



and



TRIDENT
SOLUTIONS™

Innovation - Protection - Identification

Utility

LOCATING-SYSTEMS

Brochure



Tracer Wire • Test Stations
Hardware • Ground • Connectors





INTRODUCTION

Effective Tools for Efficient Locates

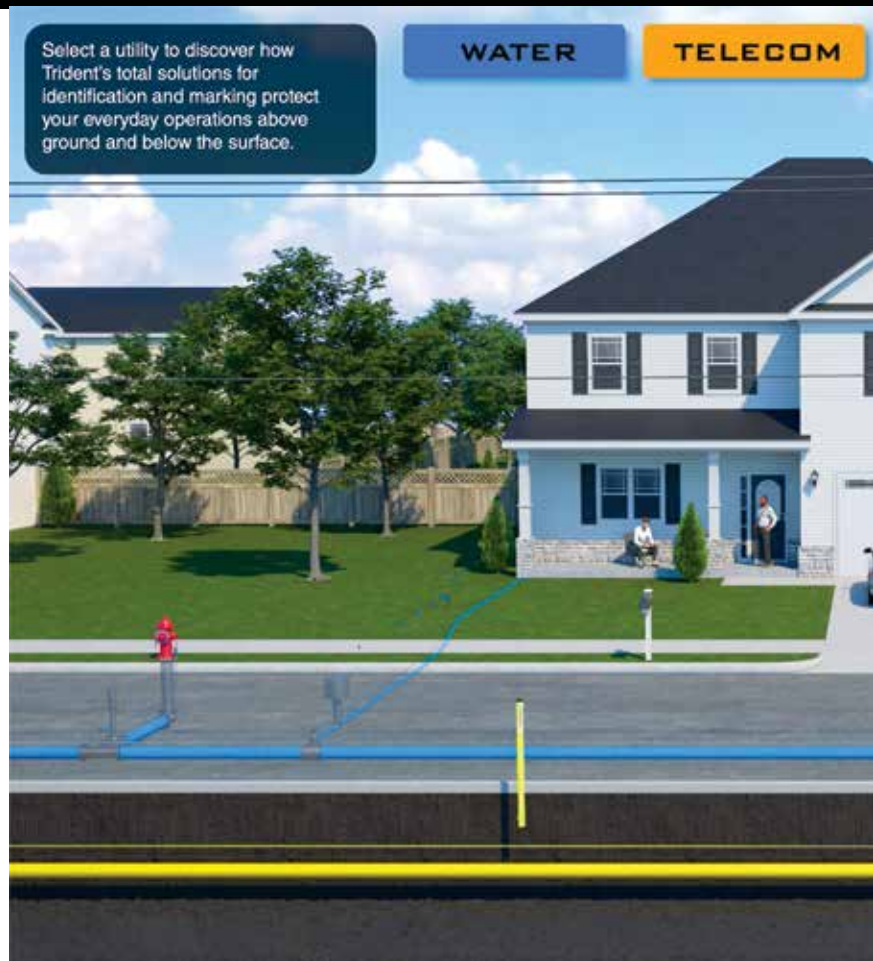
As construction projects increase across the country, the demand for locators has never been higher, and One-Call centers are working hard to keep up.

While it is encouraging to see the increase in locate requests, the extreme demand for utility locates leads to stressful work situations for the locator and delays for the excavator.

It's in a facility operator's best interest to do everything within their power to assist the locators in performing fast and accurate locates.

The most tried and true method for locating non-metallic buried facilities like plastic pipe, and fiber optic cables, is a well designed tracer wire system. Taking the time to engineer a system that provides accurate locates can be installed in almost any situation, and will stand the test of time and life of the utility.

Low frequency (512-Hz) locating greatly improves accuracy and eliminates signal bleed to unintended targets in the area. A well-designed system must be properly grounded, use quality wire, and have protected access points (test stations) that are easy to use. This will lead to fewer mis-marks, more accurate locates, and reduction of time to complete locate. This will help the facility owner reduce utility damages and improve system reliability.





ELECTRIC

GAS / OIL

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TRACER WIRE

Using the PRO-TRACE® CCS family of tracer wire is the superior and most cost effective solution for locating non-metallic buried utilities.

Our CCS tracer wire consists of a carbon steel core, metallurgically bonded with copper cladding, that is uniform and continuous, creating a bi-metal conductor that acts as one. The use of different carbon steels allows for unique tensile properties depending on the method of installation that copper alone cannot achieve. Not only are these systems easy to install and necessary for accurate underground pipe detection, but they are also:

- Depending on the method of installation needed we offer three different break strengths unmatched by copper wire:
 - HF-CCS (High-Flex)- 50% higher break-load than copper
 - HS-CCS (High-Strength)- 227% higher break-load than copper
 - HDD-CCS (Extra-High-Strength)- 700% the break load of copper
- HDPE insulation is direct burial rated and is superior against gouging, scraping and nicking damage
- Corrosion, moisture, chemical, oil, impact, crush, and abrasion-resistant
- Carry no theft or scrap value compared to copper
- Considerably lower in cost and excellent price stability
- Comes in sizes ranging from 18 through 6 AWG





HDD-CCS features a higher break-load and tensile strength compared to solid copper.

