

RS-485 Serial Bus Converter & Connector Kit AWS-SBCKK User Guide Manual

Introduction

The AWS-SBCKK, “RS-485 Serial Bus Converter & Connector Kit”, (Figure 1) allows you to communicate with the Base Radios and Field Units, including using Modbus to communicate to a PLC or an RS-485 connection to a PC. The PC is typically used with the Adaptive Wireless Manager (AWM) for unit setup and configuration. Modbus is often used for continuous data monitoring or control applications.

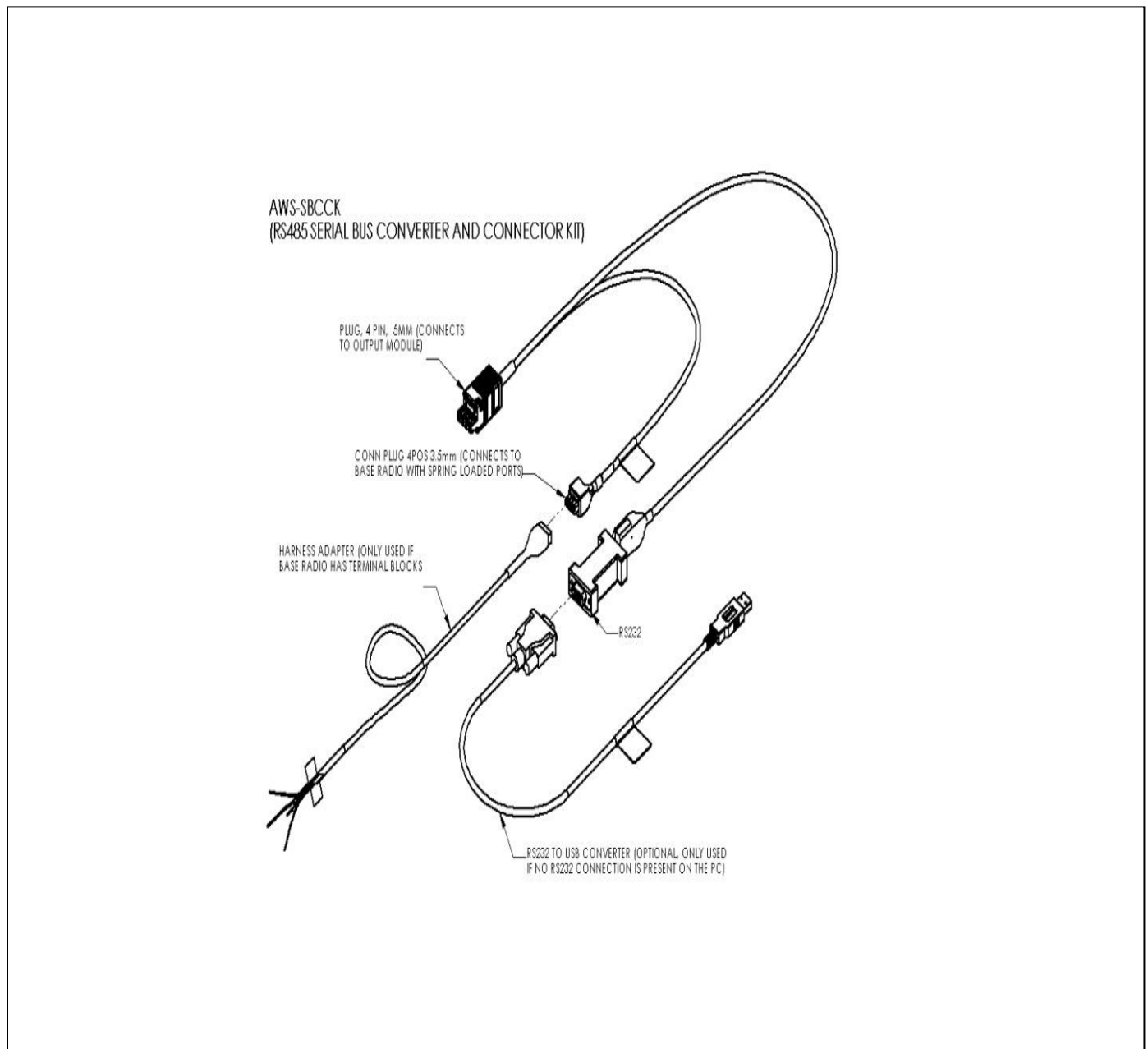


Figure 1: AWS-SBCKK Block Diagram

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The AWS-SBCCK, “RS-485 Serial Bus Converter & Connector Kit”, Connectable components include PC via USB or Serial port, Base Radio and AWS analog/switch output module (Part # AWS-4AO-8SW). AWS-SBCCK comes pre-configured and can be used with all versions of base radio terminal blocks.

