

# HID® BEEKS001 Install Guide

PLT-05252, Rev. A.1

## Overview

The BEEKs™ Install Guide covers the basics of the BLE beacon setup and provisioning of equipment with Bluzone Cloud account and project. This install guide is intended for install technicians.

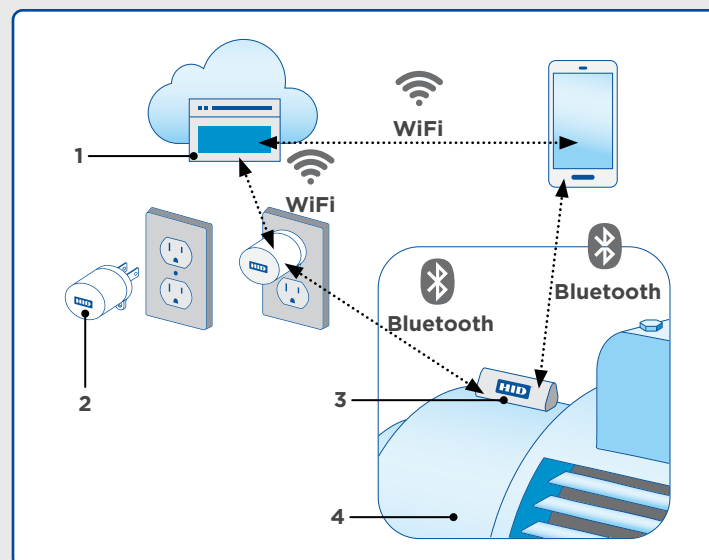
BEEKs™ Bluetooth Low-Energy (BLE) beacons are among the most advanced beacons in the industry. Being fully Apple iBeacon and Google Eddystone compatible, BEEKs beacons may be used for any standard beacon application that provides location based promotional or way-finding services to smartphone users. BEEKs beacons are available in multiple form factors and sensor configurations.

When combined with HID Global's end-to-end IoT ecosystem, that includes BluFi™ BLE to WiFi gateways and the Bluzone™ cloud services, BEEKs can be centrally managed remotely through the cloud to transfer new messages, firmware updates and battery status checks. Their unique design allows BEEKs to broadcast reliably even in densely populated WiFi environments.

The BLE radio enables the Beacon to transmit condition monitoring, proximity messaging, way finding and asset location. Bluzone allows you to control the transmitting capabilities of the Beacon. The Beacon provides the ability to transmit in iBeacon, Eddystone or sBeacon format.

The BEEKs Beacons link to ID64 with a QR code printed/ labeled on the outer casing.

## Terminology



ITEM	DESCRIPTION
1	Bluzone – Secure cloud-based SaaS to centrally manage BEEKs via BluFi gateways. Additionally, monitor, store and analyze performance data collected from deployed BEEKs fleet.
2	BluFi Gateway – Receives data from BEEKs over Bluetooth and sends to Bluzone Cloud.
3	BEEKs CM – Sends vibration and temperature data to BluFi.
4	Asset – Equipment to be monitored or tracked

