

**NL241**

Wireless Network Link Interface

# Powerful Wi-Fi Network Link and Access Point

Extremely low power consumption



## Overview

The NL241 is a Wi-Fi WLAN (wireless local area network) interface that provides connectivity to your datalogger 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 datalogger 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 datalogger from any Wi-Fi enabled device.

## Benefits and Features

- › **Reduces power supply costs:** NL241 has low power consumption
- › **Simplifies operation:** Embedded radio transmitter allows the NL241 to be used as an access point (no more awkward ad hoc)
- › **Quickly configure the NL241 as an access point in the field:** Surface button turns access point on and off
- › **Access full PakBus routing capabilities**
- › **Communicate directly with the datalogger:** IP connectivity is supported through LoggerLink smartphone app and LoggerNet PC software

## Datalogger Compatibility

The NL241 is compatible with all Campbell Scientific dataloggers; for specific limitation, refer to [www.campbellsci.com/nl241](http://www.campbellsci.com/nl241). The NL241 is powered by the datalogger when connecting through

the CS I/O port. When connected to the RS-232 port, a field cable (pn 14291) is used to connect the NL241 to an appropriate 12 Vdc power supply.

More info: 780.454.2505

[www.campbellsci.ca/nl241](http://www.campbellsci.ca/nl241)

## Ordering Information

### Network Link Interface

**NL241** Wi-Fi Communications Peripheral—shipped with an SC12 cable for connecting to the datalogger's CS I/O port, and hardware for mounting to an enclosure backplate

### Accessories

- 15966** AC/DC adapter that can power the NL241 independently from an AC power outlet.
- 14291** Field power cable allows powering the NL241 from a 12 Vdc source.
- 10873** DB9 Female to DB9 Male Cable (6 feet)—connects the NL241 to the datalogger's RS-232 port
- 16005** Unity gain (0 dBd), 1/2 wave whip, omnidirectional antenna.

The 16005 antenna features an articulating knuckle joint for easy orientation, weatherized jacket for outdoor applications, and internal counterpoise for ground plane independence.



## Specifications

- Material: Aluminum case with black anodized finish
- Operating Temperature Range: -40° to +70°C
- Dimensions: 16 x 7.3 x 2.54 cm (6.3 x 2.9 x 1 in)
- Weight: 180.35 g (6.36 oz)
- Configuration:
  - Device Configuration Utility over USB or Wi-Fi
  - Telnet console over Wi-Fi
  - Terminal menu over RS-232
- CS I/O Port: SDC 7, 8, 10, or 11 (does not support ME); 9600 to 460.8k bps
- RS-232 Port: DTE, DB9 Male; 1200 to 115.2k bps
- 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

- Communication Rate
  - 802.11b: up to 11Mbps
  - 802.11g: up to 54 Mbps
  - 802.11n: up to 72 Mbps
- Transmit Power: 7 to 18 dBm (5 to 63 mW)
- Rx Sensitivity: -97 dBm
- Frequency: 2.4 GHz

### Power

- CS I/O or DC Barrel Connector (not USB)
- Supply Voltage: 9 to 16 Vdc
- Power Consumption
  - Client Mode: 7.5 to 8 mA idle, 65 to 75 mA communicating
  - Access Point Mode: 67 mA idle, 70 mA communicating
  - Standby: less than 1.5 mA

### Compliance Information

- CE Compliant
- Complies with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
- Embedded Radio Transmitter Approvals
  - FCC Identifier: XF6-RS9113SB
  - Industry Canada: 8407A-RS9113SB
- View EU Declaration of Conformity documentation at: [www.campbellsci.com/nl241](http://www.campbellsci.com/nl241)

### 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

