

MRT-700

Underground Cable and Pipe Locator

MRT-700 Underground Cable and Pipe Locator, locates and traces quickly, easily, and accurately in the **distribution networks**:

- **Energized cables**
- **De-energized cables**
- **LV, MV and HV lines**
- **Metallic and Non-metallic pipelines**

Additionally, interesting functionalities have been incorporated that are really helpful for contractors, maintenance departments, civil works, GIS, etc., which allow the tracer to be converted into a cable identifier, fault locator or even digitize the underground network itself.



MAIN FEATURES

- **Receiver with 7 Sensors**, strategically distributed
- **FULL mode: Virtual Cable representation** (offset and angle) in TFT LCD Color Display
- **Visual and acoustic indication** of cable/pipe
- Depth measurement accuracy (<3% up to 2m; <5% up to 10m)
- High Precision (<5% in all axis)
- Detects **4 active and 2 passive frequencies**
- Measurement of the **depth** and **current amplitude**
- Up to **10 mts depth** (factory configurable for higher values)
- **Operation time >20h** (due to sleep mode and auto power off)
- **Transmitter with 10W** of power, user-adjustable
- Correct performance > **10 km in length**
- Rechargeable **internal battery** in both devices

ADVANCED FUNCTIONALITIES

() Optional*

- **MRT-700 CI: De-energized cable identification** functionality*
- **Internal GPS** (accuracy <1m) and **datalogger** (Data transfer via **Bluetooth**) *
- **App for mapping the cable network**, GridGIS Map Creator *
- Tracing and detection of probes in **non-metallic pipes**
- **Fault Pinpointing Functionality** *

MRT-700 TX / Transmitter

Versatility: Injects different active tracing frequencies by three different and optional way:

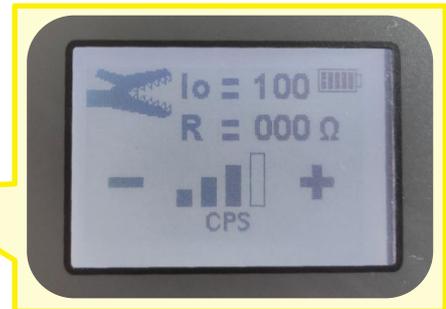
- **Direct connection** with crocodile clamps:
De-energized electric cables, telephone cables, water and gas metallic pipes, etc.

Accuracy: Measures loop impedance, making it possible to choose the best working frequency for each case.

- **Induced with a Clamp**
Energized / De-energized MV and LV cables, telephone cables, etc.
- **Induced Built-in Antenna**
In case user, cannot reached cable, or its position is unknown, induction can be made from the earth surface using a built-in antenna



NOW improved display,
higher contrast
and text size



MRT-700 RX / Receiver

High-contrast TFT LCD display with FULL mode for 2D cable display for easy and intuitive interpretation. Special indicators to aid in cable location and routing.

Versatility: Detects different active/passive frequencies (sent by MRT-700 TX)

Easy to use: Its built-in antenna configuration automatically calculates the target position with a digitally processed Algorithm

Intuitive Performance: Large display indicating the distance and angle of the cable or pipe by means of a Compass display (FULL mode)

Continuous depth: It measures automatically cable's and pipe's depth with high accuracy in real time

