# CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

## PWENC12/14, PWENC14/16, PWENC16/18
*Prewired Weather-Resistant Enclosures*

# Saves Work, Prevents Errors
## Factory-installed and tested wiring; by experienced technicians



## Overview

Campbell Scientific's pre-wired enclosures combine flexibility with ease of use. Customers have the flexibility to choose their system components, but installation is easy because the sensors are simply attached to pre-wired connectors on the outside of the enclosure. Campbell Scientific will even create a custom datalogger program.

Connectors, communication ports, and the enclosure mounting bracket are chosen as options[a]. Sensors, datalogger, power supply, and communication peripherals are ordered separately. The enclosure can be attached to any of our tripods or towers, or to a user-supplied pipe.

## Benefits and Features

❯ Weather resistant to protect instruments

❯ Backplate designed so that Campbell Scientific components mount easily and securely

❯ Combines flexibility with ease of use

❯ Eliminates the task of wiring sensor leads into the datalogger's terminal strips

❯ Reduces wiring errors by inexperienced field technicians who are unfamiliar with the equipment

❯ White, UV-stabilized enclosure reflects solar radiation—reducing temperature gradients inside the enclosure without requiring a separate radiation shield

❯ Shortens deployment time

❯ Allows each enclosure in a large network to be similar to the other enclosures

❯ Customized options may be purchased

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[a]*Refer to the Ordering Information for standard configurations. Nonstandard configurations must be special ordered. It is considered a nonstandard configuration when using a different type, size, or location for any connector, communication port, conduit, cable entry seal, or antenna bulkhead (contact Campbell Scientific for more information).*

## Enclosure Supply Kit

An enclosure supply kit is included with each prewired enclosure. The kit provides products for mounting the equipment inside the enclosure as well as monitoring relative humidity and sealing the enclosure. The kit consists of desiccant packs, humidity indicator card, cable ties, putty, screws, grommets, PVC plug, and a Phillips-head screwdriver.

## Programming

A simple program that measures the sensors is included with the prewired enclosures. Customers can modify their program to output specific data, compare data, and make various calculations. For a fee, Campbell Scientific will develop a more complicated program.

## Compatible Equipment

Compatible dataloggers include the CR300, CR310, CR6, CR800, CR850, CR1000X, CR1000, and CR3000. Our prewired enclosures can house any peripheral that our standard enclosures can house. Equipment that can be attached to the outside of the prewired enclosure include:

› Sensors—models with a -PW extension are compatible; a -PW version is available for most Campbell Scientific sensors

› AC wall chargers—the 22110 Wall Charger (accepts 110 to 240 Vac) has the appropriate connector

› Solar panels—Campbell Scientific offers -PW versions of our 10 W, 20 W, 50 W, and 90 W solar panels

› Keyboard display—the CR1000KD can be connected via an optional CS I/O port

› Laptop—an RS-232 or CS I/O port can be added to the outside of the enclosure allowing laptop connection

› Ethernet cable—an optional Ethernet port is offered that supports communications over a local network or a dedicated Internet connection

› Antennas—the outside of the enclosure can include connectors for attaching antenna cables

› Measurement and control peripherals—cables used to connect our SDMs and multiplexers come in -PW versions

Connectors eliminate the work of wiring sensor leads to the datalogger's terminals. Top left: datalogger side of a connector (inside the enclosure). Bottom left: sensor side of a connector (outside the enclosure).
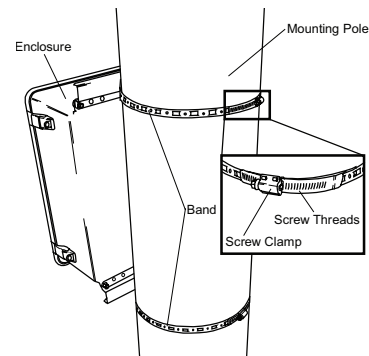
## Mounting Options
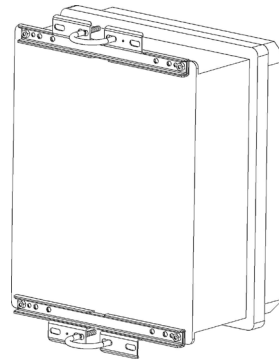
At left is an enclosure with the -*MM* mount option. The bracket is ready to be attached to a mast or user-supplied vertical pipe with a 1.25-in. to 2.1-in. outer diameter.
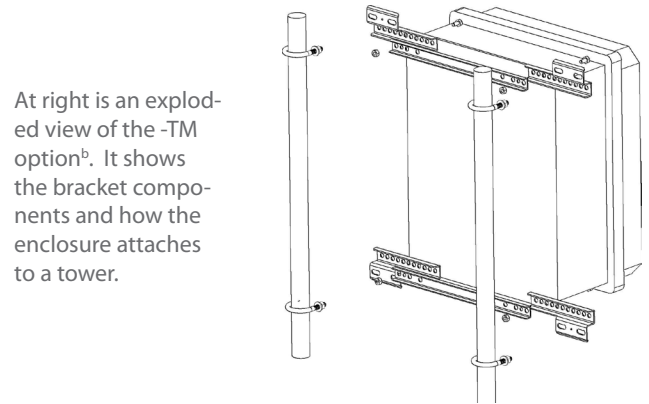
At right is an exploded view of the -TM option[b]. It shows the bracket components and how the enclosure attaches to a tower.

