



# CPEC306

Closed-Path Eddy-Covariance System



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Info  
Link



**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 Owner's Manual is the definitive source for detailed installation instructions and information.

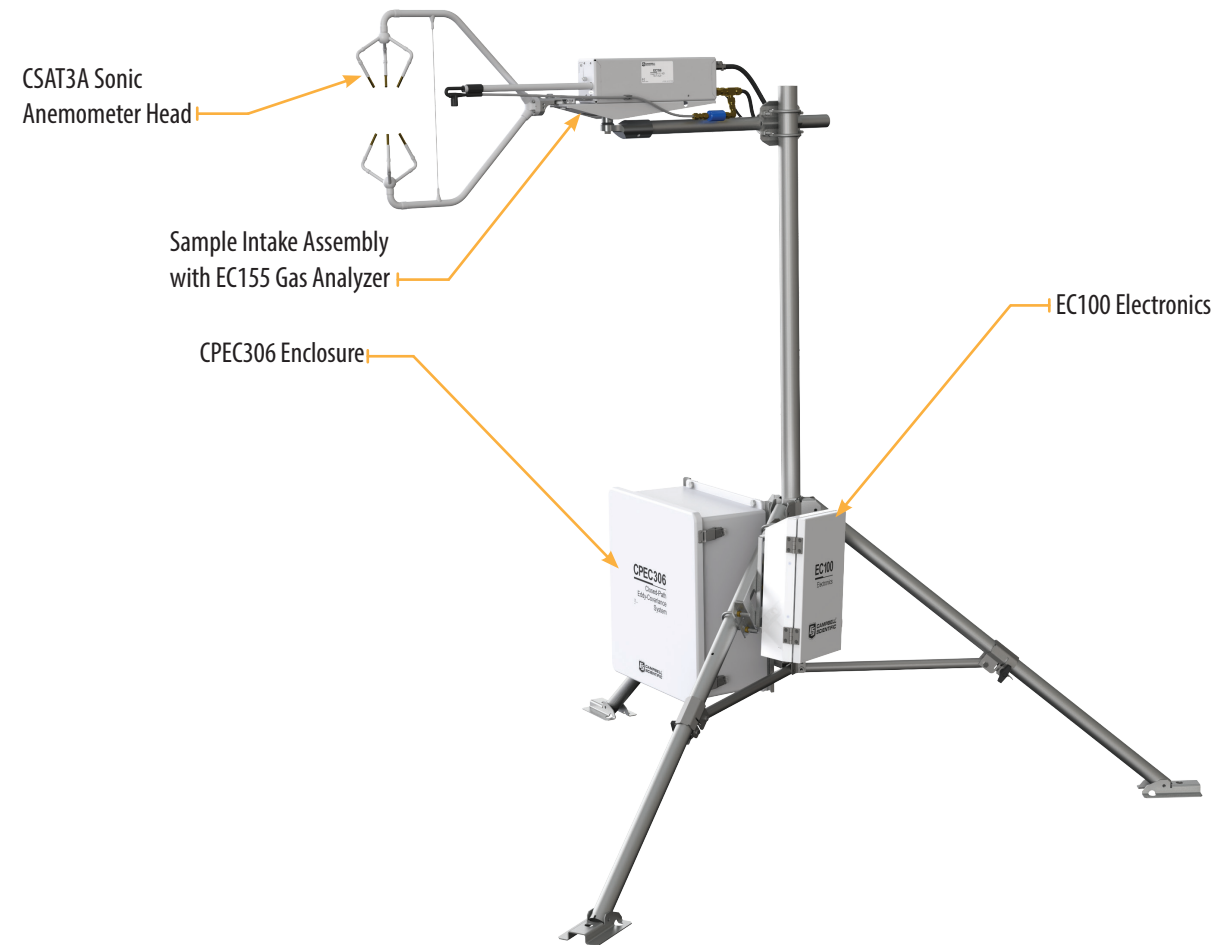
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Caution!

