



Marking and locating your network

Protect your investment and reduce the risk of damage and injury when digging near underground utility lines



Save time and money by quickly and easily finding important connection points in your network.

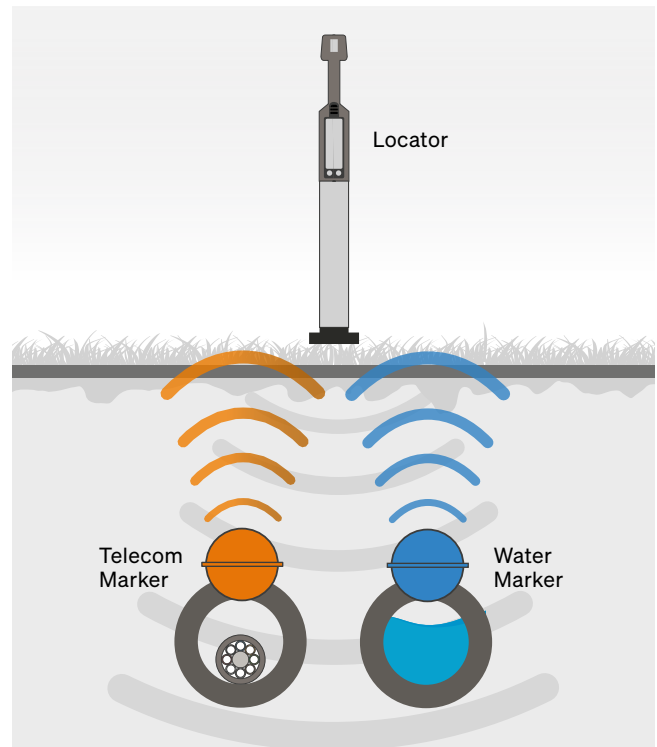
Electronic markers are used to pinpoint and locate underground facilities such as manholes, pipes, network joints, etc. Used correctly at the network's key points, these markers save time and cost during the whole lifetime of the network.

How does it work?

The Hexatronic passive frequency markers are battery less devices used for marking the position of buried underground facilities. These are detected with a cable locator by induction. The locator transmits a signal to the buried marker. The marker returns the signal to the locator, indicating the marker's position. Each marker contains a magnetic antenna that resonates with a certain detection frequency.

Different versions of markers can therefore be used to identify both the location and type of underground facility. The standard colors and frequencies used in the industry are shown in the table below.

	Color	Application	Frequency
	Orange	Telecommunications	101.4 kHz
	Red	Electric Power	169.8 kHz
	Blue	Potable Water	145.7 kHz
	Purple	General Purpose & Reclaimed Water	66.3 kHz
	Yellow	Gas, Steam, Oil, Petroleum	83.0 kHz
	Green	Sewer and Drain Lines	121.6 kHz
	Black/Orange	CATV	77.0 kHz
	Blue/Red	Electric Power, Euro	134.0 kHz
	Yellow/Black	Fiber Optic	92.0 kHz



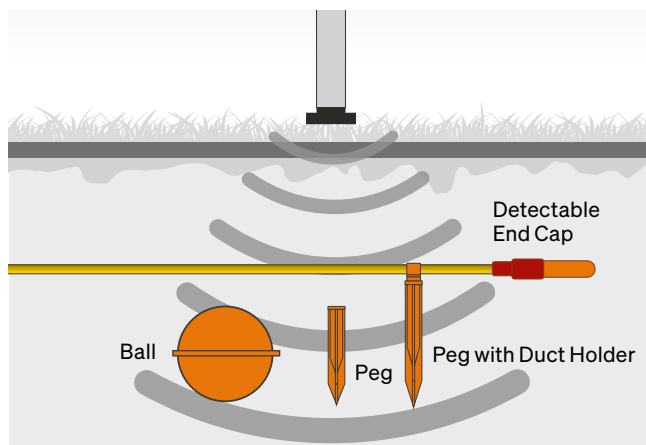
Ball Markers, Marker Pegs, and End Cap Markers – which one to use?

The Hexatronic marker system contains several types of markers optimized for different applications:

The ball marker has an internal self-aligning antenna that is always pointing in the optimum direction for the best detection distance and accuracy. This option is used in most applications and comes

in all common frequencies. Ball markers have a detection range of up to 1.5 m regardless of orientation.

The marker peg is used for vertical installation directly into the ground and provides a cost efficient solution for marking of networks with a high number of detection points. Typical applications are along telecommunications networks or powerlines. When installed vertically, peg markers have a detection range of up to 1.5 m.



The marker peg is available in three versions;

- The standard marker peg is quick and easy to install and suitable for most applications.
- The marker peg with microduct holder is designed for fiber optic networks with microducts.
- The end-cap markers or the horizontal marker peg is used to seal and detect ends of microducts in networks with microducts. This version is normally installed horizontally.
- The end-cap detector is also suitable as a standalone / built-in detector for integration into network components such as handholes and joint closures.

Marker Pegs

The marker peg consists of a sharp plastic peg (100×21 mm) that is pushed or hammered into the ground. It can also be mounted on closures or in manholes. Inside the peg, a reflector coil is mounted that reflects RF signals. The peg is made from high-density polymer, filled with gel. It has the same lifetime as the plant it is meant to help locate and is impervious to water. An optional soft rubber marker peg holder with a cable tie can be used to attach the peg to a duct, cable, or joint. The cable tie is suitable for diameters up to 50 mm.

