SERIAL TO BLUETOOTH MODULE (SBM)

OWNER'S MANUAL

PART NUMBER: WPN-1987

WATSON INDUSTRIES, INC.
3035 MELBY STREET
EAU CLAIRE, WI 54703

Phone: (715) 839-0628

Fax: (715) 839-8248

email: support@watson-gyro.com

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Watson Industries prides itself on solving customer problems and serving their needs in a timely fashion. This manual is intended to facilitate this goal and to provide written information about your product. We ask that you carefully read this manual. Becoming familiar with the manual will help you understand the product's capabilities and limitations, as well as provide you with a basic understanding of its operation. If, after reading the manual, you require further assistance, do not hesitate to call Watson Industries with your questions and comments.

Product Description

The Serial to Bluetooth Module (SBM) acts as a wireless serial connection utilizing serial port protocol (SPP). The Bluetooth network can be paired to any Android device or Bluetooth-enabled PC via a virtual COM port. It's often as simple as plug, power, and connect.

Installation

If using the SBM with a DMS, SHR, or GCM product, simply plug the module into the serial port of the Watson sensor. If using with a VRS product, install the VRS to Bluetooth Adapter between the serial port and the SBM.

The default baud rate of all compatible Watson sensor units is 9600. Therefore, pin 4 of the SBM should initially be set (positioned further from the connector).

Environment

The SBM is not resistant to the elements. Therefore, avoid mounting sites where water, snow, or particulate matter will work their way into the plastic housing.

Power

The sensor unit powers the SBM with +5VDC through pin 9 of the serial connection.

Pin-Out

SBM Connector Pin Out	
PIN	**Function**
1	No Connection
2	RXD
3	TXD
4	No Connection
5	GND
6	No Connection
7	RTS
8	CTS
9	4-12 VDC

Connecting to an Android Device

1. Make sure the SBM baud rate is properly set (see below).
2. Power the sensor unit.
3. Plug the SBM into the sensor unit's 9-pin serial port (using a VRS to Bluetooth Adapter if connecting to a VRS sensor).
4. Wait for the green light on the SBM to begin blinking. This indicates that a Bluetooth signal has been generated and is awaiting a device to pair with.
5. Open a terminal program (We recommend Blue Term, available at the Google Play store – also linked from our website).
6. Connect to "Watson SBM". To do this using Blue Term, press the square button to bring up the menu. Then press "Connect Device".
7. Enter the Device's pairing code (default is "3035")

Connecting to a PC

1. Make sure the SBM baud rate is properly set (see below).
2. Power the sensor unit.
3. Plug the SBM into the sensor unit's 9-pin serial port (using the VRS to Bluetooth Adapter if connecting to a VRS sensor).
4. Wait for the green light on the SBM to begin blinking. This indicates that a Bluetooth signal has been generated and is awaiting a device to pair with.
5. Ensure the Bluetooth on your PC is enabled.
6. Set up a virtual COM port. On Windows 7 this is done by following: Control Panel > Hardware and Sound > Devices and Printers > Add Device > Watson SBM
7. Enter the device's pairing code (default is "3035").
8. Open a terminal program (We recommend Watson Terminal, available on our website), and select the COM port you set up.
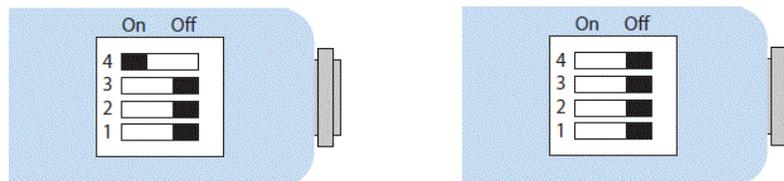
Troubleshooting

If your PC does not recognize the Bluetooth signal, and the Bluetooth switch is set to 'on', make sure your PC is visible to other devices. For Windows 7 users, this can be set by searching "Bluetooth" in the control panel window, and then selecting the "Change Bluetooth settings" option. Then make sure that "Allow Bluetooth devices to find this computer" is checked.
If this option is not available to you, or you're still experiencing trouble finding or pairing to the device, you may need to update your Bluetooth drivers.

