

training

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# Campbell Scientific Training Courses

Introduction to Data Loggers and CR Basic



This two-day introductory training course will teach you the fundamentals of programming the latest generation of Campbell Scientific data loggers using LoggerNet with CRBasic.

Day one of the course provides a good introduction to using LoggerNet to administer, program, and collect data from Campbell Scientific's most popular data loggers. Day two of the course will teach you how to customize a data logger program to suit different sensor and data storage requirements.



## Important Information

- Course commences at 9 a.m. each morning and finishes at 5 p.m. There is ample parking on-site.
- Lunch and training materials are provided. Please advise of any special dietary requirements before the course.
- Accommodation and travel are not included, but we can provide local recommendations.
- All courses are taught using the latest version of LoggerNet software. All equipment is provided.
- All fees must be paid in full prior to the course by either credit card or invoice. Full refunds are given up to two weeks before the course. Cancellations after this time incur a 20% charge. No refund is given for cancellations 24 hours prior to commencement.
- Participant substitutes are welcome at any time prior to the course commencement; no substitutes are welcome after the course has begun.

## What People Have to Say

"The facilities and equipment provided for the course were excellent."

"It was extremely useful to get hands-on experience with a variety of instruments and learn how to use them."

# Course Overview

## Day 1: Software and Data

### Logger Hardware

- Introduction to Data Logging
- Software Overview:
  - Device Configuration Utility
  - Changing data logger settings using Device Configuration Utility
  - Sending operating system to data logger
  - PC400
  - LoggerNet
  - ShortCut
- Detailed Review of LoggerNet:
  - Creating new station profile in Setup screen
  - Connecting to data logger using Connect screen
  - Setting data logger clock
  - Sending program to data logger
  - Working with data
    - Monitoring and graphing real-time data
    - Viewing historical data using View Pro
    - Accessing files via File Control
    - Downloading data on a schedule
    - Monitoring schedules with Status Monitor
    - Displaying data with RTMC
- Troubleshooting:
  - Status Monitor
  - Status Table
  - Log Tool
- Introduction to CRBasic and CRBasic language

## Day 2: Data Logger Programming

- Programming with ShortCut
- CRBasic Editor:
  - Help system
  - Commenting and syntax highlighting
  - Navigation
- Program Templates:
  - Introduction to programming
  - Measurement and control example program
  - Declaring Variables
  - Declaring DataTables
- Creating a Main Program:
  - Measurement and control example program
  - Using If-Then-Else statements
  - Using program features
  - Different measurement instructions for different sensor types
- Data Types and Formats:
  - Dim, Alias, and Const instructions
  - Available data types
  - Data precision (e.g., FP2 versus IEEE4)
  - Defining DataTables
  - Data conversion and manipulation
- Loops:
  - Sub-routines
  - For loops
  - Multiplexers
- Serial Communications:
  - Digital data
  - Using Terminal Emulator with SDI-12 sensors



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# Information



**PHONE:**

General Inquiries  
+44(0)1509 601141



**WEBSITE:**

Visit us at  
[www.campbellsci.eu](http://www.campbellsci.eu)



**LOCATION:**

80 Hathern Road  
Shepshed, Loughborough  
LE12 9GX, UNITED KINGDOM



**EMAIL:**

[sales@campbellsci.co.uk](mailto:sales@campbellsci.co.uk)  
[support@campbellsci.co.uk](mailto:support@campbellsci.co.uk)

- AUSTRALIA
- BRAZIL
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