Campbell SCIENTIFIC | QUICK DEPLOY GUIDE

Open-Path Eddy-Covariance System

With IRGASON or EC150/CSAT3A

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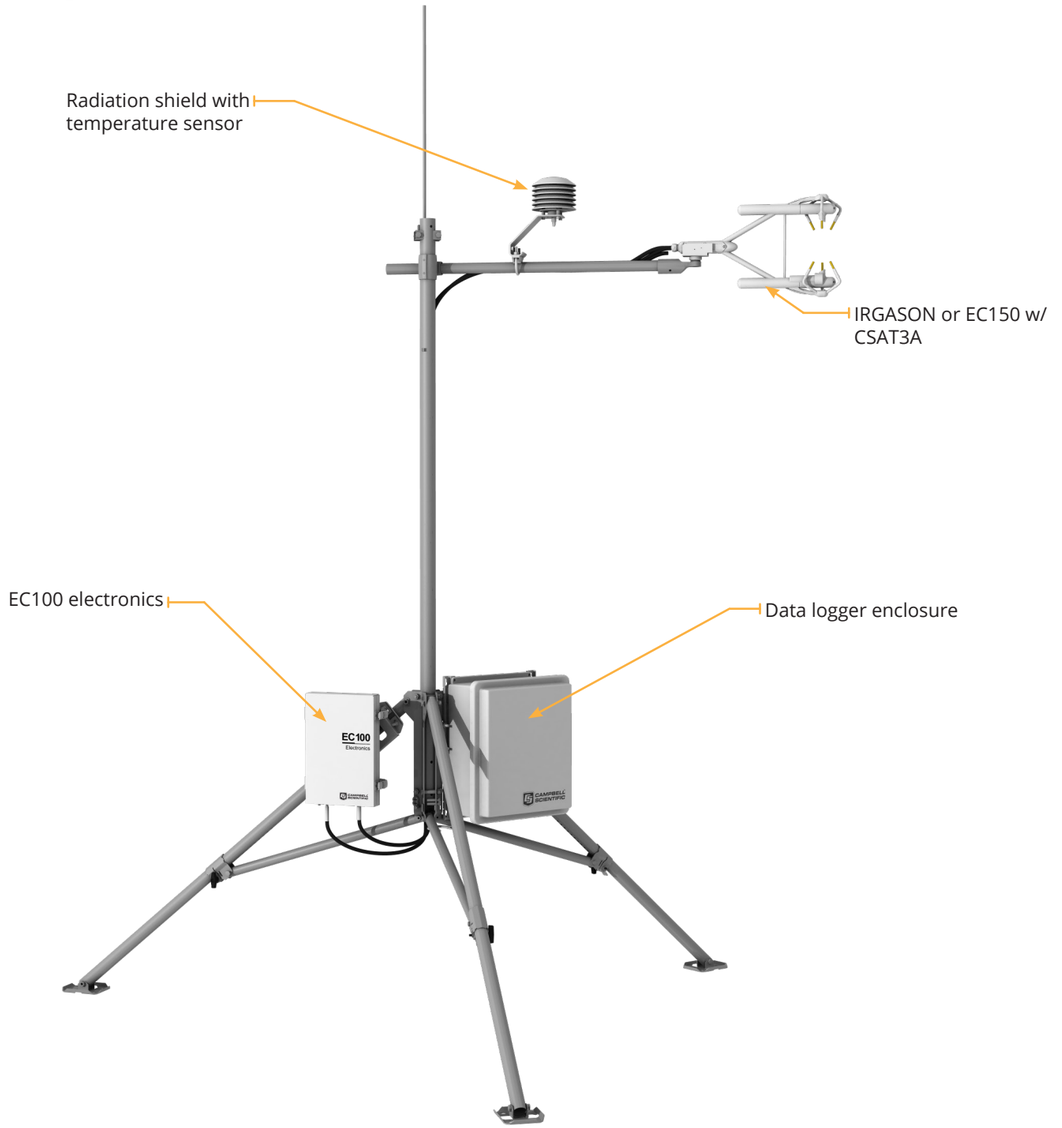
IMPORTANT NOTE: This Quick Deploy Guide is meant to be a general reference to give the installer an overview of the steps required to make this system operational. The product manuals are the definitive source for detailed installation instructions and information.