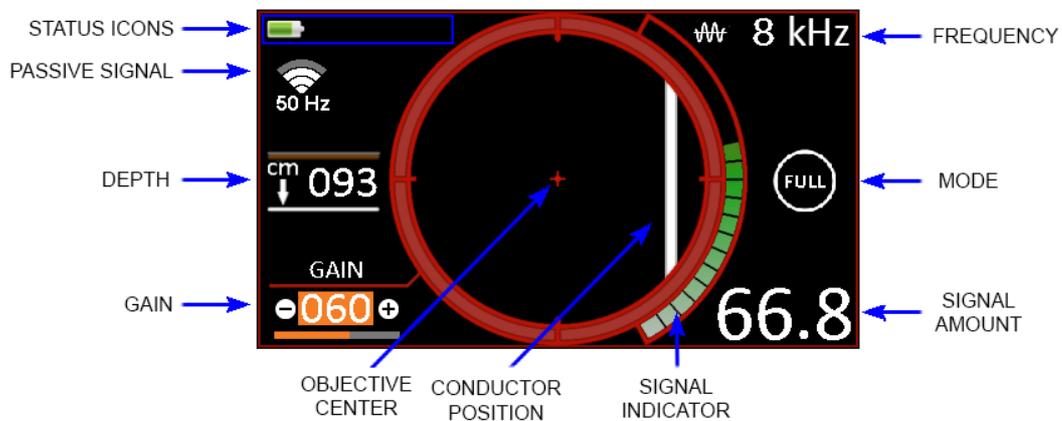
Acoustic indication: A sound alert indicates the location of the buried cables or pipes. Internal speakers or headphones via 3.5 mm jack plug (not included).



MRT-700 / Operation Modes

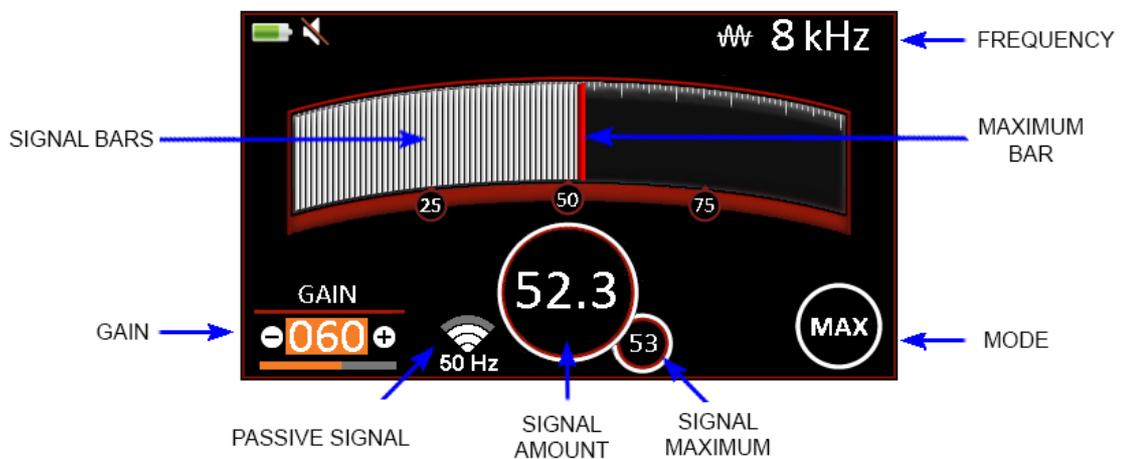
FULL Mode

- Most effective combination of data
- Easy drive (intuitive performance)
- Line with cable angle representation



