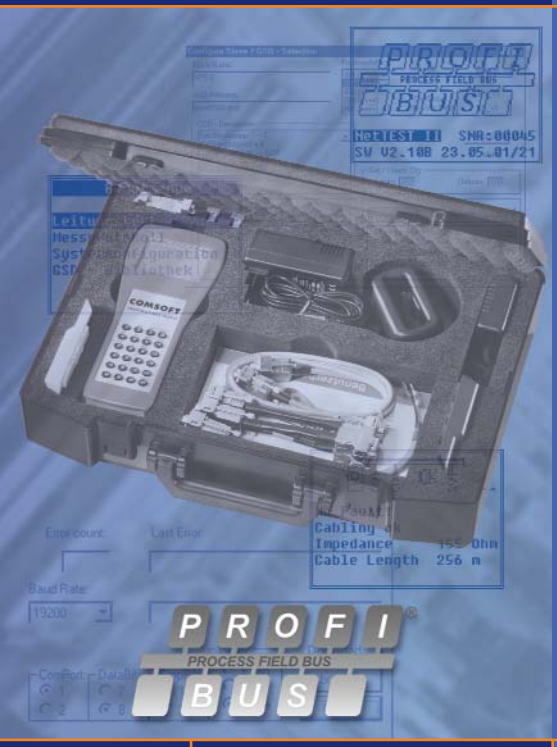
COMSOFT



NetTEST II

PROFIBUS Analysis and Test Tool

Hightech PROFIBUS Line Analysis

Due to the great degree of complexity related to error detection in PROFIBUS DP segments, analysis and test tools are nowadays indispensable.

Using the COMSOFT NetTEST II analysis and test tool a PROFIBUS DP segment can be systematically tested. Most frequent errors, such as installation errors, short circuits, line or shielding breakages can be detected and resolved prior to actual operation – regardless of whether the DP Slaves are connected, disconnected, powered-on, or powered-off.

A line check via NetTEST II at the beginning or end of each PROFIBUS DP segment runs in three steps:

1. Test without terminator
Both bus terminators must be switched off.

2. Test with one terminator
The bus terminator at the distant bus end must be switched on and powered.

3. Test with two terminators
Both bus terminators must be switched on and powered. In case the second bus terminator is powered via the PLC (active PROFIBUS Master), the bus disconnector included in the delivery package can be used for disconnecting the signal lines.

NetTEST II is capable of detecting and pinpointing the following errors:

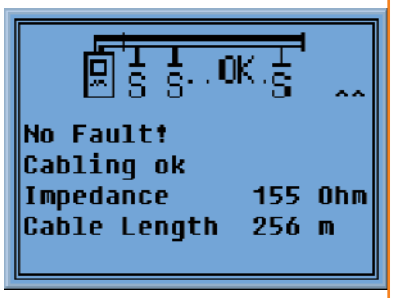
- Short circuits between the signal lines A and B by stating the precise distance in metres
- Short circuits between the signal lines A or B and the shield by stating the precise distance in metres
- Line or shield rupture by stating the precise distance in metres
- Interchanged signal lines A-B
- Incorrect or missing bus terminators
- False position of bus terminators
- Non-permissible line length
- False wave impedance of the bus line
- Wrong type of cable
- Reflections
- Poor transmission or reception levels
- Non-permissible spur line

In addition, NetTEST II also generates a Slave list, detailing the ident numbers of all operable DP Slaves and evaluating the transmission level of the RS485-interface. During normal operation with the PLC, transmission and reception levels can be checked for unacceptable values or reflections and the actual baud rate can be indicated.

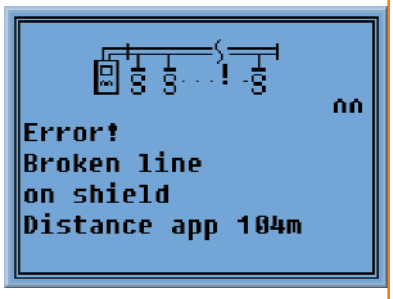
All results are filed in a detailed test record. Up to 20 detailed test records can be filed and printed on a standard PC without any additional software.

NetTEST II is operated via a keyboard (24-keys) and a full-graphical LCD display (128 x 64 pixels) with background illumination. Connection to the PC or the notebook is realised with the supplied cable via COM-interface.

Different Kinds of Line Tests



Comprehensive Error Reports



Online-Functionality

NetTEST II can be used on a running PROFIBUS system. In this case NetTEST II works in a completely passive monitoring mode and performs a detailed analysis of the data traffic as well as the physical state of the PROFIBUS line.

DP Slave status analysis
The communication status of each DP Slave is very important for the proper functionality of a DP network. Sporadically failing DP Slaves decrease the network throughput and often lead to a complete system breakdown.