- Do not connect or disconnect the gas analyzer head or the sonic anemometer head from the EC100 electronics while the EC100 is powered. Doing so can result in unpredictable performance of the system or damage to the instrument head.
- Grounding electrical components in the measurement system is critical. Proper earth (chassis) grounding will ensure maximum electrostatic discharge (ESD) protection and higher measurement accuracy.
- Use care when connecting and disconnecting tube fittings to avoid introducing dust or other contaminants.
- The OPEC power source should be designed thoughtfully to ensure uninterrupted power. If needed, contact Campbell Scientific for assistance.

OPEC System Diagram



Software

EASYFLUX® DL

EasyFlux® DL is a free CRBasic program that enables a data logger to report fully corrected fluxes of CO2, latent heat (H2O), sensible heat, and momentum from a Campbell Scientific open-path and closed-path eddy-covariance (EC) system.

https://www.campbellsci.com/easyflux-dl

EASYFLUX® PC

EasyFlux® PC is a free computer program that processes high-frequency time-series data, collected using a Campbell Scientific eddy-covariance flux system, into fluxes following community accepted practices.

https://www.campbellsci.com/easyflux-pc

EASYFLUX® Web

EasyFlux® Web is a web-based software tool for monitoring CR6 and CR3000-based Campbell Scientific eddy-covariance systems.

https://www.campbellsci.com/easy-flux-web

Required Tools

The following tools are required to install the OPEC system in the field. Additional tools may be required for a user-supplied tripod or tower.

1. 9/16-in, open-end wrench
2. 1/2-in, open-end wrench
3. 7/16-in, open-end wrench
4. Adjustable wrench
5. Small, flat-tip screwdriver
6. Large, flat-tip screwdriver
7. Sledgehammer (to drive grounding rod into the ground)
8. 3/16-in hex-key wrench

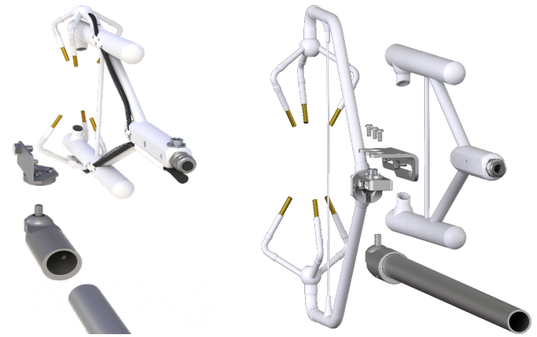
Physical Deployment

1. Set up the tripod and mount enclosure.

2. Ground the tripod and enclosures.

3. Attach the CM20X crossarm to the tripod mast.

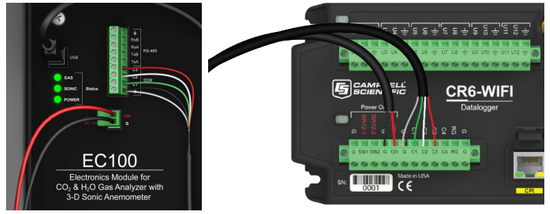
4. Mount the IRGASON or EC150/CSAT3A to the crossarm and point it into the prevailing wind.



5. Mount the radiation shield and IRGASON or EC150/CSAT3A temperature probe.

6. Connect the gas analyzer, sonic anemometer, and temperature probe cables to the EC100 electronics.

7. Connect the system wiring.



Terminal	Connection
CR6 BAT +	Positive of 12 VDC battery or external power supply
CR6 BAT –	Negative of 12 VDC battery or external power supply
CR6 CHG +	Positive of charger (used only if CR6 charger will charge battery)
CR6 CHG –	Negative of charger (used only if CR6 charger will charge battery)
CR6 C1	EC100 SDM C1
CR6 C2	EC100 SDM C2
CR6 C3	EC100 SDM C3
CR6 G	EC100 SDM G

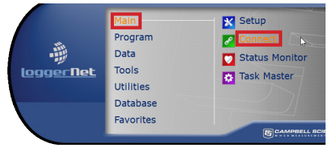
8. Insert a MicroSD card into the datalogger and connect power.

Configuring with LoggerNet, PC200W, PC400, or CR1000KD

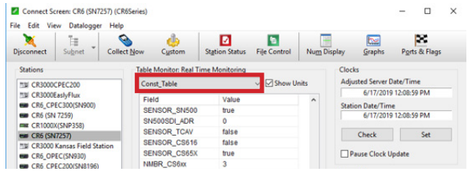
Turn on the +12 VDC power supply and use either LoggerNet, PC200W, or PC400 on your computer to configure settings, either within the Connect screen (Part A) or in the datalogger program itself in CRBasic Editor (Part B). The CR1000KD can also be used to configure these settings as shown in Part C.

