

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

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Bluetooth converter, wireless transmission: RS-232/RS-422/RS-485 2-wire, mounting on EN DIN rails, MCX connection for external antenna, integrated path diagnostics: bar graph + two digital outputs

### Product Description


The products are offered exclusively for export outside the EU and the European Economic Area.

### Your advantages

- ✓ Local configuration via USB interface without separate power supply unit
- ✓ Multipoint with up to seven slaves
- ✓ Suitable for worldwide use thanks to adjustable transmission power (-28 ... 14 dBm)
- ✓ Wireless path diagnostics using integrated bar graphs and 2 digital outputs
- ✓ Secure and tamper-proof data transmission thanks to password protection, encryption, plus fixed and invisible device pairing
- ✓ Coexistence with other wireless systems due to the adaptive frequency hopping (AFH) method
- ✓ Can be used for RS-232/RS-422/RS-485 2-wire interfaces up to 187.5 kbps
- ✓ Transceiver for distances of up to 150 m
- ✓ Installation of parallel wireless paths by cross-wiring 24 V DC and RS-485



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 567572
GTIN	4046356567572
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85176200
Country of origin	Germany

# Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

## Technical data

### Note

Trade restriction	The products are offered exclusively for export outside the EU and the European Economic Area.
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### Dimensions

Width	22.5 mm
Height	99 mm
Depth	116 mm

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-6-2:2005

### General

Electrical isolation	VCC // Bluetooth, RS-232, RS-422, RS-485, USB
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with R&TTE directive 1999/5/EC
Noise emission	EN 55011
Net weight	195.4 g
Housing material	PA 6.6-FR
Color	green
MTBF	1153 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	262 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	2115 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	850 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	346 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
UL, USA/Canada	cULus listed UL 508
Wireless licences	Switzerland
	Turkey (The device may only be operated with Phoenix Contact antennas in accordance with the "Short Range Radio Devices (SRD) Regulations" Gazette No. 26464 dated March 16, 2007.)
	USA

# Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

## Technical data

### General

	Belarus (Maximum transmission power of 25 mW (14 dBm) outside of buildings)
	South Korea

### Power supply

Nominal supply voltage	24 V DC $\pm$ 20 % (as an alternative or redundant, via backplane bus contact and system current supply)
Supply voltage range	10 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
	19 V AC ... 29 V AC (50/60 Hz)
Typical current consumption	$\leq$ 100 mA (24 V DC)

### Serial interface

Interface 1	V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1
Interface	RS-232
Connection method	D-SUB 9 plug
File format/coding	Serial asynchronous UART/NRZ, 8 data, 1/2 stop, 1 parity, 10/11-bit character length
Transmission length	$\leq$ 15 m
Pin assignment	DCE (Data Communication Equipment)
Data flow control/protocols	Software handshake, Xon/Xoff, or hardware handshake RTS/CTS, 3964 compatible
Serial transmission speed	1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 31.25; 38.4; 57.6; 75; 93.75; 115.2 kbps
Interface 2	RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1
Interface	RS-422
Connection method	Pluggable screw connection
File format/coding	Serial asynchronous UART/NRZ, 8 data, 1/2 stop, 1 parity, 10/11-bit character length
Transmission length	$\leq$ 1200 m
Termination resistor	390 $\Omega$ (configurable)
	180 $\Omega$
	390 $\Omega$
Data flow control/protocols	Automatic control
Serial transmission speed	1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 31.25; 38.4; 57.6; 75; 93.75; 115.2; 136; 187.5 kbps
Interface 3	RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire
Interface	RS-485 2-wire
Connection method	Pluggable screw connection
File format/coding	Serial asynchronous UART/NRZ, 8 data, 1/2 stop, 1 parity, 10/11-bit character length
Transmission length	$\leq$ 1200 m
Termination resistor	390 $\Omega$ (configurable)

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Technical data

#### Serial interface

	180 Ω
	390 Ω
Data flow control/protocols	Automatic control
Serial transmission speed	1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 31.25; 38.4; 57.6; 75; 93.75; 115.2; 136; 187.5 kbps
Interface 4	USB 2.0
Interface	USB
Connection method	Mini-USB B, socket