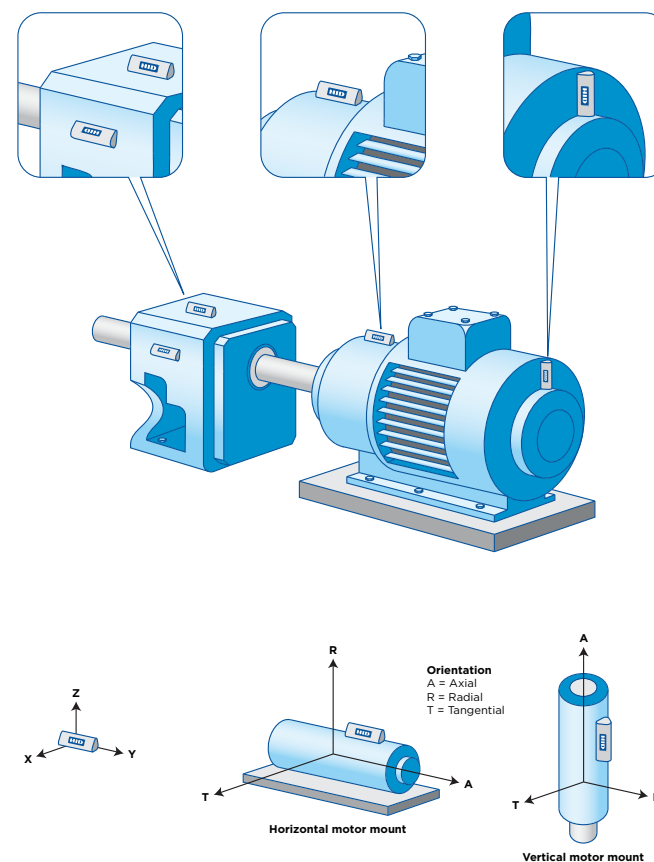
## Best practices

- Maximum of 15 - 20 beacons per BluFi for best results
- Maximum 20 - 30 meters from beacon to BluFi for best results (distance will decrease for increased interference/ blockages)
- Recommended epoxy glue for mounting: Loctite AA 330, Devcon 5-minute (for BEEKS001-CM)
- Network troubleshooting
  - 2.4 GHz WiFi only
  - HTTPS port 443 must be open
  - DHCP required
  - 1 Mbps upload speed required
  - Captive WiFi portals not compatible
  - Compatible certificate formats: .pem, .der
  - BluFi MAC address whitelisting may be required on some networks

## Sensor locations

Beacons should be mounted to a clean, flat, rigid surface of the asset to be monitored.

For Condition Monitoring Applications with BEEKS001-CM, the beacon should be oriented such that its three axes are parallel to the three axes of the asset, close to the source of vibration.



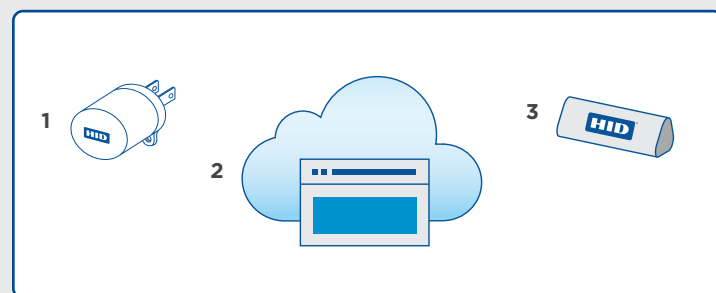
## Pre-requisites

- Set up Bluzone account
- Download Bluzone mobile app
- Additional installation guides are available and can be found at : <https://hid.gl/HID-BluFi-installation>

## Specifications

BLE Beacons model number BEEKS001			
Different Configurations based on environments and use case			
BEEKS001-CM	BEEKS001-Industrial	BEEKS001-Lite	BEEKS001-Plus
BEEKS001-CM	Condition monitoring for industrial applications, sends vibration (accelerometer) and temperature data. Enclosure is sealed with epoxy to preserve mechanical frequency response. Epoxy-mount.		
BEEKS001-Industrial	Status/ process monitoring, sends basic motion and temperature data. VHB tape-mount.		
BEEKS001-Lite	Asset location and way-finding. VHB tape-mount.		
BEEKS001-Plus	Asset location and way-finding with longer battery life. VHB tape-mount.		
<b>Operating temperature</b>	-13°F to +185°F (-25°C to +85°C)		
<b>Storage temperature</b>	-22°F to +185°F (-30°C to +85°C)		
Specifications			
<b>Standard Protocol</b>	Bluetooth Low Energy 4.2		
<b>Frequency range</b>	2400-2483.5 MHz		
<b>No of channels</b>	40		
<b>Modulation</b>	GFSK		
<b>Mode of operation</b>	Half duplex		
<b>RF output power</b>	+5dBm (<10mW)		
<b>Antenna</b>	PCB, 0 dbi omnidirectional		

## System components



ITEM	DESCRIPTION
1	BluFi™ model BluFi-AC00 – Bluetooth to WiFi Gateway.
2	Bluzone – Cloud Fleet Management and Condition Monitoring dashboard.
3	BEEKs™ model BEEKS001-XX Bluetooth Low Energy Beacons.

