NETTEST II

PROFIBUS Analysis and Test Tool

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industrial communication

HIGHTECH PROFIBUS LINE ANALYSIS
EASY, FAST AND RELIABLE

Due to the high complexity related to error detection in PROFIBUS DP segments, analysis and test tools are nowadays indispensabe. NetTEST II integrates a complete physical cable test, which leaves nothing to be desired.

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. NetTEST II detects the length and the wave impedance of the connected PROFIBUS cable.

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
Bus terminator at the distant bus end must be switched on and powered.

3. Test with two terminators
Both of the 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.
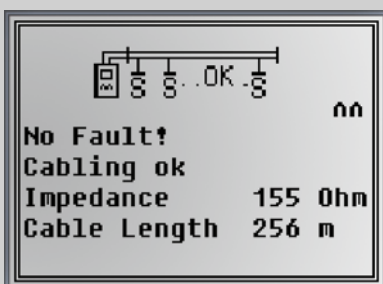
NetTEST II is capable of detecting and pinpointing the following errors:
›   Short circuits between the signal lines A and B by stating the precise distance in metres
›   Short circuits between the signal lines A or B and the shield by stating the precise distance in metres
›   Signal line or shield 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 cable length
›   False wave impedance of the bus line
›   Wrong type of cable
›   Reflections
›   Poor transmission or reception levels
›   Non-permissible branch
›   Live List of the connected Slaves
›   Ident numbers of the connected Slaves
›   Signal level of the connected Slaves
›   Baud rate detection and all over signal level of the running network

NetTEST II allows the adjustment of different sensivity levels up to the millivolt range. If even with the highest sensivity no errors are detected, this assumes a highest installation quality.

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.

Different Kinds of Line Tests

Comprehensive Error Reports

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ANALYSIS OF PERMANENT RUNNING NETWORKS
ONLINE FUNCTIONALITY

Even if it is not possible to switch off the active PROFIBUS network, NetTEST II is able to perform detailed error detection due to its high performing Online Functionality.
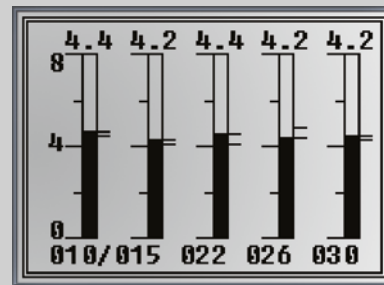
NetTEST II analyses every aspect of the data traffic and the physical state of the PROFIBUS line and triggers on any communication status changes. So even sporadically failing Slaves can be detected easily. In detail the following analysis functions are available:

› Baud rate detection: Detection of the network speed and measurement and evaluation of the overall signal level
› Rotation time: Calculated time to scan all configured Slaves
› Live List: List of all connected bus subscribers separating Masters and Slaves
› Slave – Signal Level: Measurement and evaluation of every Slave's signal quality
› Network statistic: Permanent monitoring of every Slave's communication status and detection of sporadic transmission errors:
  – Wrong telegrams
  – Retries
  – Slave drop outs
› Slave event triggering: Detailed analysis of problematic Slaves
› Test records: Automatic creation of test records
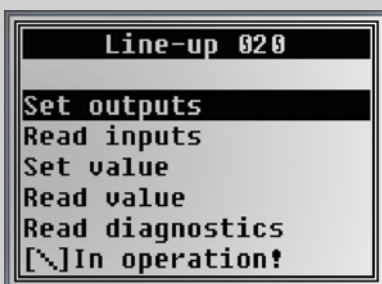

Status Analysis

Signal Level Measurement

MOBILE COMMISSIONING OF DP SLAVES
DP MONO-MASTER OPTION

NetTEST II is an outstanding tool for mobile commissiong of DP Slaves. The entire PROFIBUS network can be set into operation without PLC.

Mobile Commissioning

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 diagnostics 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 KUNBUS PROFIBUS Configurator, a standard component of the delivery.

SUMMARY OF BENEFITS

The KUNBUS NetTEST II is an essential must-have analysis and test tool for the successful operation, maintenance and service of any PROFIBUS network. The high tech cable test sets standards and allows the efficient analysis of all entire installation and configuration problems.

The high power Online Mode detects also sporadic errors in continuously running networks.

The DP Mono Master Option is an outstanding tool for the mobile commissioning of DP Slaves without using a PLC.

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

TECHNICAL DATA

Power Supply	Battery pack 4.8 V/1500 mAh NIMH
Connections	PROFIBUS DP RS485 (DB9) RS232 (DB9)
Dimensions	230 mm x 98 mm x 53 mm (L x W x H)

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