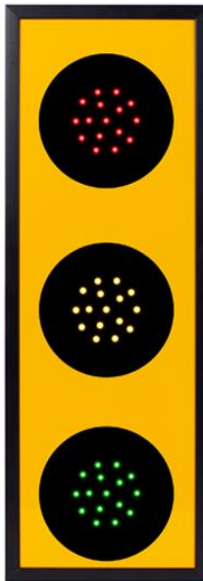


microframe[®]

D4503 Wi-Fi Stop Light INSTALLATION and SPECIFICATION GUIDE



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Manual No. D4503-7010
Revision Date: 08/2018
Control: 1.0

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Limited Warranty Agreement

Your Microframe System is warranted against failure due to defects in workmanship or material for a period of one (1) year from the date of purchase. Microframe Corporation will repair or replace any defective unit. Obvious abuse or mishandling of the unit is NOT covered by this warranty.

Merchandise Return

If your Unit does not work satisfactorily, please give us a call. We may be able to clear up the problem by phone. If it becomes necessary to return your Unit to the factory, please observe the following:

1. Call Microframe for an RMA number. This will authorize you to return the unit.
2. Place Unit in a sturdy box with sufficient packing material.
3. If requested, include the AC power adapter. It is not necessary to return the cable and connectors unless they are the problem.
4. Return the system insured and prepaid. Microframe is not responsible for shipping damages and losses on returned Units.

Warranty Service

For warranty service, please contact Microframe toll-free at 800-635-3811. One of our technicians will be glad to assist you.

Assistance

For any product assistance or maintenance help, contact Microframe by either calling 800-635-3811 or e-mailing us at: support@microframecorp.com.

Safety

Do not install substitute parts or perform any modification to the product without first contacting Microframe.

Disclaimer

We constantly strive to improve our products. Specifications are subject to change without notice.

Warning

All power adapters, line cords, and electrical equipment should be kept out of the reach of children and away from water. (If you are installing cable in an air plenum area, such as a drop ceiling used for air return, you must use plenum-rated cable. The cable supplied from Microframe is rated CL2 and is approved for indoor installation everywhere except plenum areas.)

Life Support Policy

Microframe's products are not authorized for use as components in life support devices or systems without the express written approval of the President of Microframe Corporation. As used herein:

1. Life support devices or systems are defined as systems which support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user or any one depending on the system.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

FCC Notice (for wireless products only)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Series 4500
Wi-Fi StopLight Device
Installation and Specification Guide

Table of Contents

1.1 Overview _____	4
1.2 Quick Install _____	4
2.1 Wi-Fi Config Utility - Basic _____	5
2.2 Wi-Fi Config Utility - Advanced _____	6
3.1 Setting up the Device from the App _____	8
4.1 Installation / Operation / Options _____	9
5.1 Using the App _____	10
6.0 General Troubleshooting Chart _____	11

1.1 Overview

The D4503 is a simple WiFi controlled stoplight. It is controlled by a free app called “D4503” on the Apple and Google Play stores.

1.2 Quick Install

Getting Started

The first step is to join your device to your Wi-Fi network. This can be done in two ways:

- 1) Configure the device from an Android/IOS app. [Section 3.1]
- 2) Configure the device from a computer. [Section 2.1]

Option 1: Quick Setup from app

Plug the WiFi Stop Light into a power outlet. With your mobile device, open the Wi-Fi settings and select the "SoftAPxxxxxx" network. Once connected, Open the Microframe “D4503” app on your mobile device. Tap Settings, then “Search”. An entry should show up with IP address 10.10.10.1. Tap on that line, then “WiFi Settings” on the next screen. Tap “Browse” and select your WiFi’s network name, or just type the name in the “WiFi” field. Set the password. The PIN and display name fields are optional. If you want to lock the device to a specific access point, set the BSSID field. Otherwise leave this field blank. You may also set a static IP address, if desired, by turning off the “DHCP Enabled” option.

When finished setting options, click “Connect”. The device should connect to your network within 10 seconds. If that fails, it will try three times, then fallback to the SoftAP option.

Once the device is on the network, use the app to search again. The current entry should automatically update with the new IP address.

Option 2: Quick Setup from computer

Plug the WiFi Stop Light into a power outlet. Connect the USB cable between the display and your computer.

Download the config software from our website:

https://www.microframecorp.com/media/downloads/WiFi_Display.zip

The install program should prompt you to run. Once open, select the name of your Wi-Fi network from the list and type in the password. Optionally, set the device name and pin number. Press [Save], then wait up to 30 seconds for the device to connect.