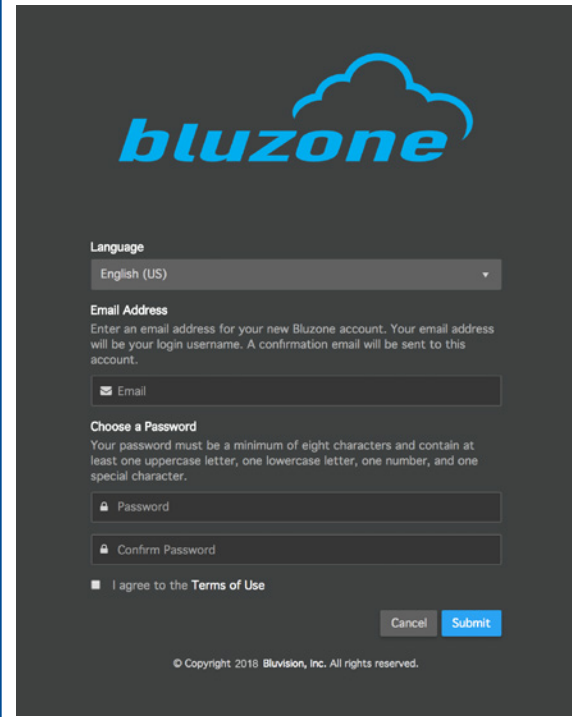
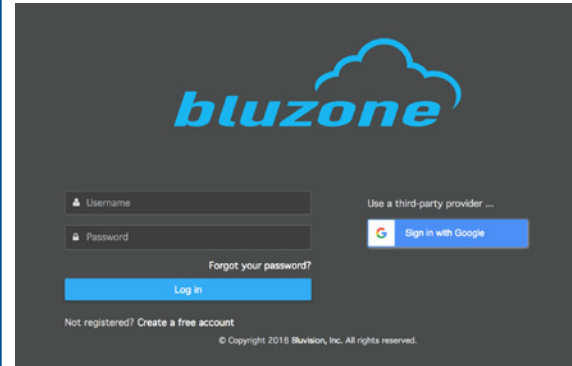
Name	BEEKS001-CM	BEEKS001-Industrial	BEEKS001-Lite	BEEKS001-Plus
Length x width	2.36 in x 0.83 x 0.98 in (60 x 21 x 25 mm)	2.36 in x 0.83 x 0.98 in (60 x 21 x 25 mm)	2.36 in x 0.83 x 0.98 in (60 x 21 x 25 mm)	2.41 x 1.46 in (61.3 x 37.2 mm)
Weight	1.37 oz (39 g)	1.0 oz (28 g)	1.0 oz (28 g)	2.7 oz (76 g)
Housing material	Polycarbonate and ABS			
Data rates	1Mbit/s			
Battery type	3.6V / 2600mAh – Primary Lithium 3.6V / 2600 mAh			(3ea) 3.6V / 7200 mAh
Battery duration	Up to 3 yrs		Up to 5 yrs	Up to 8 yrs



# 1 Initial setup

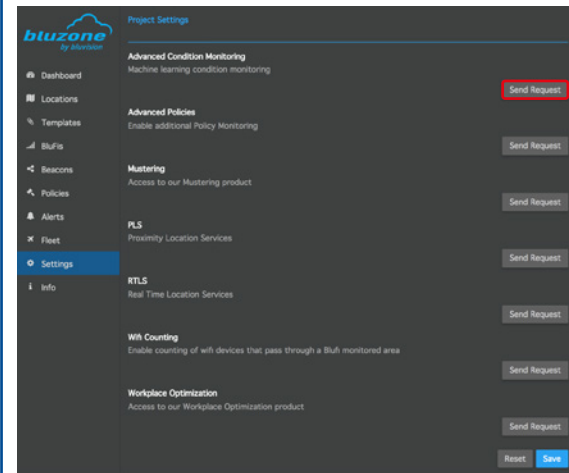
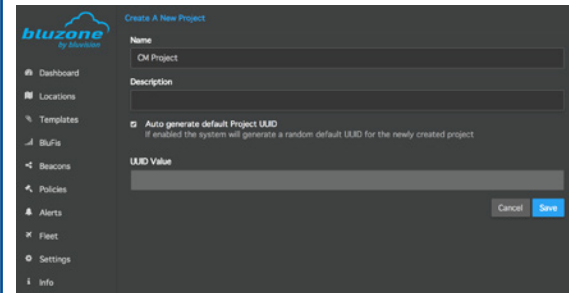
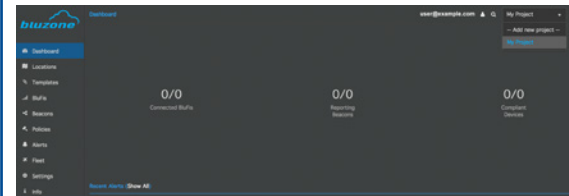
## 1. Account setup

1. Visit [bluzone.io](https://bluzone.io) and register a new account. Verify your email by clicking on the link emailed to you.



