/MODBUS TCP incl. FDT 1.2 Communication DTM
	PC-Software Interfaces for FNL
4000-S-L M 6 -3-*	PROFIBUS DP/DPV1 OPC Server for Windows XP/7 (including CNC – COMSOFT Network Configurator and COMSOFT CONFIGURATOR II)
4000-S-L T 9 -3-*	LabVIEW Driver for FNL
1011079	FDT 1.2 Communication DTM for FNL
4000-S-L M 9 -3-*	DF PROFI compatible driver interface
	Additional Equipment
4000-7-0 0 1 -H	T-connector cable type A
4000-7-0 0 2 -H	Line termination type A
4000-7-0 0 4 -F	Serial cable set for FNL
4000-7-0 0 5 -F	Ethernet cross-over cable
4000-7-0 0 S -H	Power supply 24 V / 1,3 A with 100 – 240 V power boost for up to 2 SNL2-E/FNL/PRS
4000-7-0 1 S -H	Power supply 24 V / 2 A with 100 – 240 V power boost for up to 5 SNL2-E/FNL/PRS

*   Please complete the order number either with E for a documentation in English or D for a documentation in German.