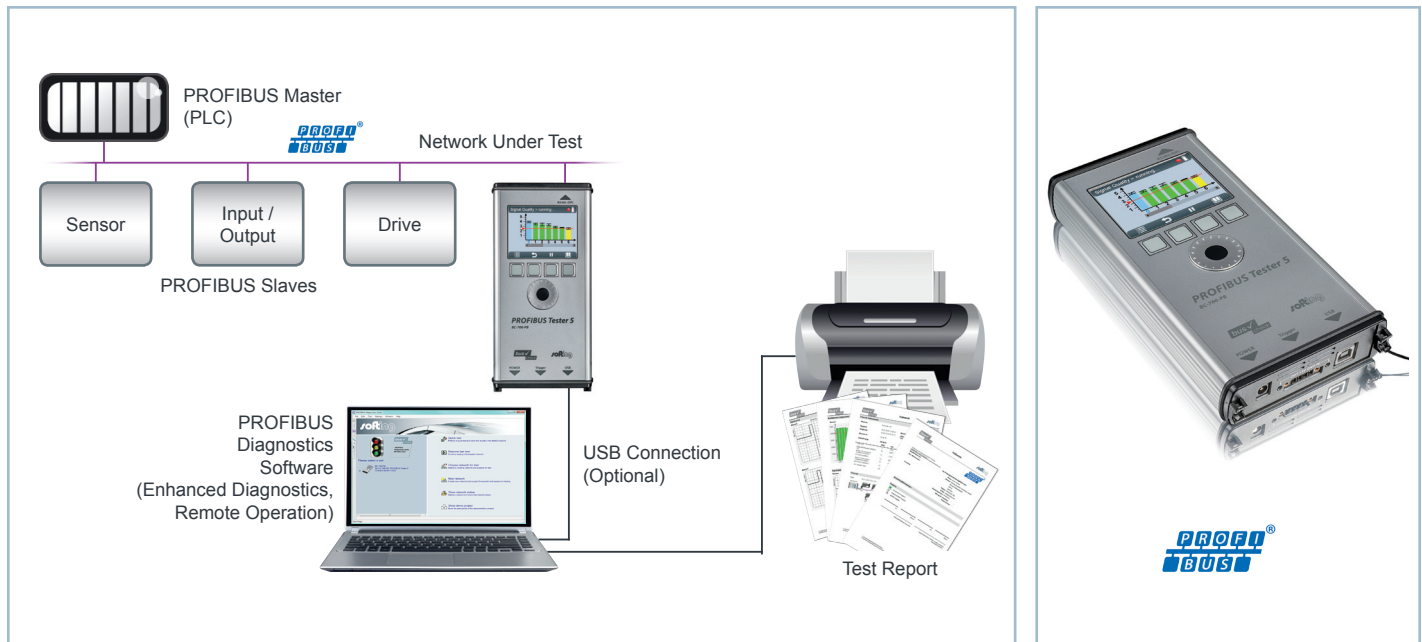


PROFIBUS Tester 5 BC-700-PB

Quick and Easy Testing of Bus Physics, Bus Communication and Cabling

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. In addition, the PROFIBUS Tester 5 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

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
Signal Analysis	PROFIBUS DP-V0, DP-V1, FMS and MPI; signal quality index 0 ... 5,000, determined from signal waveform as well as signal/noise ratio and rise time; signal sampling with 8/16 samples per bit
Oscilloscope Display	Test range: ± 5 V at 10 mV resolution (differential), 0 V ... 15 V at 15 mV resolution (A or B to DGND); sampling rate: up to 384 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 Trend logging: max. 99 hours
Trigger	IN: L = 0 V ... 0.8 V; H = 2.4 V ... 24 V; pulse > 10 μ s, 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
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, adaptor cables, carrying case
Software	PROFIBUS Diagnostics Suite (PC software for Windows on CD-ROM)
Documentation	Device manual, "Getting Started" manual

Order Numbers

DDA-NN-006014	PROFIBUS Tester 5 BC-700-PB
---------------	-----------------------------

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 EMC 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

Your local Softing Contact:



Softing Industrial Automation GmbH
Richard-Reitzner-Allee 6
85540 Haar / Germany
Tel.: +49 89 456 56-340
Fax: +49 89 456 56-488
info.automation@softing.com
http://industrial.softing.com

Softing Industrial Automation GmbH
Äußere Sulzbacher Straße 159-161
90491 Nürnberg / Germany
Tel.: +49 911 544 27-0
Fax: +49 911 544 27-27
info.automation@softing.com
http://industrial.softing.com

BUXBAUM AUTOMATION GmbH
Thomas A. Edison Str. 1
7000 Eisenstadt / Austria
Tel.: +43 2682 704-560
Fax: +43 2682 2057700-5610
office@myAUTOMATION.at
http://www.myautomation.at

Softing North America Inc.
29 Water Street, Suite 301
Newburyport, MA 01950 / USA
Tel.: +1 978 499-9650
Fax: +1 978 499-9654
info.usa@softing.com
www.softing.us

Softing Italia Srl.
Via M. Kolbe, 6
20090 Cesano Boscone (MI) / Italia
Tel.: +39 02 450-5171
Fax: +39 02 450-4141
info@softingitalia.it
http://www.softingitalia.it

Diagnostic Monitor for PROFIBUS PA

Quick and Easy Bus Testing

The Diagnostic Monitor is a versatile tool for testing PROFIBUS PA during operation. It is powered by the fieldbus so that no battery or external power source is required. The monitor is also suitable for use in hazardous areas.

