



## Bluetooth® Low-Energy Proximity Beacon with Accelerometer

### General Description

EMBC02 is a Bluetooth Low-Energy proximity beacon with integrated accelerometer for attachment to objects that move. EMBC02 advertises ID data that is compatible with common beacon standards (UUID, Major ID, and Minor ID), ONLY when an object is moving, or ONLY after an object has fallen. There is also a mode to display accelerometer data and gesture counts.

Similar to EMBC01, EMBC02 is part of the coin-cell family of beacons which come in a small, weatherproof enclosure, using a standard coin-cell battery, or as a PCB panel. A push-button with LED feedback allows the user to select the right operating mode for their deployment. EMBC02 operating modes offer tradeoffs between different functional modes.

EMBC02 is shipped pre-programmed with several operating modes:

- Sleep Mode with over 7 years of shelf life typical
- Sensor Mode offers 1s beacon interval, 60m range line-of-sight (LOS), and 4.5 months of battery life typical while displaying raw accelerometer data and a tap counter.
- Moving Mode offers 100ms beacon interval, 30m range, and consumes an average of 275  $\mu$ A when beaconing and 6  $\mu$ A while idling. The device only beacons when movement is detected and one minute after the device is still
- Fall Mode offers 100ms beacon interval, 120m range, and consumes an average of 350  $\mu$ A when beaconing and 13  $\mu$ A while idling. The device only beacons after a fall has occurred and 10 minutes after the event

Any mode can be locked for final deployment

EMBC02 can be delivered in any quantity with guaranteed unique ID numbers. A unique serial number is printed on the label and encoded in a QR code for optical scanning.

EMBC02 firmware can be customized for individual deployments with the Proximity Beacon Development Kit. Custom parameters include UID, power level, beacon interval, state-machine, gesture alarm mode, gesture threshold, and accelerometer data and settings. Gestures include: any movement, no movement, taps, falls, and shocks.

EMBC02 is FCC, IC, and CE certified, RoHS, Reach, and halogen free compliant.

### Features

- | Weatherproof Enclosure
  - IP-64 rating, -20C to +60C operating range
  - Size: 30mm x 10mm disk; Weight: 7 grams
  - Replaceable CR2032 3V Li battery
  - Integrated push-button with LED indicators
  - PCB-only format also available
- | Accessories
  - Wall-mount
  - Key-fob
  - Wrist-band
- | Selectable ID Mode beaconing
  - ID packet format includes:
    - UUID, Major ID, and Minor ID
    - Output power information
  - Sensor Mode: 60m LOS, 1s beacon interval, with tap counter
  - Moving Mode: 30m LOS, 100ms beacon interval, 1 minute broadcast period after movement is detected
  - Fall Mode: 120m LOS, 100ms beacon interval, 10 minute broadcast period after a fall is detected
- | Unique Identification
  - UUID: 699EBC80-E1F3-11E3-9A0F-0CF3EE3BC012
  - Unique Major and Minor IDs (serialized)
  - Unique Serial Number
  - Serial number, Major/Minor ID embedded in QR Code for deployment

### “EMBC Finder” Smart Device App

- | iOS App available on App Store
  - iPhone® 4S and above
  - iPad® 3 and above (Mini, Air, etc.)
- | Android App available on Google Play™
  - 4.3 and newer devices

### Applications

- | Inventory tracking
- | Electronic Leash Applications
- | Activity monitoring

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