Locating Street Lamp Cables

⚠ 👆 **WARNING** Always read the User Manual.

(This can be downloaded from: www.cabledetection.co.uk/downloads)

What am I doing?

Locating a buried street lamp cable during daylight hours

Why Is This A Problem?

A street lamp during daylight hours is not switched on and will therefore not have an AC mains POWER current running through its cables. If there is no current running through a cable, a cable locator cannot detect it.

Even if you scan an area thoroughly using a cable locator in both power and radio modes you will more than likely not pick up a signal from a street lamp cable when the street lamp is not switched on. It is therefore important that you are aware of your surroundings and make note of any obvious areas where a cable will be buried e.g. the area surrounding a street lamp. If you excavate without this kind of care you are endangering your life, your colleagues' lives and your equipment.

What Do I Need?

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How Should I do It?

- ◎ Open the EziTRACE box and take out the crocodile clips and earth stake from the accessories compartment. Plug the crocodile clips into the EziTRACE and select 8 or 33 kHz mode
- ◎ Using the magnet built into clip at the end of the red wire, attach it to a conductive part of the street lamp column
- ◎ Push the earth pin into the ground at a 90 degree angle from the column ensuring it is > 1m away and clip the black cable onto it.
- ◎ The output tone from the EziTRACE will go from pulsed to continuous to indicate a good tracing signal. Check clip connection and ground earth if the tone remains pulsed and the output signal is poor. Sometimes the connection to the lamp column is corroded or insulated; scrape away this material to get a good contact. Sometimes moistening the earth around the stake can get a better result.
- ◎ Using an EziCAT Locator, select the same operating mode as the EziTRACE and walk around the lamp column at a distance of >2m to detect the power cable connected to the column. Then trace the signal away from the column.

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How does it work?

An electrical circuit is formed between the buried service capacitive coupled to the ground and the earth pin. For electrical safety it is usual that exposed metal parts of a street lamp column are earth bonded to the power cable earth, also the column is usually secured in the ground by backfilling with concrete. This installation practice enables a direct connection to the power cable and a poor ground contact to the surrounding soil.
 The EziTRACE signal flows along the service and through the ground back to the earth pin. This enables the service to be located, traced and marked.

The audio tone changes from pulsed to continuous when electrical current flows

NOTE: The 33kHz mode signal usually gives superior tracing performance for the short distances between street lamps.

⚠ **WARNING!!** The connection lead should never be connected directly to a live service, please refer to the User Manual for full safety instructions.

What Else Do I Need to Know?

This whole tracing concept can also be used for tracing other electrical apparatus such as illuminated street signs, access control equipment (car park barrier, ticket machines) and vending machines etc…

Once you have located the service you will also be able to get the approximate depth when you are using the EziCAT 200 in conjunction with the EziTRACE. Please see the EziCAT 200 area of the "How To…" section of the Education Zone for more information.

Always obtain the utility maps of the area you are going to be excavating by contacting the relevant utility companies.

When excavating, always assume buried services are present and take the necessary precautions.

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