MRF Grader Blade Up/Down Sensor User Manual

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Contents

1. Introduction

Blade Up/Down Sensor was designed for users who wants to identify the blade up/down status for management records. With the help of mobile app, the blade up/down records will be synced to the server. The blade up/down status and historical records can be viewed online on desktop computers, smartphones and tablets.

2. Architecture

The following diagram shows the system architecture:

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┌─────────────────────────────────────────────────────────────────────────┐
│   ┌──────────────────────────┐        ┌──────────────────────────┐       │
│   │      Web Browser         │        │   MRF Bluetooth Sensor   │       │
│   │  ( IE, Chrome, Firefox,  │        │                          │       │
│   │         Safari)          │        │                          │       │
│   └──────────────────────────┘        └──────────────────────────┘       │
│              ⇅                                     ⇅                       │
│   ┌──────────────────────────┐        ┌──────────────────────────┐       │
│   │  MRF HTML5 Map Server     │        │     MRF Mobile App       │       │
│   │ (HTML5, JavaScript, CSS,  │        │       (Android)          │       │
│   │        ASP.NET)           │        │                          │       │
│   └──────────────────────────┘        └──────────────────────────┘       │
│              ⇅                                     ⇅                       │
│   ┌──────────────────────────────────────────────────────────────┐       │
│   │                    MRF Web Services                           │       │
│   │      (Map Service, User Management, Data Service)             │       │
│   └──────────────────────────────────────────────────────────────┘       │
│                            ⇅                                              │
│              ┌──────────────────────────┐                                 │
│              │        Database          │                                 │
│              │  ( PostgreSQL, PostGIS)  │                                 │