Detection distance: vertically ≤ 1.5 m; horizontally ≤ 1 m.

MPB32001/1	Marker Peg, Telecom 101.4 kHz, Orange
MPB32001/2	Marker Peg, Power 169.8 kHz, Red
1/MPB32001	Soft Rubber Holder for Marker Peg w. Cable Tie



Marker Peg XL with Microduct Holder

This marker peg is similar to the standard marker peg but is longer (140×21 mm) to enable a stiff grip on the ground. Inside the peg, a reflector coil is mounted that reflects RF signals of 101.4 kHz (telecom frequency).

When installed into the ground, a duct clip can be mounted on the top. A microduct can then be secured to the peg, this keeps the microduct secured in an optimal position to aid cable installation. The peg is delivered with duct holders for 7, 8, 10, 12, 14 and 16 mm ducts.

Detection distance: vertically ≤ 1.5 m; horizontally ≤ 1 m.

MPB32000	Marker peg XL with Duct Holders, 7-16 mm
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Clip-On End Cap Marker - Horizontal Marker Peg

The marker consists of a hard plastic case with a clip-on connector which makes it quick and easy to connect the end of a 7 mm microduct to the marker in just seconds. Inside the case, a reflector coil is mounted that reflects RF signals of 101.4 kHz. The reflector coil is sealed by the outer case and a silicone filling compound. Suitable for ducts with a 7 mm outer diameter.

Detection distance: vertically ≤ 1.5 m; horizontally ≤ 1 m.

MPB32060/7	Marker Peg/End Stop Horizontal, Clip-on for 7 mm Duct
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Universal End Cap Marker - Horizontal Marker Peg

The marker consists of a hard plastic case. Inside the case, a reflector coil is mounted that reflects RF signals of 101.4 kHz. The reflector coil is sealed by the outer case and a silicone filling compound. The peg is normally used together with rubber adapters to double as a duct end cap. It can also be mounted in closures or in manholes. The rubber adapters are designed so that they can be cut to fit the ducts. Suitable for ducts with 7, 8, and 10 mm (adapter 1) and 12, 14, and 16 mm (adapter 2) outer diameters.

Detection distance: vertically ≤ 1.5 m; horizontally ≤ 1 m.

MPB32050/2	Marker Peg/End Stop Horizontal, Incl. 2 Adapters for Microduct Sealing
MPB32050/1	Marker Peg Horizontal, Stand Alone/Built-in, 75 mm



Ball Markers

The ball marker is shaped as a sphere (Ø100 mm) and has an internal self-orientating RF reflector. This enables the marker ball to be dropped into the ground and always aligns the RF reflector for the best possible detection accuracy.

The RF reflector is double-encapsulated to provide long-lasting operation. The marker Ball doesn't contain any harmful fluid.

It can be mounted with a strap in the designed side holder (the strap is an optional accessory).

Detection distance: ≤ 1.5 m.

MPB32100/1	Marker Ball, Telecom 101.4 kHz, Orange
MPB32100/2	Marker Ball, Power 169.8 kHz, Red
1/MPB32100	Black Cable Tie for Marker Ball



Locator

The locator 8890/8891 is a professional grade, multi-frequency passive utility marker locator. This offers companies the option to equip themselves with the capability of marker locating without purchasing expensive and redundant equipment.

The Marker Locators can locate the eight* major utility markers — telecom, power, water, sewer, gas, CATV, reclaimed water, and general applications — in one easy-to-operate unit.

A scan feature allows the user to quickly identify any nearby marker and verify the frequency of each marker in the area.

This is also useful for ensuring a marker is not misread.

The utility marker will detect and isolate the highest reading during the scan and provide the frequency and utility.

The ergonomically designed and balanced Marker Locator receiver provides audible peak tones as the user nears a utility marker. The backlit digital display provides both relative and actual signal strength as well as the detected marker frequency.

The highly sensitive antenna wheel conveniently folds under for compact storage in the included carry case. A 10-minute automatic shut-off feature reduces the need to replace batteries.

The Marker Locator is a powerful locator and an excellent value for contract locators, power distribution crews, gas locating crews, CATV service crews, water departments, sanitation districts, telephone companies, DOTs, railroads, and municipalities.

The locators are designed and manufactured to make utility locating as accurate as you need and as simple as you want.

The marker locator is powered with six type-C cells (not included) that will last for up to 40 hours of intermittent use (10 min with auto-shutoff) or 18 hours of continual use. This ensures long and stable operation without the need for AC charging in the field.

* As a standard, the LTT2000 is configured to operate with the following six frequencies:

- Telecommunications (101.4 kHz)
- Electric Power (169.8 kHz)
- Potable Water (145.7 kHz)
- Sewer and Drain Lines (121.6 kHz)
- Gas, Steam, Oil, Petroleum (83.0 kHz)
- CATV (77.0 kHz)

On request, the locator may be ordered with any combination of needed marker frequencies for a locator that fits your specific needs.

LTT20000 8890/8891 Marker Locator



Do you need markers for other utilities?

Upon request, Hexatronic offers markers in all frequencies used in various utility applications, such as potable water, reclaimed water, gas, steam, oil, petroleum, sewer and drain lines, CATV, and custom fiber optic networks. Please contact Hexatronic for details.





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Hexatronic enables non-stop connectivity for communities worldwide. We partner with customers across four continents – from telecom operators to network owners – offering leading-edge fiber technology and solutions for any and all conditions.



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