Quality tester PROFI-TM Professional

Function

The **PROFI-TM Professional** is a tool for determining the physical as well as the logical communications quality of the data exchange in PROFIBUS networks.
The largely reactionless connection of the hardware to the PROFIBUS network is rendered by the adapter supplied. Thus, the communication quality can be analysed online while the system is running.
The device can be operated both autarkically (without PC) and with a PC. The software records and displays all measuring and test results on the PC. The software is simple and easy to anderstand. A clear menu navigation makes it possible to change between a diagnosis mode and the expert mode.

Physical quality determination

Signal quality

The PROFIBUS runs by using a differential voltage signal transmitting the logical telegram contents to the lines A and B. The amount of the voltage difference as well as the shapes of the signals is a measure for the physical transmission quality or the signal quality, respectively. Every bit is scanned sixteen fold. The evaluation is based on the 6/16th of the total width. Thus, the signal transitions effects are not included in the evaluation. All quality values determined are shown as a bar chart and non-realted.

Signal to noise ratio

The signal to noise ration indicates the shortest distance between a logic „0“ and the logic “1“. It shows how far the signal of a device is affected by external interferences or signal fluctuations.
The signal to noise ration helps to recognize sporadic physical errors.

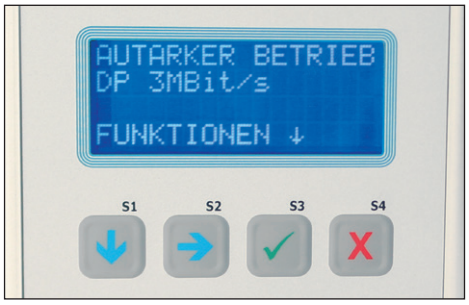
Oscilloscope

An in-depth analysis of the PROFIBUS signal can be done by a fully operative digital oscilloscope. Symmetric interferences can be shown and analysed by a separate representation of the A and B line signals.

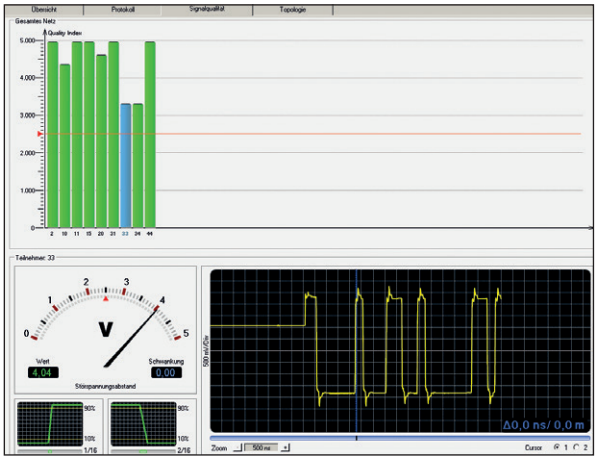
Trend

Trend recordings over a longer period of time make it possible to record very rare PROFIBUS errors. Device-related and at fixed intervals the quality value and critical events, such as error telegrams, repeat telegrams, diagnoses and device failures can be evaluated and displayed.

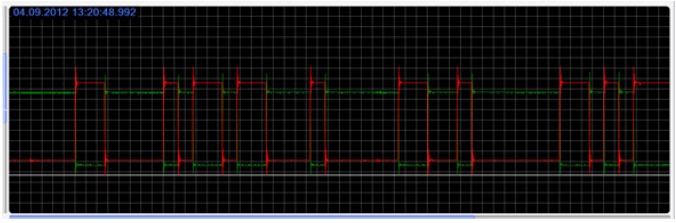
PROFI-TM Professional



Independent operation



Assessment of signal quality



Integrated oscilloscope

Updated 05/2016

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Logical quality analysis

Diagnosis mode

In the Diagnosis mode all bus devices are shown in form of a tree, including address, module name and device symbol (access through GSD file). The condition of the device concerned can be quickly evaluated by the colour highlighting of each device (green, yellow, red).

Besides the colouring the events are shown in plain text and provided with a time stamp.

Telegram mode

The telegram mode extends the range of analyses. A large number of filters and triggers is available to analyse the data traffic in terms events but also certain data content.

Master simulator

The integrated master simulator is designed to determine the actually wired bus topology and analyse the signal quality of the connected bus devices. The master simulator is used in the offline mode without SPC.

