ULTRA-TRAC® MJL

METALLIC JOINT LOCATOR

User Manual

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MADE IN USA

SENSIT Technologies
is in compliance with ISO 9001:2008

Warnings:

<u>DANGER:</u> DO NOT STAND ON OR RIDE THE MJL.
MAY CAUSE INJURY OR DEATH.

DO NOT SIT ON THE MJL.
MAY CAUSE DAMAGE TO THE INSTRUMENT

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Description:

ULTRA-TRAC ® MJL is the perfect choice when it is necessary to accurately locate Bell Joints, Repair Clamps or Service Connections on metallic piping systems. The MJL will significantly reduce the excavation area. This can greatly reduce street, sidewalk and driveway repair costs.

Technical Objectives:
- Locate cast iron joints accurately
- Locate service "T's" accurately on steel pipe
- Locate steel features on steel pipe (i.e., repair clamps/couplings)

Benefits:
- High accuracy location for potential use with keyhole excavations
- Accuracy to 50" on 4" cast

Specifications:

Size:	80.5" X 21" X 17"
Weight:	35 lbs.
Operational Temp:	0 - 120° F
Storage Temp:	-20 - 140° F
Battery:	3 "C" Cells

DETECTION METHOD
Dual Magnetometer

INDICATIONS
- Audible
- Visual Display

How It Works
The Metallic Joint Locator is a differential magnetometer.
MJL detects a change in pipe cross section rather than absolute cross section.
Moving along a featureless pipe gives a steady signal.
Encountering a feature changes the signal.

Caution
This product is affected by all metallic items. For best results identify areas with metallic objects such as storm drain grates and buried electrical conduits. It is best to use in areas away from vehicles as they can distort signals.

DANGER: DO NOT RIDE ON THE MJL.
MAY CAUSE INJURY OR DEATH.

Assembly

1. Slide the wheels onto the axels. Using included knobs tighten by hand.
   Do not over tighten.

2. Slide the handle onto its holder on the top of the instrument.
   Use the pin included to connect.
   Be sure to hook the pin retainer after installation.

3. Connect the communication cable from the handle to the connector on the instrument housing. Hand-tighten this connection to prevent water from making access to the contacts.

Battery Installation

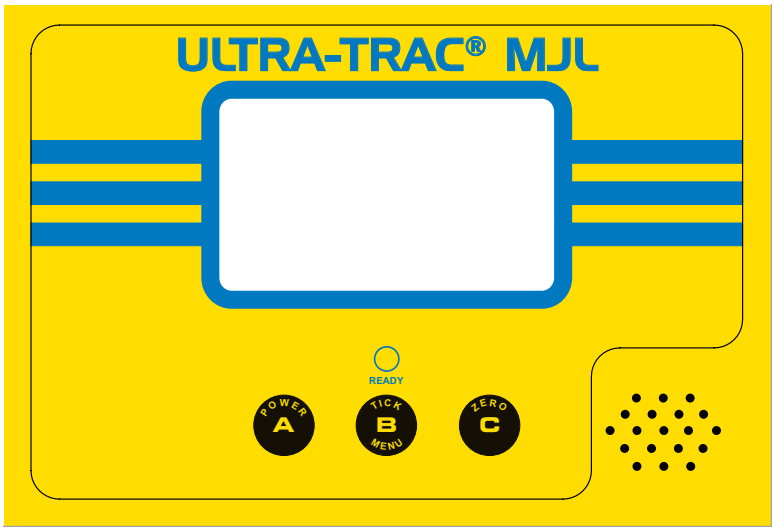
Batteries are located in hand grip on right side. Use three "C" size alkaline batteries. Access the batteries by removing the cover, twisting the cap and remove/replace the batteries. Note the proper polarity and install the cap (hand tighten only) and replace the cap.

Battery power is displayed using a segmented battery icon. There are 5 segments. The final segment indicates approximately 30min of operation. Icon will flash and BAT LOW will intermittently flash on the display. BAT FAIL will be displayed when insufficient battery power is available prior to immediate shut down. New alkaline batteries will last approximately 12 hours.

User Interface

MJL has three Buttons.

1. **Power** **A:** To activate/deactivate product
2. **Tick/Menu** **B:** To adjust tick speed for easier detection
3. **Zero** **C:** To adjust for environmental conditions



Operation

To activate instrument push the POWER button. Early models have additional switch left side handle to eliminate unnecessary power consumption while turned off. The following warm-up sequence will occur:

1. Warm-up sequence (a-h) with info below.
   a. Logo
   b. System Check
   c. Working display will illuminate (backlight is on continuously)

2. Allow the instrument to stabilize for 20 seconds
   a. The display will show maximum reading of 5700
      (this is a millivolt reading converted by the microprocessor)
   b. The tick will remain full signal
   c. When stable the tick will be at a ticking rate of 2-3 ticks per second and the display reading will be between 1400-4000.
   d. If the display is not reading in this range turn the instrument off and restart (older units) or press and release the ZERO (C) button and allow zeroing.
   e. Wave the test coil approximately 4 feet above the entire length of the instrument to confirm sensitivity.

NOTE: For best results, observe the digital readings on the display

3. Slowly walk and roll instrument over the top of the pipe to be tested.
   a. When a feature is detected ahead of the front wheels the signal will decrease.
   b. Continue moving forward. The signal will begin to increase when the feature is between the front and rear wheels.
   c. Continue forward to the largest signal increase. This is near the front edge of the rear wheels.

4. Confirm location by performing the same test from the opposite direction.

5. For unmarked piping turning the detector 90 degrees may help in locating the pipe.

6. If the tick is very strong pressing the (B) button will reset the tick speed to help locate the area of the feature.
   After resetting allow 10 seconds before continuing.

7. The location of the feature will be in the area between the bi-directional testing.

8. The graph on the display will change with signal strength.

Warranty

Your Ultra-Trac MJL is warranted to be free from defects in materials and workmanship for a period of one year after purchase If within the warranty period the instrument should become inoperative from such defects the instrument will be repaired or replaced at our option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Proof of purchase may be required before warranty is rendered. Units out of warranty will be repaired for a service charge. Internal repair or maintenance must be performed by a Sensit Technologies authorized technician. Violation will void the warranty. Units must be returned postpaid, insured and to the attention of the service department for warranty or repair. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Disclaimer FOR MJL:

The MJL is not designed to locate piping depth nor locate single piping features if other metallic interferences are present. The MJL senses only changes in metallic density relative to position.

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