TFN A1500 Intelligent Underground Pipeline Locator

Product Introduction

The TFN A1500 Intelligent Underground Pipeline Locator is a professional-grade detection system designed for accurately locating, tracing, and mapping underground pipelines and cables. Combining a high-performance 10W transmitter with a smart multi-frequency receiver, it delivers precise positioning, depth measurement, and signal strength analysis in real time. Ideal for municipal, utility, telecom, and construction industries, the A1500 helps prevent excavation accidents, enhances worksite safety, and improves operational efficiency with its user-friendly interface and reliable performance in harsh environments.

Product Key Selling Points

☑ High-Accuracy Positioning & Depth Measurement

The A1500 underground pipe locator ensures reliable detection with industry-leading accuracy: depth error ≤5% within 3 meters and ≤10% beyond 3 meters. Its advanced imported chipset and real-time depth display enable precise mapping of underground utilities, reducing the risk of costly strikes and project delays during excavation or construction planning.

☑ Powerful 10W Transmitter for Deep Detection

Equipped with a robust 10W transmitter and 60V output, the A1500 delivers stronger signals and deeper penetration, capable of detecting pipelines and cables beyond 6 meters underground. This enhanced power outperforms previous 6W models, ensuring reliable performance even in congested or deep-buried utility environments.

☑ Multi-Frequency Operation for Versatile Detection

With multiple active frequencies including 577Hz, 8kHz, 33kHz, 82kHz, and 133kHz—plus 50Hz power frequency mode—the A1500 adapts to various pipe materials, depths, and site conditions. This flexibility allows operators to select the optimal frequency for accurate detection of metallic pipes, telecom cables, and power lines.

☑ Long Battery Life for All-Day Field Work

Powered by dual lithium-ion batteries, the A1500 offers extended operation time: ≥5 hours at 10W, ≥8 hours at 5W, and ≥12 hours at 1W output. This ensures uninterrupted all-day use in field surveys, reducing downtime and increasing productivity for utility locating professionals.

☑ Smart Receiver with Intuitive Guidance

The intelligent receiver features multiple locating modes (Peak, Valley, Wide), directional arrows, and a high-contrast LCD that displays depth, signal strength, and current in real time. Automatic gain control and easy-to-follow visual cues allow even novice operators to perform accurate detections with minimal training.

Product Specifications

Transmitter:

1. Output Power: 10W max
2. Output Voltage: 60V max
3. Output Current: 1A max
4. Operating Frequencies: 577Hz, 815Hz, 8kHz, 33kHz, 65.5kHz, 82kHz, 133kHz (supports triple-frequency simultaneous output)
5. Power Supply: Lithium-ion battery pack
6. Operating Time: ≥5h (10W), ≥8h (5W), ≥12h (1W)
7. Display: Color LCD
8. Operating Temperature: -20° C to +50° C

Receiver:

1. Positioning Accuracy: ±5% (0–3m depth), ±10% (>3m depth)
2. Detection Depth: 0–6m+
3. Receiving Frequencies: 50Hz, 577Hz, 815Hz, 8kHz, 33kHz, 65.5kHz, 82kHz, 133kHz
4. Gain Control: Auto/Manual, 0–100 dB
5. Locating Modes: Peak, Wide Peak, Valley
6. Power Supply: Lithium-ion battery pack
7. Operating Time: ≥8 hours
8. Display: Large high-contrast LCD
9. Audio Guidance: Volume-adjustable speaker with signal-based tone variation

Product Features

Feature 1: Precise Pipe Locating & Depth Measurement

The A1500 uses advanced electromagnetic induction technology to accurately trace underground pipelines and determine their depth with minimal error. Whether you’re performing pre-construction surveys or routine maintenance, this feature helps avoid utility strikes, ensures regulatory compliance, and enhances site safety—saving time and reducing repair costs.

Feature 2: Multi-Mode Signal Application

With three signal application methods — Direct Connection, Coupling Clamp, and Induction Mode — the A1500 adapts to various field scenarios. Detect de-energized cables, live lines, or unknown pipes with optimal signal clarity. This versatility makes it an essential tool for utility locating, cable fault finding, and pipeline mapping across different industries.