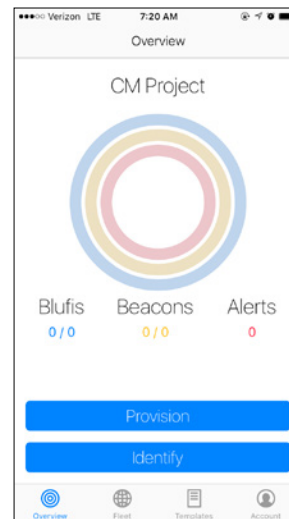
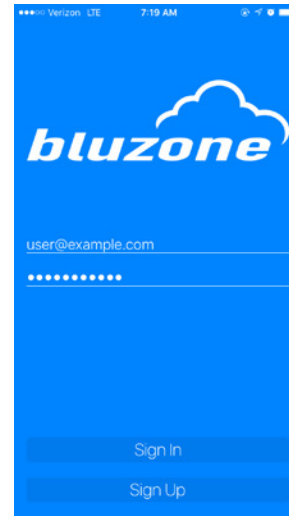
## 2. Project setup

1. Use the dropdown menu in the top right portion of the screen to create a new project.
2. Go to **Settings** and send a Product Activation request for your use case e.g. RTLS, Status Monitoring or Advanced Condition Monitoring, depending on the SaaS model you have purchased. Your product features will be activated within 24 hours.



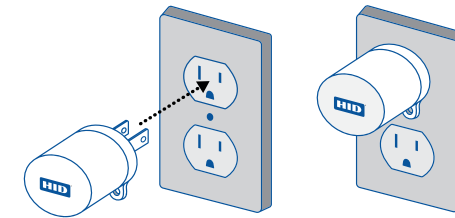
## 3. Bluzone mobile app setup

1. Download the Bluzone mobile app from Google Play or the iOS App Store.
2. Login to your account with Bluzone credentials.

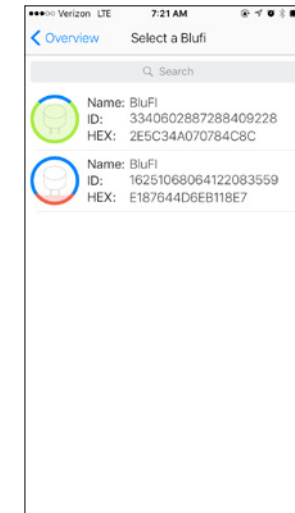


## 4. BluFi provisioning

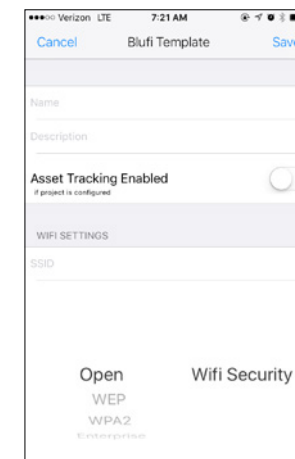
1. Plug BluFi into power source for initial setup.



2. In Bluzone app, tap **Provision > BluFi**
3. Hold mobile device close to BluFi and select device with highest signal strength (swipe down to refresh list).

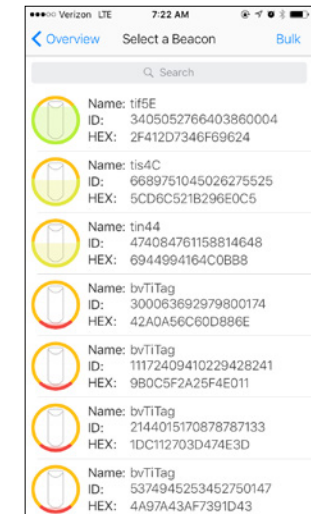


4. Follow each step within Bluzone app as instructed to define location and picture of the installation place (optional).
5. When prompted for Template, create a new Template with your WiFi SSID and password.