Additional detail is provided in section 2.1 Wi-Fi Cofig Utility located on page 5 with Advanced options listed on page 6.

Mounting

Once the device is configured, simply hang it on the wall at your desired location and plug it into power.

2.1 Wi-Fi Config Utility - Basic

Basic Wifi Display Configuration

Advanced

Access Point Scan

SSID

Password Visible

Device Name

App Pin

Read Save

Connected

Setup

1. Connect device to computer
2. Open Config Utility
3. Select network from list
4. Type in network password
5. <Optional> Set Device Name
6. <Recommended> Set App Pin
7. Click [SAVE]. The button will turn orange while connecting.
8. The button will turn red if failed, or green if success.
9. You may now disconnect the device from the computer and mount it on a wall.

Summary

The Basic version of the Config Utility is intended to make it easy to setup a new device. For additional options, click the [Advanced] button.

Details

The SSID and Password are used to connect to your network. If your network does not show up in the list, you can type it in manually under "SSID". If a password is entered, the utility will assume WPA/WPA2 security. If no password is entered, it will assume no security.

The Device Name is used in the app.

The App Pin must match the pin number set on your mobile app. It is recommended that you change this from the default of "0000" to prevent unauthorized users from accessing the device.

Re-enabling setup mode

To place the device back in setup mode, press and hold the mode button. Hold for 10 seconds, then release. The device will reset to factory defaults and reboot automatically.

2.2 Wi-Fi Config Utility - Advanced

The screenshot shows the 'Basic Wifi Display Configuration' window. It features several sections: 'Serial Ports' with a dropdown set to 'COM3' and 'Read All' and 'Scan' buttons; 'AP' section with a dropdown menu; 'NETT' and 'SECM' dropdowns; 'SSID' and 'BSSID' text boxes; 'PASS' text box; checkboxes for 'BSSID', 'PSK', and 'Visible'; a 'Connect' button; 'IP Settings' section with 'DHCP' checkbox, 'IPADD', 'NETM', and 'GATE' text boxes, and 'Read' and 'Write' buttons; 'Device Settings' section with 'Name' and 'Pin' text boxes and 'Read' and 'Write' buttons; a 'Clear Form' button; a 'Factory Reset' button; and a bottom bar with 'Diagnostic', 'Reboot', 'Clear Log', 'Save Log', 'Ping', and a green 'Connected' button.

Setup

- 1) Power Display
- 2) Open Program
- 3) Read All
- 4) Scan
- 5) Select AP
- 6) Password
- 7) [Connect]

Summary

The Advanced version of the Config Utility allows for configuration of all Wi-Fi settings. It can also be left running and will log messages printed from the device. These messages are useful for technical support.

Details

[Serial] – Shows the currently connected serial port.

[Connected/Disconnected] - Automatically scans for devices and prints results to the log. It will select the device found last.

[Read All] - Reads back settings for all three panels of the utility. Optionally you can read/write individual panels using the respective buttons.

[Scan] - In setup mode reads back the pre-scan list. If connected to an AP, will do a new scan each time the button is clicked.

[Connect] - Used to save settings if specific options are changed. Generally, this will turn green if a save is required.

[AP] - A list of access points (WiFi networks) in range of the device. If blank, try clicking the [Scan button]. Stronger signals are indicated by a higher RSSI number. Selecting an entry from this list will automatically set [NETT], [SECM], [SSID], and [BSSID].

[NETT] - Network type. Generally, set to Infrastructure.

[SECM] - Security mode. Options are "Open" and "WPA/WPA2". WEP is insecure and not supported. WPA-Personal mode is supported, but WPA-Enterprise mode is not.

[SSID] - The name of your network.

2.2 Wi-Fi Config Utility – Advanced continued...

[BSSID] - The identity of your AP, typically printed on the bottom of the router. Setting this and clicking the BSSID checkbox will force the device to always connect to this AP.

[PASS] - the password for your network.

[PSK] - This allows the user to directly specify the 64-byte key used during the connection process. This is an option to support older units and is no longer used by current models.

[Connect] - Click this to apply the WiFi Settings and connect to the new network. See the log to verify if the connection was successful.

[DHCP] - To specify a static IP address for this device, uncheck this box.

[IPADD] - The static IP address for this device. When read back, the current IP address.

