The PROFIBUS Tester 5 BC-700-PB is a powerful diagnostic and troubleshooting tool for testing the cables, measuring the signals and analyzing the communication of PROFIBUS networks. It is battery-powered and provides a graphical display, allowing for quick results when working in stand-alone mode. Optionally, also PROFIBUS PA network can be analyzed. In addition, the BC-700-PB supports the export of test results for advanced analysis.

**Testing Bus Cabling, Bus Physics and Bus Communication “All-In-One”**
- Combination of signal tester, storage oscilloscope, protocol analyzer, master simulator and cable tester functionality in a single diagnostics tool
- Stand-alone mode plus extended PC-based diagnostics
- Suited for installation, setup and commissioning, documentation, acceptance testing, network optimization, preventive maintenance, troubleshooting as well as laboratory tests

**Highly Mobile Bus Tester for Testing Even Without a Notebook**
- Battery-powered operation without the need for additional power supply
- Graphical display providing easy-to-understand presentation of test results
- Comprehensive network tests in stand-alone mode without requiring a notebook

**Enhanced Diagnostic Features Through Complementing PC-Based Software**
- Many additional features for executing, analyzing and managing bus tests in PC mode (Trend, Topology Scan, Master Simulator, Oscilloscope, Frame Analyzer)
- Quick Test and User-Controlled Test for easy network status assessment at the push of a button
- Generation of test reports describing the actual status of the PROFIBUS installation
- Ideal for less experienced users as well as for fieldbus specialists

**Optional Measuring Adapter for MBP (Manchester Coded Bus Powered) Physics**
- Specific signal analysis supporting MBP Physics (feeding voltage, signal deviation, signal polarity, bitrate divergence)
- Complete protocol analysis directly at PROFIBUS PA segment
## Technical Data

### Diagnostics Functionality

**Protocol and Frame Analysis**
- PROFIBUS DP-V0 and DP-V1, automatic baud rate detection in the range of 9.6 kbit/s ... 12 Mbit/s
- PROFIBUS DP-V0, DP-V1, FMS and MPI

**Signal Analysis**
- Signal quality index: 0 ... 5,000, determined from signal level as well as signal/noise ratio and rise time; signal sampling with 5/16 samples per bit

**Fieldbus Troubleshooting**
- Fieldbus feeding voltage: 0 V ... 35 V at 0.1 V resolution, signal level: 100 mV ... 1,200 mV at 10 mV resolution

**Oscilloscope Display**
- Test range: ±5 V at 10 mV resolution (differential), 0 V ... 15 V at 15 mV resolution
- Sampling rate: up to 184 Msamples/s; sampled points: 2,400 (signal details), 8,192 (oscilloscope analysis)

**Topology Scan**
- Active, maximum distance: 230 m, accuracy: ±2 m

**Cable Test**
- Active, supported cable segment length: 5 m ... 1,500 m, accuracy: 5%

### Operation
- Via graphical colour display, four function keys and scrollwheel including central push-button or via PC/notebook

### Internal Memory Capacity
- 3 user-definable network directories (segment and test location) for storing quick tests, trend logs and cable test results

### Trigger
- IN: L = 0 V ... 0.8 V; H = 2.4 V ... 24 V, pulse > 10 μs, active high
- OUT: approximately 5 V, active low (connection to storage oscilloscope)

### PC Operating Software
- PROFIBUS Diagnostics Suite, see separate datasheet for details

### Connectors

**EIA-485 (PROFIBUS DP)**
- PROFIBUS D-sub connector, 9 pins, power supply for external bus termination

**MBP (PROFIBUS PA)**
- Connector, 3 pins, for screw terminals at optional measuring adapter, measuring cable set including 3 probes (adapter for MBP measurement is attached to D-sub connector)

**USB**
- V 2.0, high speed 480 Mbit/s, galvanically isolated

### Dimensions (H x W x D)
- 35 mm x 220 mm x 110 mm

### Power Supply
- Built-in three-cell lithium-ion battery supporting 11.1 VDC or external AC adapter 100 VAC ... 240 VAC, 50/60 Hz (galvanically isolated)
- The rechargeable battery has a runtime of up to 5 hours (runtime depends on the performed test functionality and rate of wear of the rechargeable battery), battery is charged via external AC adapter

### Operating/Storage Temperature
- Operating temperature: 0 °C ... 50 °C, storage temperature: -20 °C ... 70 °C

### Relative Humidity
- Air humidity: 10 % ... 90 % without condensation

### Weight
- Test tool, no cable: approximately 0.75 kg; complete carrying case: approximately 4.2 kg

### Conformity
- CE, FCC, VCCI

### Scope of Delivery

**Hardware**
- PROFIBUS Tester 5 BC-700-PB, power supply unit 100 VAC ... 240 VAC, 50/60 Hz with connecting cables for Europe and USA, adapter cables, carrying case
- Measuring adapter BC-700-H1, measuring cable set (for PROFIBUS PA option)

**Software**
- PROFIBUS Diagnostics Suite (PC software for Windows on CD-ROM)
- BC-700-PB upgrade license (on CD-ROM, for PROFIBUS PA option)

**Documentation**
- Device manual, “Getting Started” manual

### Order Numbers

- DDA-NN-006014 PROFIBUS Tester 5 BC-700-PB
- DDL-NL-006010 PROFIBUS PA option for BC-700-PB (BC-700-PB serial number required for order placement)

### Additional Products and Services

**BC-600-PB-CB-M12**
- D-Sub to M12 adapter set with T-piece and M12 bus termination for PROFIBUS DP

**PB-LSZ-CHB3**
- Digital fieldbus leakage current clamp for locating EMI problems, 40 Hz ... 1,000 Hz, Min/Max, Data Hold, measuring cables, supplied in handy case (fits into empty compartment of carrying case)

**BC-PBMB-PB-S**
- D-Sub service interface with active bus termination and 90° angled connector for PROFIBUS DP

**BC-M12DP-PB**
- M12 service interface for PROFIBUS DP, comprising M12 T-piece, end cap, M12 connection cable (1 m)

**TRA-PB-TECH**
- Training „PROFIBUS Technology“, 2 days

**TRA-PB-TS**
- Training „PROFIBUS Troubleshooting“, 3 days