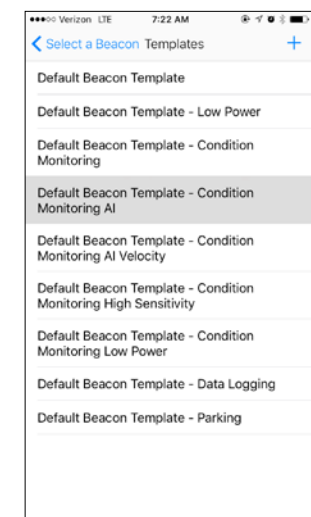


## 5. BEEK provisioning

1. Place BEEK close to BluFi (don't install on assets yet).
2. For each beacon, hold mobile phone close to BEEK and select device with highest signal strength (swipe down to refresh list). Continue the steps for each BEEK.



3. When prompted for a Template, select the template corresponding to your use case e.g. "Default Beacon Template - Condition Monitoring AI" for Advanced Condition Monitoring with BEEKS001-CM.



Assign the beacon a name that coincides with the asset on which it is installed. It is also good practice to use a label-maker to place a label on the beacon that matches this name.

For more detailed information, visit <https://hid.gl/HID-BEEKs-installation>

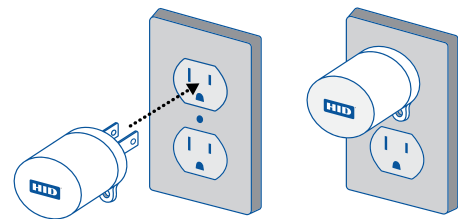
## 2 BEEKs and BluFi installation

For more detailed information, visit <https://hid.gl/HID-BEEKs-installation>

### 1. BluFi installation

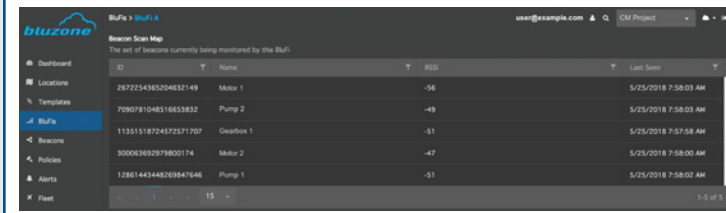
1. BluFi should be installed within 100ft (30m) of monitored assets (shorter distances required for environments with obstructions).

#### AC BluFi Option



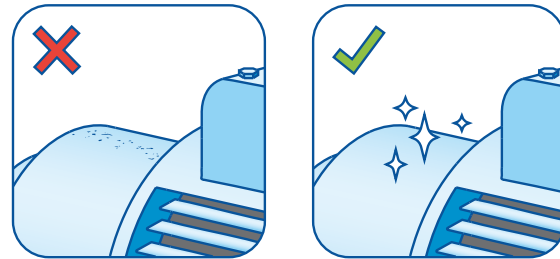
### 2. BEEKs location

1. Place beacons near the desired assets (don't install yet).
2. In Bluzone console, go to **BluFi** > **{BluFi Name}** > **Statistics** and scroll down to the Scan Map.
3. Verify that each beacon sees at least one BluFi. (-75 dBm or higher is desired). Move BluFi's if necessary.

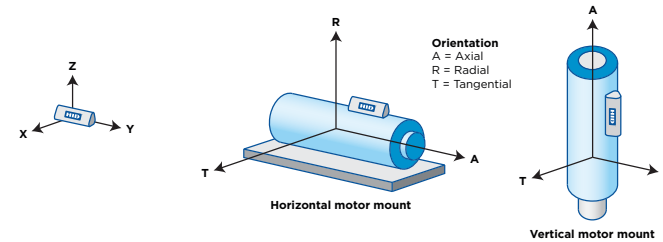


### 3. Surface preparation

1. Ensure the asset installation surface is clean and free of oil, dirt, rust, and paint chips and the beacon is not covered by metal to ensure good radio transmission.