UNIVERSAL APPLICATION

The PROFIBUS PA Diagnostic Monitor allows testing of the bus physics. In addition, it verifies that the communication between the bus devices is stable. This makes it a universal tool for setup and commissioning, documentation, acceptance testing, preventive maintenance, and troubleshooting.

VERY SIMPLE TO USE

A display and two function buttons provide outstanding ease of use. The bus test starts automatically when the tool is connected to a PROFIBUS PA network.

The test results are clearly classified as either OK or BAD.

This tool is an ideal choice even for less experienced users.

FULLY AUTOMATIC BUS TEST

After attaching the tool to the PROFIBUS PA network, the Diagnostic Monitor is powered by the fieldbus and automatically starts testing the segment without operator intervention. If the measured data exceeds the tolerance limits, the operator is informed in plain text.

At the segment level, the tool determines the segment voltage as well as average noise and peak noise for three frequency ranges. Short circuits between the individual signal wires and the cable shield are reliably detected.

At the field device level, the Diagnostic Monitor reports all frame retransmissions and all devices added or dropped during bus operation. The current and the lowest signal levels of all devices are also determined.

No PC or notebook is needed for testing the bus.

If required, the PROFIBUS PA Diagnostic Monitor stores the test data for later transfer to a PC via USB. The detailed test reports can be imported to Microsoft® Excel or exported as text files.

CUSTOMER BENEFITS

- > No Battery or External Power Source Required
- > No PC or Notebook Needed for Testing the Bus
- > Clear OK/BAD Classification of Test Results



TECHNICAL DATA

Input Voltage:	Fieldbus Mode: 8VDC..32VDC, USB Mode: 4.1VDC..5.5VDC
Maximum Input Current:	Fieldbus Mode: 10mA *, USB Mode: 30mA
Power Dissipation:	Fieldbus Mode: Maximum 320mW (at 32VDC), USB Mode: Maximum 165mW (at 5.5VDC)
Operating Temperature:	-20 °C..+50°C **
Dimensions:	146mm x 88mm x 28mm
Weight:	378g
Case Material:	ABS
DC Voltage Measurement Range:	8VDC..32VDC, ± 0.5 VDC
Signal Level Measurement Range:	0.12Vpp..2Vpp, $\pm 10\%$, ± 0.025 Vpp
LF Noise Measurement Range:	50Hz..4KHz, 0mVpp..1000mVpp, $\pm 15\%$, ± 25 mVpp ***
FF Noise Measurement Range:	9KHz..40KHz, 0mVpp..1000mVpp, $\pm 10\%$, ± 25 mVpp ***
HF Noise Measurement Range:	90kHz..350KHz, 0mVpp..250mVpp, $\pm 20\%$, ± 25 mVpp ***
Conformity	CE, FCC
Hazardous Area Approvals	FM USA and Canada: – Class I Division 2 Groups A, B, C and D T4 – Class I Zone 2 Group IIC T4 – Class I Division 1 Groups A, B, C and D T4 – Class I Zone 0 and 1 Ex/AEx ia IIC T4 ATEX Ex ia IIC T4 ATEX Ex nL IIC T4 ATEX Ex ic IIC T4
Data Transfer to PC	Via Supplied PC Software for Windows 2000, Windows XP, Windows VISTA, and Windows 7 (32Bit and 64Bit) and USB Interface, Version 1.1 or 2.0

* In Fieldbus Mode, the BC-230-PB is Powered by the Fieldbus and Draws Approximately 9.4mA of Current from the Segment (Depending on Bus Voltage and Ambient Temperature).
 ** Display Update Speed is Impaired Below -10°C.
 *** Vpp = Volts Peak-to-peak; Excessive Noise Adjacent to the Fieldbus Frequency (FF) Band Will Prevent the BC-230-PB from Reading the Fieldbus Data and Thus Reduce Functionality.

ORDER NUMBER

BC-230-PB	PROFIBUS PA Diagnostic Monitor, Bus Powered, Ex Approvals, PC Software on CD-ROM, Manual, Certificates, Connection Cables, and Carrying Case Note: User Manual, PC Software and Certificates in English
-----------	--



ADDITIONAL PRODUCTS AND SERVICES

PB-LSZ-CHB3	Digital Fieldbus Leakage Current Clamp for Locating EMC Problems, 40Hz..1000Hz, MIN/MAX, Data Hold, Measuring Cables, Supplied in a Handy Case
TRA-PB-TECH	PROFIBUS Technology Training, 2 Days
TRA-PB-TS	PROFIBUS Troubleshooting Training, 3 Days

Softing Industrial Automation is a world leading provider of industrial communication products and technologies for manufacturing and process automation. Our products are tailored to the requirements of system integrators, device vendors, machine and equipment manufacturers or end users and are known for its ease of use and functional advantages.

Softing Industrial Automation GmbH
 Richard-Reitzner-Allee 6
 85540 Haar / Germany

Tel.: +49 89 4 56 56-340
 Fax: +49 89 4 56 56-488
info.automation@softing.com
industrial.softing.com