#### Wireless interface

Interface description	Bluetooth 2.1 + EDR
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Transmission method	1.6 kHz (FHSS)
Channel distance	1 MHz
Transmit capacity, minimum	0 dBm
Transmit capacity, maximum	14 dBm (Outside of Europe, adjustable via software)
	10 dBm (Europe, can be set via software)
	10 dBm (Default setting, adjustable)
Minimum receiver sensitivity	-91 dBm
Antenna	External
Connection method	MCX socket
Bluetooth Multidrop master/slave	1/7
Operating mode	GAP: Generic Access Profile (Method for authentication and connection establishment)
	SDAP: Service Discovery Application (Method for requesting supported services)
	SPP: Serial Port Profile (COM port emulation method)
	DUN: Dial-Up Networking Profile (Modem dialing method)
	LAP: LAN Access Point Profile (Network connection method)
Country support	Switzerland
	Turkey (The device may only be operated with Phoenix Contact antennas in accordance with the "Short Range Radio Devices (SRD) Regulations" Gazette No. 26464 dated March 16, 2007.)
	USA
	Belarus (Maximum transmission power of 25 mW (14 dBm) outside of buildings)
	South Korea

#### Digital outputs

Output name	Digital outputs
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# Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

## Technical data

### Digital outputs

Number of outputs	2
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### Standards and Regulations

Electromagnetic compatibility	Conformance with R&TTE directive 1999/5/EC
Type of test	Free fall in acc. with IEC 60068-2-32
Test result	1 m
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 10...150 Hz, 2.5 h, in XYZ direction
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	15g, 11 ms period, half-sine shock pulse
Noise emission	EN 55011
Noise immunity	EN 61000-6-2:2005
Free from substances that could impair the application of coating	according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV
Standards/regulations	EN 55032
	EN 61000-4-6
	FCC Part 15.247 / ISC RSS 210
UL, USA/Canada	cULus listed UL 508
Noxious gas test	ISA-S71.04-1985 G3 Harsh Group A

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

### eCl@ss

eCl@ss 4.0	27250313
eCl@ss 4.1	27250313
eCl@ss 5.0	27242214
eCl@ss 5.1	27242200

# Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

## Classifications

### eCl@ss

eCl@ss 6.0	19179200
eCl@ss 7.0	19179290
eCl@ss 8.0	19179290
eCl@ss 9.0	19179290

### ETIM

ETIM 3.0	EC001467
ETIM 4.0	EC001467
ETIM 5.0	EC000310
ETIM 6.0	EC000310

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222604

## Accessories

### Accessories

#### Adapter

Adapter - PSM-AD-D9-NULLMODEM - 2708753



V.24 (RS-232) zero modem connector

#### Adapter cable

Data cable - PSM-KA9SUB9/BB/2METER - 2799474



RS-232 cable, 9-pos. D-SUB socket on 9-pos. D-SUB socket, 9-wire, 1:1

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

#### Antenna

Antenna - RAD-ISM-2400-ANT-OMNI-2-1 - 2867461



Omnidirectional antenna, 2.4 GHz, gain: 2 dBi, polarization: linear, opening angle: h/v 360°/75°, degree of protection: IP65, connection: MCX (male), incl. 1.5 m / 5 ft. connecting cable and mounting bracket for wall mounting

Antenna - RAD-ISM-2400-ANT-VAN- 3-1-MCX - 2885702



Omnidirectional antenna with protection against vandalism, 2.4 GHz, gain: 3 dBi, polarization: linear, opening angle: h/v 360°/85°, degree of protection: IP55, connection: MCX (male), for control cabinet mounting (optional wall mounting), incl. 1.5 m / 5 ft. connecting cable

Antenna - RAD-ISM-2400-ANT-OMNI-6-0 - 2885919



Omnidirectional antenna, 2.4 GHz, gain: 6 dBi, polarization: linear, opening angle: h/v 360°/30°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clips, ATEX and IECEx approval

Antenna - ANT-DIR-2459-01 - 2701186



Directional antenna, 2.4 GHz/5 GHz, gain: 9 dBi, polarization: linear, opening angle: h/v 75°/55°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clips, ATEX and IECEx approval

Antenna - RAD-ISM-2400-ANT-PAN- 8-0 - 2867610



Directional antenna, 2.4 GHz, gain: 8 dBi, polarization: linear, opening angle: h/v 75°/70°, degree of protection: IP55, connection: SMA (female), incl. mounting bracket and mast clips

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

#### Arrester test system

Cable - CM-KBL-RS232/USB - 2881078



Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.