Installations: Directional Boring | Pipe Bursting

DESCRIPTION:

- **600-700% Stronger** than solid copper
- Rigid flexibility and memory with good ductility. Made for boring.
- Solid or Stranded (4 AWG Only)
- Gauge sizes: 4 AWG | 8 AWG | 10 AWG | 12 AWG | 14 AWG
- Jacket thickness: 45 mil | 50 mil (4 AWG Only)
- Direct Burial Rated High-density, HMWPE insulation
- Reel sizes: 500' | 1000' | 2500' | 5000'
- Custom lengths available upon request

STANDARD WIRE COLORS



Red Yellow Orange Blue Green Purple White Brown Black



HF-CCS PE30/PE45 tracer wire embodies the flexibility and memory of solid copper while still being stronger at lower cost.

Installations: Open-Cut | Plow-In | Blow-In

DESCRIPTION:

- **43% Stronger** than copper wire
- Equal signal strength to solid copper
- Solid Formation
- Gauge sizes: 8 AWG | 10 AWG | 12 AWG | 14 AWG | 16 AWG | 18 AWG
- Jacket thickness: 30 mil | 45 mil
- Direct Burial Rated High-density, HMWPE insulation
- Reel sizes: 500' | 1000' | 2500' | 5000'
- Custom lengths available upon request

STANDARD WIRE COLORS



Red Yellow Orange Blue Green Purple White Brown Black

*Some sizes, colors, and lengths may be subject to minimums.



HS-CCS PE30/PE45 tracer wire strikes a perfect balance of strength and flexibility compared to solid copper while minimizing damage during installation and while in service.

Installations: Open-Cut | Plow-In | Light Directional Boring

DESCRIPTION:

- **227% the break load** of copper wire
- Superior abrasion resistance to gouging, scraping, & nicking
- Solid Formation
- Gauge Sizes: 8 AWG | 10 AWG | 12 AWG | 14 AWG | 16 AWG | 18 AWG
- Jacket Thickness: 30 mil | 45 mil
- Direct Burial Rated High-density, HMWPE insulation
- Reel Sizes: 500' | 1000' | 2500' | 5000'
- Custom lengths available upon request

STANDARD WIRE COLORS



Red Yellow Orange Blue Green Purple White Brown Black



Copper PE30/PE45 is a soft drawn annealed tracer wire made from oxygen free copper cathode. It has fantastic flexibility and memory properties.

Installations: Open-Cut | Plow-In | Blow-In

DESCRIPTION:

- Solid or Stranded
- Gauge sizes: 6 AWG | 8 AWG | 10 AWG | 12 AWG | 14 AWG
- Jacket thickness: 30 mil (30V) | 45 mil (600V)
- Direct Burial Rated High-density, HMWPE insulation
- Moisture, Chemical, Oil, Impact, Crush, and Abrasion Resistant
- Reel sizes: 500' | 1000' | 2500' | 5000'
- Custom lengths available upon request

STANDARD WIRE COLORS



Red Yellow Orange Blue Green Purple White Brown Black

*Some sizes, colors, and lengths may be subject to minimums.



TEST STATIONS

Test station marker posts are essentially a two-for one: they provide easy access to tracer wire for locate technicians, as well as provide a highly visible and effective warning message to potential excavators.

Often, tracer wire is poorly maintained or exposed to the elements. An above ground test station like the Rhino TriView Test Station™ and its friction fit cap protect both the tracer wire and access terminals from severe weather and vandalism.

In areas where upright marker posts are not practical, the Rhino HideOut™ test station is an ideal choice. The flush mounted test station can be mowed over while still providing a visible warning. It has a telescoping terminal board for quick access to the tracer wire and terminal board.



The TriView Test Station™ provides 360-visibility with three warning messages that can be read from any direction. Industry standard 11-hole pattern provides room for multiple terminals and custom configurations.

DESCRIPTION:

- Standard with two internal terminals
- Removable cap
- 360-degree visibility
- Made with RhinoPoly® – our proprietary blend of thermoplastics
- UV Stable, designed for 10+ years of outdoor use with our 10-year warranty
- Patented TriGrip Anchor™ for locking post into ground
- Optional factory-installed tracer wire available

STANDARD POST COLORS



STANDARD TOP-CAP COLOR



STANDARD LENGTHS

54" | 60" | 66" | 72" | 78" | 84" | 90"





The RhinoDome Test Station™ is an above ground test station that provides easy access to tracer wire. The dome style post comes with a friction-fit cap that protects the industry standard 11-hole terminal board.

