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**

Specially designed for utilities to trace underground lines in the distribution networks, as well as pipelines.

Compatible with **GridGIS Map Creator** app, for mapping the cable network (*develop by Ariadna Grid*).

MAIN FEATURES

- **Receiver with 7 Sensors,** strategically distributed
- **FULL mode: Virtual Cable representation** (offset and angle) in TFT LCD Color Display
- 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** *

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MRT-700 TX / Transmitter

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

- **Direct connection** with cocodrile 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

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

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*

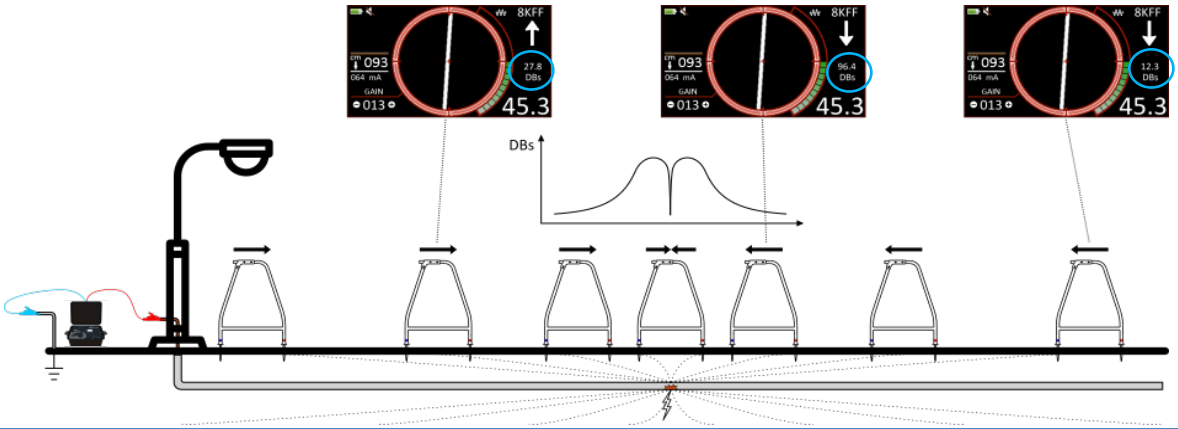
MRT-700 (*) is able to detect ground faults on pipes and cables, with **high precision** withing 5 cm. These faults are caused by the deterioration of the coating on pipes and damages in the isolation of the cables, therefore the metallic part of them may contact the ground.

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

Filter. Live cables isolated connection.

For a direct connection in energized cables.

Only works from CI-Tx SW V13 and ahead.

Magnet connector. For pipelines.

For a quick direct connection to pipelines.

Short-circuit cable. 3 phases in 1.

Extension cable. For earth connection. 10m.

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Technical features

MRT-700 TX

MRT-700 RX

Size	315x255x150 mm	Size	790x370x230 mm
Weight	2.5 kg	Weight	2.2 Kg
Protection	IP65	Protection	IP54
Active signal frequency	640 Hz 8 kHz 32 kHz 8 KFF (*) CPS CI (**)	Active signal frequency	640 Hz 8 kHz 32 kHz 8 KFF (*) CPS CI (**)
--	--	Passive signal frequency	50/60 Hz 8/33 kHz (sondes) 14/27 kHz (radio)
Max. output power	10W	--	--
Max. output current	500mA	--	--
Operating temperature	-20 /+ 60ºC	Operating temperature	-20 /+ 60ºC
Rechargeable interna battery	7.4 V 6.6Ah Li-ion	Rechargeable interna battery	7.4 V 7.2Ah Li-ion
Battery power supply input	100-240Vac 50/60Hz 0.55A	Battery power supply input	100-240Vac 50/60Hz 0.3A
Battery power supply output	12VDC 2A	Battery power supply output	12VDC 2A
Car lighter charger	Yes		

Safety standards:
IEC 61010-1:2011 / UNE-EN 61010-1:2011

EMC standards:
IEC 61326-1:2012/ UNE EN 61326-1:2013

Safety standards:
IEC 61010-1:2011 / UNE-EN 61010-1:2011

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

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

CE

Power cable identification and location solutions