FAQ - Frequently Asked Questions

# BCS 3600ex series

## Hand-held scanner

Type 17-A1S4-**** + B7-A2S4-****

- How to ensure RS232 and USB-SPP are recognized correctly

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# 1. Supported Interfaces

| Equipment | USB-HID (Human Interface Device) | Serial interface USB-SPP (Serial Port Profile) | Serial Interface - RS232 | Serial Interface - RS422 | Serial Interface - RS485 |
|---|---|---|---|---|---|
| Base Station | ✓* | ✓ | ✓ | X | X |
| Universal supply module | X | ✓* | ✓ | ✓ | ✓ |
| Supply Module Ex i | X | ✓ | ✓ | X | X |
| BARTEC Smart USB Device Bluetooth | ✓* | ✓ | X | X | X |
| Other Bluetooth devices** | ✓* | ** | ** | ** | ** |

✓ Note to "✓":

Functions marked with ✓ are supported with this hardware configuration.

✓* Note to "✓*":

Functions marked with ✓* are supported with this hardware configuration and set as default.

** Note to other "Bluetooth devices**":

The available supported interface options depends on the functionality of other Bluetooth module.

Note to "other Interfaces & Protocols":

If your interface or protocol is not listed in the table above then you can realize it by use of converter in safe area. The converter must be able to convert the signal of an interface what is supported in the table above.

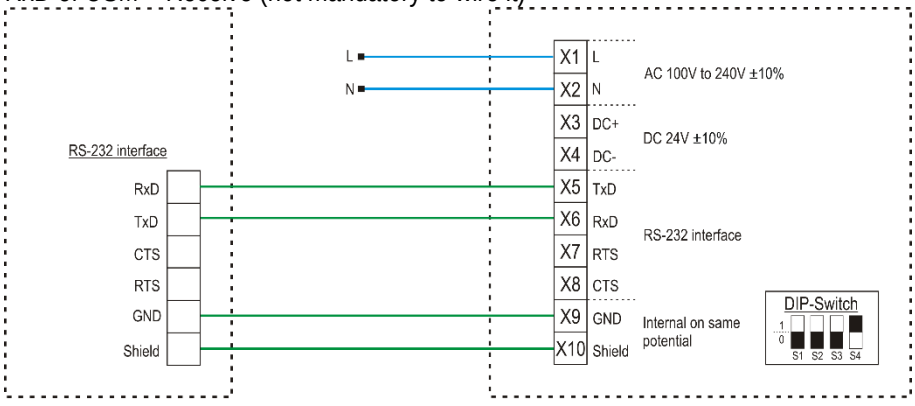
### Serial interfaces: (USB-SPP, RS232, RS422 or RS485)

All serials interfaces that are available for the BCS3600 series don‘t have an own intelligence. The interface itself is not able to process/handle incoming data on the serial interface. Therefore a software application is required.

### USB-HID: (Human Interface Device)

The USB-HID interface allows a scanner to work similar to a USB keyboard. With this interface scanner data are direct transmitted to active application on PC/Host. (e.g. Word, SAP or any other application).

# 2. RS232 – How to identify if it is correct recognized

| Important steps to check that system itself can work | |
|---|---|
| 1. | 1 x RS232 connection cable to the host PC.<br>Maximum cable length supported: 15 m<br>Number of cores and recommended cable cross section: see BARTEC User Manual.<br>([http://automation.bartec.de/scanner.htm](http://automation.bartec.de/scanner.htm))<br>NB:<br>• The default setting for the hand-held scanner is as an HID device. The serial interface still needs to be activated with the help of a programming barcode.<br>*scan "Standard RS-232" to activate the RS232 interface on scanner.*<br>• The "Universal supply module" need to be set via Dip-switch or programming barcode to the RS232 interface, then it will be detected by the host PC as a serial connection.<br>• Please use standard, shielded data lines to prevent external disturbances.<br>Recommendation: e.g. use CAT5, similar or higher quality cables |
| 2. | PC with serial (COM) interface |
| 3. | Terminal program or software keyboard wedge for testing virtual COM communication and data transmission on the host PC. |
| 4. | All used components are correct and compatible. |
| 5. | Check that all components are correct wired.<br>Example diagram for "Universal supply module Bluetooth" (USM).<br>Important:<br>TxD of USM must be wired to RxD of PC/Host.<br>RxD of USM must be wired to TxD of PC/Host.<br>Note:<br>TxD of USM = Transmit (must be wired that data can be transmitted)<br>RxD of USM = Receive (not mandatory to wire it)<br>  <br><br>*Example drawing of USM with DIP-switch set to RS232 and Bluetooth Scanner* |

| | |
|---|---|
| 6. | Check that no wires are broken. |
| 7. | Check that all components are correct powered. |
| 8. | Set the RS232 interface on “Universal supply module”. |
| 8a. | Check that DIP-switch is correct set in accordance to your used interface. |