Enclosure

Mounting Pole

Band

Screw Threads

Screw Clamp

At left shows the -PM option, where the enclosure is mounted to a large diameter pole via band clamps.
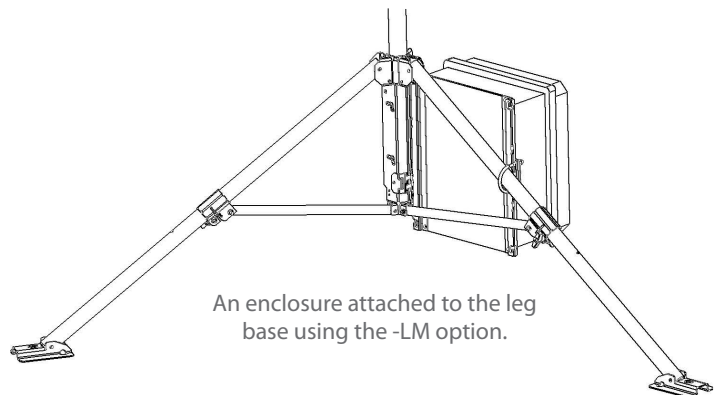
An enclosure attached to the leg base using the -LM option.

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[b]Enclosures with the -TM option are shipped configured for the UT10 tower. UT20 and UT30 customers will need to:

(1) Remove the bolts attaching the bracket to the enclosure.

(2) Slide out the flange sections so that the distance between the center of each flange is 43.2 cm (17 in).

(3) Reattach the bracket to the enclosure using the original bolts.

# Ordering Information

## Prewired Enclosures

*For the prewired enclosure, choose the number of connectors, a communication port option, conduit option, cable entry seal option, and enclosure mount option.*

**PWENC12/14**   12 in by 14 in Prewired Weather-Resistant Enclosure that can have up to eight connectors (see below)

**PWENC14/16**   14 in by 16 in Prewired Weather-Resistant Enclosure that can have up to ten connectors (see below)

**PWENC16/18**   16 in by 18 in Prewired Weather-Resistant Enclosure that can have up to 19 connectors; must choose a backplate option (see below)

### Number of Connectors

**-C**   After the -C, enter the number of connectors needed. Depending on the enclosure, the maximum number of connectors is 8, 10, or 19 (see above)

### Backplate Options for PWENC16/18 (choose one)

**-SB**   Standard Backplate

**-EL**   Backplate and sideplate on the left side.

**-ER**   Backplate and sideplate on the right side.

### Communication Port Options (choose one)

*The port(s) will be on the bottom right of the connector panel.*

**-NP**   No communication port

**-1P**   One 9-Pin Port configured as either RS-232 or CS I/O

**-2P**   Two 9-Pin Ports. One port is configured as RS-232 and the other port is configured as CS I/O

**-EP**   One Ethernet Port

### Conduit Options (choose one)

*A cable-entry conduit allows several cables to be connected directly to equipment contained in the enclosure.*

**-NC**   No conduit.

**-SC**   One 3.8 cm (1.5 in) diameter conduit on bottom left of connector panel.

### Cable Entry Seal Options (choose one)

*The cable-entry seal is compressed around one cable to provide an airtight seal. A small vent is included to equalize pressure with the atmosphere. The cable entry seal will be on the top left of the connector panel.*

**-NE**   No Cable Entry Seal

**-SE**   Small Cable Entry Seal for one cable with a 3 mm to 7 mm (0.118 to 0.275 in) diameter

**-ME**   Medium Cable Entry Seal for one cable with a 6 mm to 10 mm (0.231 to 0.394 in) diameter

### Enclosure Mount Options (choose one)

**-NM**   No Enclosure Mounting

**-MM**   Tripod Mast Mounting. Fits mast with a 3.18 to 5.33 cm (1.25 to 2.1 in) outer diameter.

**-TM**   Tower Mounting.

**-LM**   Tripod Leg Mounting (for the PWENC16/18, the leg mount option is only compatible with the CM106B tripod)

**-PM**   Large Diameter Pole Mounting. Fits poles with 10.2 to 25.4 cm (4 to 10 in) outer diameters

**- EM**   ET107 Pole Mounting (only available for the PWENC12/14). Fits a pole with a 7.6 cm (3 in) outer diameter.

## Bulkhead Surge Protection Installations

*These accessories are offered for enclosures that will house a wireless device. They include surge protection and allow an antenna to be connected to the outside of the enclosure.*

**31312**   For type N-to-RPSMA antenna cable and 700 to 2700 MHz frequency range. Compatible devices include RF407, RF412, RF451, and RF401-series radios and CR6 and CR300-series dataloggers, AVW200-series Interfaces, or CWB100-series wireless bases.

