



# CP-Pro

## User Guide



Revision A – draft in progress

12/05/2018

# Description

The CP-Pro was designed to enable instant-off CP surveys to be completed accurately and easily. This guide provides instruction on the correct use, care and maintenance of the CP-Pro.

The majority of the CP-Pro's operation is governed by CI-Tools. Please refer to the *CI-Tools CP-Pro interface user guide* for details on how to complete a survey.

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# Overview

The CP-Pro is externally very simple, the anatomy below is provided just so that we don't assume anything.

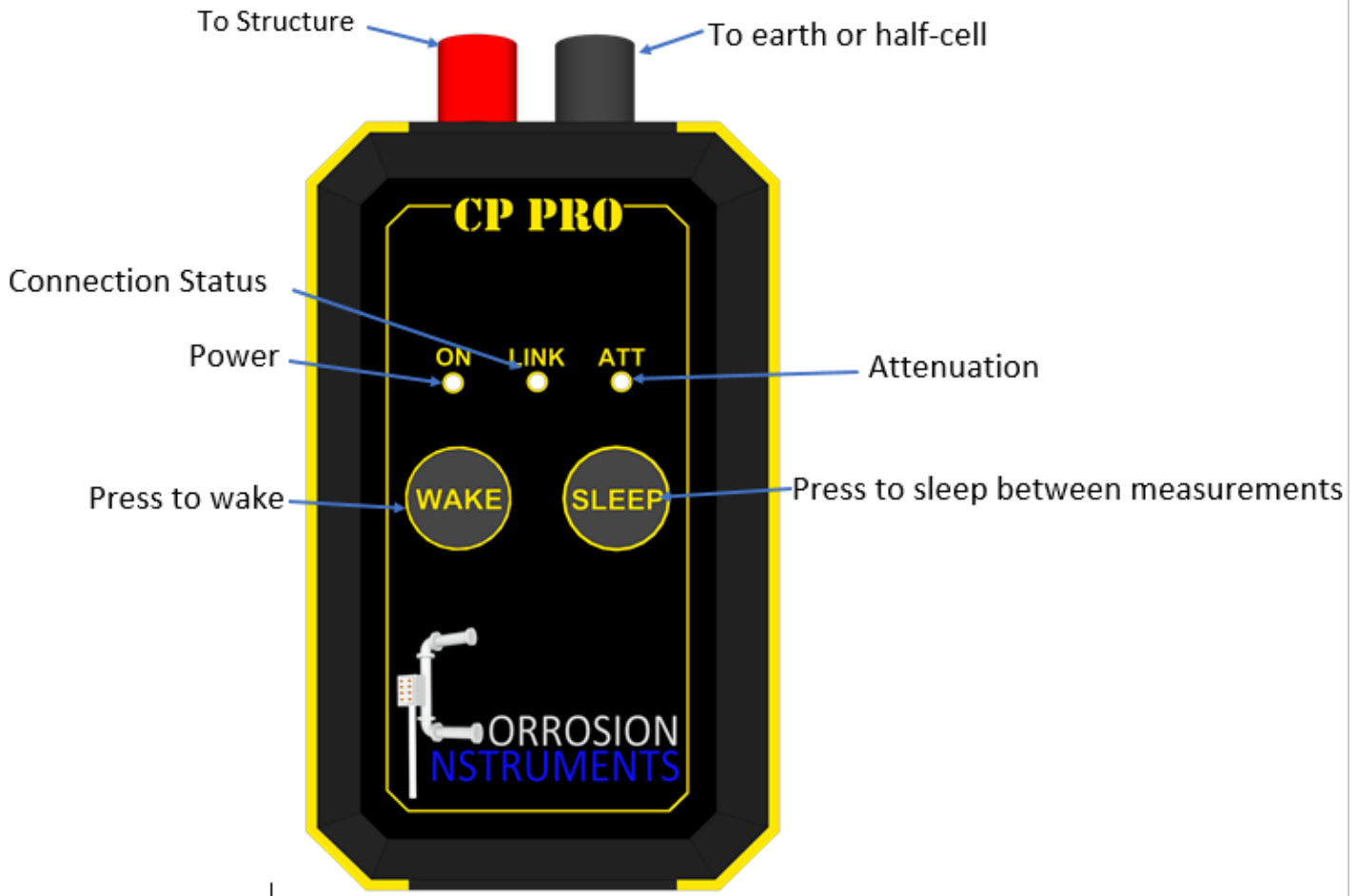


Figure 1- CP-Pro Features

# Use and Operation

The use and operation of the CP-Pro is incredibly simple as all complex functions are managed for you by CI-tools.

There are however, some things that you should know.

## Scanning NFC

There is an NFC tag inside the CP-Pro, this is used to store information about the CP-Pro including: Nameplate information, Calibration Data, Licence data. The tag is inside located just behind the serial number on the back of the unit. To read the tag, please place your phones reader on top of the serial number.

## Magnetic Mount

There is a strong magnet mounted on the back of the CP Pro. This can be used to attach the CP-Pro to a test post or any other ferrous object.