Note:
DIP-switch can be equipped only on first generation of the following P/N B7-A2Z0-0042…. and B7-A2Z0-0043….

| | Setting Interface (Dipp-switch S1, S2 and S3) | | | |
|---|---|---|---|---|
| **Interface** | **S1** | **S2** | **S3** | **S4** |
| RS 232 | 0 | 0 | 0 | - |
| RS 422 | 0 | 1 | 1 | - |
| RS 485 | 0 | 0 | 1 | - |
| USB-SPP | 1 | 1 | 1 | - |
| | **Settings USM Version (Dipp-switch S4)** | | | |
| **Version** | **S1** | **S2** | **S3** | **S4** |
| corded | - | - | - | 0 |
| Bluetooth | - | - | - | 1 |

| | |
|---|---|
| 8b. | If Universal supply module is without DIP-switch then check that interfaces is set in accordance to your used interface by scan of programming barcode. |

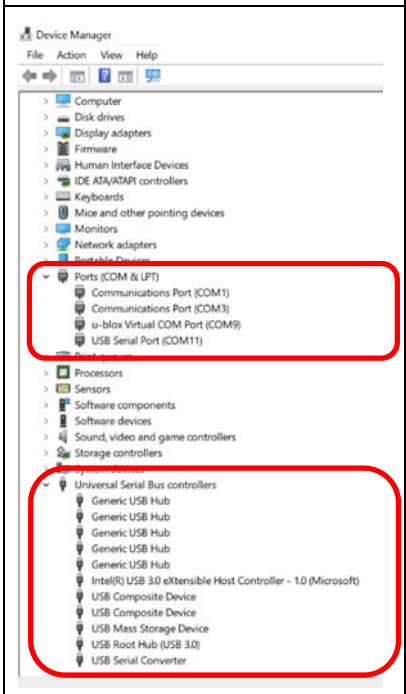
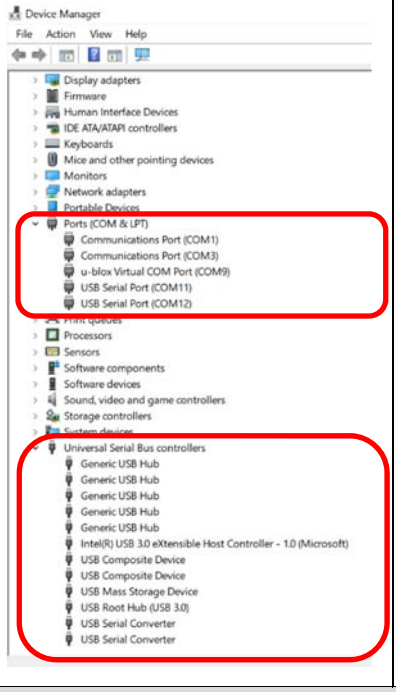
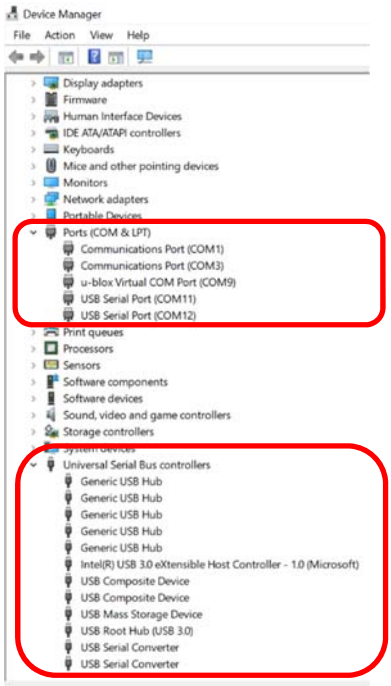
USB-SPP