**31315**   For N-to-SMA antenna cable and 700 to 2700 MHz frequency range. Compatible devices include Iridium9522 satellite modem, RV50, RavenXT-series, or LS300G cellular modems, or RF450 radio.

**31318**   For type N-to-type N antenna cable and 700 to 2700 MHz frequency range. Typically used with FGR-11R-series radios.

**31321**   For type N-to-TNC antenna cable and 700 to 2700 MHz frequency range. Typically used with HUGHES9502 Inmarsat-BGAN transmitter.

**31324**   For type N-to-SMA GPS antenna cable. Compatible with the GPS device included with our GOES and Iridium9522B satellite transmitters and the AL200 ALERT transmitter

**31327**   For type N-to-type N antenna cable and 100 to 512 MHz frequency range. Typically used with GOES satellite transmitters.

**31330**   For type N-to-BNC antenna cable and 100 to 512 MHz frequency range used with the ST-21 Argos Satellite Transmitter, RF320-series radios, RF310-series radios, or RF300-series radios.

## Other Installed Accessories

**27814**   CD100 Mountable Display with Keypad Installed in Enclosure Lid. The CD100 provides the same operation and functionality as the CR1000KD keyboard display

**18132**   CD295 DataView II Display Installed in Enclosure Lid. The CD295 is compatible with our CR200(X)-series, CR800, CR850, CR1000, and CR3000 dataloggers

**18166**   Door Open Indicator Installed in Enclosure

## UL Accessories

**27623**   UL508A Enclosure Certification

**27207**   30.5 cm (12 in) by 1.75 cm (0.69 in) wiring duct with cover kit.

**28517**   30.5 cm (12 in) by 3.2 cm (1.26 in) wiring duct with cover kit; often used with UL-compliant enclosure

**28373**   GFI AC Receptacle Kit; often used with UL-compliant enclosure

**28532**   22.9 cm (9 in) Din Rail Kit  A complete configuration requires terminal strips, end plates, and jumpers (see below)

**15920**   3-pin 4 mm Spring Loaded Din Rail Connectors that provide connection points for individual wires. More than 20 of these terminal strips can be fastened to the 28532

**15909**   Horizontal Jumper for Din Rail Connector that electrically connects terminals on the 15920 connectors

**15907**   The 15907 End Plates separate the terminal strips

## Miscellaneous Accessories

**10525**   Two-pack desiccant holder that mounts to the inside of the enclosure lid

**CS210**   Enclosure Humidity Sensor that contains an Elan HM2000-series precision bulk polymer relative humidity sensor

**6714**   Desiccant 4 Unit Bag (Quantity 20)

**10614**   Direct Wire Bury Splice Kit (two wires per kit) used when the cables need to be extended outside of the enclosure

**31551**   Enclosure Leg Stack Mounting Kit.

**31143**   Hinged Stack Bracket Kit

# Specifications

| | PWENC12/14 | PWENC14/16 | PWENC16/18 |
|---|---|---|---|
| **Can House** | CR300-series, CR6, CR800, CR850, CR1000X, CR1000, or CR3000 datalogger, power supply, and one or more peripherals (depending on the peripheral's footprint) | CR300-series, CR6, CR800, CR850, CR1000X, CR1000, or CR3000 datalogger, power supply, and one or more peripherals (depending on the peripheral's footprint). | CR300-series, CR6, CR800, CR850, CR1000X, CR1000, or CR3000 datalogger, power supply, and one or more peripherals (depending on the peripheral's footprint) |
| **Color** | White (reflects solar radiation, reducing temperature gradients inside the enclosure without using a separate radiation shield) | | |
| **Construction** | Fiberglass-reinforced polyester enclosure with door gasket, external grounding lug, stainless-steel hinge, and lockable hasps | | |
| **Classification** | NEMA 4X (before being modified for cable entry) | | |
| **Internal Dimensions (w x h x d)** | 30.5 x 35.6 x 14 cm (12 x 14 x 5.5 in) | 40.6 x 35.6 x 14 cm (14 x 16 x 5.5 in) | 40.6 x 45.7 x 22.9 cm (16 x 18 x 9 in)) |
| **Under Lid Space (w x h x d)** | 28.3 x 33.5 x 17.6 cm (11.2 x 13.2 x 6.9 in) | 33.7 x 38.6 x 17.6 cm (13.3 x 15.2 x 6.9 in) | 38.7 x 43.8 x 25.2 cm (15.3 x 17.3 x 9.9 in) |
| **External Dimensions (w x h x d)** | 34.0 x 39.1 x 19.5 cm (13.4 x 15.4 x 7.7 in) | 39.2 x 44.3 x 19.6 cm (15.4 x 17.8 x 7.7 in) | 44.4 x 49.5 x 27.0 cm (17.5 x 19.5 x 10.6 in) |
| **Weight** | 5 kg (11.2 lb) | 6 kg (13 lb) | 7.7 kg (17 lb) |