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#### Coaxial adapter

Adapter - RAD-ADP-SMA/F-SMA/F - 2884541



Antenna adapter for control cabinet feed-through, frequency range: 0.3 GHz ... 6 GHz, connection: 2 x SMA (female)

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Adapter - RAD-ADP-N/M-SMA/F - 2917036



Antenna adapter, frequency range: 0.3 GHz ... 6 GHz, connection: N (male) -> SMA (female)

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#### Coaxial cable

Antenna cable - RAD-CAB-EF142-3M - 2884512



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: stranded, attenuation: 1.7 / 3.0 / 4.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x SMA (male), cable length: 3 m (10 ft.)

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## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

#### Antenna cable - RAD-CAB-EF142-5M - 2884525



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: stranded, attenuation: 2.8 / 4.9 / 7.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x SMA (male), cable length: 5 m (16 ft.)

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#### Antenna cable - RAD-CAB-EF393- 3M - 2867649



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.0 / 1.8 / 3.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 3 m (10 ft.)

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#### Antenna cable - RAD-CAB-EF393- 5M - 2867652



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.6 / 2.9 / 5.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 5 m (16 ft.)

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#### Antenna cable - RAD-CAB-EF393-10M - 2867665



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 2.9 / 5.6 / 9.9 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 10 m (32 ft.)

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#### Antenna cable - RAD-CAB-EF393-15M - 2885634



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 4.3 / 8.3 / 14.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 15 m (50 ft.)

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

#### Antenna cable - RAD-PIG-EF316-MCX-SMA - 2867678



Antenna cable, external diameter: 3.2 mm (0.126 in.), inner conductor: flexible, attenuation: 1.0 / 1.7 / 2.7 dB at 0.9 / 2.4 / 5.8 GHz, connection: MCX (male) -> SMA (male), cable length: 1 m (4 ft.)

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#### Antenna cable - RAD-PIG-EF316-MCX-N - 2867681



Antenna cable, outside diameter: 3.2 mm (0.126 in.), inner conductor: stranded, attenuation: 0.6 / 1.0 / 1.4 dB at 0.9 / 2.4 / 5.8 GHz, connection: MCX (male) -> N (male), cable length: 0.5 m (1.6 ft.)

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#### Antenna cable - RAD-PIG-EF316-N-SMA - 2867694



Antenna cable, outside diameter: 3.2 mm (0.126 in.), inner conductor: stranded, attenuation: 0.5 / 0.7 / 0.9 dB at 0.9 / 2.4 / 5.8 GHz, connection: SMA (male) -> N (female), cable length: 0.3 m (1 ft.)

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#### Antenna cable - RAD-PIG-EF316-N-N - 2867704



Adapter cable, 50 cm pigtail, N (male) -> N (female), 50  $\Omega$  impedance

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### Data plug

#### D-SUB bus connector - SUBCON 9/F-SH - 2761499



D-SUB plug, 9-pos. female connector, one cable entry < 35°, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

#### DIN rail connector

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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DIN rail bus connectors - ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



DIN rail connector, nominal current (Ex): 8 A, nominal voltage (Ex): 125 V, number of positions: 5, pitch: 3.81 mm, Articles with gold-plated contacts, bus connectors for connecting with electronic housings

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#### Interface converter

Bluetooth converter - PSI-WL-PROFIB/BT-SET/2DO - 2313876



Bluetooth PROFIBUS SET, pre-configured: PROFIBUS point-to-point, PROFIBUS baud rate: 187.5 kbps, integrated path diagnostics: bar graph + two digital outputs, contents: 2 x Bluetooth converter + 2 x antenna

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#### Mounting material

Weather protection tape - RAD-TAPE-SV-19-3 - 2903182



Vulcanizing sealing tape for external protection of adapters, cable connections, etc. against the effects of weather, roll length: 3 m

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#### Power supply

## Bluetooth converter - PSI-WL-RS232-RS485/BT/2DO - 2313805

### Accessories

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

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### Programming cable

USB cable - CABLE-USB/MINI-USB-3,0M - 2986135



USB connecting cable: USB plug type A to USB plug type Mini-B; length: 3 m

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### Surge protection for transceiver systems

Surge protection device - CN-LAMBDA/4-5.9-BB - 2838490



Attachment plug with Lambda/4 technology as surge protection for coaxial signal interfaces. Connection: N connectors socket-socket

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