A: LoggerNet, PC200W or PC400 Connect screen

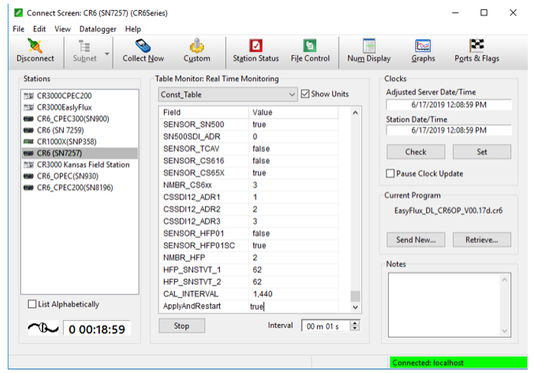
1. Connect to the data logger.



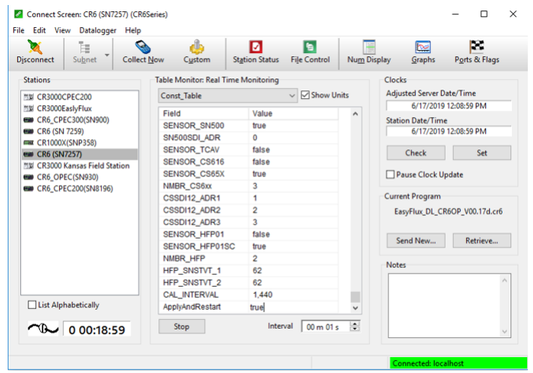
2. Go to the Const_Table within the Easyflux™ DL program.



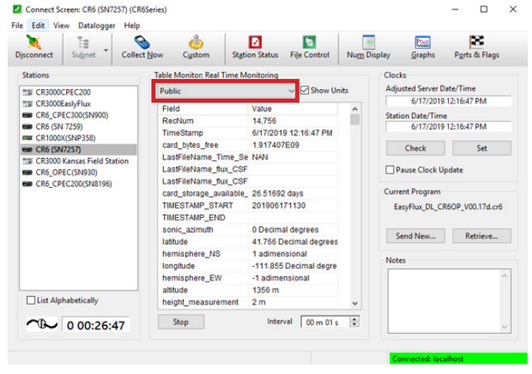
3. Set all the sensors that are used in the system to TRUE and declare their address, quantity, and calibration information. Select the cell to be changed, right-click on the cell, then select View/Modify Value to change the setting.



4. Once all of the sensors and constant settings are correct, scroll to the bottom and set ApplyAndRestart to true.

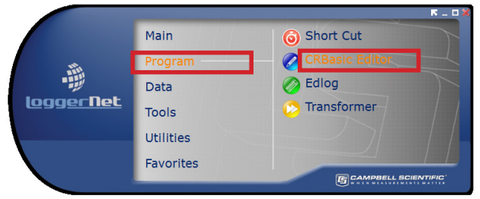


5. Review the Public table and confirm that site specific variables are set appropriately. Note: Setting these variables does not require an ApplyAndRestart.



B: CRBasic Editor

1. Open the program using the CRBasic Editor.



2. Within the program you can search for the word “Unique” to customize all the values within the constant table as well as get definitions of what each constant means.

```
'Start of Constants Customization Section
ConstTable (Const_Table)

'*PROGRAM FUNCTION CONSTANTS
Const SCN_INTV                = 100        'Unique:
Const SLW_SCN_INTV            = 5000       'Unique:
Const OUTPUT_INTV             = 30         'Unique:
Const DAY_FLUX_CRD            = 30         'Unique:
Const DAY_TSRS_CRD            = 1          'Unique:
Const NTCH_FRQ_SLW As Long    = 60         'Unique:
Const ONE_FL_TABLE As Boolean = FALSE      'Unique:
```

C: CR100KD

1. The CR1000KD may be used to set constants and site specific variables as well.
2. Press Esc to activate the display.

3. Press Enter to display the System Control menu.
4. Use the arrow keys to select Site Var Settings to access the site specific variables. Use the keypad to enter the new values.