- Do not connect or disconnect the EC155 gas analyzer head or the CSAT3A 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.
- Do not overtighten the tube fittings. Consult the manual for information on proper connection.
- The CPEC306 power source should be designed thoughtfully to ensure uninterrupted power. If needed, contact Campbell Scientific for assistance.
- Retain all spare caps and plugs as these are required when shipping or storing the CPEC306 system.

## CPEC306 System Diagram



## Using the CR1000KD keypad to configure settings and zero/span on a deployed system

When not using datalogger support software such as *Loggernet*, turn on the +12 Vdc power supply and use the CR1000KD keypad to configure the settings and zero/span.

- Press **Enter** to activate the display. Press **Enter** again to display the **System Control** menu.

```
System Control
Initial Configuratr >
Site Var Settings >
Run Station >
Attendant Zero/Span >
Const Table >
System Menu >
```

- On the **System Control** menu, select **Site Var Settings** to customize site specific variables.

```
System Control
Initial Configuratr >
Site Var Settings >
Run Station >
Attendant Zero/Span >
Const Table >
System Menu >
```

- Enter site-specific variables. Press **Esc** when complete to return to the main menu.

```
Site Var Settings:
Meas height :2.00000
Pck Surf typ : GRASS
Canopy hght :0.50000
d1 0 = auto :0.00000
Z0 0 = auto :0.00000
GPS height :2.00000
Bulk density :1.300.00
```

- On the **System Control** menu, select **Const Table** to modify sensor information.

```
System Control
Initial Configuratr >
Site Var Settings >
Run Station >
Attendant Zero/Span >
Const Table >
System Menu >
```

- Add and remove sensors by selecting **-1** for *true* and **0** for *false*. Once the changes are completed, select **Apply and Restart** at the bottom of the screen. Select **Yes** to save the changes. The device will then restart.

```
NMBR_HFP : 4
HFP_SNSTVT_1 : 62.0000
HFP_SNSTVT_2 : 62.0000
HFP_SNSTVT_3 : 62.0000
HFP_SNSTVT_4 : 62.0000
CAL_INTV : 1440
Apply and Restart
```

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## Required Gear

The following tools are required to install the CPEC306 system in the field. Additional tools may be required for a user-supplied tripod or tower.

- 9/16-in, open-end wrench
- 1/2-in, open-end wrench
- 11/16-in, open-end wrench
- Adjustable wrench
- Small, flat-tip screwdriver
- Large, flat-tip screwdriver
- Sledgehammer (to drive grounding rod into the ground)
- 3/16-in hex-key wrench

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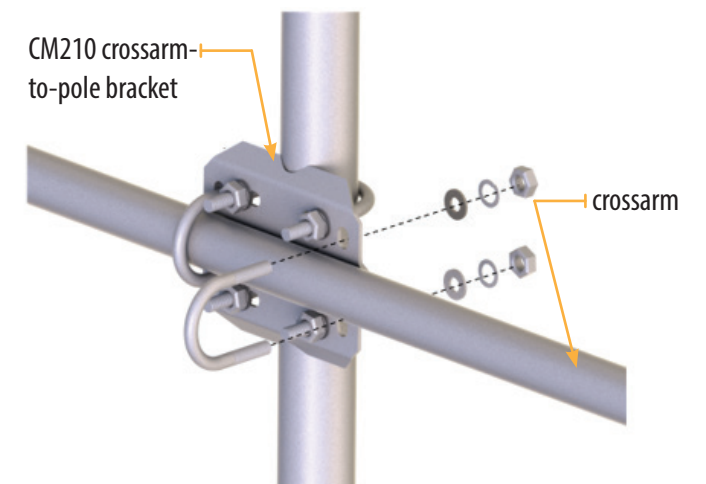
## Physical Deployment

- Set up the tripod and crossarm pole.

Secure the tripod to the ground.

