Overview

The NL241 is a Wi-Fi WLAN (wireless local area network) interface that provides connectivity to your data logger through your existing Wi-Fi network or any available Wi-Fi hotspot. It can either join an existing network or create a network providing a direct link to the data logger or to a cloud data service, like Campbell Scientific’s Konect. The NL241 can also be used as an access point for directly connecting to the data logger from any Wi-Fi enabled device.

The NL241 is a wide-operating-temperature and low-power-consumption device, making it ideal for providing Wi-Fi client and access point functionality in demanding and remote applications. The wireless access point feature allows any Wi-Fi device to connect, including your PC, phone, tablet, or even another NL241 or NL240. It can be always on, cycled on and off under program control, or brought up with the touch of a button. Unlike the NL240, the NL241 is a true access point and does not rely on ad hoc networking.

This wireless network link interface is configurable to support a number of different types of connections including PakBus, TCP serial server and client, Modbus/TCP gateway, and Wi-Fi to CS I/O port bridging.

Benefits and Features

- Low power consumption for reduced power supply costs
- Embedded radio transmitter for simplified operation and use as an access point without the need for ad hoc networking
- Quick configuration as an access point in the field
- Access to full PakBus routing capabilities
- Direct data logger communication with IP connectivity supported through LoggerLink smartphone app and LoggerNet PC software

Specifications

<table>
<thead>
<tr>
<th>Transmission Distance or Area</th>
<th>Worldwide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Aluminum case with black anodized finish</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40° to +70°C</td>
</tr>
<tr>
<td>Configuration</td>
<td>Terminal menu over RS-232, Telnet console over Wi-Fi</td>
</tr>
</tbody>
</table>

For comprehensive details, visit: [www.campbellsci.com/nl241](http://www.campbellsci.com/nl241)
### Device Configuration Utility over USB or Wi-Fi
- **CS I/O Port**: 9600 bps to 460.8 kbps
- **RS-232 Port**: 1200 bps to 115.2 kbps
- **USB Port**: Micro-B

### Supported Protocols
- IPv4, IPv6, ICMP/Ping, ICMPv6/Ping, TCP/IP, DHCP Client, DHCP Server (in access point mode only), SLAAC, DNS Client, HTTPS Proxy, TLS, Telnet Server, PakBus, Modbus

### TCP Connections
- 50 simultaneous connections supported
- 10 of the 50 TCP connections can be used for TLS

### PakBus Router
- 50 routes supported

### Modbus Server
- Up to 15 concurrent transactions supported

### Power Source
- CS I/O or DC barrel connector (not USB)

### Supply Voltage
- 9 to 16 Vdc

### Compliance Information
- CE Compliant
- Complies with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules

### Embedded Radio Transmitter Approvals
- Industry Canada: 8407A-RS9113SB
- FCC Identifier: XF6-RS9113SB

### Service Requirements
- Wi-Fi hotspot (access to standard 802.11b/g/n networks)

### Dimensions
- 16 x 7.3 x 2.54 cm (6.3 x 2.9 x 1 in.)

### Weight
- 180.35 g (6.36 oz)

### WLAN
- **Antenna Connector**: RPSMA
- **Supported Technologies**: 802.11b/g/n, WPA/WPA2-Personal, WPA/WPA2-Enterprise Security, WEP
- **Client Mode**: WPA/WPA2-Personal and Enterprise, WEP
- **Access Point Mode**: WPA2-Personal
- **Communication Rate**
  - up to 72 Mbps (802.11n)
  - up to 54 Mbps (802.11g)
  - up to 11 Mbps (802.11b)
- **Transmit Power**
  - 10 ± 1 dBm (medium)
  - 7 ± 1 dBm (low)
  - 18 ± 2 dBm (high)
- **Rx Sensitivity**: -97 dBm
- **Frequency**: 2.4 GHz

### Power Consumption
- **Client Mode**
  - 7.5 to 8 mA (idle)
  - 65 to 75 mA (communicating)
- **Access Point Mode**
  - 70 mA (communicating)
  - 67 mA (idle)
- **Standby**
  - < 1.5 mA