LNK2 WiFi Module

WiFi Mobile Application

The LNK2 WiFi Module shall allow users to connect remotely to a Rain Bird ESP-ME3, ESP-Me, ESP-TM2, or ESP-RZXe Irrigation Controller through a plug-in accessory and using an Apple iOS or Android compatible mobile device with access to the Internet.

Easy to Install Hardware

The LNK2 WiFi Module shall connect directly to the accessory port featured on compatible controllers.

Mobile Application

A mobile application with user interface shall install on the user's smart device and allow remote configuration of multiple Irrigation Controllers. Options for irrigation scheduling shall be provided as well as access to current weather conditions.

Supported Mobile Devices

The LNK2 WiFi Module Mobile Application shall be available for devices running the following operating systems:

- iOS 8.0 or later
- Android 6.0 (Marshmallow) or later

WiFi Networking

The LNK2 WiFi Module shall provide direct wireless communication to compatible smart devices through a WiFi Access Point

Connecting to the Rain Bird Cloud Server shall allow the server to send a daily seasonal adjustment once per day based upon the Controller's ZIP code

Push notifications shall be available through Google Cloud Messaging or Apple Push Notification Service

A multi-color LED light on the LNK2 WiFi Module shall indicate status of the Access Point and Internet connections

WiFi Connection Security

The LNK2 WiFi Module shall automatically detect the appropriate WiFi security mode using a user-provided network SSID and network key.

The following security modes are supported:

- Open
- WEP
- WPA-TKIP
- WPA-AES
- WPA2-TKIP
- WPA2-AES
- WPA2-AES-TKIP

Mobile App Features

Controller View shall display an image of the Controller with name, station or zone list and local weather report

Expanded View shall allow remote programming of irrigation schedules including a Manual Watering feature

General Information View shall display the selected Controller by name, location by ZIP code and a notifications list

Calendar View shall show a graphical representation of the selected Controller's irrigation schedule

Remote Control View shall provide instant access to manual operation for each station or zone

Program View shall provide access to all irrigation scheduled parameters for program based Controllers

Add Controller View shall provide access to a setup wizard for adding one or more controllers to the mobile app home screen

Controller Settings View shall provide configuration and editing of Controller information, network settings and notification preferences

App Settings View shall provide access the mobile app version, help screens, enable or disable of push notifications, and access to group controllers

Operating Specifications

- Operating Temperature: 14°F (-10°C) to 149°F (65°C)
- Storage Temperature: -40°F (-40°C) to 150°F (66°C)
- Operating Humidity: 95% max @ 50°F to 120°F (10°C to 49°C) non-condensing environment

Electrical Specifications

- 24VAC(RMS) 50/60Hz; 55mA max

Certifications

- UL, cUL, CE, CSA, FCC Part 15b, WEEE, S-Mark, IP30, IFETEL

Dimensions

- Width: 1.13"
- Height: 1.83"
- Depth: 0.48"

How To Specify:
Models
LNK2WIFI

Specifications

The LNK2 WiFi Module is designed for direct plug-in connection to the accessory port on Rain Bird ESP-ME3, ESP-Me, ESP-TM2, or ESP-RZXe Irrigation Controllers.

The connector interface shall have adequate mechanical resistance to prevent accidental disconnect during normal use, while allowing easy tool-less insertion and removal by the user.

The LNK2 WiFi Module shall support direct WiFi communication to a mobile device through a 2.4GHz Band WiFi Access Point (hotspot) inside the LNK2 WiFi Module, or through a LAN connection broadcast by an external WiFi router. At power-up, the LNK2 WiFi Module's internal WiFi Access Point (hotspot) shall be automatically enabled if a LAN connection is unavailable.

The LNK2 WiFi Module shall support network communications over a WiFi network connection.

The LNK2 WiFi Module shall utilize Bluetooth Low Energy during the set up process.

The LNK2 WiFi Module shall have a user accessible push button for configuration and incorporates a red, green, blue (RGB) LEDs as status indicators.

Momentary push button presses shall toggle the LNK2 WiFi Module's WiFi Access Point (hotspot) Mode functionality ON/OFF.

The LNK2 WiFi Module shall have a Factory Default settings reset feature that is accessed through the device push button.

- To execute a Factory Default, press and hold the push button on the LNK2 WiFi Module for 5 seconds.

The Mobile Apps weather report shall display the current day plus 4 day weather forecast for the target location. The source of weather data is as follows:

- United States: NOAA
- Canada: Environment Canada
- Europe: European Centre for Medium-Range Weather Forecasts (ECMWF)
- Japan: Japan Meteorological Agency
- All other International: METAR

The Mobile Device App shall represent Controllers through "cards" that may be organized into groups. The Mobile App Home Screen contains all Controllers. Users can create additional Controller Groups with selected Controllers. Controller cards can be deleted manually by the user.

The Mobile App Home View Controller cards shall show an image of the Controller with name, type, the number of zones supported and interface icons for Remote, Calendar, Share and Delete features.

The LNK2 WiFi Module shall support server communications by connecting to (polling) the server on regular intervals. The server check-in interval is interval is every 10 seconds.

The server shall enable Mobile Apps to subscribe to push notifications using Apple Push Notification Service (APNS) or Google Cloud Messaging (GCM).

The Server shall disassociate all Mobile Apps from a LNK2 WiFi Module that reported an access pass code change.

The LNK2 WiFi Module shall store a remote access pass code in nonvolatile memory and report an access pass code change to the Server. If a connection to the Server is not available at the time of the pass code change, the LNK2 WiFi Module shall continue to attempt to report the change until successful.

The LNK2 WiFi Module has no internal surge protection and relies on the Irrigation Controller's Electrical Surge Protection features.

LED Operational States

LED	Indication
Solid red	Establishing communications with controller
Red/green/blue flashing	Device reboot completed
Flashing red	LNK2 WiFi module configuration mode timed out and no external WiFi access point configured
Alternating red/green/OFF flashing	LNK2 WiFi module internal WiFi AP active
Rapid green flashes	Reset to factory default configuration completed
Solid amber (orange/yellow) followed by alternating red/green flashing	Factory Default Reset successful
Steady flashing blue	LNK2 WiFi Module is broadcasting in Bluetooth Low Energy mode
Steady flashing green	Local LAN communication with external WiFi AP and Rain Bird cloud server active
Steady flashing double-green	Local LAN communication with external WiFi AP, but no connection to Rain Bird cloud server