

SYG Start Here Guide

SYG-70CR-DK

Introduction

At Future Designs, our goal is to make it easy for our customers to get their projects up and running as quickly as possible. The SYG-70CR-DK is a kit containing a SYG-70CR-BA (board assembly), Segger J-Link CortexM debugger, power supply, cables and breakout board. The SYG-70CR-BA is pre-programmed with demo software which connects to IBM's cloud. This guide will show you how to access sensor data from the cloud using the IBM Bluemix® Quickstart and direct you to other example software and application notes.

Aside from this document, there are many additional resources available at the [Product Page](#) or at the [SYG Family Page](#). If you ever need more help, [contact us](#) and we will be happy to assist you.

Hardware Used in This Guide (Included in Kit)

- SYG-70CR-BA
- USB Type A to USB Type Mini B Cable

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1. Hardware Verification

The SYG-70CR-BA comes pre-programmed with a demo cloud application that allows you to verify many of the hardware features when you first power it on.



Power is supplied via the USB power adapter and cable provided in the kit.

1. Connect the USB cable to the mini USB Type B connector (P2) on the SYG.
2. Connect the other end of the USB cable to the provided universal AC power supply's 5V USB power output.



Once power has been connected, follow on-screen instructions to complete the calibration process.

After briefly displaying a splash screen, the following screen will appear:



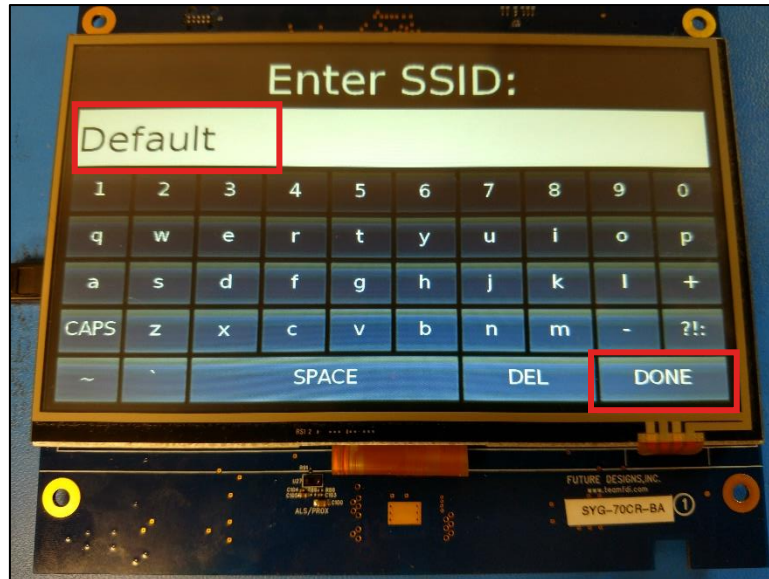
2. Sensor to Cloud Demo

The Sensor to Cloud demo installed on the SYG-70CR-BA can be used to demonstrate how the SYG-70CR-BA uses Synergy and UbiquiOS software to send sensor data to Bluemix. The SYG-70CR-BA's on-board accelerometer and temperature sensors' data, as well as the touch screen coordinates generated from touching the screen can all be sent to the cloud. Additional sensors on-board the SYG-70CR-BA include an ambient light sensor and proximity sensor.

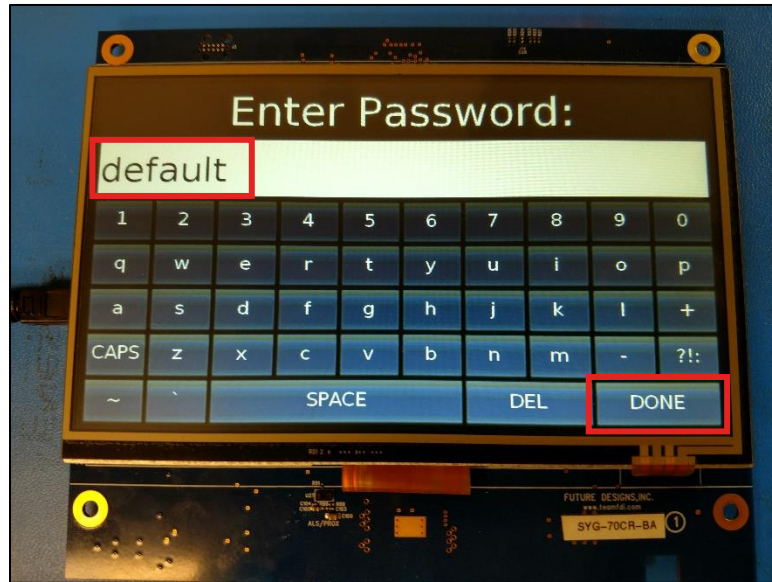
2.1. Connecting to WIFI

Before you can view sensor data on the cloud, your SYG-70CR-BA will need to be configured to connect to your wireless network. Complete the following steps to update the SSID and Password:

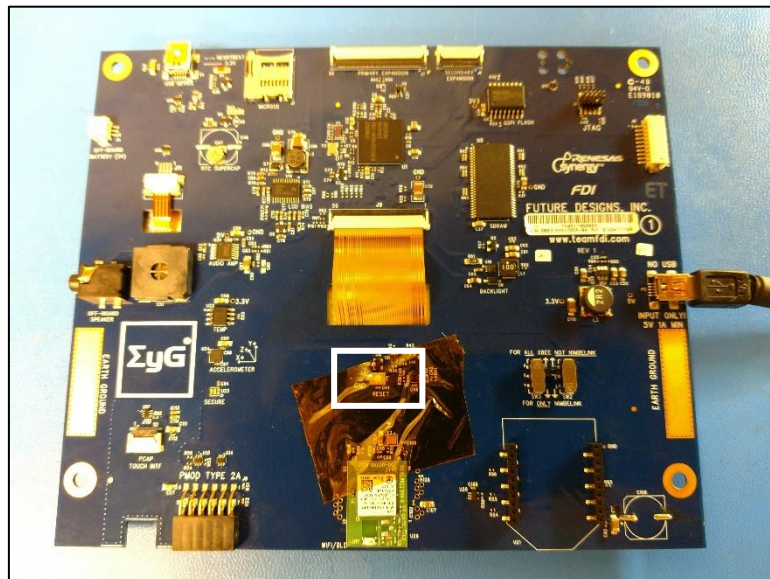
1. Press the SSID field to bring up a keyboard.
2. Enter the SSID for your network.
3. Press **DONE**.



4. Enter the password for your WIFI network.
5. Press **DONE**.

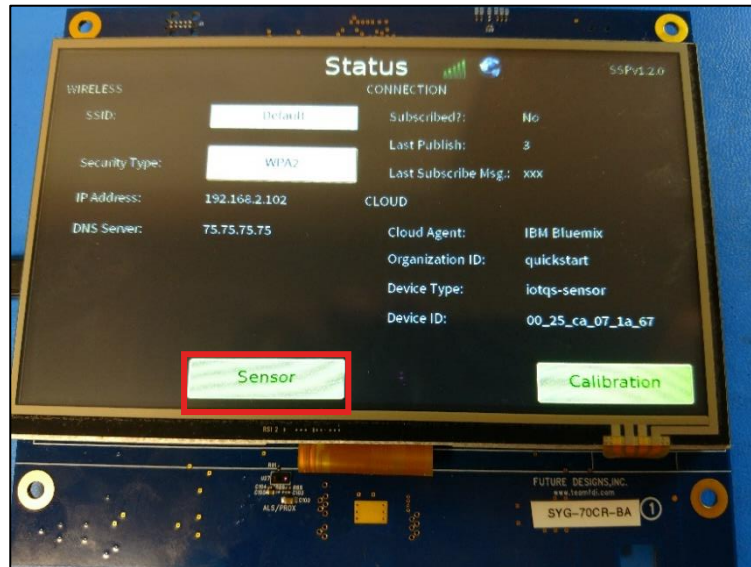


6. Select the security type of your network by pressing the Security Type field until the correct type is shown.
7. Reset the SYG-70CR-BA by pressing the reset button on the underside of the unit.

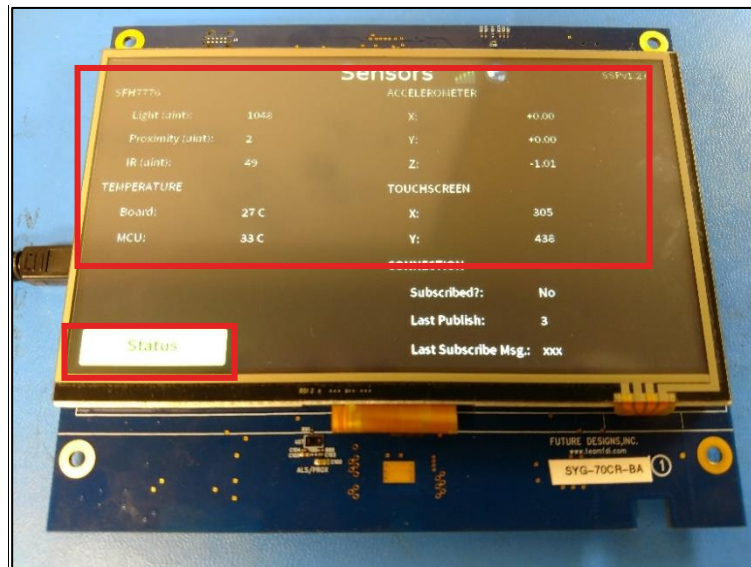


2.2. Navigating the Demo Application

1. View the sensor data by pressing the **Sensor** button on the touchscreen.



2. After watching the sensor values update, return to the Status page by clicking the **Status** button.



NOTE: Values displayed may differ from the image above.

Once the SYG-70CR-BA has successfully connected to the network, the icon representing signal strength will turn green and the **Device ID** will appear. This is the Device ID that will be used to connect to the IBM Watson Quickstart page.