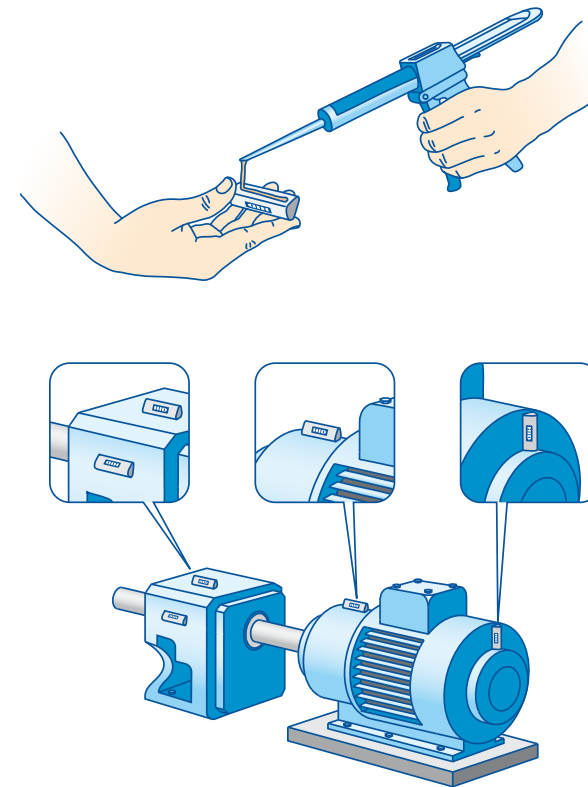


2. Beacons should be mounted to a clean, flat, rigid surface of the asset to be monitored. For vibration monitoring with BEEKS001-CM, the mounting should be close to the source of vibration. The beacon should be oriented such that its three axes are parallel to the three axes of the asset.



### 4. BEEKs installation

1. Standard beacons may simply be mounted by using the integrated peel-off sticker.
2. BEEKS001-CM requires special mounting with Epoxy glue to ensure proper pick-up of the vibration data of the underlying asset. We recommend Devcon 5-minute or Loctite AA 330
3. Apply line of epoxy to bottom of beacon.
4. Place beacon and press firmly.
5. Wait five minutes and confirm beacon is secure.



### 4. Policy creation

Now you are ready to use the beacon for your use case. Start creating policies as described in our on-line manual [hid.gl/On-line-manual](https://hid.gl/On-line-manual)

### 3 Regulation Information

For more detailed information, visit <https://hid.gl/HID-BEEKs-installation>

#### SRD Model: BEEKS001

RF Specifications  
Standard Protocol: BLE 4.2  
Frequency Band: 2400-2483.5 MHz  
No of RF channels: 40  
RF output power:+5dBm  
Modulation: GFSK  
ITU emissions code:IM03F1D  
Antenna: PCB, 0 dBi

#### Communication Regulation The following is a list that applies:

##### US FCC – United States Compliance FCC ID: SL6-BEEKS001

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT: Changes or modifications to this product not authorized by HID, could void the FCC Certification and negate your authority to operate this product.

Note: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules.

##### Canada ISED – Canadian Compliance 24824-BEEKS001

This device complies with Industry Canada license- exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

##### ENACOM-Argentina Compliance CNC ID: C-24005

This product conforms to Argentina Radio Requirements.

Este producto cumple con los requisitos de Argentina relative a la radioelectricidad

##### Australia/ New Zealand Compliance

This product conforms to Australia and New Zealand Radio Requirements.



##### European Union Compliance

Conformite Européenne (European Community)



Hereby, HID Global declares that this Radio Equipment SRD Model number BEEKS001 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: [www.hidglobal/certifications](http://www.hidglobal/certifications)

This product operates at the following frequencies:

- 2.4 GHz band with an RF output power of less than +5dBm e.i.r.p

##### Czech

Společnost HID Global tímto prohlašuje, že toto radiové zařízení, číslo modelu BEEKS001, odpovídá požadavkům směrnice 2014/53/EU. Úplný text EU Prohlášení o shodě je k dispozici na následující internetové adrese: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Tento výrobek používá následující frekvence:

-frekvenční pásmo 2,4 GHz, přičemž výstupní RF výkon je nižší než +5dBm EIRP

##### Greek

Δια του παρόντος, η HID Global δηλώνει ότι ο παρών ραδιοεξοπλισμός με αριθμό Μοντέλου BEEKS001 βρίσκεται σε συμμόρφωση με την Οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης για την Ευρωπαϊκή Ένωση είναι διαθέσιμο στην ακόλουθη διαδικτυακή διεύθυνση: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Το παρόν προϊόν λειτουργεί στις ακόλουθες συχνότητες:

•Ζώνη των 2,4 GHz με ισχύ εξόδου ραδιοσυχνότητας (RF) μικρότερη από +5dBm

e.i.r.p. (ισοδύναμη ιστροπικά ακτινοβολούμενη ισχύς)

##### Dutch

Hierbij verklaart HID Global dat deze radioapparatuur modelnummer BEEKS001 in overeenstemming is met Richtlijn 2014/53/EU. De volledige tekst van de Europese conformiteitsverklaring is te vinden op de website: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Dit product werkt op de volgende frequenties:

•2,4 GHz-band met een RF-uitgangsvermogen van minder dan +5 dBm e.i.r.p.