Power Setup

The base Radio needs 24 VDC to power up. Below in Figure 2 is a wiring diagram in which you can see 24 VDC supplied to the Modbus Port since RS-485 connection is used to PC. AWS-SBCCK provides power to other connectable components through the base radio.

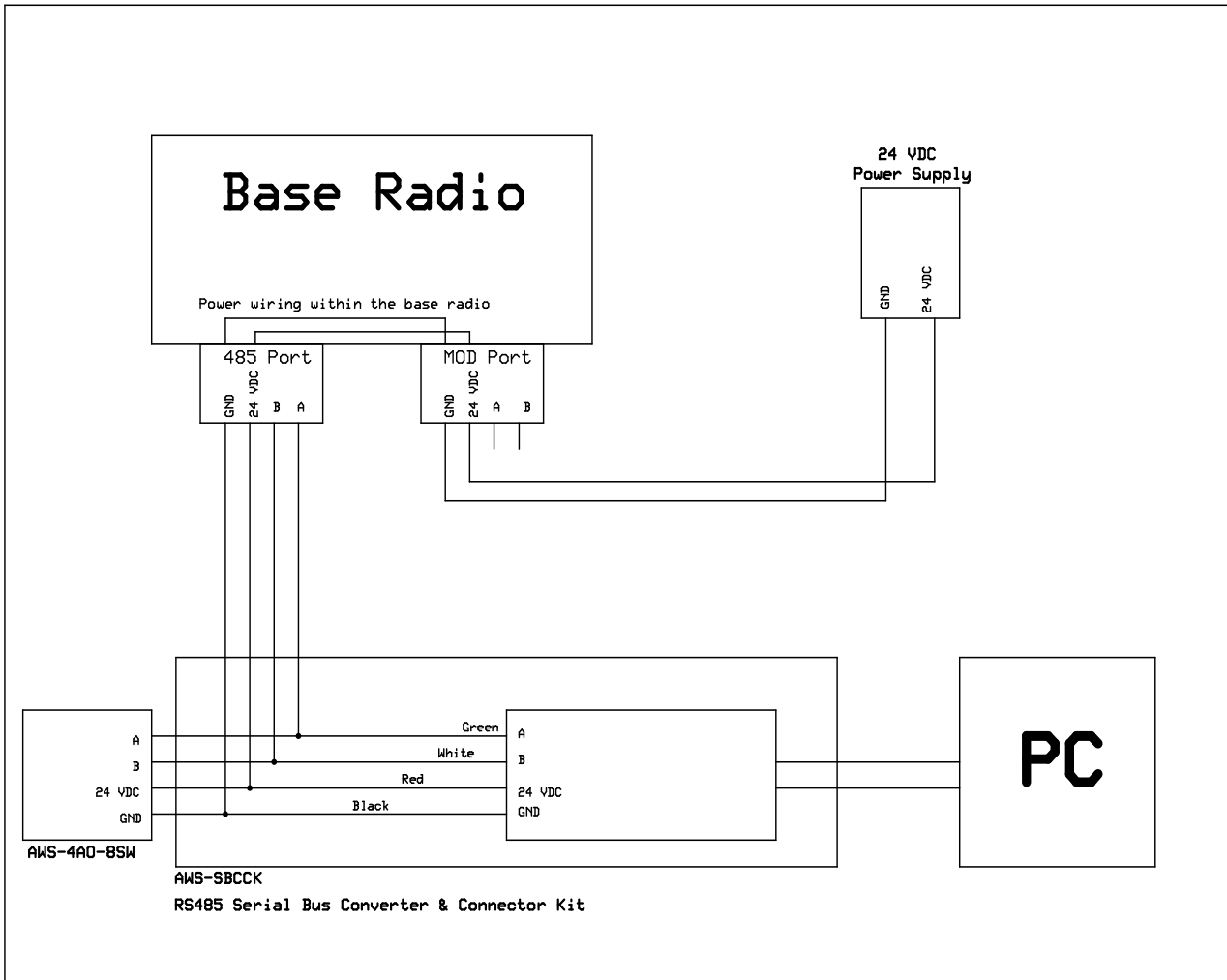


Figure 2: 24VDC Power connection & using RS-485 connection to PC

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Note: 485 and Modbus ports' power terminals (GND, 24 VDC) are linked together within the base radio. (As shown in the Diagram above)

