



Connectivity and Data Storage

Ethernet and memory card
connections

Overview

Campbell Scientific's NL115 enables 10baseT Ethernet communications and stores data on a removable CompactFlash® card. This small, rugged communication

device connects to the 40-pin peripheral port on a CR1000 or CR3000 datalogger.

Benefits and Features

- ▶ Provides Ethernet communications and additional data storage for a CR1000 or CR3000 datalogger
- ▶ Ethernet connection allows for data logger communications over a local area network or the Internet via TCP/IP
- ▶ Removable CompactFlash cards can provide long-term data storage
- ▶ Small, light-weight CF cards fit in your pocket for easy transport between the data logger and PC

Technical Description

The NL115 allows the datalogger to communicate over a local network or a dedicated Internet connection via TCP/IP. A 10baseT Ethernet straight through cable is used when the cable is run from a hub to the NL115. A 10baseT Ethernet crossover cable is used if the cable is run directly from the computer to the NL115.

The NL115/CF card combination can be used to expand the datalogger's memory, transport data/programs from the field site(s) to the office, and upload power up functions. One Type I or Type II CompactFlash (CF) card fits into the NL115's card slot.

Only industrial-grade CF cards should be used with our products. Although consumer-grade cards cost less than industrial-grade cards, the consumer-grade cards are more

susceptible to failure resulting in both the loss of the card and its stored data. Industrial-grade cards also function over wider temperature ranges and have longer life spans than consumer-grade cards.

Data stored on the card can be retrieved either by removing the card and carrying it to a computer or through a communications link with the datalogger. The computer can read the CF card either with the computer's PCMCIA slot and the CF1 adapter or the computer's USB port and the 17752 Reader/Writer.

CardConvert is used to convert and save binary data from a CompactFlash® card. CardConvert is included in our PC200W, PC400, LoggerNet, and RTDAQ datalogger support software.



Specifications

Power Requirements	12 V supplied through the data logger's peripheral port
Ethernet Speed	10Base-T (10 Mbps), half-duplex
Typical Access Speed	200 to 400 kbits s ⁻¹
Memory Configuration	User selectable; ring (default) or fill-and-stop
CF Card Requirements	Industrial-grade
Data Logger Operating System (OS)	The CR1000 OS must be OS 9 or later. Both the CR1000 and CR3000 need OS 25 or later to read cards with more than 2 GB of storage.
Typical Current Drain	<ul style="list-style-type: none"> › 2 mA (CR1000 with NL115; Ethernet port has been put to sleep using the IPNetPower() CRBasic instruction.) › 43 mA (CR1000 with NL115 communicating over Ethernet and accessing CF card) › Add 2 mA to current drain if orange Status LED is continuously on. › 20 mA (CR1000 with NL115, Ethernet cable attached) › 19 mA (CR1000 with NL115, no Ethernet cable attached, not actively communicating over Ethernet nor accessing the CF card)

- › 20 mA (CR1000 with NL115, Ethernet cable attached and communicating over Ethernet)
- › Add 1 mA to current drain if red or green Status LED is continuously on.

Dimensions	<ul style="list-style-type: none"> › 25.2 x 10.2 x 7.1 cm (9.9 x 4.0 x 2.8 in.) for CR1000 with NL115 attached › 10.2 x 8.9 x 6.4 cm (4.0 x 3.5 x 2.5 in.)
Weight	154 g (5.4 oz)

EMI and ESD Protection

European Standards	Meets requirements for a class A device under European Standards.
Application of Council Directive(s)	89/336/EEC as amended by 89/336/EEC and 93/68/EEC
Standards to Which Conformity Is Declared	EN55022-1; 1995 and EN50082-1: 1992

Software Requirements

LoggerNet	Version 3.2 or later
PC400	Version 1.3 or later
DevConfig	Version 1.5 or later

For comprehensive details, visit: www.campbellsci.eu/nl115 



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