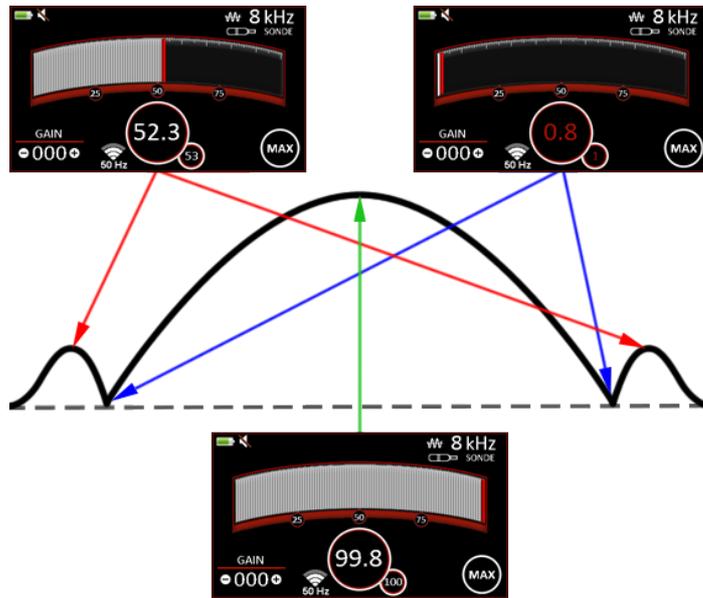
MAX Mode

- Maximeter bar for cable location
- Maximum reading **Red bar**



SONDE Mode

- Non conductive Tubes location
- 8 – 32 KHz sonders



NULL Mode / PEAK Mode

NULL Mode

- Minimum signal over cable
- Cable depth and current

PEAK Mode

- Cable depth and current
- Maximum signal over cable



MRT-700 CI

Cable Identifier Functionality*

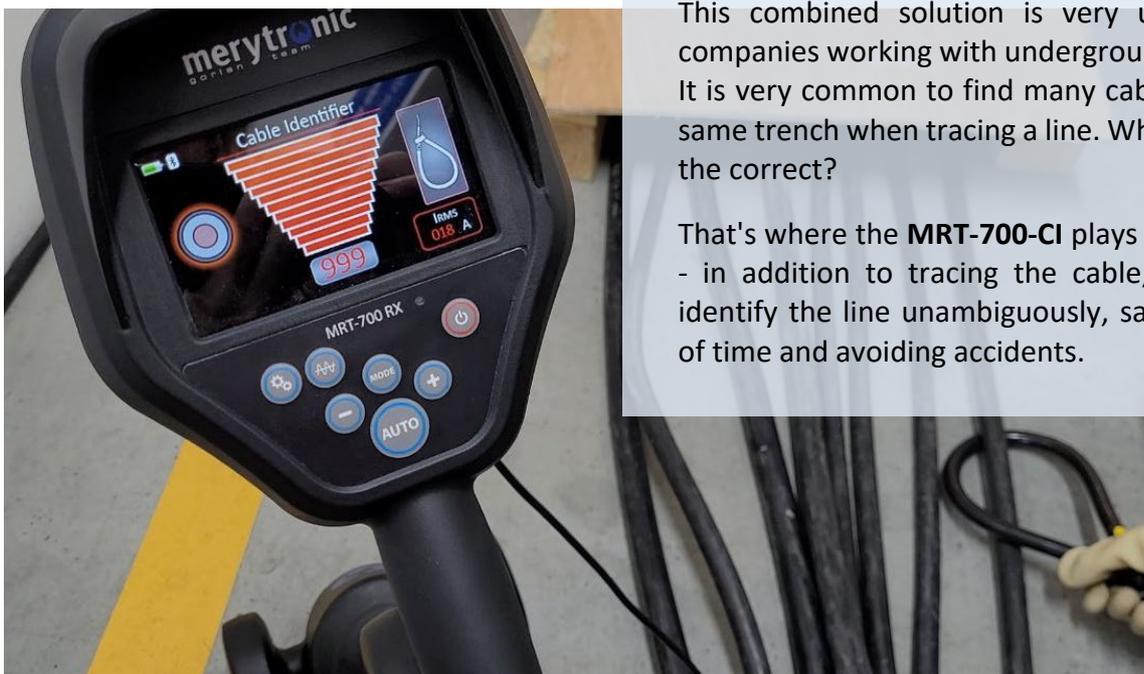
The technology used for current injection in **underground cable locators** must be different from that of **cable identifiers for electrical safety**. In both cases the injected signal and the electrical circuit are different.

In the conventional locators can be fitted with a sensor for pre-identification of the cable using the same injected signal as in the tracer, with a good hit rate in some cases.

The **MRT-700** device, can be ordered with a **cable identifier for de-energised cables**, providing **100% reliable identification**. In this case we are talking about **two devices in one**.



