PSI-WL-PLUG-USB/BT

Bluetooth USB Adapter

INTERFACE

Data Sheet
103170_00_en

Description

The Bluetooth USB adapter provides an easy wireless connection between devices with a USB interface and other Bluetooth devices.

Data connections can be established to third-party devices or to the PSI-WL-RS232-RS485/BT PSI Bluetooth converter, making it easy to access controllers directly for programming or diagnostic purposes.

The PSI-WL-PLUG-USB/BT adapter is plugged directly into the USB interface, which provides it with a 5 V power supply. With its compact design and integrated antenna, this Bluetooth USB adapter is ideal for mobile, temporary maintenance and diagnostic connections and offers excellent support as a quick and easy addition to the PSI-WL-RS232-RS485/BT PSI Bluetooth converter.

The wireless connection has a range of up to 80 m or more and is based on the international license-free Bluetooth standard. This wireless standard meets high requirements for interference-free data transmission, in particular through the use of the FHSS method (Frequency Hopping Spread Spectrum) with the 2.4 GHz ISM band.

☞ If you have any technical problems, which you cannot resolve with the aid of this documentation, please contact us during the usual office hours at:

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☞ Make sure you always use the the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

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INSPIRING INNOVATIONS

Ordering Data

PSI Bluetooth USB Adapter

Description	Type	Order No.	Pcs./Pck.
PSI Bluetooth USB Adapter (Belkin) for direct installation on USB type A ports and wireless transmission from USB interfaces Scope of supply: Bluetooth USB adapter, CD with configuration software, documentation and installation instructions	PSI-WL-PLUG-USB/BT	2313083	1

PSI Bluetooth Converter

Description	Type	Order No.	Pcs./Pck.
PSI Bluetooth converter for converting from RS-232/RS-422/RS-485 2-wire to Bluetooth	PSI-WL-RS232-RS485/BT	2708517	1

Documentation

Description	Type	Order No.	Pcs./Pck.
User manual for PSI-WL Bluetooth interface converter	UM EN PSI WL BLUETOOTH	2699723	1

Technical Data

Power Supply	
Supply voltage	5 V DC (directly via the USB interface)
Frequency	DC
Nominal current consumption	
Send peak	150 mA
Receive peak	80 mA
Nominal current	100 mA
LED indicators	Blue LED: steady light when adapter is switched on

Configuration	
System requirements	Windows XP (SP2), 2000, 98 SE, ME
	Mac OS X Version 10.3 or later
Configuration interface	USB
	Configuration is via the USB interface using the configuration software supplied.

USB Interface	
Physics	USB 2.0
Connection	USB type A, male connector
Transmit rate	Up to 2.1 Mbps
Protocols	Transparent protocol, including 3964R protocol

Bluetooth Interface	
Physics	Bluetooth 2.0 specification + EDR
Frequency	2.402 GHz ... 2.480 GHz (ISM band)
Channel distance	1 MHz
Bandwidth	79 MHz
Number of channels	79
Transmission methods	Adaptive frequency hopping 1.6 kHz (FHSS)
R&TTE device class	Class 2
Bluetooth device class	Class 1 = 20 dBm (100 mW), maximum
Transmission power	20 dBm (100 mW), maximum
Range guide values (depending on the application environment)	up to 80 dBm

Bluetooth Interface (Continued)

Receiver sensitivity	-80 dBm
Antenna	Internal antenna
Bluetooth profile	– GAP (Generic Access Profile) – SDAP (Service Discovery Application) – SPP (Serial Port Profile) – DUN (Dial-Up Networking Profile) – PAN (Personal Area Network Profile) – CIP (Common ISDN Access Profile) – HCRP (Hardcopy Cable Replacement Profile) – FTP (File Transfer Protocol) – OPP (Object Push Profile) – HID (Human Interface Device) – BIP (Basic Imaging Profile) – A2DP (Advanced Audio Distribution Profile) – AVRCP (Audio Video Remote Control Profile) – SYNC (Synchronization Profile) – Headset (Headset Profile) – Fax (Fax Profile)
Supported multi-slot packets	1 / 3 / 5 slot packets
Operation	– ≤ 7 x parallel point-to-point connections – Bluetooth client or Bluetooth server
LED indicator/Bluetooth data indicator	Blue LED – Steady light: Bluetooth connection established – Flashing: data transmission via Bluetooth
Bluetooth security	– 128-bit encryption – Password protection – Fixed pairing – Favorites feature – Masking option

System Requirements

PC	- PC-compatible computer, 200 MHz processor, minimum - Memory: 64 MB, minimum, 128 MB recommended - One free USB 1.1 interface - Windows XP (SP2), 2000, 98 SE, ME
Macintosh	- One free USB 1.1 interface - Mac OS X Version 10.3 or later

General Data

CE conformity	According to EMC Directive 89/336/EC and R&TTE Directive 1999/5/EC
RoHS conformity	Yes
Approvals/wireless licenses	
Europe	ETSI EN 300 826
USA	FCC Part 15
Canada	RSS-210
Ambient temperature range	
Operation	0°C ... 70°C
Storage	-30°C ... +80°C
Permissible humidity	5% ... 90% not condensing
Dimensions (H x W x D)	8 mm x 18 mm x 58 mm
Weight	Approx. 7 g
Degree of protection	IP20
Separate ground levels	No