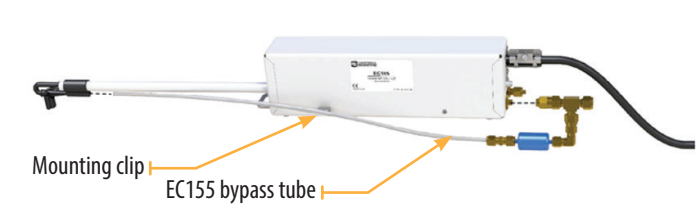


Attach the horizontal crossarm pole to the desired height on the tripod.

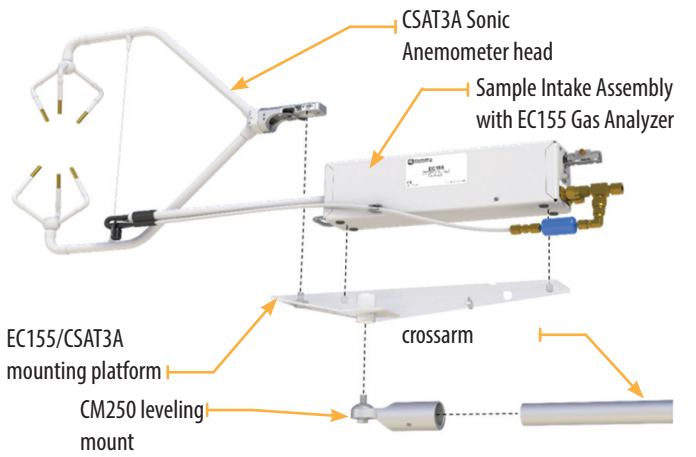


2. Setup and mount sensors

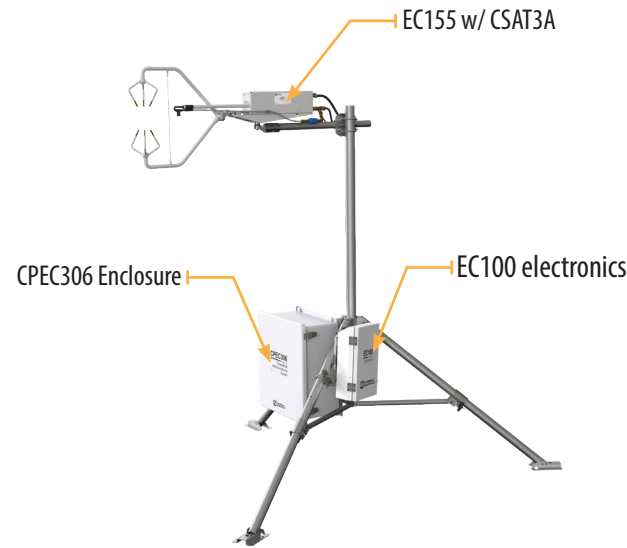
Mount the EC155 bypass tube.



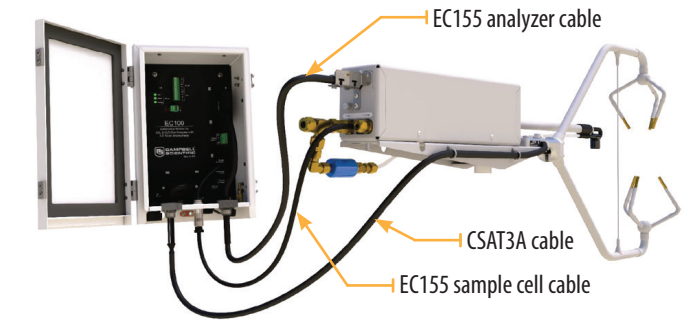
Connect the CM250 mount to the crossarm and then connect the sensors mounted on the Mounting Platform, as shown. Use the bubble level on the CSAT3A to level the platform.