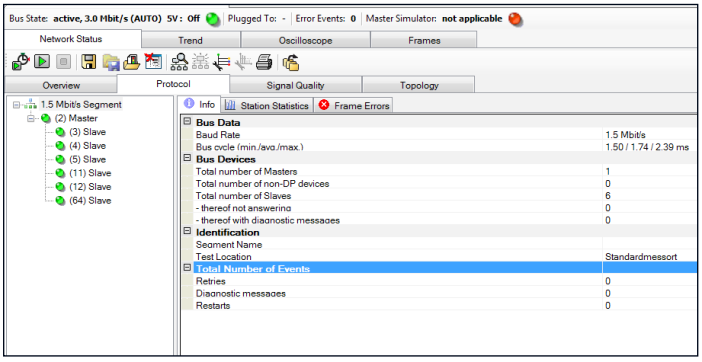
Technical data

- PROFIBUS interface: 9-pole sub-D
- Voltage supply: 9.6 kbps - 12 Mbps
- USB interface: 24 VDC +/-20%, approx. 0,5A, according to external power supply V2.0
- Dimensions (H x W x D): 35 x 170 x 110 mm
- Protective system: IP20
- Operating temperature: 0°C to +50 °C
- Storage temperature: -20 °C to +70 °C
- Conformity: CE, FCC, VCCI

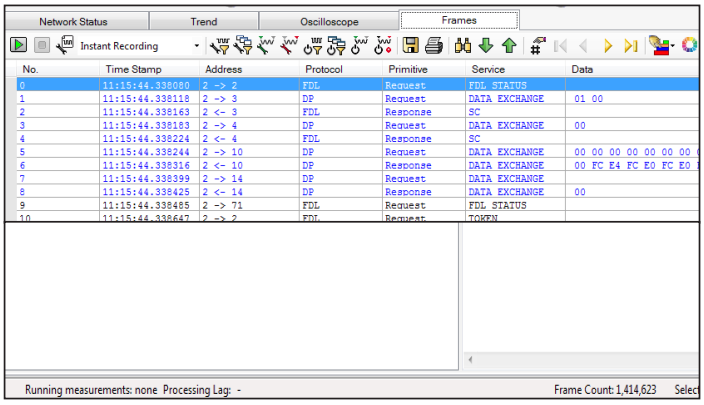
Scope of delivery

- PROFI-TM Professional hardware
- Power supply 100 - 240 VAC / 24VDC, 0,5A
- Direct connection cable for power supply 24VDC
- PROFIBUS accessories
- USB cable 3m
- CD-ROM with drivers and PC software
- Manual + quick start guide

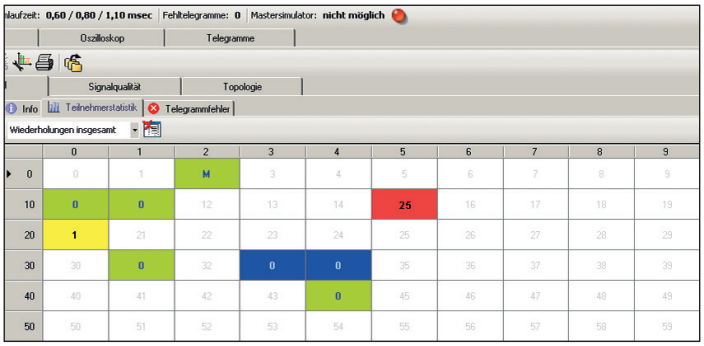
Ordering details	Art. No.
PROFI-TM Professional	**110010004**
Accessories	
MoSt II	**110020035**
Bus disconnector	**110020004**
M12 Y-Measuring adapter	**110020018**
Adapter set M12	**110020015**
Adapter cable PB-D-SUB 1	**110020013**



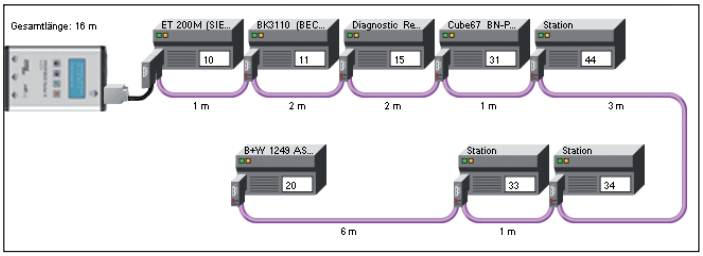
Diagnosis mode



Telegram mode



Device matrix incl. state display



Topology scan

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