AWM Setup

AWS-SBCCK inter-connects the base radio and the analog output module with a PC, as shown in Figure 3, on which the Adaptive Wireless Manager software (AWM) is installed along with AWS-SBCCK driver. AWS-SBCCK Drivers could be found on a CD, which comes with the AWS-SBCCK when buying a new one, or downloaded from the following link:

<http://adaptive-wireless.com/resources/wireless-manuals/>

Note: Make sure to install AWS-SBCCK drivers when using USB to communicate with your PC.

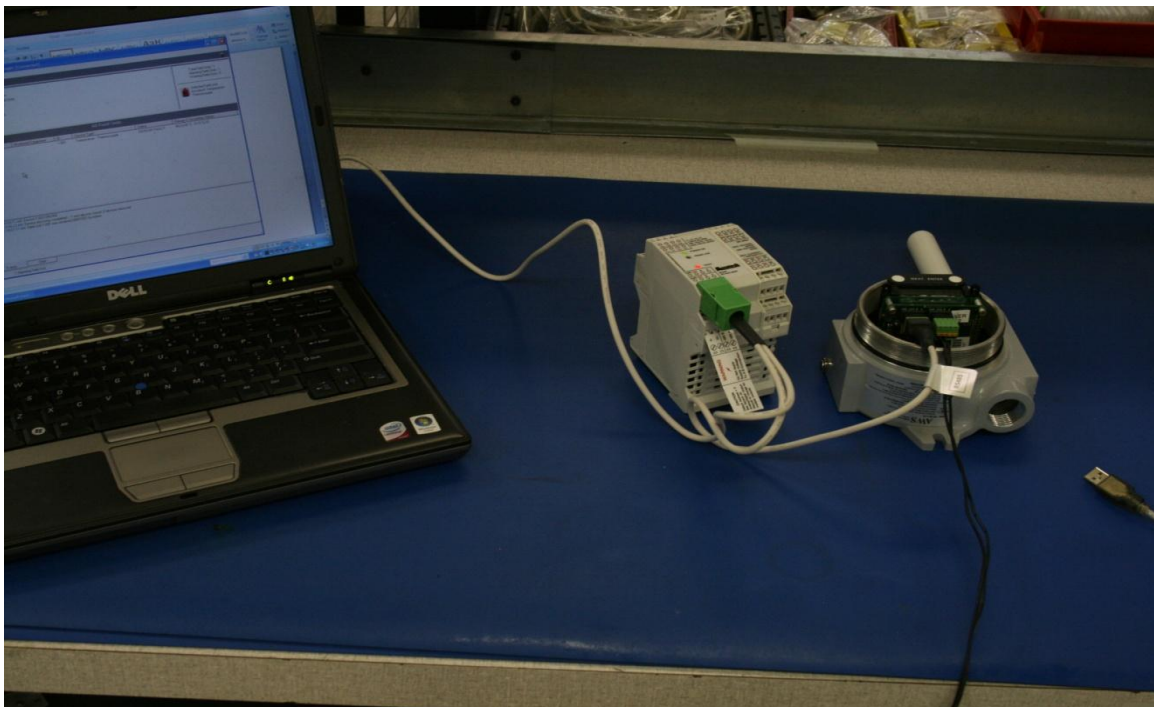


Figure 3: RS-485 Serial Bus Converter & Connector Kit

At the PC side, AWS-SBCCK allows you to communicate through the serial port or through a USB port. Figure 4 shows the PC end of the “RS-485 Serial Bus Converter & Connector Kit” with both options, the serial RS-232 connector and the USB.