##### Danish

HID Global erklærer hermed, at dette radioudstyr modelnummer BEEKS001 er i overensstemmelse med direktiv 2014/53/EU. Den fulde tekst i EU-overensstemmelseserklæringen kan læses her: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Denne produkt fungerer ved følgende frekvenser:

•2,4 GHz-bånd med en RF-udgangseffekt på mindre end +5dBm e.i.r.p.

##### Estonian

Käesolevaga kinnitab HID Global, et see raadioseadmestik

mudelinumbriga BEEKS001 on vastavuses direktiiviga 2014/53/EL. Kogu EL-i vastavusdeklaratsiooni tekst on saadaval järgmisel internetiaadressil: [www.hidglobal/certifications](http://www.hidglobal/certifications)

See toode töötab järgmistel sagedustel.

•2,4 GHz ribalaiusel raadiosagedusliku väljundvõimsusega vähem kui +5 dBm e.i.r.p.

##### Maltese

Hawnhekk, HID Global tiddikjara li dan it-Tagħmir tar-Radju bin-numru tal-mudell BEEKS001 huwa konformi mad-Direttiva 2014/53/UE. It-test sħiħ tad-dikjarazzjoni ta' konformità tal-UE hu disponibbli f'dan l-indirizz fuq l-Internet: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Dan il-prodott jopera fil-frekwenzi li eġġjin:

•2.4 GHz band b'RF output power ta' inqas minn +5 dBm e.i.r.p.

##### German

Hiermit erklärt HID Global, dass dieses Funkgerätmodell Nr.

BEEKS001 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung steht unter der folgenden Internetadresse zur Verfügung:

[www.hidglobal/certifications](http://www.hidglobal/certifications)

Dieses Produkt arbeitet mit den folgenden Frequenzen:

•2,4-GHz-Band mit einer HF-Ausgangsleistung von weniger als +5dBm EIRP

##### Finnish

HID Global vakuuttaa täten, että tämä radiolaitte, mallinumero BEEKS001, vastaa direktiivillä 2014/53/EU. EU-

vaatimustenmukaisuusvakuutuksen koko teksti on saatavissa seuraavasta Internet-osoitteesta: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Tämä tuote toimii seuraavilla taajuuksilla:

•2,4 GHz:n kaista, RF-lähtöteho alle +5 dBm EIRP

##### Swedish

Härmed intygar HID Global att denna radioutrustning modell nummer BEEKS001 överensstämmer med direktiv 2014/53/EU. Den fullständiga texten med intyg om överensstämmelse för EU finns på följande internetadress: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Den här produkten fungerar på följande frekvenser:

•2,4 GHz-band med en RF-uteffekt på mindre än +5dBm e.i.r.p.

##### French

Par la présente, HID Global déclare que cet équipement radio Modèle BEEKS001 est conforme à la directive 2014/53/UE. Le texte intégral de la déclaration de conformité de l'UE est disponible sur le site Internet: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Ce produit fonctionne aux fréquences suivantes:

•dans la bande de

2,4 GHz avec une puissance de sortie RF inférieure à +5dBm PIRE

##### Italian

Con il presente documento, HID Global dichiara che la presente apparecchiatura radio modello BEEKS001 è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione UE di conformità è disponibile su Internet al seguente indirizzo: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Questo prodotto funziona alle seguenti frequenze:

•Banda a 2,4 GHz con potenza di uscita RF inferiore a +5 dBm EIRP

##### Polish

Firma HID Global deklaruje niniejszym, że to urządzenie radiowe, model numer BEEKS001, spełnia wymogi określone w Dyrektywie 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod

następującym adresem internetowym: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Ten produkt działa na następujących częstotliwościach:

•w paśmie 2,4 GHz z równoważną mocą wyjściową RF wypromieniowaną izotropowo (EIRP) mniejszą niż +5dBm.

