

Establishing a connection to Irdroid IoT SmartHub

The Irdroid IoT SmartHub allows you to control motorized blinds, shades, pergolas, garage doors etc, equipped with a Somfy or Simu Radio module. The Irdroid IoT SmartHub can also be used to control radio controlled power sockets for switching on and off electrical equipment.

The Irdroid IoT SmartHub API.

There are Two API interfaces

- Local API (Direct TCP/IP connection to the module to port 8765)
- IoT / MQTT Api which allows you to control and address multiple devices and allows remote control from any location in the world.

Local API :

The Irdroid IoT SmartHUB local API allows the user to establish a TCP/IP connection to the module but connecting to port 8765 in RAW mode. It is considered that the client is in the local network where the Irdroid IoT SmartHub is connected and all the security and authentication is for this particular local network (like home wired / wireless network)

Once connected to port 8765, the user can send commands to the module (See a list of commands below):

| | | |
|----------------|---|---|
| Blinds_up | = | "SIMULATE Irdroid_IoT_Blinds 00000000000005d0 00 BLINDS_UP"; |
| Blinds_down | = | "SIMULATE Irdroid_IoT_Blinds 0000000000000a90 00 BLINDS_DOWN"; |
| Blinds_stop | = | "SIMULATE Irdroid_IoT_Blinds 0000000000000e90 00 BLINDS_STOP"; |
| Blinds_program | = | "SIMULATE Irdroid_IoT_Blinds 00000000000001d0 00 BLINDS_PROG"; |
| Slide_up | = | "SIMULATE Irdroid_IoT_Blinds 0000000000000a80 00 SLIDE_UP"; |
| Slide_down | = | "SIMULATE Irdroid_IoT_Blinds 0000000000000a82 00 SLIDE_DOWN"; |
| Blinds_up4 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000005c0 00 BLINDS_UP4"; |
| Blinds_down4 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000005a0 00 BLINDS_DOWN4"; |
| BLINDS_CH1 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a0 00 BLINDS_CH1"; |
| BLINDS_CH2 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a1 00 BLINDS_CH2"; |
| BLINDS_CH3 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a4 00 BLINDS_CH3"; |
| BLINDS_CH4 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a5 00 BLINDS_CH4"; |
| BLINDS_CH5 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a6 00 BLINDS_CH5"; |
| BLINDS_CH6 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a7 00 BLINDS_CH6"; |
| BLINDS_CH7 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a8 00 BLINDS_CH7"; |
| BLINDS_CH8 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002a9 00 BLINDS_CH8"; |
| BLINDS_CH9 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002aa 00 BLINDS_CH9"; |
| BLINDS_CH10 | = | "SIMULATE Irdroid_IoT_Blinds 00000000000002ab 00 BLINDS_CH10"; |

The Irdroid IoT SmartHub need to be paired with the target radio controlled blinds / shades pergolas etc. The target equipment has to be set in the so called "programming mode". Once in this mode if you send the "Blinds program" command then the target radio controlled equipment will be paired with the Irdroid IoT SmartHub for the selected channel (for example if you have previously selected channel #1 and then issued the program command then you will pair the target radio controlled equipment on channel #1)

Entering Programming mode:

Every radio controlled Blinds/Shades/Pergolas has a way to enter in programming mode . for example every Somfy radio controlled Blinds/Shade/Pergola can be switched to programming mode by long pressing the remote control "program" button. For Simu garage doors and Simu motors, there is a special key that will make the target equipment to switch to programming mode.

Selecting a remote control channel:

The Irdroid IoT SmartHub unit support 10 different channels that can be selected by issuing the following command to port 8765 of the module:

```
BLINDS_CH1      =      "SIMULATE Irdroid_IoT_Blinds 00000000000002a0 00 BLINDS_CH1";
```

The above command will set the module to work on channel #1 . If you send Blinds_up / Blinds_down then only the units paired on channel #1 will react to the above command.

Example command lift blinds up:

```
SIMULATE Irdroid_IoT_Blinds 00000000000005d0 00 BLINDS_UP
```

The above command will make the paired blinds go up.

The Irdroid IoT SmartHub comes with a example Android application that implements the above referenced local control mode. The Application is called Arexim Remote and it can be freely downloaded from the Irdroid's Github repo.

The Irdroid IoT SmartHub local control app source code can be downloaded from:

<https://github.com/Irdroid/Irdroid-IoT-SmartHub/>

Remote Api

The Irdroid IoT SmartHub allows you to control radio controlled equipment remotely by using the Irdroid Cloud application for Android. The Irdroid Cloud app is also open source and available from the Irdroid's Github repository:

<https://github.com/Irdroid/Irdroid-IoT/tree/master/com.microcontrollerbg.irdroid.cloud>

The application allows you to control radio controlled power sockets and also Shades, Blinds, Garage doors etc. The app benefits from using a MQTT protocol for communication. There is a configuration wizard , in which you should enter your device id (please refer to the barcode that comes with the Irdroid IoT Box) and a security key (also written on that barcode).

Both apps - The Irdroid IoT local control app and the Irdroid Cloud apps are available form Google Play for testing.