Feature 3: Intelligent Frequency & Gain Management

Choose from multiple frequencies to match pipe material and depth, while the auto-gain receiver ensures consistent signal reception. The system's smart filtering reduces interference from adjacent lines, delivering clear and reliable detection data. This results in fewer false readings, improved accuracy, and faster on-site decision-making.

Feature 4: User-Friendly Operation & Training Reduction

Featuring a clear color display, intuitive icons, left/right directional arrows, and audio cues, the A1500 simplifies pipeline detection. New operators can quickly learn to locate pipes, measure depth, and interpret signals, reducing training time and minimizing human error in critical underground utility detection projects.

Feature 5: Wide Application, Covering Multiple Fields

The A1500 is widely used in municipal water/gas pipelines, power cable wiring, telecommunications fiber optic inspection, petrochemical plant surveying, railway safety inspections, and construction site surveying. Its rugged design allows for reliable operation in temperatures ranging from -20° C to 50° C, ensuring year-round availability.

Applications & Pain Points Solved

- Municipal Pipeline Construction & Maintenance

Pain Point: Inaccurate pipe location and depth errors lead to accidental strikes during excavation, causing service disruptions, costly repairs, and safety hazards.

Solution: The A1500 offers ±5% depth accuracy within 3 meters and real-time depth display, enabling precise mapping of water, drainage, and gas lines. Its multi-frequency modes adapt to various pipe materials, ensuring reliable detection and preventing utility damage.

- Power System Cable Route Tracing & Fault Location

Pain Point: Weak signal penetration and unstable performance in congested underground environments make it difficult to trace deep or overlapping power cables.

Solution: With a 10W transmitter and 60V output, the A1500 delivers strong signals capable of penetrating up to 6 meters. Multi-frequency selection and clear directional arrows allow accurate tracing of underground cables and fault points, even in complex grids.

- Telecommunication Cable Laying & Inspection

Pain Point: Difficulty in distinguishing telecom cables from other utilities, especially in dense urban areas, results in misidentification and network downtime.

Solution: The A1500's induction and coupling modes, combined with frequency tuning (e.g.,

33kHz, 82kHz), enable clear signal isolation for fiber and communication cables. The receiver's visual and audio guidance helps operators accurately identify and trace target lines.

- Industrial Plant Underground Pipeline Survey

Pain Point: Harsh industrial environments with temperature extremes and electromagnetic interference challenge device stability and detection reliability.
Solution: Designed for -20° C to 50° C operation, the A1500 maintains consistent performance in tough conditions. Its automatic gain control and high-sensitivity receiver ensure stable signal acquisition, supporting safe and efficient pipeline network management in petrochemical and manufacturing plants.

- Pre-Construction Underground Utility Mapping

Pain Point: Incomplete or inaccurate underground surveys before construction increase the risk of hitting unknown pipes, leading to project delays, budget overruns, and safety incidents.
Solution: The A1500's blind test function (using 82kHz/133kHz) detects unknown metal pipes without direct access. Combined with intuitive operation and long battery life, it supports comprehensive site surveys, ensuring construction safety and regulatory compliance.

Q&A

Q1: What is the detection accuracy of the A1500 underground pipe locator?
A: The A1500 offers high precision with depth errors ≤5% within 3 meters and ≤10% beyond 3 meters, thanks to its imported positioning chip and real-time calibration.

Q2: What is the maximum detection depth?
A: With its 10W transmitter, the A1500 can detect pipes and cables at depths exceeding 6 meters, depending on soil conditions and pipe material.

Q3: How long does the battery last on a single charge?
A: The transmitter runs for ≥5 hours at full power (10W) and up to ≥12 hours at low power. The receiver operates for ≥8 hours, supporting all-day field operations.

Q4: Can it be used in extreme temperatures?
A: Yes, the A1500 is designed to operate in temperatures ranging from -20° C to 50° C, making it suitable for harsh outdoor environments.

Q5: Is training required to use this locator?
A: While the A1500 is user-friendly, we recommend reviewing the manual and basic training for optimal results, especially for blind detection and depth measurement techniques.

Package Contents

1 × A1500 Transmitter
1 × A1500 Receiver
1 × Direct Connection Cable with Clips

1 × Coupling Clamp
2 × Lithium-ion Battery Packs
2 × Battery Chargers
1 × User Manual
1 × Carrying Case (or Storage Bag)
1 × Grounding Rod (if applicable)