[NETM] - The netmask for this device. When read back, the current netmask.

[GATE] -The gateway for this device. When read back, the current gateway.

[NAME] - The name of the device. This is used in the app.

[PIN] - The PIN used by the app to connect to this device.

[Basic] - Switch back to basic mode.

[DIAG] - Diagnostics info, useful for technical support.

[Reboot] - Restarts the device. For setup mode, also causes a new pre-scan to be loaded.

[Clear Log] - Clears the log.

[Save Log] - Saves the log to a text file. Useful for technical support.

[PING] - Causes the device to PING a website or IP address. Useful to verify network connection issues.

3.1 Setting up the Device from the App

Setup

1. Plug in the Wi-Fi StopLight
2. On mobile device, connect to Wi-Fi network "SoftAPxxxxxx"
3. Open App
4. Tap "Settings", then "Search".
5. Tap the entry with the IP 10.10.10.1
6. Tap "WiFi Settings"
7. Tap Browse and select network from list
8. Type in network password
9. <Optional> Set Device Name
10. <Recommended> Set App Pin
11. Click Connect
12. Wait about 20 seconds, then go to settings tab
13. Tap search again. The current entry should update with the new IP address.

The screenshot shows a mobile application interface for configuring WiFi settings. At the top, the status bar displays 'AT&T', signal strength, Wi-Fi icon, time '6:06 AM', and battery level '23%'. The app's title bar shows a back arrow and the word 'Display'. Below the title bar, the text 'CHOOSE A WIFI NETWORK CONNECTION' is centered, followed by a large, rounded 'BROWSE' button. Underneath are five input fields labeled 'WIFI', 'PASSWORD', 'BSSID', 'PIN', and 'DISPLAY NAME'. Below these fields is a 'DHCP Enabled' toggle switch, which is currently turned on (green). At the bottom of the screen is a large, rounded 'CONNECT' button.

[Browse] - retrieve a list of Wi-Fi networks from the device.

[WiFi] – the name of your Wi-Fi network.

[Password] - the password for the network.

[Device Name] - this name is used to identify the device on the "Settings" tab.

[Pin] - this must match the pin setting for this device.

[Connect] - Press here to apply changes to the device and cause it to connect to the new network.

4.1 Installation / Operation / Options

Mounting

This unit is designed with a keyhole in the back to hang on a wall like a picture frame. To use the device, simply screw the 24-volt AC power adapter wires into the back of the device and then plug the adapter into the wall, hang the device on a nail and you are done.

Operation

This device's primary operation is to show red, yellow, or green to the user.

Programmable Configurations

Color Brightness

The brightness for each of the colors can be programmed.

5.1 Using the App

Stoplight

Tap the color you want to display. Double tap to flash a color. Tap the “Single” button for operation like a stoplight (mutually-exclusive operation).

Settings

This page contains a list of all the Wi-Fi Devices that the app finds on the network. This list shows the Name of the device and the IP address that is assigned to the device. To edit a device, tap the device in the list that you wish to edit. The Device Settings page allows you to do the following:

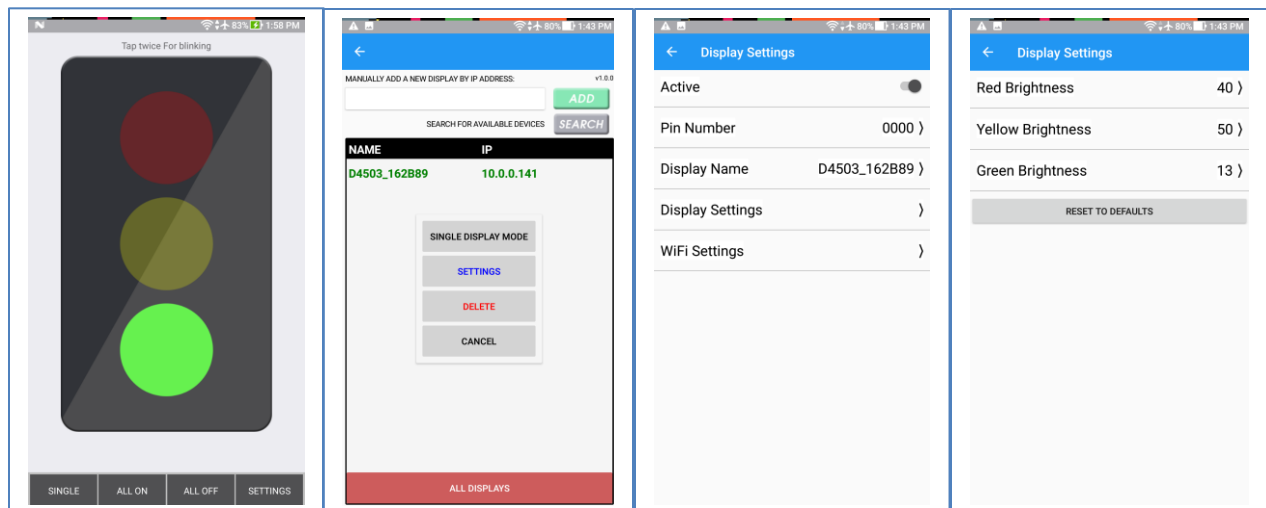
Active: the app will only update displays that are active.