RS232

RS422

RS485

| | |
|---|---|
| 9. | Check that interface is correct recognized on PC. |
| 10. | Check that interface parameters are correct. On both sides (BCS36x8ex system and PC/Host) the interface parameters must be identical.<br>Wrong parameters can affect:<br>A) no data visible for example in terminal program<br>B) incoming data are wrong or cryptic |

| How to identify on PC that RS232 interface is correct recognized | | |
|---|---|---|
| No Universal supply module connected to PC | Universal supply module is connected via RS232.<br>Wiring is wrong. | Universal supply module is connected via RS232.<br>Wiring is correct. |
| In example below is recognized:<br>4 x COM Ports<br>11 x USB devices | In example below is recognized:<br>5 x COM Ports (COM 12 is new)<br>12 x USB devices (used a RS232 to USB converter) | In example below is recognized:<br>5 x COM Ports (COM 12 is new)<br>12 x USB devices (used a RS232 to USB converter) |
|  |  |  |

Note:

If TxD and RxD are reversed wired then you can see always a COM port in device manager.

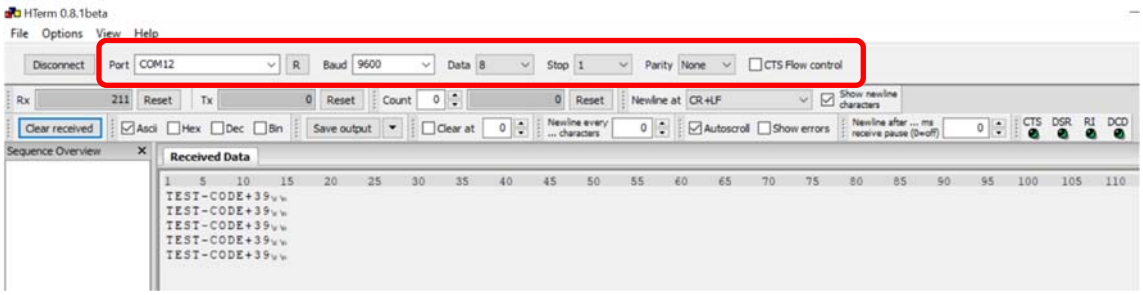
But data can be send and seen on PC only if wiring is correct.

Test of data transmission is possible by use of terminal application.

Important is to select correct COM port and set correct interface parameters.

*Example is with HTerm terminal application.*

*In example COM12 is the new serial port for the RS232 connection.*

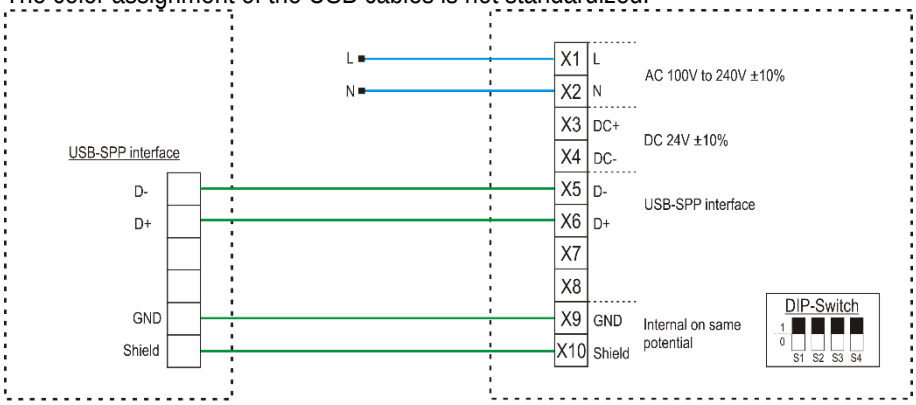


| Notes: What can happen | | | |
|---|---|---|---|
| | Wrong wiring | Correct Wiring and wrong parameters | Correct Wiring and correct parameters |
| Device manager | a COM port is detected and visible | a COM port is detected and visible | a COM port is detected and visible |
| Terminal application<br>e.g. Hterm | COM port is detected and visible<br>→ No data communication possible | COM port is detected and visible<br>→ No data communication or wrong data | COM port is detected and visible<br>→ Data communication is working |
| Action required | Check wiring | Check interface parameters | Communication is working!<br>Scanner system is Ok. |