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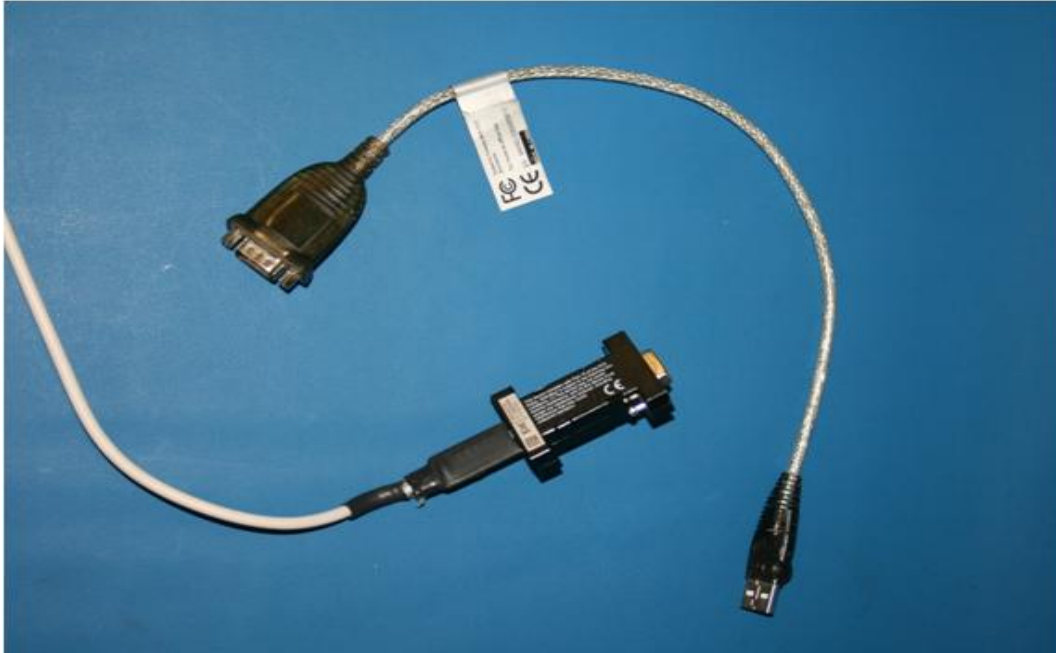


Figure 4: “RS-485 Serial Bus Converter & Connector Kit” PC plug connection options

At the analog output module, AWS-SBCKK has a male 4 pin, 5mm, connector plug which goes into the analog output module as shown in figure 5 below.

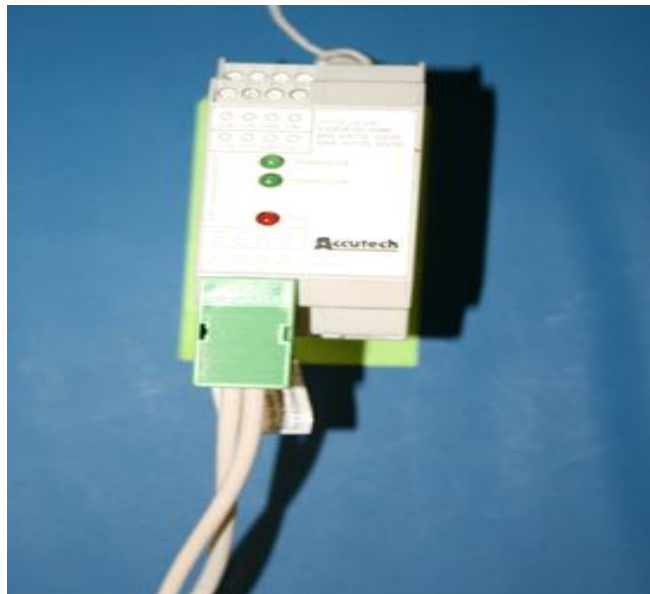


Figure 5: Connection between “RS-485 Serial Bus Converter & Connector Kit” and AWS-4AO-8SW

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At the base radio end, AWS-SBCKK is provided with a 4 position connector plug, 3.5mm, used with base radios with the spring loaded ports, as shown in Figure 6. And with a harness adapter used with base radios with the screw terminal ports, as shown in figure 7.



Figure 6: Base radio with spring loaded plugs



Figure 7: base radio with screw terminal

Note: the adapter harness is only needed if base radio has the screw terminals instead of the spring loaded plugs.

When using RS-485 connection to PC, 24VDC will be supplied to the base radio through the other Modbus port as shown in Figure 2 above. AWS-SBCKK will supply the Output Module with power from the base radio. The PC uses the Adaptive Wireless Manager (AWM) software to configure the units and for occasional variable tracking. To install AWM onto the computer, load the CD into your computer's CD drive or visit our website www.adaptive-wireless.com to download. The software should begin to install automatically. If there are any problems, see page 5 of the AWM User Guide Manual. Also make sure to install AWS-SBCKK drivers when using USB port on the PC for communication.

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Modbus Setup

The AWS-SBCKK could also be used with Modbus Communication. Below in Figure 8 is a wiring diagram in which you can see 24 VDC supplied to the RS-485 Port since Modbus port is used to PC.