Alternatively, the stainless steel adhesive disk that was shipped with your CP-Pro can be mounted to the back of your phone or phone case. Once attached, your phone can attach to the back of the CP Pro



*Figure 2 Mounting Options for CP-Pro*

## Checking Status

Feedback about the status/state of the CP-Pro is provided both via CI-Tools as well as the three LEDs on the front of the CP-Pro. The chart below describes how the different states are indicated via the LEDs

State	ON	LINK	ATT
High Range	X	X	on
Low Range	X	X	Off
Auto Range	X	X	Depends on measured voltage
Active	On	X	X
Resting	Flashing (500ms on/500ms off)	On	X
Sleeping	Flashing (60ms on /4000ms off)	Off	off
BT Connected	X	On	X
BT Searching	X	Flashing	X

Table 1- CP-Pro LED Status Indication

## Sleeping and Resting

When the CP-Pro is active it uses a relatively large amount of power, this is because it is constantly transferring data wirelessly. If left permanently in the on/active state, the batteries would only last a few days.

We have implemented two battery saving states called “Rest” and “Sleep.”

In the Rest state, the Bluetooth radio is active but all other systems in the CP-Pro are put to sleep. This allows for moderate power savings whilst CI-tools maintains the ability to wake the unit.

By resting the CP-Pro between test points / measurements, you should find that a set of batteries last a couple of weeks. The CP-Pro is put to rest by CI-Tools either manually or automatically. Likewise, the CP-Pro is woken from rest by CI Tools.

In the Sleep state, very significant power savings are made by putting all systems in the CP-pro to sleep, including the Bluetooth radio. The trade-off is that CI-Tools cannot wake the CP-Pro. The CP-pro is woken from its sleep state by pressing the “WAKE” button on the front of the unit.

Corrosion Instruments highly recommends putting the CP-Pro to sleep between test points, during breaks, overnight etc. This will ensure that you get a long life out of each set of batteries. We also recommend removing the batteries between surveys or whenever the CP-Pro will not be used for more than a couple of days.

The CP-Pro will automatically sleep after being resting for 30 minutes

## **Changing batteries**

The CP-Pro uses 3 x AAA size batteries.

Corrosion Instruments recommends using 1.5V batteries however 1.2V rechargeable batteries can also be used. For best performance use Energizer Ultimate batteries.

To change the batteries, use a size #2 Philips head screw driver to open the battery cover on the back of the CP-Pro, replace all three batteries with new batteries of equal voltage and capacity, observing the polarity markings in the battery compartment. Don't mix new batteries with old batteries and don't mix different battery models.

Always remove batteries from the CP-Pro when it will not be used for more than a couple of days.

## **Calibration**

The factory calibration data is supplied with the CP-Pro, on Its NFC tag and uploaded your companies cloud account. However, over time, the components in the CP-Pro may drift. Furthermore, extreme temperatures, humidity or mechanical impacts could affect the CP Pro.

Corrosion Instruments recommends completing a two point check for each of the DC ranges bi-annually or before every survey. Additionally the two point check should be completed if the CP-Pro is dropped or exposed to any form of mechanical impact.

The two point check is completed using CI-Tools. For each Range the Zero should be checked by connecting the two terminals of the CP-Pro together using a test lead. The gain should be checked by using one reference point. Corrosion Instruments sells a portable 5V reference which is designed for calibrating the CP-Pro.

There are more details on calibrating the CP-Pro in the CI-Tools Manual

Corrosion Instruments will calibrate the CP-Pro free of charge, however we reserve the right to charge for postage and handling.

# Licensing

CI-Tools uses licence keys to allow linking of hardware and software.

Each CP-Pro has its own licence key which needs to be entered to CI-Tools to allow a connection. Once entered once, the licence remains in the CI-Tools database. Your CI-Tools will be able to communicate with any Corrosion Instrument hardware as long as you have the correct key in your licence database. You should note the following

1. One piece of hardware can be used with multiple instances of CI-Tools
2. One instance of CI-Tools can communicate with multiple pieces of hardware
3. Licence keys will be verified securely online.
4. You only need to enter the key once, after that it will remain in the CI-Tools database

You should be aware that Corrosion Instruments monitors each licence key and to which devices each key is registered.

## Care and Maintenance

The CP-Pro is quite tolerant of natural environmental factors such as temperature, humidity and rain. However, some care should be taken to prolong the life of the CP-Pro and to keep it looking new.

- Don't leave the CP-Pro in direct sunlight for long periods of time.
- Don't drop the CP-Pro and avoid undue mechanical impacts.
- Don't expose the CP-Pro to hydrocarbons or other chemicals.
- Don't use drivers other than #2 Philips or a Flathead to remove the battery cover.
  
- Do store the CP-Pro in its case.
- Do remove batteries from the CP-Pro when it is not in use.
- Do wipe clean with a wet cloth if cleaning is required.

## More information

Thank you for taking the time to investigate our product. If you would like more information on the CP-Pro, or any of our other products, use the email or phone number below.

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