# 3. USB-SPP – How to identify if it is correct recognized

| Important steps to check that system itself can work | |
|---|---|
| 1. | 1 x USB connection cable to the host PC<br>Maximum cable length supported: 5 m<br>Number of cores and recommended cable cross section: see BARTEC User Manual.<br>(http://automation.bartec.de/scanner.htm)<br>NB:<br>• The default setting for the hand-held scanner is as an USB-HID device.<br> *scan "USB HID Keyboard" to activate the USB interface on scanner.*<br>• The USB interface of the "Universal supply module" only work in SPP (Serial Port Profile) mode, HID is not supported.<br>The Universal supply module need to be set via Dip-switch or programming barcode to the USB-SPP interface, then it will be detected by the host PC as a serial connection (virtual COM interface)<br>• Please use standard, shielded data lines to prevent external disturbances.<br>Recommendation: e.g. use CAT5, similar or higher quality cables. |
| 2. | PC with serial (USB) interface |
| 3. | Terminal program or software keyboard wedge for testing virtual COM communication and data transmission on the host PC. |
| 4. | All used components are correct and compatible. |
| 5. | Check that all components are correct wired.<br>Wiring diagram and examples are available on BARTEC download page.<br>Example diagram for "Universal supply module Bluetooth" (USM).<br>Important:<br>D- of USM must be wired to D- of PC/Host.<br>D+ of USM must be wired to D+ of PC/Host.<br>If it is wrong wired then "Device Manager" recognize an unknown USB device.<br>If it is correct wired then "Device Manager" recognize it as serial COM device. |

The color assignment of the USB cables is not standardized.




*Example drawing of USM with DIP-switch set to USB-SPP and corded Scanner.*

6. Check that no wires are broken.

7. Check that all components are correct powered.

8. Set the USB-SPP interface on “Universal supply module”.

8a. Check that DIP-switch is correct set in accordance to your used interface.

Note:
DIP-switch can be equipped only on first generation of the Universal supply module.
Type: B7-A2Z0-0042/**** and B7-A2Z0-0043/*****

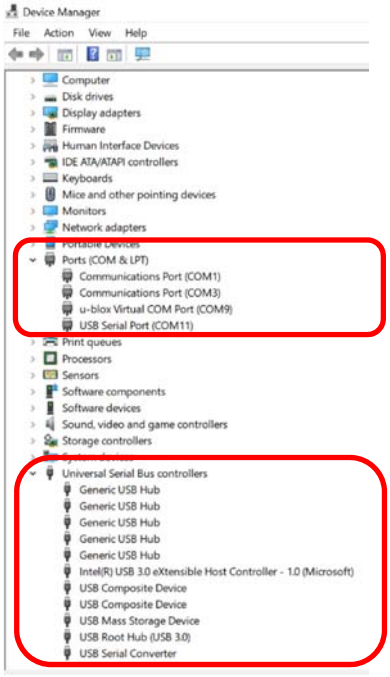
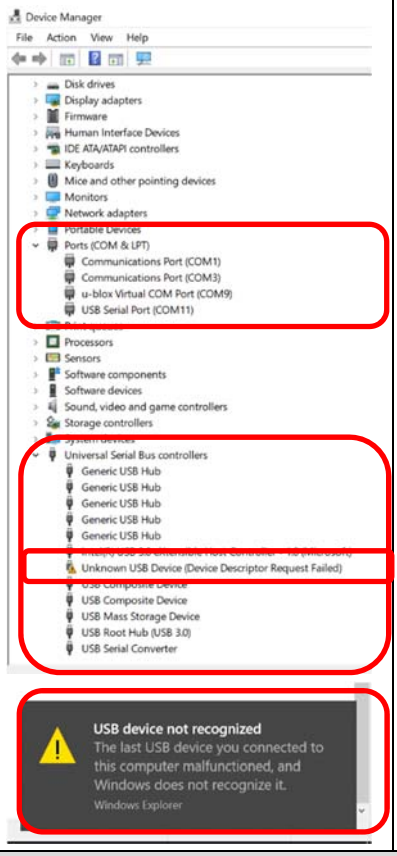
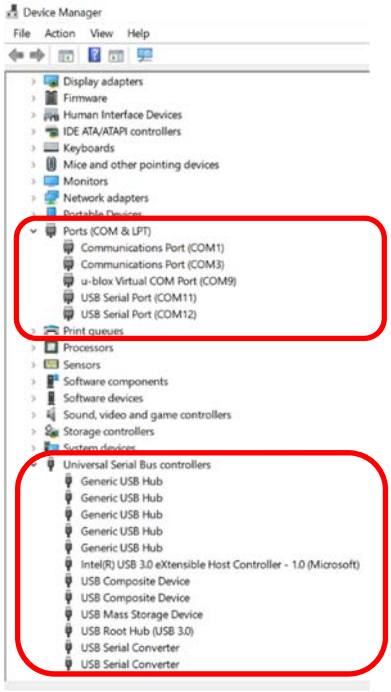
| | Setting Interface (Dipp-switch S1, S2 and S3) | | | |
|---|---|---|---|---|
| **Interface** | **S1** | **S2** | **S3** | **S4** |
| RS 232 | 0 | 0 | 0 | - |
| RS 422 | 0 | 1 | 1 | - |
| RS 485 | 0 | 0 | 1 | - |
| USB-SPP | 1 | 1 | 1 | - |
| | **Settings USM Version (Dipp-switch S4)** | | | |
| **Version** | **S1** | **S2** | **S3** | **S4** |
| corded | - | - | - | 0 |
| Bluetooth | - | - | - | 1 |

