Overview
The NL201 is a serial-to-Ethernet interface that provides a wired Ethernet network connection to data loggers, peripherals, and other serial devices. The NL201 supports sophisticated networking capabilities for PakBus devices and networks. Using a unique technique to bridge the Ethernet and CS I/O ports, the NL201 can provide direct access to the integrated IP functionality of some Campbell Scientific data loggers. The NL201 can also act as a standard TCP serial server, serial client, Modbus TCP/IP gateway, and TLS proxy server for HTTPS and user-defined-port communication.

Benefits and Features
- Extremely low power consumption (650 mW)
- Provides access to the native Internet protocol capabilities of the CR6, CR800, CR850, CR1000, and CR3000
- Rugged serial-to-Ethernet server for networking devices and peripherals
- PakBus routing and device initiated connections

Detailed Description
The NL201 connects to an Ethernet network using a 10Base-T/100Base-TX, full or half duplex, Ethernet interface. It has CS I/O and RS-232 ports for connecting a Campbell Scientific data logger, peripheral, Modbus RTU, or other serial-based device. A USB micro B connection is provided for on-site configuration using Device Configuration Utility software.

The NL201 can act as a PakBus router, TCP serial server, TCP serial client, Modbus TCP/IP gateway, and TLS proxy server for HTTPS and user-defined-port communications.

The NL201 also provides a unique mode that bridges the Ethernet and CS I/O ports. This allows access to the internal IP functionality of the CR6, CR800, CR850, CR1000, and CR3000 (for example, web page access, email, FTP). Adding an NL201 configured in this manner to a CR800 is analogous to adding an NL121 to a CR1000’s peripheral port. Adding an NL201 configured in this manner to a CR800 is analogous to adding an NL120 to a CR1000’s peripheral port.
### Specifications

<table>
<thead>
<tr>
<th>Transmission Distance or Area</th>
<th>Worldwide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Connector</td>
<td>CS I/O port or DC barrel connector (not powered over USB)</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>7 to 20 Vdc</td>
</tr>
<tr>
<td>CS I/O Port</td>
<td>SDC 7, 8,10, or 11 (does not support ME)</td>
</tr>
<tr>
<td>RS-232 Port</td>
<td>DTE</td>
</tr>
<tr>
<td>USB Port</td>
<td>Micro-B</td>
</tr>
<tr>
<td>Ethernet Port</td>
<td>10Base-T and 100Base-TX (full and half duplex), Auto-MDIX, Auto-IP (APIPA), IPv4, IPv6, ICMP/Ping, ICMPv6/Ping, TCP, DHCP Client, SLAAC, DNS Client, HTTPS Proxy, Telnet Server, TLS, PakBus, Mobus TCP/IP</td>
</tr>
</tbody>
</table>

**Connections/Routes Supported**
- Supports 50 simultaneous TCP connections.
- Up to 10 of the 50 TCP connections can be used for TLS.
- PakBus Router supports 50 routes.
- 15 Modbus Server Transactions (maximum)

**Temperature Range**
- -55° to +85°C (extended)
- -25° to +50°C (standard)

**Configuration**
- Terminal menu over Telnet

### Service Requirements
- Ethernet access

### Dimensions
- 16 x 6.73 x 2.54 cm (6.3 x 2.65 x 1 in.)

### Weight
- 177 g (6.3 oz)

### Current Drain
- Active: 50 mA (@ 13 Vdc)
- Forced Standby: 2 mA (available when using Ethernet-to-CS I/O Bridge Mode)

### Communication Rate
- RS-232 Port: 1200 bps to 115.2 kbps
- CS I/O Port: 9600 bps to 460.8 kbps
- Ethernet: 10/100 Mbps

### Compliance
- RoHS: Compliant
- European Standards: Meets requirements for a class B device under European Standards.
- Standards to Which Conformity Is Declared: EN61326-1:2013

For comprehensive details, visit: [www.campbellsci.com/nl201](http://www.campbellsci.com/nl201)