Conformance With EMC Directive 89/336/EC

Electrostatic discharge (ESD)	EN 301489-1/EN 61000-4-2	Criterion B
		8 kV air discharge
		4 kV contact discharge
		4 kV indirect discharge
Fast transients (burst)	EN 61000-4-4	
Signal/Power supply		Not relevant because cable length < 3 m
Surge current load	EN 61000-4-5	
Signal		Not relevant because cable length < 30 m
Power supply		Not relevant because cable length < 10 m
Immunity to interference	EN 61000-4-6	
Conducted interference		Not relevant because cable length < 3 m
Electromagnetic HF field	EN 301489-1/EN 61000-4-3	Criterion A
Amplitude modulation		3 V/m, AM 80%, 1 kHz sine
		Frequency range 80 MHz - 2 GHz
Emitted interference		
Radiated emission	EN 55022	Class B

Conformance With R&TTE Directive 1999/5/EEC

EMI		
Immunity to interference (electromagnetic compatibility of wireless systems)	EN 301489-1 V1.5.1	Part 1: General Technical Requirements
	EN 301489-17 V1.2.1	Part 17: Wireless Systems in the 2.4 GHz and 5-GHz Range
Safety		
Protection of personnel with regard to electrical safety	EN 60950-1	
Health		
Limitation of exposure of the population to electromagnetic fields	EC Gazette 1999/519/EC	EC Council recommendation of July 12, 1999
Radio		
Effective use of the frequency spectrum and prevention of radio interference	ETSI EN 300328 V1.2.1, V1.3.1	

International Approvals (As At 03/2007)

European Union (EU)

Austria, Belgium, Czech Republic, Cyprus, Denmark, Estonia, Finland, France[1], Germany, Great Britain, Greece, Hungary, Ireland, Italy[2], Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Europe (excluding EU)

Iceland, Norway (excluding Spitzbergen), Switzerland

North America

Canada, USA

Middle East

Bahrain, Dubai

1. Does not include use outside buildings. The permissible transmission power is limited here to 10 mW.

2. Does not include use outside buildings. A license is required to use the adapter outside buildings.

Features

The Bluetooth USB adapter can be used for a wide range of different applications, for example:

– Easy alternative to serial point-to-point cabling
– Wireless operation and monitoring for processes
– Wireless parameterization, and programming and diagnostic connections

The PSI-WL-PLUG-USB/BT Bluetooth USB adapter offers the following performance features in particular:

– High-performance Bluetooth interface
– Compact design and integrated antenna
– Direct connection to the interface
– Transmission power 100 mW
– Range up to 80 m
– Bluetooth access protected by password, fixed device pairing or device access list
– User-friendly configuration software
– Transmission quality diagnostic and logging options
– Adaptive frequency hopping for optimum coexistence with WLAN systems
– Parallel point-to-point connections with up to seven devices

Application Examples

The PSI-WL-PLUG-USB/BT PSI Bluetooth USB adapter is accessed via a second identical device or via the PSI-WL-RS232-RS485/BT PSI Bluetooth converter. Wireless access via third-party devices, which already have an integrated Bluetooth interface, e.g., PDA, notebook or cell phone, is also supported.
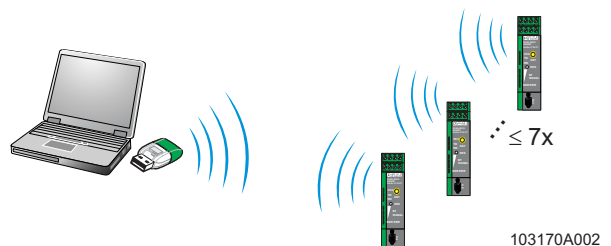
Point-to-Point Connections

Programming Connection

Programming connection between a computer with a USB interface and a PLC with an RS-232, RS-422 or RS-485 interface.
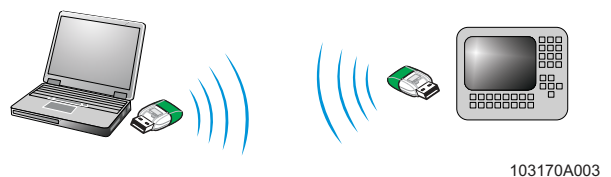
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Parallel Point-to-Point Connection

Parallel point-to-point connection with up to seven Bluetooth devices, allowing simultaneous access to a variety of systems (e.g., display and programming systems).

≤ 7x

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Programming Connection

Programming connection between a computer and a PC-based controller with a USB interface.
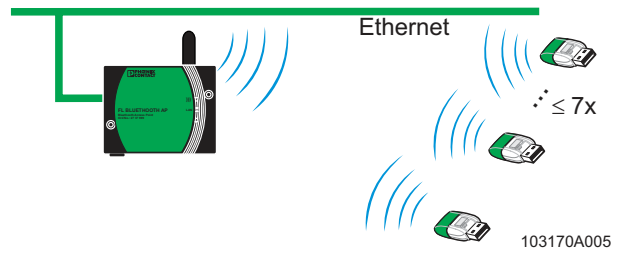
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Multi-Drop Connections

Networking for Automation Components

One example is a PLC with an RS-232, RS-422 or RS-485 interface. Up to seven Bluetooth slaves can be connected to a Bluetooth master.

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Mobile Network Access

Mobile network access via a Bluetooth access point (PAN profile). Up to seven Bluetooth slaves can be connected to a Bluetooth master.

Ethernet

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