

bus✓  
check

## Avoid Downtime

Tools to audit  
your PROFIBUS Network



PROFIBUS Tester

PROFIBUS Protocol Analyzer

Active Adapter Cable

Leakage Current Tester

**softing**  
your connection to excellence

# Avoid Production Losses due to Communication Failures –

- ✓ Reduce Downtime
- ✓ Increase Reliability
- ✓ Decrease Costs

## Why audit your PROFIBUS Installation?

The majority of reported problems with PROFIBUS networks are related to incorrect physical installation or EMC-problems. Despite this, the inspection of network installations is often overlooked during commissioning or maintenance. This oversight can be costly as unstable PROFIBUS communication can lead to production downtime. Assuming that a green “Bus OK” LED on a PLC indicates optimum communication is very misleading.

For new PROFIBUS installations, more and more users are demanding a handover certificate evaluating measured results against acceptable criteria. Companies with multiple networks often ask for this in a standardized format. This gives the user confidence in the new installation and also demonstrates the quality of the commissioner’s work.

Unfortunately even high quality network installations deteriorate over time due to environmental impacts and mechanical stresses. This leads to the requirement of preventative maintenance, which must be based on well-founded analysis of time trended results.

The remaining problems with PROFIBUS networks are due to communication error frames. Thus to further safeguard PROFIBUS networks, it is necessary to determine the number of error frames within a specified period. These results may indicate that additional measurements in the logical field (protocol analysis) are required.

Investing in tools to evaluate the quality of network installations and communications pays for itself quickly through the prevention of even just a few minutes of production downtime.

For a quotation on the PROFIBUS Tester for installation evaluation and on the PROFIBUS Protocol Analyzer for protocol diagnosis, contact your local Softing partner.



# Evaluate your Network Installations with Softing's PROFIBUS Tester PB-T3

**Trend Product of the Year 2006/2007**  
Trend 100 Award, SPS Magazin

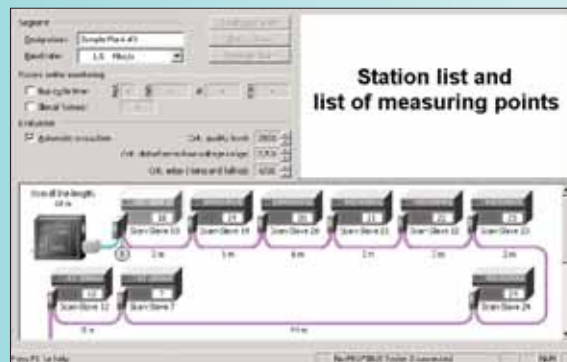
## Key Features

- ✓ Online and offline measuring
- ✓ Long term monitoring
- ✓ Topology and station scan
- ✓ Master simulation (baud rate selectable)
- ✓ Easy to understand graphics of physical signal qualities
- ✓ Integrated storage oscilloscope
- ✓ Trigger output line
- ✓ Error counter
- ✓ Report generator for standardized handover certificates

## Elements of the "Configure Segment" View

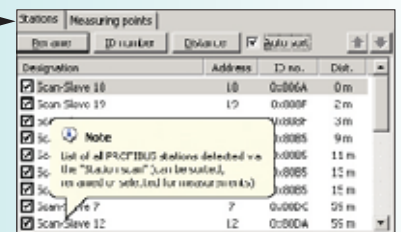
### Segment

displays the stations connected to the bus with their designations, addresses, IDs and absolute distances to the measuring point



### List of Measuring Points

specifies the measuring points with their designations and locations and provides an overview of the measuring data



**Online Monitoring** for recording the bus cycle time and illegal frames

### Evaluation

to set the critical quality level, disturbance-free voltage range and the critical edge

### Topology Display

displays the stations and the measuring points with their distances

### Station List

displays the stations connected to the bus with their designations, addresses, IDs and absolute distances to the measuring

## "Measure All Stations" View

**Measuring Point** to select the measuring point

**(All) Station(s)** designation and measured values of the selected station or all stations

**Bar Diagram** displays the measured quality level of each station



### Measured Values

displays the min., max. and current values with time stamp

### Error Counter

glitch, edge and level errors per 1,000 bits

"The PB-T3 is a practical and user friendly diagnostics tool. It has enabled us to easily check for correct cabling and device set-up on our new PROFIBUS installation. And using the automatically generated measurement reports we were able to document the results very quickly."

B. Schuller, Electrical Maintenance,  
Mondi Business Paper Austria

## "Measure One Stations" View

**Disturbance-Free Voltage Range**  
Displays the currently measured disturbance-free voltage incl. variation

**Measuring Point**  
to select the measuring point

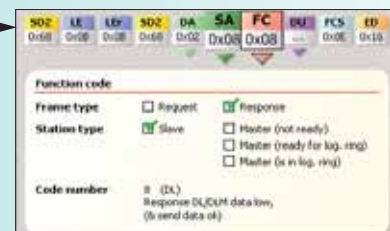
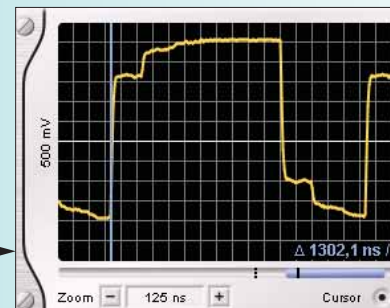
**Station**  
to select the station to be measured