3. Mount the enclosures.  
Mount the enclosures on the legs of the tripod as shown.



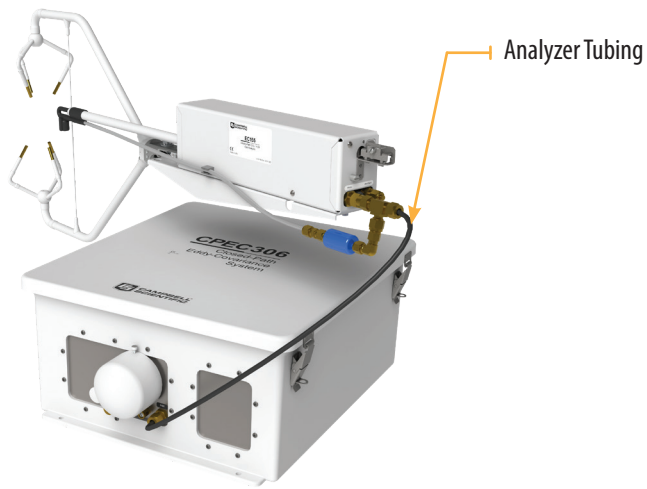
4. Connect the EC155 and CSAT3A to the electronics.



5. Ground the tripod and the enclosures.

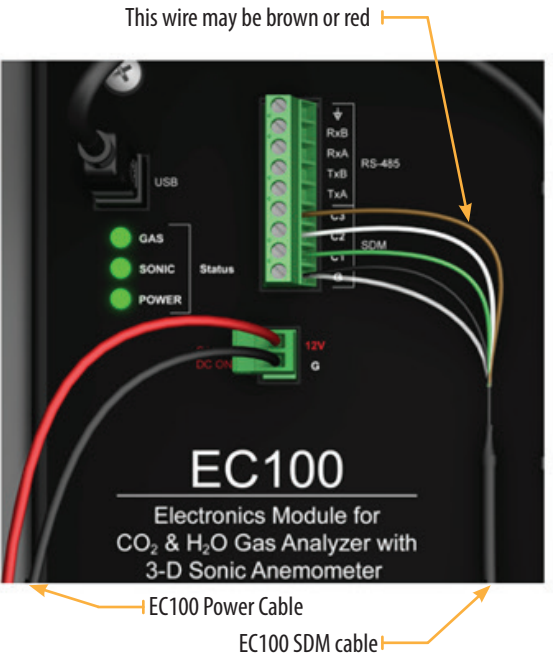


6. Connect the system plumbing.

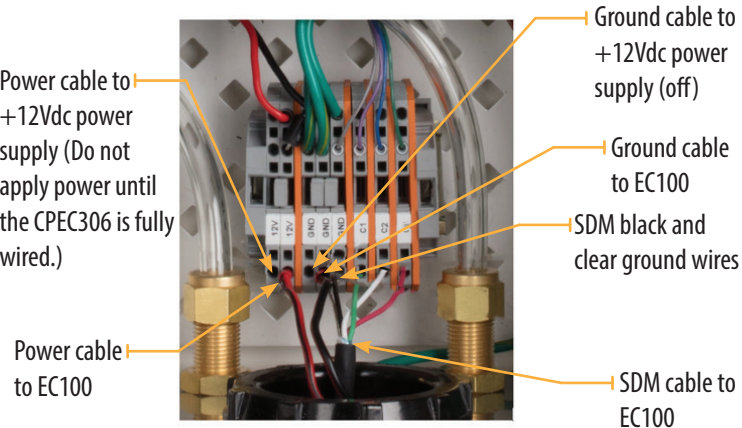


7. Wiring.

Connect the SDM from the main enclosure and EC100 power cables to the EC100 electronics.