() MRT-700 must be requested with CI functionality*



This combined solution is very useful for companies working with underground cables. It is very common to find many cables in the same trench when tracing a line. Which one is the correct?

That's where the **MRT-700-CI** plays a key role - in addition to tracing the cable, you can identify the line unambiguously, saving a lot of time and avoiding accidents.

MRT-700 With GPS on-board*

The **SIMPLE** way to digitise the route you are tracing, using the internal GPS. Just press the button two seconds over the cable, and the **point parameters** (GPS location, current, depth...) will be recorded in the device's internal memory.

Export data (KML files) and check your trace in your GIS system or another standard programs: Excel, Google Earth Pro...



() MRT-700 must be requested with internal GPS*

MRT-700 FF

Fault Pinpointing Functionality*

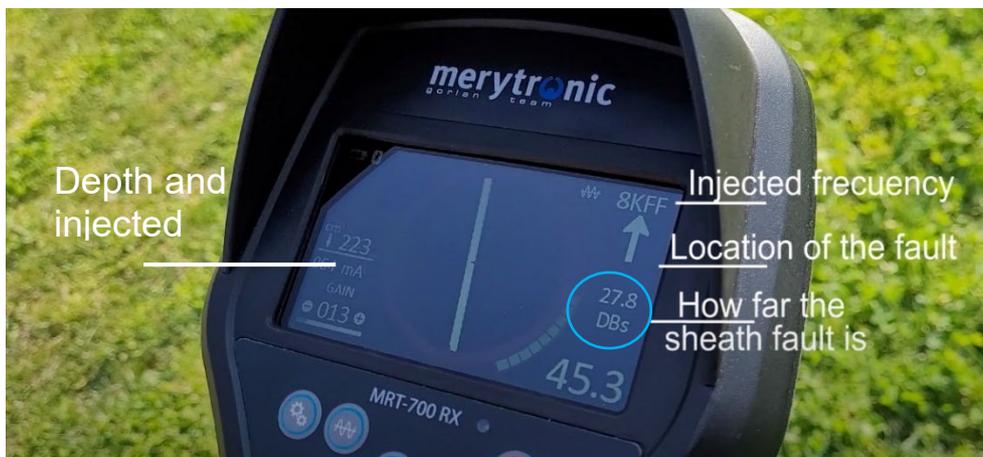
MRT-700 (*) is able to detect ground faults on pipes and cables, with **high precision** withing 5 cm. These faults are caused by the deterioration of the coating on pipes and damages in the isolation of the cables, therefore the metallic part of them may contact the ground.

In order to perform fault location works it is necessary to use a **special frequency** - **8KFF** - (fault locating frequency), and an **external accessory** - **A-Frame** - connected to the receiver.

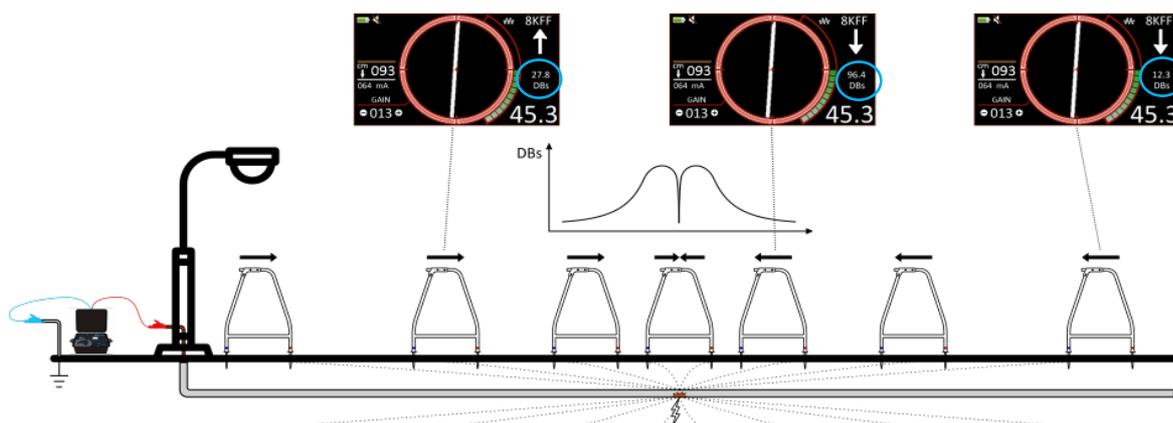
MRT-700 allows to cable route trace and fault pinpointing, at one time.