NetTEST II examines the data traffic between DP Master and DP Slaves and shows all changes of the communication state for every DP Slave.

In this way, a DP network can be monitored for specific changes during long-term operation. Non-configured DP Slaves which are nevertheless part of the livelist are also displayed on the DP Master.

Event triggering
The event triggering allows to examine mal-functioning DP Slaves in detail. Furthermore, the event triggering provides the possibility of the detailed analysis of a single event, i.e. a diagnostic message.

Baud rate scan
NetTEST II detects the current baud rate on the running PROFIBUS. During the baud rate scan the all-over signal level on the PROFIBUS is measured and evaluated.

Cycle time of the DP network
NetTEST II calculates the time the DP Master needs to poll once all configured DP Slaves. The measured minima and maxima values are stored and displayed. The cycle time is an explicit indicator for performance problems, i.e. in a sporadic non-functional DP network.

Moreover, the cycle time shows if the PROFIBUS network fulfils at all the system requirements, since the cycle time must in any case be lower than the required system reaction time.

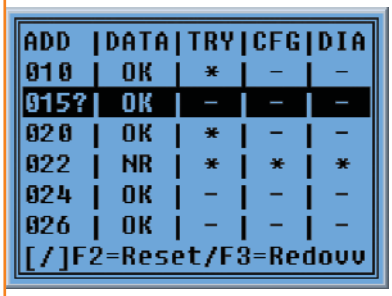
Livelist
NetTEST II examines the bus traffic and generates a livelist of all active Masters and Slaves in the network.

Level display of each DP Slave
NetTEST II displays the RS485 driver output level of each individual DP Slave in a bar graph.

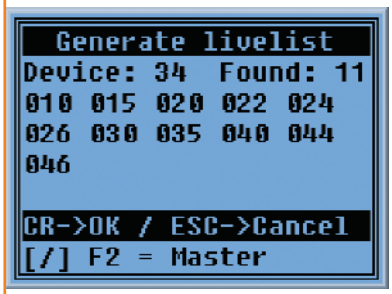
Any deviation of the measured levels and the nominal range indicate severe PROFIBUS network problems.

The results of all online tests are stored in a test protocol for documentation purposes which can be copied to a PC.

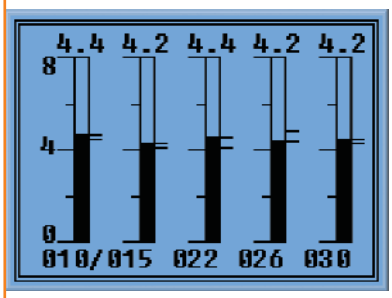
Status Analysis



Generation of Livelist

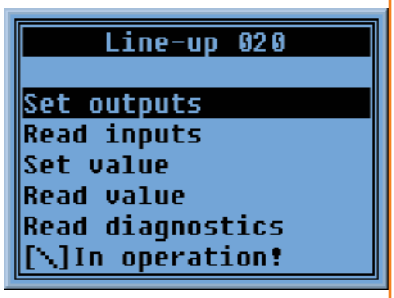


Signal Level Measurement



DP-Mono-Master-Functionality

Mobile Commissioning



The NetTEST II is an outstanding tool for mobile commissioning of DP Slaves.

The entire PROFIBUS network can be set into operation without PLC, i.e. the I/O data of the connected DP Slaves can be visualised and modified in a comfortable manner, thus allowing effective testing of the connected sensor/actor technology.

PROFIBUS diagnostic data are broken down and displayed in separate positions with regard to system, module, and channel in accordance with the corresponding standards.

Configuration of the different DP Slaves can be done on the NetTEST II directly or on the PC by means of the COMSOFT PROFIBUS Configurator, a standard component of the delivery.

Summary of Benefits

NetTEST II is an essential must-have analysis and test tool for the successful operation, maintenance and service of any PROFIBUS network.

Already the basic system for detecting installation errors sets a new standard in the field of analysis and test tools.

With the DP Master functionality NetTEST II becomes an outstanding tool for the mobile commissioning of DP Slaves. The entire PROFIBUS network can be lined up without using a PLC.

Equipped with the online functionality NetTEST II also detects sporadic errors in running systems. So NetTEST II becomes the absolute all-rounder among PROFIBUS analysis and test tools.

The automatic generation and filing of detailed test records fulfils all requirements of state-of-the-art quality management systems.

Technical Data

Power Supply	Battery pack 4,8 V/1.500 mAh NiMH
Connections	PROFIBUS RS485 (DB9 socket connector) RS232 (DB9 socket connector)
Dimensions	230mm x 98mm x 53mm (LxWxH)

Manufacturer:
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