WRT RF-WIFI Home Automation System
WIFI-RF4 controller

WRT Intelligent Technology Co., Ltd
Add: WRT Industrial Base, Dafu Industrial Park, Guanguang Rd,
   GuanLan Town, BaoAn District, Shenzhen, China
Tel: +86 755 29576113
Fax: 86 755 29576023
Http: www.wrtsz.com

Model: HJJ-WRF
1. System introduction:

Looking into the world develop trend, simple, green, environmental, energy-saving lifestyle will be the eternal pursuit of mankind. Combine the RF-wireless technology of PC/smart phone with the smart home system make the life more intelligent and user-friendly.

The RF-wifi controller is part of RF wireless control device-based on home automation system, responsible for controlling RF-WIFI smart home devices through the SSH-CTS software/Computer/Smart phone.

The use of high quality, high integration, high reliability microprocessor, combined with advanced electronic technology and sophisticated the process created the products. The device has the feature of high stability, high reliability, high energy efficiency, high integration.

Feature:
◆ Support 802.11b/g/n wireless standard
◆ Support TCP/IP/UDP
◆ Support STA/AP mode
◆ Provide Web configuration
◆ Max TCP connection:32
◆ Max register 8 8-button RF remote control.

2. Description:

1) WIFI–RF4 controller: HJJ-WRF:

1. Antenna
2. Power indicator light
3. Working/Setting status indicator light
4. Connection status indicator light
5. Reset
6. +12VDC input port
7. Nework port
8. Setting button

2) 8-button remote control HJJ-RWRK8:

1. Indicator light
2. Control buttons
3. Battery box
3. Caution

- Please put the device on flat desk or hang on the wall. (There must be screws on the wall.)
- Keep away from heat source, strong magnetic field and electric field.
- Put the device in a place with good ventilation, no direct sunlight and shady and cool.
- Make sure there are enough space for heat dissipation and don’t put anything on the device.
- Use power adaptor in the original package.
- If there is Any problem, don’t disassemble the device by yourself. Contact the distributors or manufacturers.

4. Connection

5. Operation

The RF-WIFI controller must be set in PC or smart phone by professional person.

- Networking setting:
  - Make sure the PC and HJJ-WRF are in the same network segment. Make sure WIFI devices (PC or smart phone) or the device with WLAN adaptor are connected to HJJ-WRF controller.

  Log in to the setting page:
  1. Login to Web setting page:
     a. Visit IP address "http://10.10.100.254" in the IE.
     b. Input original user name and password to log in.

   Original user name: admin
   Original password: admin
AP mode: Ad hoc Network, Build an independent Internet LAN.

STA mode: Connect HJJ-WRF with other wifi network through STA interface.

3. Wireless Interface Setting

When choosing AP mode, you must have the following settings done: SSID setting, wireless network mode settings, wireless security setting and setting for LAN.

Setting for the wireless interface: You can choose the network mode and define the name of the network.
Settings for the LAN: You can set the IP address, subnet mask and the DHCP parameter.

4. Wireless terminal setting
   If the working mode of HJJ-WRF is Station mode, then you have to set: AP parameter (SSID, encryption) and access mode (DHCP, Static link).

Wireless terminal setting: Click "search" to look for the network need to join.
Set IP Address: Auto-configuration or Input IP address manually.

5. Wifi-Uart Settings

Wireless terminal setting parameter

D H C P  m o d e

WIFI-Uart Settings

You could configure the Uart parameters and network parameters of the WIFI Uart Applications

<table>
<thead>
<tr>
<th>Uart Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baudrate</td>
<td>115200</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop</td>
<td>1</td>
</tr>
<tr>
<td>CTSR TS</td>
<td>Disable</td>
</tr>
</tbody>
</table>

UART AutoFrame Setting

<table>
<thead>
<tr>
<th>UART AutoFrame</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disable</td>
</tr>
</tbody>
</table>

Network settings

<table>
<thead>
<tr>
<th>Mode</th>
<th>Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>TCP</td>
</tr>
<tr>
<td>Port</td>
<td>8899</td>
</tr>
<tr>
<td>Server Address</td>
<td>10.10.10.100</td>
</tr>
<tr>
<td>MAX TCP Num</td>
<td>32</td>
</tr>
<tr>
<td>TCP Time out</td>
<td>300</td>
</tr>
</tbody>
</table>

Baudrate: Choose “115200”.
Network parameter setting: Set the parameter according to the network.