(*) MRT-700 must be requested with location functionality

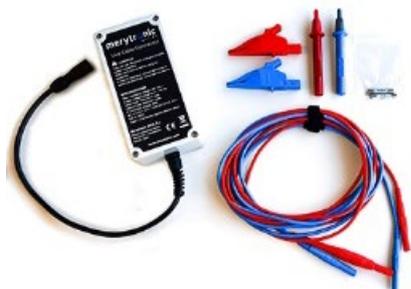


Working diagram – Locating process



MRT-700 Accessories

ACCESSORIES FOR ENERGISED CABLES



LIVE CABLE CONNECTOR

For a direct connection in energized cables.
Máx. Input voltage: 480 V.

Only works from CI-Tx SW V13 and ahead.

ACCESSORIES FOR DE-ENERGISED CABLES



MULTIPLE PHASE CONNECTION KIT

Allows to connect the 3 phases to earth



GROUND EXTENSION KIT

For earth connection. Length: 10m.

ACCESSORIES FOR METALLIC PIPES



NEODYMIUM MAGNET

A quick direct connection to pipeline.



GROUND EXTENSION KIT

For earth connection. Length: 10m.

ACCESSORIES FOR NON-METALLIC PIPES



CABLE GUIDES

Different lengths.
Cable conductive o no-conductive



PROBE

Different diameters.
8kHz and 32kHz frequencies

Technical features

MRT-700 TX	MRT-700 RX
 <p>Size 315x255x150 mm</p> <p>Weight 2.5 kg</p> <p>Protection IP65</p> <p>Active signal frequency 640 Hz 8 kHz 32 kHz 8 KFF (*) CPS CI (**)</p> <p>-- --</p> <p>Max. output power 10W</p> <p>Max. output current 500mA</p> <p>Operating temperature -20 /+ 60°C</p> <p>Rechargeable interna battery 7.4 V 6.6Ah Li-ion</p> <p>Battery power supply input 100-240Vac 50/60Hz 0.55A</p> <p>Battery power supply output 12VDC 2A</p> <p>Car lighter charger Yes</p>	 <p>Size 790x370x230 mm</p> <p>Weight 2.2 Kg</p> <p>Protection IP54</p> <p>Active signal frequency 640 Hz 8 kHz 32 kHz 8 KFF (*) CPS CI (**)</p> <p>Passive signal frequency 50/60 Hz 8/33 kHz (sondes) 14/27 kHz (radio)</p> <p>-- --</p> <p>Operating temperature -20 /+ 60°C</p> <p>Rechargeable interna battery 7.4 V 7.2Ah Li-ion</p> <p>Battery power supply input 100-240Vac 50/60Hz 0.3A</p> <p>Battery power supply output 12VDC 2A</p> <p>Internal speaker Yes (acoustic indication)</p> <p>Headphone output Connector jack 3.5mm</p>
<p>Safety standards: IEC 61010-1:2011 / UNE-EN 61010-1:2011</p> <p>EMC standards: IEC 61326-1:2012/ UNE EN 61326-1:2013</p>	<p>Safety standards: IEC 61010-1:2011 / UNE-EN 61010-1:2011</p> <p>EMC standards: IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11</p>

(*) MRT-700 FF (**) MRT-700 CI



Power cable identification and location solutions