Changing Baud Rate

**Important: Terminal baud rate is independent of the SBM and sensor baud rate. The Bluetooth connection will conform to any baud rate that the Terminal is set to. Syncing baud rates is only important between the sensor unit and the SBM.

The SBM has two available baud rates: 9600, and 38.4k Baud. The baud rate is controlled by the position of dip-switch 4 on the bottom of the device. When switch 4 on the SBM is on (positioned further from the connector), 9600 Baud is selected. When switch 4 on the SBM is off (positioned closer to the connector), 38.4k Baud is selected.

Switch Settings: 9600 Baud   38.4kBaud

If you want to change the baud rate of both the sensor & SBM, the first step is to enter command mode on the Watson sensor (consult the appendices of your sensor manual "Activating Command Mode"). Use the menu system to change the baud rate to either 9600, or 38.4k Baud. After you've made a baud rate selection, keep your sensor powered and unplug the SBM. Change switch 4 on the SBM to correspond to your selection, and then plug it back in. Connect to the device via Bluetooth again. The baud rate should now be updated.

Entering SBM Command Mode

**WARNING: Do not attempt to enter SBM Command Mode while the sensor's command mode is enabled.

Within 60 seconds of powering the SBM, connect and send three dollar signs "$$$" to activate its command mode. Make sure the green light on the SBM is on and not flashing.

Successfully activating the SBM command mode will return: "CMD"

Changing Module Name

To change the SBM name, enter the command: "SN,<string>" followed by the return key. The string can be up to 20 chars long.
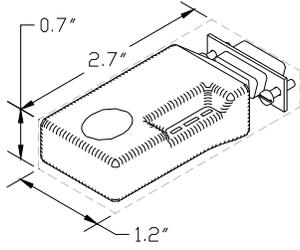
Changing Module Pin Code

To change the SBM pin-code, enter the command: "SP,<string>" followed by the return key. The string can be up to 20 chars long.
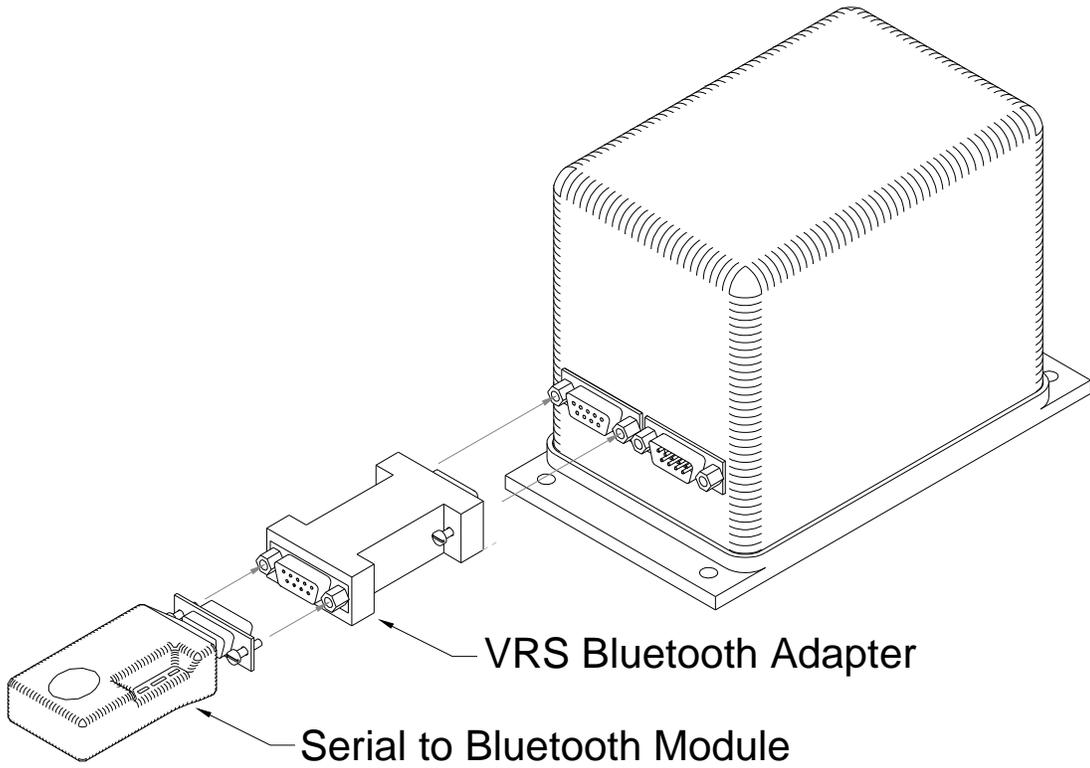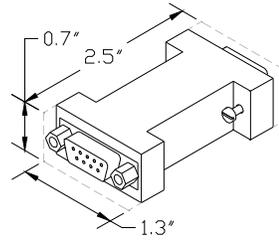
Exiting Command Mode

