Tag Reader Installation

Model: TGRDR-V7

Fleet Data Systems, LLC

Federal Commnication Commission (FCC) Notice

This equipment generates and uses radio frequency energy. If not installed and used according to the manufacturer's instructions, this equipment may cause interference with radio/TV reception.

Per 47 CFR 15.19: 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.

There is no guarantee that interference will not occur in a particular installation. If you suspect that this equipment is interfering with radio/TV reception, the following are possible remedies:

- Reorient or relocate the receive antenna
- Increase the distance between the equipment and the receiver.
- While observing the interference turn the suspect equipment off and back on. If the interference stops when the equipment is off and resumes when the equipment is on, the equipment is probably the source of the problem.
- Consult the dealer or an experienced radio/TV technician for additional advice.

Warning: Changes or modifications to this equipment that are not expressly approved by the party responsible for compliance could void the authority to operate this equipment.

Fleet Data Systems, LLC is not responsible for radio/TV interference caused by using unauthorized cable or by making unauthorized changes to this equipment.

1.0 Introduction

This document provides information and instructions for the installation of Tag Reader of FDS Fuel Management System.

1.1 System Description

The FDS Fuel Management System utilizes state-of-art wireless technology to automate the Fuel Management System to track and authorize dispensing of fuel. The FDS Fuel Management System consists of a Fuel Island Controller, a Card Reader and Severlal Tag Readers device also known as "Probe".

1.2 The Tag Reader Components

This device is designed to read a passive tag with a distance of approximately one inch. The circuit consists of a dc regulator with surge protection circuit, a pick-up coil that is tuned to 125 Khz, a psk demodulator circuit, a micro-controller that perform firmware level decoding and a RS-485 sender circuit as the external interface circuit.

When the device is placed closed to the passive tag, the tuned 125Khz signal induces power to the tag and the encoded data is read back from the same induced signal. A lower level differential amplifier removes the 125Khz signal and recovers the low-level data signal. This signal is further amplified and conditioned so that this signal will become a digital signal. This recovered signal stream is sent to the micro-controller. The micro-controller performs firmware level PSK decoding but re-aligning streaming bits. It will search for a recognizable pattern and its CRC checksum. Once a good packet is found, the micro-controller extracts the necessary bytes and it builds a packet data to send to the outside user. The RS-485 provides the TTL level sending signal for a distance of over 1000 feet.

The device is designed to be used as authorizing agent for fuel island applications as well as gate entry applications.

2.0 Fuel Module Installation

1. Unpack unit and make sure there is no physical damage due to transport.

2. Connect the +12V to the Green wire and ground to Black wire. Connect the TX+ to Red wire and TX- to White wire.

3. Mount unit 12 inches above the controller panel.

4. Place a HID card on read head. Keypad should prompt for Employee Number.

5. Enter Employee Number and Keypad display should acknowledge the correct Id.

6. Installation testing is now complete.

3.0 Trouble Shooting

FDS Probe are manufactured with the highest quality components and are thoroughly tested before delivery to the customer. As with most electronic equipment, operating failures are normally caused by abnormal usage. There are no field replaceable parts in the unit.

To check if the Probe is functional, point the Probe within 1 inch from a know good tage, the RED LED should blink and there should be a burst of beeps. If it does not, then the unit fails to be wake up. The Unit should be returned to FDS for repair.