Pin: Set the same pin number here you used when setting up your device. The default is 0000.

Display Settings

Brightness: Set the brightness for each color channel from 1-100%. Since some colors are more visible to the eye than others, the default values try to match perceived brightness.

Reset to Defaults: Restore the values to factory defaults.



6.0 General Troubleshooting Chart

6.1 Can't access the device setup mode.

1. Reset device to factory defaults by pressing the button on the back of the device for 10 seconds.
2. Connect your device to the Wi-Fi network "SoftAPxxxxxx".

6.2 Device will not connect to the Wi-Fi network.

1. Make sure the Wi-Fi password was entered correctly.
2. The Network security must be open or WPA/WPA2. The device doesn't support WEP.

6.3 No Devices found on the network.

1. Be sure that the device is connected to the same network as your devices.
2. The device has one solid light and one blinking light. (If both lights are blinking the device is not connected to the network). Reset, then reconnect device.

6.4 Device does not respond to app.

1. Pin number in the app must be the same as the pin number you used when setting up the device.
2. Device is no longer on the network. Check that the device is not out of range of the Wi-Fi network.

6.5 Device becomes unresponsive.

1. Device is no longer on the network. Check that the device is in range of the Wi-Fi network.
2. Be sure that the device is connected to the same network as your mobile device.

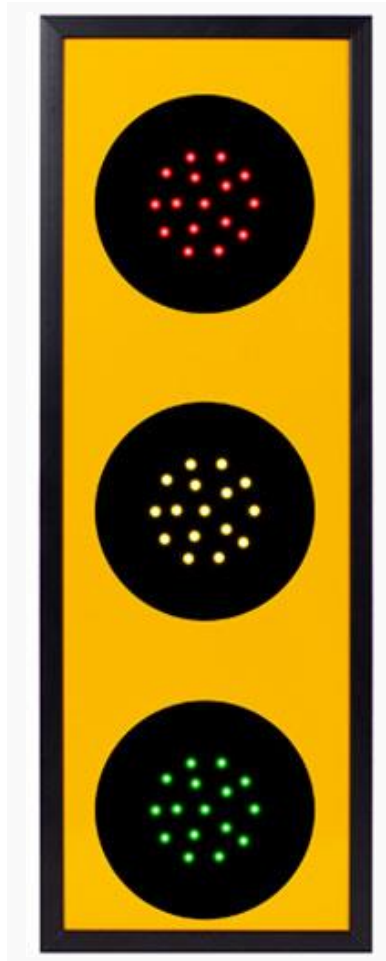
**Model 4503 Specifications
WiFi Stoplight**

Features

Series 4503 are Wi-Fi enabled Stoplights. The devices can display any combination of the lights, including flashing them. The units can be controlled by using our mobile app available on the Apple and Google Play stores.

Box Contents

- (1) D4503 Stoplight with internal 2.4Ghz Antenna
- (1) 24VAC power adapter w/ 20ft of wire
- (1) Manual, (1) Microframe Screwdriver
- (1) USB A to B cable



Model 4503 Specifications	
Voltage Input Range.....	14-28 VAC or 16-30VDC
Viewing Distance.....	125 feet
Temperature Parameters.....	-20°C to 40°C (-4°F to 158°F)
Casing.....	Aluminum extrusion
Color.....	Black frame with gray acrylic faceplate
Environment.....	Indoor use
WiFi.....	802.11n
Case dimensions L/W/T	18in x 6.3in x 1.5in
Power Requirements	5.9 watts @ 24VAC
Device Weight, w/o adapter	3.2 lbs. (1.5 kg)