

## Aithre Shield EX 2

Experimental Aircraft Carbon Monoxide Detector with iOS Support

DATASHEET VERSION EX2.1.00\_11112019



### Features

- Compact size
- Feather light
- Simple wiring
- Behind-the-panel mounted
- Outputs analog voltage linear to CO ppm present
  - Works with any analog input instrument
  - Compatible with Dynon, Garmin G3X, Advanced Flight, MGL, and more
- iOS/WatchOS Aithre Connect app provides discrete and trend levels of carbon monoxide
- High repeatability/selectivity to carbon monoxide
- High accuracy of detected carbon monoxide gas concentration
- Long life
- CO sensor meets UL 2034, EN50291, and EN54-31 requirements
- Incorporates RN4871 certified to FCC, IC, CE, KCC, NCC, and SRRC

### Device overview

- 3 wires
  - 5V power
  - Ground
  - Analog voltage output for carbon monoxide ppm
- Use with avionics capable of accepting analog voltage sensor inputs
- Use with companion iOS/WatchOS application
- Dimensions: 1.75" x 1.75" x 0.64"
- Weight: 1.1 ounces



- No recalibration for 10 years

### Operational

- Always on with 5V power
- Supports Aithre Connect iOS/WatchOS application
- Temperature range:
  - -10° C to +50° C
- Detection range:
  - 2ppm to 255 ppm
- Accuracy:
  - +/- 5%
- Response time:
  - less than 60 seconds

### Cautions

- Do not disassemble the device
- CO sensor characteristics may be significantly changed when contaminated by alkaline metals, salt water spray, or liquids
- CO sensor may be irreversibly damaged by exposure to high concentrations of basic gases such as ammonia
- CO sensor may be temporarily affected by exposure to organic vapors such as alcohols or acetone
- At temperatures of 80° C or higher the CO sensor may deteriorate
- Avoid exposure to silicone adhesives, hair grooming materials, dew condensation, hydrogen sulfide, sulfuric acid gas
- Avoid dropping or shocking the device or exposing to extreme vibration

### Specifications

- Microchip RN4871 Module
  - Standards compliance: Bluetooth 4.2
  - Frequency band: 2.402 to 2.480 GHz
  - Modulation method: GFSK
  - Antenna: ceramic
  - Sensitivity: -90 dBm
- CO sensor
  - Detection method: electrochemical
- Processor
  - 8MHz



- Operating Voltage: 3.3V using 5V input
- Current Consumption: 5-6 mA
- Operating Temperature Range: -10° C to +50° C
- Storage Temperature Range: -20° C to +60° C
- Humidity Range: 10% to 90%
- Moisture Sensitivity Level: 2

### **Wireless Compliance/Regulatory Approval**

- US FCC ID: A8TBM71S2
- Canada IC: 12246A-BM71S2
- Europe Compliance Tests
  - EN60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
  - EN 62479:2010
  - EN 301 489-1 V1.9.2
  - EN 301 489-17 V2.2.1
  - EN 300 328 V1.9.1
  - CE0197
- Japan: 005-101150
- Korea: MSIP-CRM-mcp-BM71BLES1FC2
- Taiwan: CCAN16LP9911T7
- China CMIIT ID: 2016DJ5890

### **CO Sensor Compliance**

- US: UL2034
- Europe: EN50291, EN54-32



## **AITHRE SUPPORT**

Support for Aithre products is available on our website [www.aithreaviation.com](http://www.aithreaviation.com), phone 208-481-8310, and email [support@aithreaviation.com](mailto:support@aithreaviation.com)

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