DESCRIPTION:

- 21" dome topper and removable cap
- 10" anchor tube secures post into the ground
- Standard Lengths: 66" | 72" | 78" | 84" | 90" | 96"
- Hot stamped graphics in two locations
- Comes standard with 2 terminals
- Round profile provides great visibility
- Made with a proprietary blend of thermoplastics, RhinoPoly®
- Optional factory-installed tracer wire available
- Generic & custom legends available

STANDARD TOPPER COLORS



STANDARD POST COLORS



STANDARD LENGTHS
54" | 60" | 66" | 72" | 78" | 84" | 90"



The HideOut™ provides easy access to tracer wire in spots where upright posts are not practical. This flush-mounted test station is ideal for areas where mowers are prevalent. The telescoping terminal board makes using it a breeze.

DESCRIPTION:

- 24" total length
- Telescoping terminal board with industry standard 11-hole pattern
- Standard with two terminals
- Locking lid
- Metal plate makes the HideOut™ locatable
- Hot-stamped graphics
- Patented TriGrip Anchor™ for locking HideOut™ into ground
- Hardware options available

STANDARD DISK COLORS





TracerPit Test Station is a flush-mounted test station that provides locate technicians a direct connection to their transmitter allowing for faster locates in high traffic areas.

DESCRIPTION:

- Low profile design
- Standard with 2 or 5 terminals
- 12" fixed pipe body. Available with telescoping pipe body up to 24"
- Suitable for grass, concrete, and roadways (except asphalt)
- Detectable by ferrous metal detector
- APWA color coded lid for identification
- Locking lid for secure access
- TracerPit Iso-Switch available

STANDARD LID COLORS



TracerLet is an above ground test-station-head for mounting on new, or existing PVC conduit.

DESCRIPTION:

- Protects tracer wire ends from corrosion and the elements
- Ideal for end of service termination and aesthetics
- Made with high strength polycarbonate
- Available with 1-3 terminals
- Use with any 1" PVC conduit
- Fire hydrant flange mounting kit available (adapter, bracket, and fasteners)

STANDARD HEAD COLORS





HARDWARE

Iso-Switch™ provides direct connection for locate technicians to hook their transmitter to within a tracer wire system. It simplifies the locating setup, saving time and labor without the hassles of manipulating terminal hardware. This item is designed for several different types of access points.

DESCRIPTION:

- Iso-Switch TracerPit fits the TracerPit Test Station
- Iso-Switch TracerPost fits the TriView, RhinoDome, and HideOut Test Stations
- Iso-Switch Handhole is designed for handholes and vaults with and without a busbar
- 5 stainless steel terminals (4 Tracer & 1 Ground) allow direct connection to individual tracer wire legs
- Water resistant switch eliminated the need to manipulate connections in the field
- Routes signal along desired path to any point in the tracer wire system
- Reduces times and simplifies labor associated with locating



Iso-Switch TracerPost



Iso-Switch TracerPit



Scan to watch how the Iso-Switch™ will save time and ensure accurate locates.

Isolation Lever

- TriView Test Station
- RhinoDome Test Station
- HideOut Test Station



Extra Terminals

- TriView Test Station
- RhinoDome Test Station
- HideOut Test Station



Shunts

- TriView Test Station
- RhinoDome Test Station
- HideOut Test Station
- TracerLet Test Station
- TracerPit Test Station



Grounded Locate Plate

- TriView Test Station
- RhinoDome Test Station
- HideOut Test Station



1" or 3" Reflective Bands

- TriView Test Station
- RhinoDome Test Station



Cap Lock

- TriView Test Station
- RhinoDome Test Station





GROUND

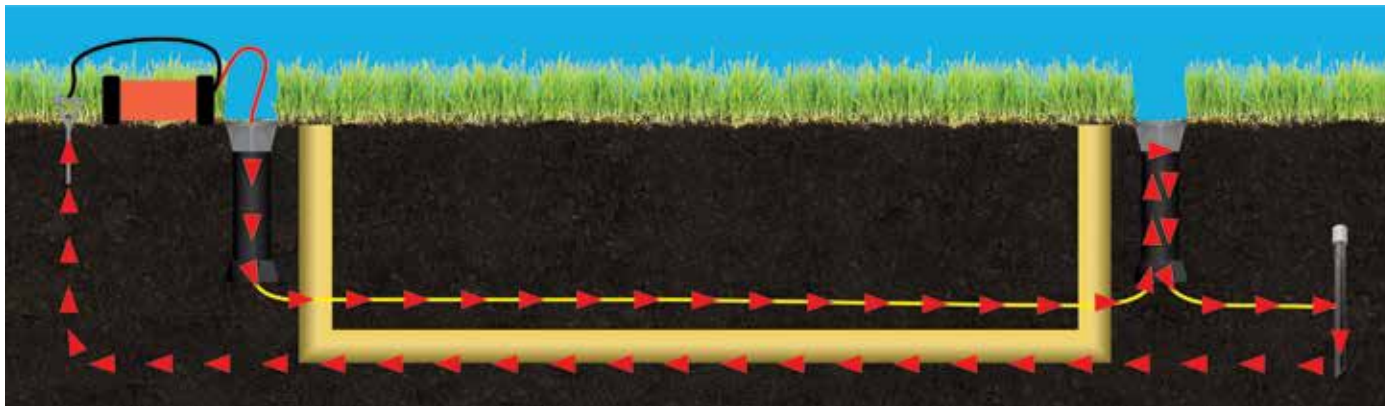
Grounding anodes should be installed at all dead ends and access points of the tracer wire system to complete the electrical circuit needed for low frequency (512-Hz) pinpoint locating accuracy. Higher frequency has a tendency to bleed-over to unintended targets making the locate inaccurate leading to potential utility damage and injury.