To exit the SBM command mode, type three dashes "---" followed by the return key.

Dimensions

Serial to Bluetooth Module   VRS Bluetooth Adapter

0.7″
2.7″
1.2″

0.7″
2.5″
1.3″

VRS Bluetooth Adapter

Serial to Bluetooth Module

Warning
Rough handling or dropping of this unit is likely to cause damage.
Over-voltage and/or miswiring of this unit will cause damage.
This unit should be protected against prolonged exposure to high humidity and/or salt air environments.

DISCLAIMER
The information contained in this manual is believed to be accurate and reliable; however, it is the user's responsibility to test and to determine whether a Watson Industries' product is suitable for a particular use.

Suggestion of uses should not be taken as inducements to infringe upon any patents.

WARRANTY
Watson Industries, Inc. warrants, to the original purchaser, this product to be free from defective material or workmanship for a period of one year from the date of purchase. Watson Industries' liability under this warranty is limited to repairing or replacing, at Watson Industries' sole discretion, the defective product when returned to the factory, shipping charges prepaid, within two full years from the date of purchase. The warranty described in this paragraph shall be in lieu of any other warranty, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose.

Excluded from any warranty given by Watson Industries are products that have been subject to abuse, misuse, damage or accident; that have been connected, installed or adjusted contrary to the instructions furnished by seller; or that have been repaired by persons not authorized by Watson Industries.

Watson Industries reserves the right to discontinue models, to change specifications, price or design of this product at any time without notice and without incurring any obligation whatsoever.

The purchaser agrees to assume all liabilities for any damages and/or bodily injury that may result from the use, or misuse, of this product by the purchaser, his employees or agents. The purchaser further agrees that seller shall not be liable in any way for consequential damages resulting from the use of this product.

No agent or representative of Watson Industries is authorized to assume, and Watson Industries will not be bound by any other obligation or representation made in connection with the sale and/or purchase of this product.

Customer Service

All repairs, calibrations and upgrades are performed at the factory. Before returning any product, please contact Watson Industries to obtain a Returned Material Authorization number (RMA).

Return Address & Contact Information

Watson Industries, Inc.
3035 Melby Street
Eau Claire, WI 54703
ATTN: Service Department
Telephone: (715) 839-0628   Fax: (715) 839-8248   email: support@watson-gyro.com

Returning the Product

Product shall be packaged making sure there is adequate packing around all sides. Correspondence shall include:
- Customer's Name and Address
- Contact Information
- Equipment Model Number
- Equipment Serial Number
- Description of Fault

It is the customer's responsibility to pay all shipping charges from customer to Watson Industries, including import and transportation charges.