│              └──────────────────────────┘                                 │
└─────────────────────────────────────────────────────────────────────────┘
```
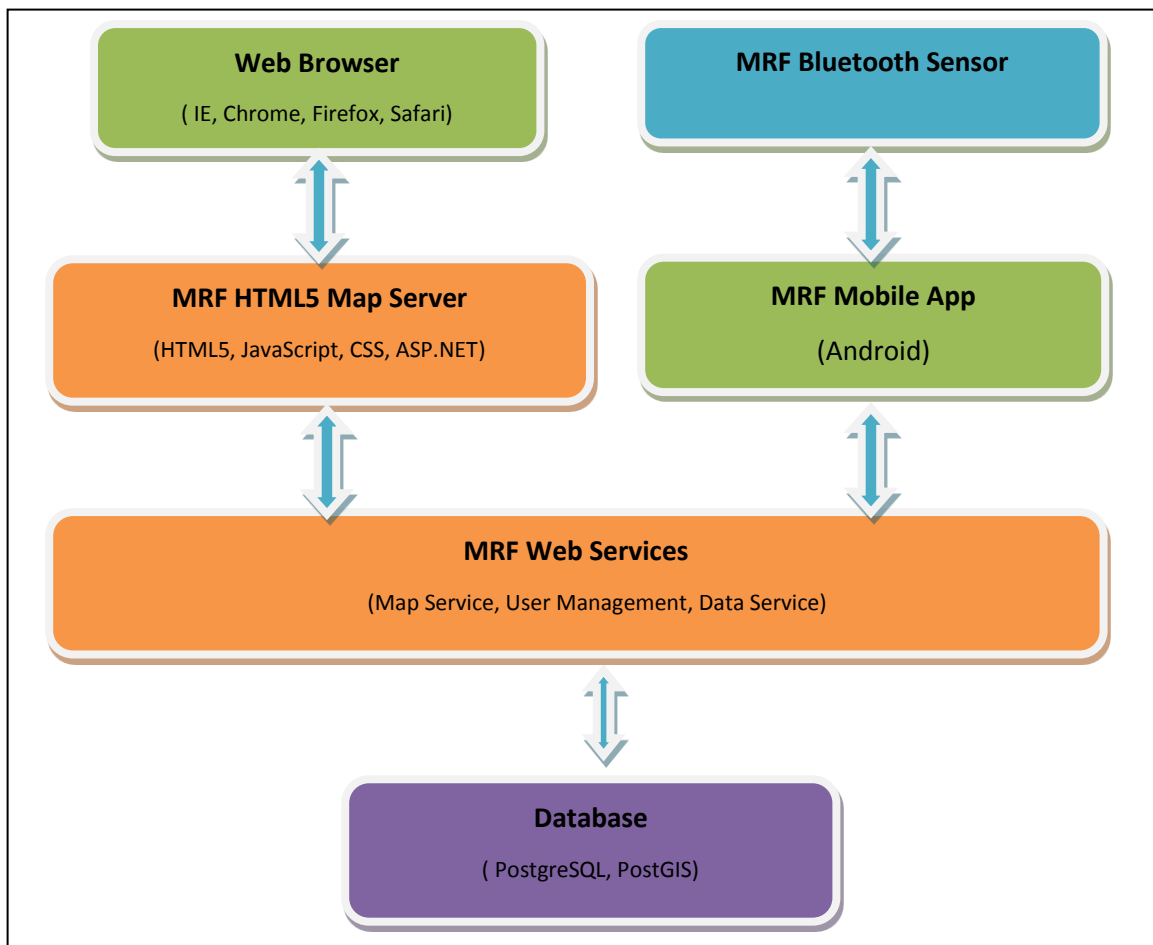
3. MRF Bluetooth Sensor

The Bluetooth sensor needs to be attached to the grader and connected to the power supply (12~24V).

4. MRF HTML5 GIS Website

The GIS website provides access for users to view/manage blade up/down status on a map interface.
After you subscribe to MRF website service, MRF will setup the following user IDs for you:

- Company User: eg. MRF
- Subordinate User: eg. emp1@MRF

The company user is able to create tasks and assign tasks to employees.
The subordinate (employee) user will see the list of assigned tasks after they login to the website.

5. MRF Sprayer Mobile App

The Sprayer Mobile App is to assist subordinate users in the field to record and send blade status to the GIS website.

Currently the Sprayer Mobile App supports Android devices with OS 4.3 and later and come with Bluetooth Low Energy (4.0).

Please connect the Mobile App with the sensor before start work.

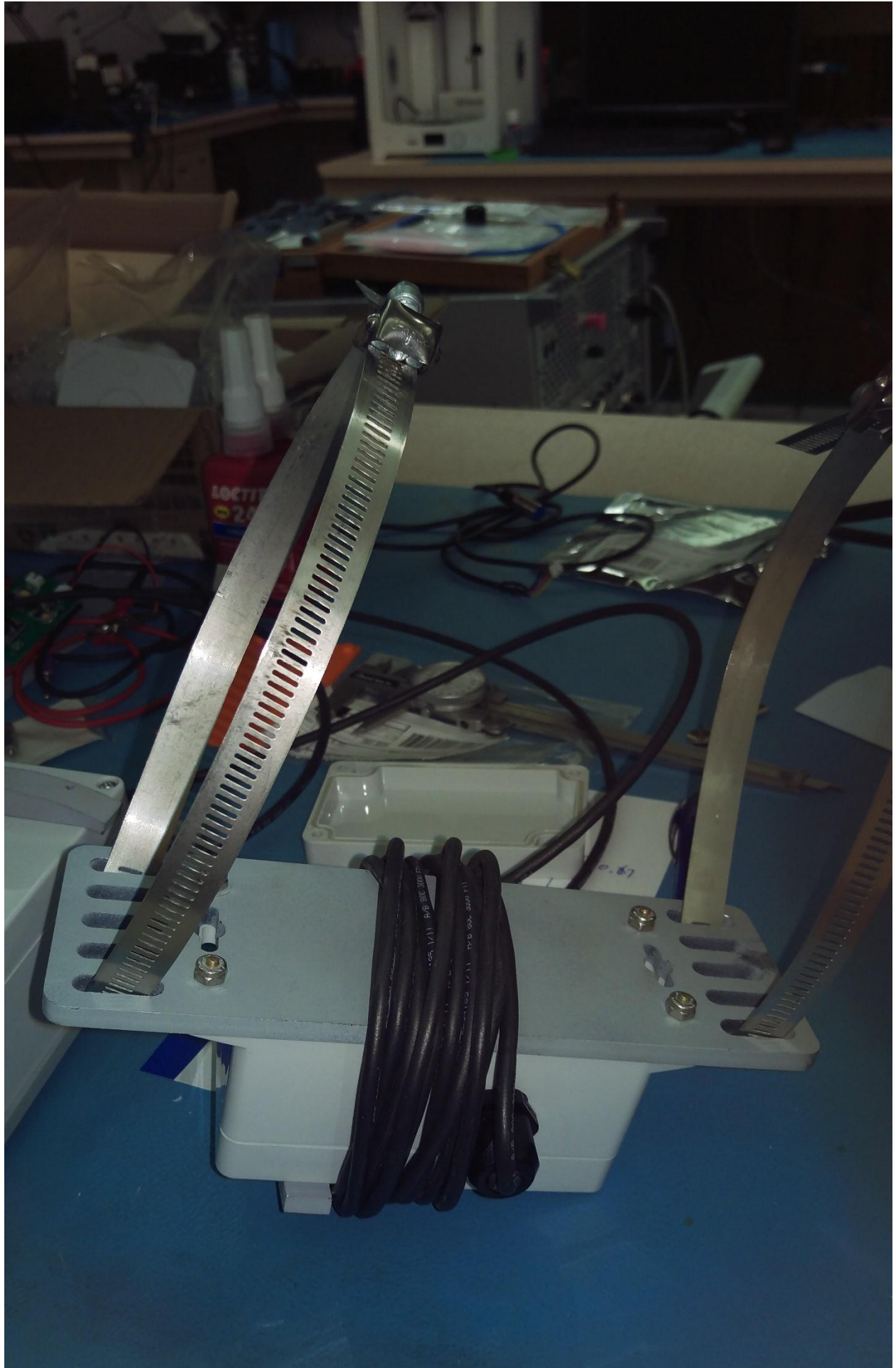1) To set up the Bluetooth, click "Setting" button on the Task Information page.
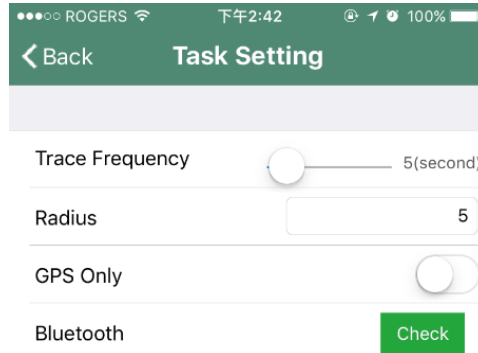
Fig.1. Task setting

2) Please click on "Check" button. It will start searching for Bluetooth sensors near you. The status bar should change to Checking. Then move the blade to trigger on the Bluetooth sensor.

Appendix A – MRF Bluetooth Sensor Installation Guide

Appendix B – FCC and Industry Canada Notice

FCC Notice to Users

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.

Orpyx Medical Technologies Inc. has not approved any changes or modification to this device by the user. Any changes or modification could void the user's authority to operate the equipment.

Industry Canada Notice to Users

This device complies with Industry Canada's license-exempt RSSs. 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 devices.

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;
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.