

**NL116***Ethernet Interface and CompactFlash® Module*

# Ethernet Connectivity and Expanded Data Storage

## Overview

Ethernet connectivity and expanded data storage capacity are easily added to a CR1000 or CR3000 by attaching a NL116. The Ethernet connection provides access to the powerful Internet

capabilities of the datalogger for data collection and control. Additionally, gigabytes of data and file storage capacity can be added to the datalogger using a removable CompactFlash® card.

## Benefits and Features

- › Native Ethernet connection that allows the datalogger to communicate directly using a variety of Internet protocols
- › CompactFlash cards used to greatly expand data storage capacity
- › Ability to remove and swap cards making retrieval of data and files fast and simple
- › Integrated protection for surge and ESD
- › Datalogger controlled power management for low power operation

## Data Storage on CompactFlash Cards

One Type I or Type II (CF) card fits into the NL116's card slot. Campbell Scientific offers and recommends the CFMC256M, CFMC2G, and CFMC16G CF cards (see Ordering Information). 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.

The NL116/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. The computer can read the CF card with the computer's USB port and the 17752 Reader/Writer.

questions & quotes: 435.227.9100

[www.campbellsci.com/nl116](http://www.campbellsci.com/nl116)



## Ordering Information

### Ethernet Interface and CompactFlash® Module

**NL116** Ethernet Interface and CompactFlash Module for CR1000 or CR3000 dataloggers.

#### Temperature Range Options (choose one)

**-ST** Tested -40° to +70°C

**-XT** Tested -40° to +85°C

#### Warranty (choose one)

**-SW** Standard 1 year warranty; see manual for full warranty policy.

**-XW** 4 year warranty extension (total warranty period of 5 years). Available only at the time of original product purchase. Same terms and conditions apply to the extended warranty as apply to the standard warranty.

### Ethernet Cables

**28900** 10 ft Ethernet cable. Recommended for external hub or PC connections.

**28899** 2 ft Ethernet cable. Recommended for connecting a device inside the same enclosure.

**28898** 6 in Ethernet cable. Recommended for connecting a device mounted right next to the NL116.

### CompactFlash Cards and Reader

**CFMC256M** 256 MB Industrial-grade CompactFlash Memory Card.

**CFMC2G** 2 GB Industrial-grade CompactFlash Memory Card.

**CFMC16G** 16 GB Industrial-grade CompactFlash Memory Card. The datalogger operating system must be OS 25 or later to read this card.

**17752** USB Memory Card Reader

## Specifications

› CE Compliant Devices: NL116, 17752 USB Reader/Writer

### NL116

- › Datalogger Compatibility: CR1000 or CR3000 using OS 28 or later
- › Datalogger Interface: 40-pin peripheral port on CR1000 or CR3000
- › Ethernet: 10/100 Mbps, auto-detect 10BaseT/100Base-TX, full/half duplex, IEEE 802.3, auto MDI/MDI-X
- › CF Card Requirements: Industrial grade
- › Power Source: 12 V from datalogger's peripheral port
- › Power Consumption: 58 mA typical, 3 mA Ethernet off
- › Operating Temperature Range: -40° to +70°C
- › Dimensions: 10.2 x 8.9 x 6.4 cm (4.0 x 3.5 x 2.5 in)
- › Weight: 154 g (5.4 oz)

### Compliance Information

- › Application of Council Directive(s): 2004/108/EC Electromagnetic Compatibility Directive (EMC)
- › Product Standard:  
EN 61326-1:2013 – Electrical Equipment for measurement, control and laboratory use  
EMC requirements – for use in industrial locations
- › 2011/65/EU: The Restriction of Hazardous Substances Directive (RoHS2)

### CFMC256M, CFMC2G, and CFMC16G

- › Manufacturer: SwissBit
- › Card Description: Industry standard Type I
- › Storage Capacity: 256 MB, 2 GB, or 16 GB
- › Operating Temperature: -40° to +85°C
- › Storage Temperature: -50° to +100°C
- › Compliance: RoHS
- › Card Format: FAT32
- › Dimensions: 4.28 x 3.64 x 0.33 cm (1.69 x 1.43 x 0.13 in)
- › Weight: 10 g (0.35 oz)

### 17752 USB Reader/Writer

- › Dimensions: 8.9 x 6.9 x 1.9 cm (3.5 x 2.7 x 0.75 in)
- › Operating Temperature: 0° to 60°C
- › Storage Temperature: -20° to 85°C

### Minimum Computer Requirements

- › Windows 8, 7, Vista (SP1, SP2), XP (SP3), 2000 (SP4);  
MAC OS X v. 10.6.x+; or Linux v. 2.6.x+
- › USB Port: USB 2.0 or 3.0

