POS-IoT-DK

Reference Board

POS-IoT-DK
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1 Introduction

2 General Description

This Manual explains how to use the POS-IoT-DK. The POS-IoT-DK is a demo kit for ams Magnetic Position Sensors. It allows us to show all the features of ams AS5600 rotary position sensor in combination with the very useful Simblee Bluetooth module of RF digital. The demo is powered with a CR2032 battery. The demo consists of the demo PCB, a plastic magnet holder, a rotary magnet knob and a mobile Application which enables you to get full access of the sensor over your smartphone. After connecting the Demo PCB with your smartphone you can read and write all registers of AS5600.

This demo shows how easy it is to access ams magnetic position sensors even with a mobile device by using the Bluetooth module of RF digital.

Figure 1: POS-IoT-DK
3 Hardware

3.1 Kit Content

Table 1: POS-IoT-DK Content

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Picture</th>
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<tbody>
<tr>
<td>Demo PCB</td>
<td>POS-IoT-DK Demo PCB with silicone case</td>
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<tr>
<td>Magnet holder</td>
<td>Plastic holder for the mechanical connection from the magnet to the demo pcb</td>
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<tr>
<td>Magnet Knob</td>
<td>Magnetic knob to show features of AS5600</td>
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<td>Quick Start Guide</td>
<td>First steps introduction</td>
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<tr>
<td>Simblee App</td>
<td>Application for mobile devices (iOS/Android) to get full access of AS5600 on a mobile device</td>
<td></td>
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</table>
4 Getting started

1) Unbox the Demo kit and all necessary components

2) Switch the Power switch on the Demo PCB to ON -> Green LED lights up

3) Scan QR Code on the Quickstart guide or in this manual (see below) and download the “Simblee for mobile” App with your mobile device

4) Start the “Simblee for mobile” App

5) Set the magnet holder + magnet knob on the pcb, so that the holder will fit into the holes on the pcb

6) Start using POS-IoT-DK

5 Software

The software consists of:

- Simblee App (for iOS & Android)
- POS-IoT-DK GUI (using AS5600)

5.1 Simblee App

To get the Simblee app on your smartphone scan this QR-Code

With the Simblee for mobile app you can navigate through the AS5600-POS-IoT-DK-GUI
5.2 POS-IoT-DK GUI

<table>
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<th>Comment</th>
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<td>Overview of Angle, Magnitude and AGC + Rotary knob</td>
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<td>Read/Write option of all registers</td>
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5.2.1 Demo GUI Main page

Here the actual position value can be read out as well as AGC and magnitude. Additional the status bits and the zero position is displayed.

Figure 2: Demo GUI Main Page

![Demo GUI Main Page](image)
5.2.2 Demo GUI Help page

Here some useful information to AS5600 position sensor can be found.

Figure 3: Demo GUI Help page

![AS5600 Demo GUI](https://www.ams.com/position-sensors)

**HELP**

The AS5600 is a hall-based magnetic angle sensor with digital I2C or PWM output. The angle output can be programmed to a smaller angular range so that the full output swing is available for a smaller angular range.

There are different programming options.

For details refer to the device datasheet:
www.ams.com/AS5600

Visit us on www.ams.com

GUI Overview

MAIN: Displays most relevant sensor data
CONFIG: Offers configuration options
REGISTERS: Offers full access to internal register

powered by Simblee™
5.2.3 Demo GUI Config page

This page shows the current zero and maximum position + the possibility to set this to the actual position value.

Figure 4: Demo GUI Config page

![AS5600 On-Axis Magnetic Position Sensor](image)
5.2.4 Demo GUI Register page

Here a read/write of all AS5600 registers is possible (for register map please refer to AS5600 Datasheet)

Figure 5: Demo GUI Register page
6 Ordering & Contact Information

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Description</th>
</tr>
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<tbody>
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<td>POS-IoT-DK</td>
<td>POS-IoT-DK Demo Kit Reference Board</td>
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8 Revision Information

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Note: Page numbers for the previous version may differ from page numbers in the current revision.
Correction of typographical errors is not explicitly mentioned.