

# BLE-485 Bluetooth Adaptor



<Twist counterclockwise to Turn off, clockwise to turn on

<Break here to replace battery

<M12 connector

- Pin out
- 1: 6.8 vdc out, 12 vdc out, or 9-24 VDC input depending on model
  - 2. RS485 D-
  - 3. RS485 D+
  - 4. SDI12
  - 5 Ground

## Table of Contents

### INTRODUCTION

What is BLE-485 Bluetooth Adaptor?

### SYSTEM REQUIREMENTS

### INSPECTION AND HANDLING

Package Contents

### DO'S AND DON'Ts

### INSTALLATION AND SET-UP

How do RS485 and Bluetooth work?

Power

Connecting BLE-485 Bluetooth Adaptor to an RS485 device

Connecting BLE-485 Bluetooth Adapter to an SDI12 device

Turning on and off your device

Connecting to Windows Computer

Connecting to IOS/Android Device

### MAINTENANCE

Troubleshooting

### TECHNICAL SPECIFICATIONS

### ORDERING INFORMATION

### LIMITED WARRANTY

\* This version of the manual is in development mode, please contact us with any questions.

## Introduction

### What is the BLE-485 Bluetooth Adaptor?

The BLE-485 is battery operated remote Bluetooth device that connects RS485 or SDI12 serial devices and sensors to computers and mobile devices with Bluetooth Low Energy 4.0+ capabilities\*. If using a Windows PC, Anuraco's Sensor Connect software and an Anuraco Master BLE adapter establishes the Bluetooth link. If using Anuraco's mobile app SensorSeer, no master BLE adapter is needed as the mobile device provides the Bluetooth link.

The BLE-485 comes in three models:

All BLE-485 remote adapters have one internal 3.6 VDC 14500 primary lithium battery and a Bluetooth to RS485, SDI12 circuit board.

BLE-485 is a model that can be externally powered externally with a 9-24 VDC power supply. and does not provide power to an attached sensor, only sdi12 or RS485 connections. It is used with devices that have their own power supply such as Seametrics smart sensors. An external 9-24 VDC input supply can be applied to it, which if used turns off the internal 3.6 VDC battery supply for longer term installations.

BLE-485-6.8 is a model that provides 6.8 VDC output to power external sensors. The lower voltage uses less battery power than the 12 VDC model. It cannot be externally powered.

BLE-485-12 is a model that provides 12 VDC output to power external sensors. It cannot be externally powered.

## Initial Inspection and Handling

### In your package you should have:

- 1 AA 3.6 VDC Lithium battery
- 1 BLE-485 Bluetooth Adaptor
- 1 Getting Started Guide

---

## DO'S AND DON'TS

### DO

DO Mount as high as practical for best Bluetooth reception/range.

DO Insure unit is on, cap screwed clockwise, and blue LED flashes for 1 minute. If not in use DO insure the unit is OFF when the Set Screw sets against the stop ridge.

## DON'T

DON'T Install the unit where the clear antenna window is under water or buried where there is not radio reception. BLE 4.0 is a radio link that in line of sight conditions will travel 45 meters. Walls, metal ground cover and other blockages will reduce range.

DON'T leave the unit on if storing for extended periods of time. The battery has a 10 year life if the unit is not turned on and approx. 1 year under normal intermittent use operation.

DON'T Leave the unit without a sensor or device attached to its connector if outside in moist environment. The connector is submersible if connected, but will corrode over time if unconnected and left outside in a wet or corrosive environment.

## Installation and Set-up

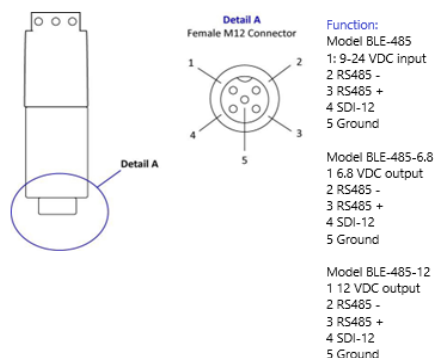
### How RS485 and Bluetooth Low energy adaptors work?

The BLE-485 device is an adaptor that converts a Bluetooth Low Energy radio connection to a RS485 serial connection or an SDI-12 serial connection, which allows you to connect hands free to a remote serial device with a RS485 or SDI-12 interface. The adaptor can be programmed with its utility tool (Sensor Connect with a Windows PC, or SensorSeer if using a mobile Device) to communicate at Baud rates of 9600, 19200, 38400, 56800 and 112000 if using an RS485 device and if using an sdi12 device, the utility software automatically switches the hardware lines and sets the proper baud rate of 1200 for sdi12 devices. It is assumed that users understand and use standard RS485 and SDI12 wiring practices.

### Power

The BLE-485 remote device is powered with an internal 14500 primary 3.6 vdc lithium battery. The BLE485-6.8 or BLE485-12 provide external power. The BLE-485 without a 6.8 or 12 VDC output, has an auxiliary input that can accommodate a 9-24 VDC supply.