6. Device management includes Account, password, factory restore and software update.
Restart module: Restart HJJ-WRF controller, and then click "Apply" to confirm, it will work after restarting the module, and refresh the information. Also, user can restart the module in physical way by cut off the power and restart it.

Factory restore: Restore all the information to the factory setting.

Press reset button for about 15s on the front of HJJ-WRF, until the green indicator light \( \text{\textbullet} \) flashes quickly, and release the button after “DIDI” sound, then all parameters is restored to the factory setting.

Software update: Update the software to the newest version.

- Set system ID and physical address: After connecting the software with HJJ-WRF, press "SET" button on the front of the wifi controller. The green indicator will light up, now user can set the system ID and physical address for HJJ-WRF. (For more details, please check the manual of software SSH-CTSP or SSH-PAD.) When in standby status, user can set the new physical Address through the SSH-CTS software.

- Registration of the mini remote control: After HJJ-WRF entering the setting status, user can press Any button on the remote control, it's successful after "DIDI" sound.

One wifi controller can register max 8 remote controls. Please don't register the same remote control to HJJ-WRF and other devices.
### 6. Specifications:

<table>
<thead>
<tr>
<th>Power supply:</th>
<th>+12VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range:</td>
<td>2.412GHz~2.48GHz</td>
</tr>
<tr>
<td>Wireless network standard:</td>
<td>802.11b/g/n</td>
</tr>
<tr>
<td>Transmit Power: 802.11b:</td>
<td>+20dBm (Max)</td>
</tr>
<tr>
<td>802.11g:</td>
<td>+18dBm (Max)</td>
</tr>
<tr>
<td>802.11n:</td>
<td>+15dBm (Max)</td>
</tr>
<tr>
<td>Receiving sensitivity:</td>
<td>802.11b: -89dBm</td>
</tr>
<tr>
<td>802.11g:</td>
<td>-81dBm</td>
</tr>
<tr>
<td>802.11n:</td>
<td>-71dBm</td>
</tr>
<tr>
<td>RF Wireless Frequency:</td>
<td>433.92MHz</td>
</tr>
<tr>
<td>RF remitting power:</td>
<td>+10dBm</td>
</tr>
<tr>
<td>RF receiving sensitivity:</td>
<td>-110dBm</td>
</tr>
<tr>
<td>RF remote control distance:</td>
<td>≥30m</td>
</tr>
<tr>
<td>Working temperature:</td>
<td>-10°C ~ 50°C</td>
</tr>
<tr>
<td>External dimensions:</td>
<td>170<em>120</em>27mm</td>
</tr>
</tbody>
</table>

- **Button setting for the remote control:**
  When mini remote control registered successfully, user can set the functions of each button on the software. (For details, please refer to manual of software SSH-CTS)

- **Remote control battery instruction:**
  When pressing the button on the remote control, if RF Wireless indicator light does not flash or the brightness is weak, please change the battery.

  When changing the battery, please insert a paper clip into hole on the back of the remote control to pull out the battery box. Pay attention to the direction of the battery.

- **Device control instruction**
  After configuration, user can control the device through The SSH-CTS or remote control. If cannot control, please check:
  a. The configuration of HJJ-WRF is correct or not?
  b. The Distance between device and remote control is too far or not?
  c. The battery is enough or not?
  d. The setting of remote control is right or not?

- **Battery:** CR2032 button battery
- **RF Wireless Frequency:** 433.92MHz
- **RF receiving sensitivity:** +10dBm
- **Effective remote control distance:** ≥15m
- **Working temperature:** -10°C ~ 50°C
- **Dimensions:** 40*78*8.5mm
7 System diagram:

- Smart mobile devices
- Wireless Router
- WAN
- LAN
- WiFi-RF4 controller
- Remote control
- Light powered control panel
- Remote control
- Wired and Wireless System Connector
- Temperature and humidity CO2 Sensors
- Infrared conversion device
- On-Off control module
- Curtain drive module
- Smart socket
- Air Conditioner Controller
- Dimmer control module
- Background music control module
- ON-off control module
- Emergency / smoke / gas / radar sensors
- Infrared light sensor
- Weather sensor
- Air Conditioner
- TV
- Curtain
- Light
- Socket
- Air Conditioner
- Background music
- Light
- Gas/water valve management

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Wired IR