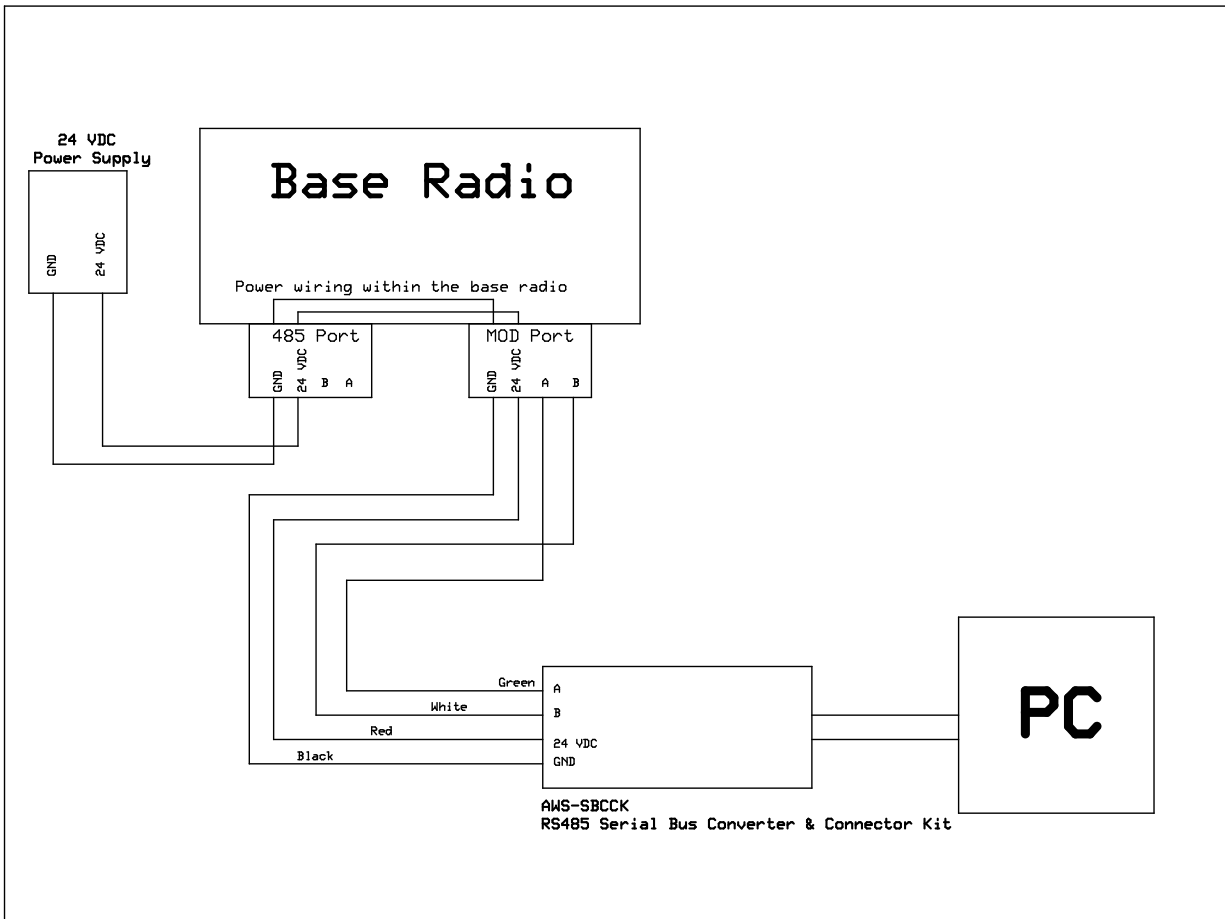


Figure 8: 24VDC Power connection & using Modbus connection to PC

When using Modbus connection to PC, 24VDC will be supplied to the base radio through the other RS-485 port as shown in Figure 8 above. Analog/Switch Output Module is not compatible with Modbus. PC software such as Modscan32 allows you to troubleshoot the modbus communication and check the status of every register of the base radio as well as the field units communicating with the base radio.



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ADDITIONAL SUPPORT

For additional information, please consult the **Base Radio User Guide Manual, Analog/Digital Output Module User Guide Manual**, and the individual **Field Unit User Guide Manuals**.

These may be found on our website at:

www.adaptive-wireless.com

For Technical Support,

Please call us @ **(978) 875-6000**

Or e-mail: techsupport@adaptive-wireless.com