### Connecting a BLE-485 Bluetooth Adaptor to a RS485 or SDI-12 device



The Anuracom comes with a 5 pole single keyway M12 type A single keyway IP67 female connector designed to mate with a 5 pole field connector with pinout as follows.

A mating connector is available for purchase from Anuraco, part # 1C-001.

## Turning on and off your device

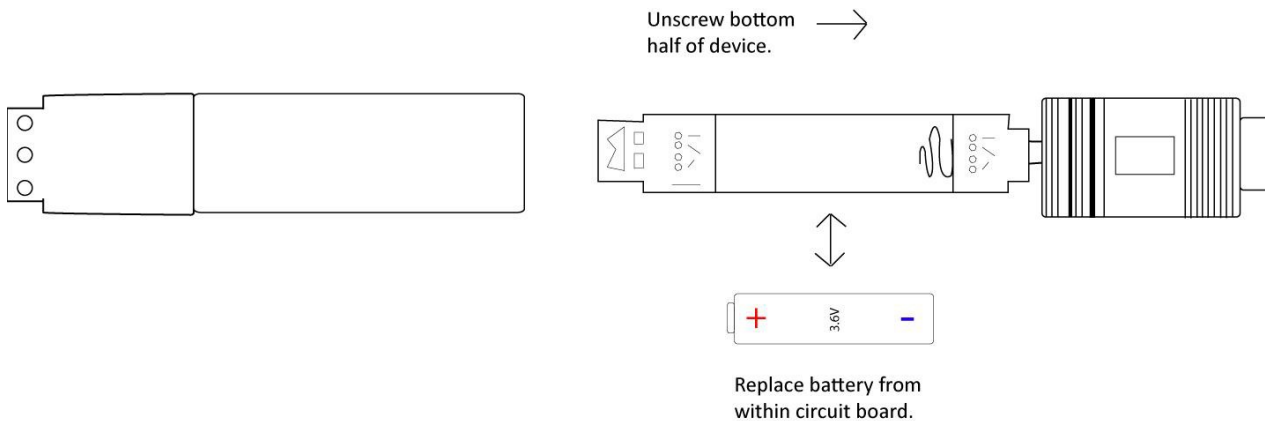


Turn **ON** your adaptor by twisting 1 quarter turn clockwise. A blue signal light will flash (for one minute only) when first turned on. UNIT WILL REMAIN ON unless manually turned off.

Turn **OFF** your adaptor (for long term storage) by twisting counter-clockwise 1 quarter of a turn or until tight.

Turn OFF then ON to reboot LED signal.

## Changing batteries



**Please note: The battery used in the BLE is not a 1.5 vdc Alkaline AA battery!!! It is a 3.6 VDC 14500 primary lithium battery Anuraco P/N AC1003 or equivalent.**

## Connecting to an IOS or Android device

The device is fully compatible with IOS/Android devices with Bluetooth 4.0 or later. The utility application for this device can be found at the App or Play store by searching for **Anuraco SensorSeer**

## Connecting to Windows Computers

1. With Windows a usb to master BLE device kit is required with Anuraco's Windows application **Sensor Connect**. **Anuraco currently does not support native BLE 4.0 without our Master BLE device kit.**

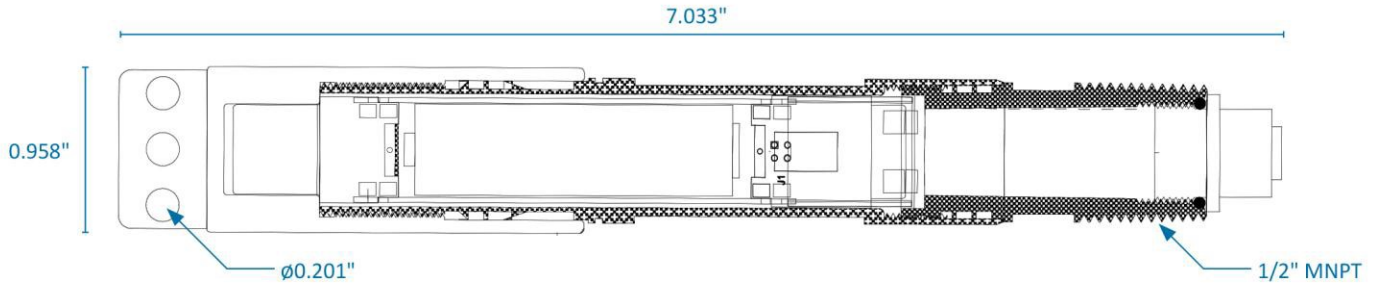
## Maintenance

The only maintenance item on the Anuracom item is to replace the battery and insure that the poly cap is not shielded from broadcasting and receiving Bluetooth signals i.e. plant growth or installation conditions change. After first installing a battery you have the option of programming in a date when you may want to replace the battery in the future or when you installed the battery. The device was designed to broadcast for up to one 1 year under intermittent use and communicate a 50 MB of data during this time without a need to replace the battery. However the life of the battery is application dependent. More communication will shorten the life of the battery as well as if attached to a sensor that is being powered by the 6.8 or 12 VDC supplies. We recommend scheduling a battery change depending on your application needs.