## 4 Regulation Information

For more detailed information, visit <https://hid.gl/HID-BEEKs-installation>

### Anatel - Brazil Compliance



06515-19-12446

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados. Para maiores informações, consulte o site da ANATEL - [www.anatel.gov.br](http://www.anatel.gov.br)

This product is homologated at ANATEL according to procedure regulated by Resolution 242/2000, and it complies with the applicable technical requirements. For more information, consult ANATEL website - [www.anatel.gov.br](http://www.anatel.gov.br)

### IFETEL - Mexico Compliance

IFT:RCPBLBE19-1936

### China- SRRC Compliance

CMIIIT- XXYYZZZZ (in process)

### Japan- Placeholder

### Russia Compliance

Этот передатчик должен быть установлен и эксплуатироваться таким образом, чтобы расстояние между излучателем и вашим телом составляло не менее 20 см. Его также нельзя располагать рядом с любой другой антенной или передатчиком или эксплуатировать совместно с такой антенной или передатчиком.

Регуляция



(FSS) Д-ИВРД-6322

### Croatian

Ovime tvrtka HID Global izjavljuje da je ova radijska oprema model BEEKS001 u skladu s Direktivom 2014/53/EU. Cjelokupan tekst europske izjave o sukladnosti dostupan je na sljedećoj internetskoj stranici: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Ovaj proizvod radi pri sljedećim frekvencijama:

- pri frekvenciji od 2,4 GHz s izlaznom RF snagom manjom od +5dBm e.i.r.p

### Lithuanian

Šiuo „“ deklaruoja, kad šis radijo įrangos modelis HID Global lis, kurio numeris BEEKS001, atitinka Direktyvą 2014/53/EB. Visą ES atitikties deklaracijos tekstą galite rasti šiuo interneto adresu: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Šis gaminy s veikia tokiais dažniais:

- 2,4 GHz dažnio diapazonas, RD išvesties galia yra mažesnė nei +5 dBm EIRP.

### Slovenian

Družba HID Global izjavlja, da je ta radijska oprema, številka modela BEEKS001, v skladu z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Ta izdelek deluje pri naslednjih frekvencah:

- 2,4 GHz z izhodno močjo RF manj kot +5dBm e.i.m.o. (EIRP)

### Hungarian

A HID Global ezúton nyilatkozza, hogy ez az BEEKS001 típuszámú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: [www.hidglobal/certifications](http://www.hidglobal/certifications)

A termék a következő frekvenciákon üzemel:

- 2,4 GHz-es sáv, mely esetében RF kimeneti teljesítménye kevesebb, mint +5 dBm EIRP

### Latvian

Ar šo uzņēmums HID Global apliecina, ka šī radioiekārta, modeļa numurs BEEKS001, atbilst Direktīvas 2014/53/ES prasībām. Pilnu ES atbilstības deklarācijas tekstu var skatīt vietnē [www.hidglobal/certifications](http://www.hidglobal/certifications)

Šis izstrādājums darbojas ar šādām frekvencēm:

- 2,4 GHz josla; radiofrekvences izvades jauda ir mazāka par +5 dBm (ekvivalentā izotropiski izstarotā jauda).

### Slovak

Spoločnosť HID Global týmto vyhlasuje, že toto rádiové zariadenie, model BEEKS001, je v súlade so smernicou 2014/53/EÚ. Úplné znenie vyhlásenia o zhode so smernicami EÚ je k dispozícii na stránke: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Toto zariadenie pracuje pri nasledujúcich frekvenciách:

- 2,4 GHz pásmo s RF výstupným výkonom nižším ako +5dBm EIRP

### Romanian

Prin prezenta, HID Global declară că acest echipament radio număr model BEEKS001 ste în conformitate cu Directiva 2014/53/UE. Textul complet al declarației de conformitate UE poate fi găsit la următoarea adresă de internet: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Acest produs funcționează la următoarele frecvențe:

- în banda 2,4 GHz cu o putere de ieșire RF de mai puțin de +5dBm E.I.R.P.

### Portuguese

Por este meio, a HID Global declara que este modelo de equipamento de rádio, número BEEKS001, está em conformidade com a Diretiva 2014/53/UE. O texto completo da declaração de conformidade da UE está disponível no seguinte endereço da Internet: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Este produto opera nas frequências seguintes:

- 2,4 GHz com uma potência de saída de RF inferior a +5dBm e.i.r.p.

### Spanish

Por la presente, HID Global declara que este equipo de radio, modelo número BEEKS001 cumple la Directiva 2014/53/EU. El texto completo de la Declaración de Conformidad CE está disponible en la siguiente dirección de internet: [www.hidglobal/certifications](http://www.hidglobal/certifications)

Este producto opera en las siguientes frecuencias:

- Banda de frecuencia de 2,4 GHz con una potencia de salida de RF (PIRE) de menos de +5dBm.