After connecting to IBM Bluemix, the red exclamation mark over the Earth icon will disappear.

2.3. Using IBM Watson Quickstart

1. Open the IBM Watson Quickstart page at:
<https://quickstart.internetofthings.ibmcloud.com/>.
2. Check the box next to “I accept IBM’s Terms of Use”.



IBM Watson IoT Platform QUICKSTART SERVICE STATUS DOCUMENTATION BLOG SIGN IN

Quickstart

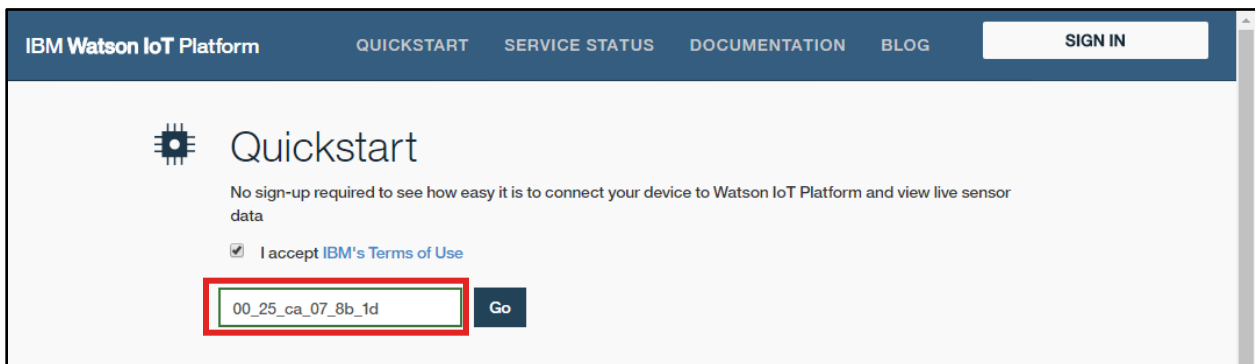
No sign-up required to see how easy it is to connect your device to Watson IoT Platform and view live sensor data

I accept IBM's Terms of Use

Device ID eg. 580b0c07ac01 Go

3. Enter the **Device ID** shown in the lower right corner of the SYG-70CR-BA **Status** screen. An example is shown. This number corresponds to the device’s WiFi module and your Device ID will be unique.

NOTE: The Device ID is case sensitive and must be entered as shown on the SYG-70CR-BA!



IBM Watson IoT Platform QUICKSTART SERVICE STATUS DOCUMENTATION BLOG SIGN IN

Quickstart

No sign-up required to see how easy it is to connect your device to Watson IoT Platform and view live sensor data

I accept IBM's Terms of Use

00_25_ca_07_8b_1d Go

4. Click **Go**.

Once the device transmits the next packet, you will begin to see a visualization of all the sensor data coming from the SYG-70CR-BA. Click on a Datapoint (sensor output) to graph a sensors data. Below shows the x coordinate of touches on the touchscreen.

NOTE: If your graph remains constant, try selecting a different Datapoint (sensor).

This is where
you put the
Device ID

Quickstart

No sign-up required to see how easy it is to connect your device to Watson IoT Platform and view live sensor data

● Last message received at 9:57:55 AM

Go

00_25_ca_07_1a_67
iotsensor.touch_x

Event	Datapoint	Value	Time Received
iotsensor	sensor_id	1	Nov 1, 2017 9:57:55 AM
iotsensor	light	13319	Nov 1, 2017 9:57:55 AM
iotsensor	prox	1	Nov 1, 2017 9:57:55 AM
iotsensor	ir	146	Nov 1, 2017 9:57:55 AM
iotsensor	board_temp	29 C	Nov 1, 2017 9:57:55 AM
iotsensor	mcu_temp	36 C	Nov 1, 2017 9:57:55 AM
iotsensor	accel_x	+0.00	Nov 1, 2017 9:57:55 AM
iotsensor	accel_y	+0.00	Nov 1, 2017 9:57:55 AM
iotsensor	accel_z	-1.02	Nov 1, 2017 9:57:55 AM
iotsensor	touch_x	782	Nov 1, 2017 9:57:55 AM
iotsensor	touch_y	467	Nov 1, 2017 9:57:55 AM

3. Next Steps

Below is a list of the current application notes (or those being developed). Check our website as we are constantly developing new demos and application notes:

- <https://www.teamfdi.com/product-details/SYG-70CR-DK#software>
 - Connecting SYG-70CR-DK to the MediumOne web services.
 - Connecting SYG-70CR-DK to IBM Bluemix/IoT Watson cloud services.
 - Sensor to Cloud using SYG-70CR-DK and Node Red in IBM Bluemix/IoT Watson.

4. Website and Support

Documentation at <https://www.teamfdi.com/product-details/SYG-70CR-DK#documentation>

- SYG-70CR-DK User's Manual
- SYG-70CR-DK Quick Start Guide
- SYG-70CR-DK Start Here Guide (this guide)

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