**Edges**  
Displays the trans-conductance of the edge (leading and trailing)

**Measured Values**  
displays the min., max. and current values with time stamp

**Oscilloscope Display**  
section of the signal wave with cursor for reflection measurement



**Frame**  
displays the last detected frame

## "Measure Logger" View

**Measuring Point**  
to select the specific point of measurement

**Time Axis**  
display the course of quality level over the logging time

**Station**  
selection of the station of which the data are to be displayed

**Logger Interval**  
to set the frequency of the single measurements (max. 60 minutes)

**Progress**  
displays the total time and the time of current measurement



**Evaluation**  
of the entire measurement

**Measured Value**  
of the individual measurement selected on the graph

## Key Features of Report Generator

- ✓ Documents the results
- ✓ Quick, simple steps
- ✓ Professional layout



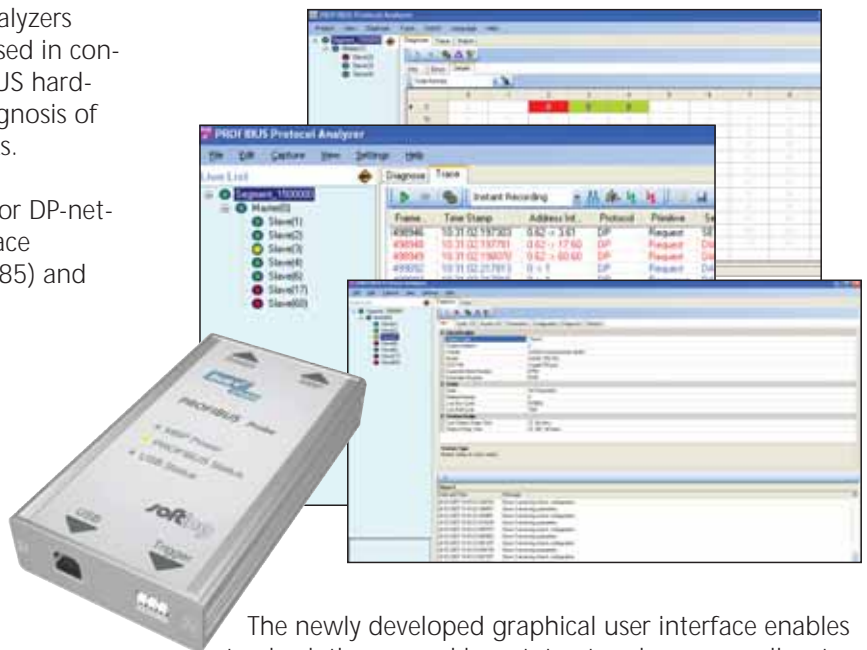
# Qualify PROFIBUS Protocols & Timing with Softing's new Protocol Analyzers BC-400-PB and BC-450-PB

Softing's new PROFIBUS Protocol Analyzers consist of a powerful software tool used in conjunction with specific USB-to-PROFIBUS hardware interfaces optimized for the diagnosis of the logical field of PROFIBUS networks.

Whereas the BC-400-PB is designed for DP-networks only, the BC-450-PB can interface with both PROFIBUS physics, DP (RS485) and PA (MBP / IEC 61158-2).

## Key Features

- ✓ **Built-in PROFIBUS know-how**
- ✓ **Bus state at a glance via traffic light symbolic**
- ✓ **Live list in tree and matrix structure**
- ✓ **Non-reactive measurement during operation**
- ✓ **Decoding of FDL, DP, DP-V1, DP-V2**
- ✓ **All defined baudrates inclusive 45.45kbit/s**
- ✓ **Extensive online analysis of all key bus parameters**
- ✓ **Log function for entire bus and individual devices**
- ✓ **Wizard for logging and display filters**
- ✓ **Trigger function with hardware in- and output**
- ✓ **Robust, metal housed interface**
- ✓ **Report Generator for handover certificates and status reports**



The newly developed graphical user interface enables to check the general bus state at a glance as well as to do a comprehensive analysis of every individual message. Therefore the software of the new Protocol Analyzers offers the evaluation of the bus status for all levels of PROFIBUS knowledge, no matter whether you have to check the individual bits and bytes or the general parameters such as timing or overall performance.

Particularly suitable to check correct communication and proper functionality of all nodes as well as to optimize the bus parameterization, the PROFIBUS Protocol Analyzers are the perfect tools for commissioning and servicing complete networks as well as for device development.

Both versions of the PROFIBUS Protocol Analyzer come as a ready-to-use tool, including all adapters and cables.

For even more flexibility an active PROFIBUS adapter cable (BC-131-PB) is available as an accessory. Despite being 3 meters in length, any negative effect on the PROFIBUS is avoided through specific built-in electronics.

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# Locate the Injection of Electro Magnetic Noise with PB-LSZ-CH3



Digital leakage current tester for measuring without disconnecting the PROFIBUS cable.

### Key Features

- ✓ High resolution to 10 mA with fast bargraph (20/sec)
- ✓ Wide frequency response (40Hz ... 1 kHz)

- ✓ Large clamp jaws ( $\varnothing$  30mm)
- ✓ Measure AC current to 60A
- ✓ Measure AC voltage and resistance
- ✓ Large LCD with 4 digits readout
- ✓ Min/max, zero function for relative measurements
- ✓ Continuity and data hold functions
- ✓ Selectable filter circuit

Your local Softing partner:

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