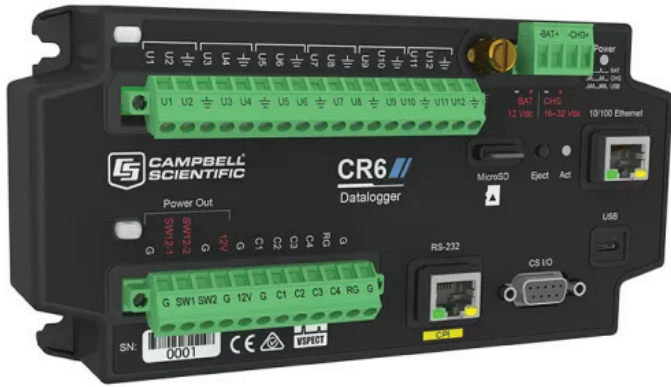


Draw the EC100 power cable and EC100 SDM cable through the feedthrough at the bottom of the CPEC306 enclosure and connect them to the DINrail.



8. Datalogger

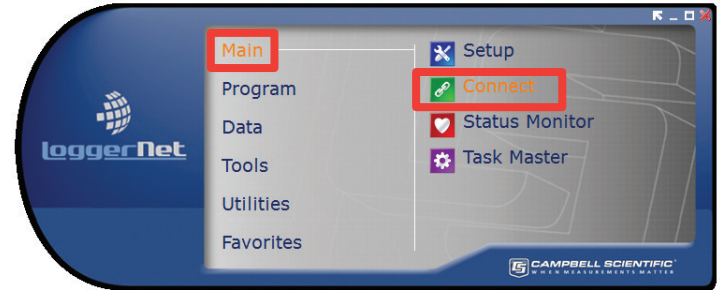
Insert a MicroSD card into the datalogger and connect power.



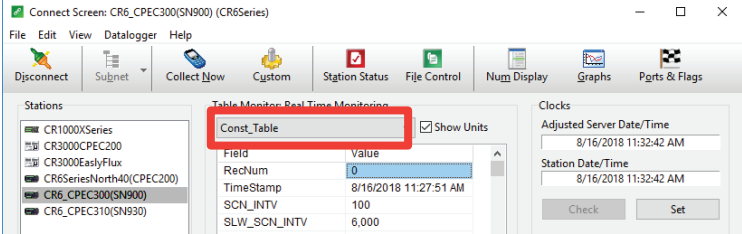
4 Configuring with LoggerNet/PC200W or PC400

Turn on the +12 Vdc power supply and use either **LoggerNet**, **PC200W**, or **PC400** on a laptop to configure settings and zero/span. If using the CR1000KD keypad, use the instructions on the front page of this quick deploy guide.

1. Connect to the datalogger



2. Connect and select the **Const\_Table** within the **EasyFlux™ DL** program.



3. Confirm all the sensors used at the site are set to -1. To change a value in this table, right-click on the current value and select **View/Modify** from the pop-up menu. Press **Apply** once the new value has been entered.

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

Table Monitor: Real Time Monitoring	
Const_Table	Show Units
Field	Value
SENSOR_LI200	0
SENSOR_LI190	0
SENSOR_SI111	0
SENSOR_NR01	0
SENSOR_CNR4	0
SENSOR_TE525	0
SENSOR_TCAV	0
SENSOR_CS65X	-1
NMBR_CS65X	1
CSSDI12_ADR1	3
SENSOR_HFP01	0
SENSOR_HFPSC	-1
NMBR_HFP	1
HFP_SNSTVT_1	62
CAL_INTV	1,440
ApplyAndRestart	true
Stop	Interval 00 m 01 s

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

Table Monitor: Real Time Monitoring	
Public	Show Units
Field	Value
RecNum	1,917
TimeStamp	8/16/2018 11:31:27 AM
card_storage_available	0.5215278 days
TIMESTAMP_START	201808161130 YYYYMM
TIMESTAMP_END	YYYYMMDDHHMM
sonic_azimuth	0 decimal degrees
latitude	41.766 decimal degrees
hemisphere_NS	1 dimensional
longitude	-111.855 decimal degre
hemisphere_EW	-1 dimensional
altitude	1356 m
height_measurement	2 m
surface_type	2 dimensional
height_canopy	0.5 m
displacement_user	0 m
roughness_user	0 m
Stop	Interval 00 m 01 s