## Trouble Shooting

Please email us at [support@anuraco.com](mailto:support@anuraco.com) or visit [www.anuraco.com](http://www.anuraco.com) or any issues with installation or use of your device.

## Technical Specifications



## ORDERING INFORMATION

Model	Description
BLE-RS485	Bluetooth to RS485/SDI-12 with AA 3.6 lithium battery:
BLE-RS485-6.8	Bluetooth to RS485/SDI-12 with AA 3.6 lithium battery: and 6.8 VDC boost output
BLE-RS485-12	Bluetooth to RS485/SDI-12 with AA 3.6 lithium battery and 12 VDC boost output

## ACCESSORIES

Model	Description
AC-1003	Saft LS14500 3.6 VDC AA , -400 to 1400 F operation, no leakage, 10-year storage life. Shipped Ground.
AC1002	Splitter for providing two inputs to adapter
AC-1001	5 pole field mating connector.
AC-1010	Bluetooth to USB master kit with SensorConnect

## SPECIFICATIONS

Bluetooth Technology
4.0+ compliant
Sleep, advertise and transmit modes supported
Built-in antenna
Power
Internal 3.6 VDC battery
External 9 to 24 VDC auxiliary supply or 6.8 or 12 VDC output supply
Serial RS-485 Technology
Supports 9600, 19200 and 38400,57600, 115200 baud rates and SDI12
RS-485 2 wire, Data A (-), Data B (+), SDI-12, grd
Industrial Bus
Indicators
Multicolor LED's for wake state, on/off and other programmable indications
Modbus ASCII/RTU or SDI-12 protocols
Mechanical
Enclosure: IP67
Material of construction: Anodized aluminum & polycarbonate
Environmental
Operating temperature: -40 to 85 degree C
Approvals / Certifications
FCC, IC, CE, ROHs
Bluetooth SIG declared

## Limited Warranty

Seller warrants that the adaptor and software, will substantially perform the functions described in the accompanying written materials for a period of ninety (90) days from the date of receipt. If the adaptor or software does not conform to the foregoing warranty, Seller shall, at Seller's sole and exclusive option, repair or replace the software and adaptor or refund the purchase price.

Seller warrants that any hardware accompanying the software will be free from defects in materials and workmanship under normal use and service for a period of one (1) year from the date of receipt. Seller's obligation under this warranty shall be limited to replacing or repairing the part or parts or, at Seller's option, the products which prove defective in material or workmanship within ONE (1) year from the date of delivery, provided that Buyer gives Seller prompt notice of any defect or failure and satisfactory proof thereof. Any defective part or parts must be returned to Seller's factory or to an authorized service center for inspection. **Buyer will prepay all freight charges to return any products to Seller's factory**, or any other repair facility designated by Seller. Seller will deliver replacements for defective products to Buyer (ground freight prepaid) to the destination provided in the original order. Products returned to Seller for which Seller provides replacement under this warranty shall become the property of Seller. Seller's obligations under this warranty shall not apply to the battery with is normally consumed in operation, or (b) has a normal life inherently shorter than the warranty period stated herein. In the event that equipment is altered or repaired by the Buyer without prior written approval by the Seller, all warranties are void. Equipment and accessories not manufactured by the Seller are warranted only to the extent of and by the original manufacturer's warranty.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY. IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY SHALL NOT APPLY. SELLER'S WARRANTY OBLIGATIONS AND BUYER'S REMEDIES THEREUNDER (EXCEPT AS TO TITLE) ARE SOLELY AND EXCLUSIVELY AS STATED HEREIN. IN NO CASE WILL SELLER BE LIABLE FOR CONSEQUENTIAL DAMAGES, LABOR PERFORMED IN CONNECTION WITH REMOVAL AND REPLACEMENT OF THE SENSOR SYSTEM, LOSS OF PRODUCTION OR ANY OTHER LOSS INCURRED BECAUSE OF INTERRUPTION OF SERVICE. A NEW WARRANTY PERIOD SHALL NOT BE ESTABLISHED FOR REPAIRED OR REPLACED MATERIAL, PRODUCTS OR SUPPLIES. SUCH ITEMS SHALL REMAIN UNDER WARRANTY ONLY FOR THE REMAINDER OF THE WARRANTY PERIOD ON THE ORIGINAL MATERIALS, PRODUCTS OR SUPPLIES.

B. With respect to products purchased by consumers in the United States for personal use, the implied warranties including but not limited to the warranties of merchantability and fitness for a particular purpose, are limited to twelve (12) months from the date of delivery.

Some U.S. states or countries, do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. Similarly, some places do not allow the exclusion or limitation of consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights; however, you may also have other rights which may vary.