8b. If the Universal supply module is without DIP-switch then check that interfaces is set in accordance to your used interface by scan of programming barcode.

**USB-SPP** **RS232** **RS422** **RS485**

9. Check that interface is correct recognized on PC.

10. Check that interface parameters are correct. On both sides (BCS36x8ex system and PC/Host) the interface parameters must be identical.
Wrong parameters can affect:
A) no data visible for example in terminal program
B) incoming data are wrong or cryptic

| How to identify on PC that USB-SPP interface is correct recognized | | |
|---|---|---|
| No Universal supply module connected to PC | Universal supply module is connected via USB-SPP (virtual COM port).<br>Wiring is wrong. | Universal supply module is connected via USB-SPP (virtual COM port).<br>Wiring is correct. |
| In example below is recognized:<br>4 x COM Ports<br>11 x USB devices | In example below is recognized:<br>4 x COM Ports (no new port)<br>12 x USB devices (used a RS232 to USB converter)<br>1 is recognized as unknown device | In example below is recognized:<br>5 x COM Ports (COM 12 is new)<br>12 x USB devices<br><br>(one new USB device is added as well a new COM port) |
|  |  |  |

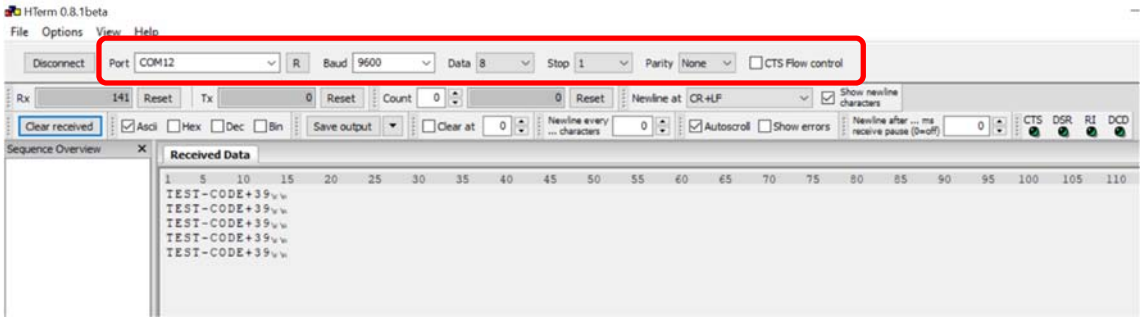
Note:
If D- and D+ are reversed wired then you can see an unknown USB device. No COM port visible in device manager. Data can be seen on PC only if wiring is correct.

Test of data transmission is possible by use of terminal application.

Important is to select correct COM port and set correct interface parameters.

*Example is with HTerm terminal application.*

*In example COM12 is the new virtual serial port for the USB-SPP connection.*




| Notes: What can happen | | | |
|---|---|---|---|
| | Wrong wiring | Correct Wiring and wrong parameters | Correct Wiring and correct parameters |
| Device manager | no COM port is detected / a unknown USB device is found | a COM port is detected and visible | a COM port is detected and visible |
| Terminal application e.g. Hterm | No COM port is detected and visible | COM port is detected and visible<br>→ No data communication or wrong data | COM port is detected and visible<br>→ Data communication is working |
| Action required | Check wiring | Check interface parameters | Communication is working!<br>Scanner system is Ok. |

How can I check the wiring of a USB cable?

The color assignment of the USB cables is not standardized.

Which color is used for USB wires D+ and D- depends on the USB cable manufacturer.

Tip: Measure the cable to know which wires are D+ and D- before wiring.

| PIN | USB connector type A | USB socket plug A: |
|---|---|---|
| | | |
| PIN number | Color | Signal |
| 1 | Red | Vcc 5 $V_{DC}$ |
| 2 | Grey | Data (D-) |
| 3 | Green | Data (D+) |
| 4 | Black | Ground (GND) |