A proper access point will protect the wire and provide a direct connection for the technician to locate the system. The magnesium construction of the rod will also provide additional corrosion protection should the tracer wire insulation experience any damage during installation.

Pro-Trace® Ground Rod is designed for use with locating tracer wire systems. The 1.5 lb magnesium rod can be easily driven into most soil types.

DESCRIPTION:

- Properly grounds tracer wire system to complete circuit, ensuring increased signal strength and accurate locates
- 20 feet of built-in lead wire offers flexibility
- Twist on connector included for splicing lead wire to tracer wire
- HDPE cap





CONNECTORS

A tracer wire system is only as good as its weakest connection. Connectors with superior strength that are water and corrosion-proof protect vulnerable wire splices and keep the locate signal flowing across connections.

Using cheap alternatives like electrical tape will result in corrosion. A corroded connection point can cause the locate signal to stop at the connection point, making the rest of the buried utility unlocatable, which could end in disaster for the excavator.

The **Pro-Trace® TW Connector** was engineered specifically for tracer wire. The silicone filled connector is used to splice or branch-off multiple tracer wires to maintain continuity, and it provides superior performance and strength compared to other connectors.

DESCRIPTION:

- Injection molded from polycarbonate
- Integrated strip guide
- Voltage rating up to 300 volts
- Designed to work with copper, copper clad steel & stainless steel
- Water & corrosion proof
- Impact and moisture resistant



Twist Connectors are ideal for splicing lines. They are waterproof, corrosion proof, and the dielectric silicone sealant that is pre-filled within the connector never hardens, ensuring long lasting protection.

DESCRIPTION:

- Two size options: Regular & Large
- Designed for direct bury applications
- Pre-filled with dielectric silicone sealant
- Fast and easy installation
- Wire Range: min 22-AWG / max 8-AWG



Locking Barrel Connector

The innovative twist and lock design allows for simple, more efficient wire connecting. Simply insert the wires and twist 90°, locking the wires into place.

DESCRIPTION:

- Moisture resistant construction works with 30 & 45 mill jacket
- Will not deteriorate from exposure to water, oxidation, rust, chemicals
- Works with multiple wire gauges, 14, 12, and 10
- Connects to wire without removal of wire jacket or insulation
- Provides a tightly locked connection, impervious to fill replacement





The **TracerLock Connector** is used for connections to underground tracer wire systems. It can be installed as an “in-line” or “lateral” connection without needing to strip the tracer wire.

DESCRIPTION:

- One-piece Injection molded polycarbonate mechanical connector
- Designed for direct bury applications
- Breakaway shear nut system insures simple, & correct installation
- Pre-filled with anti-oxide for longevity, & superior electrical continuity
- Compression locking design to prevent wire pullout
- Works with gauge sizes 18-8 AWG
- Moisture, temperature, corrosion & impact resistant



Mainline to Service (MTS) Connector

DESCRIPTION:

- 3-way connection
- Designed for direct bury applications
- Pre-filled dielectric silicone sealant protects wire
- Waterproof and corrosion resistant
- Fast and easy installation
- Wire Range: 14-AWG - 10-AWG



Pipe Burst MTS Connector

DESCRIPTION:

- Size accommodates pipe burst wire
- 3-way connection
- Designed for direct bury applications
- Pre-filled dielectric silicone sealant protects wire
- Waterproof and corrosion resistant
- Fast and easy installation
- Wire Range: 14-8 AWG solid copper
14-6 AWG stranded copper
14-10 AWG steel core (CCS)



Self-Stripping MTS Connector

DESCRIPTION:

- Self-stripping for fast and easy installation
- Designed for direct bury applications
- Pre-filled dielectric silicone sealant protects wire
- Designed for use with solid/stranded copper and steel core tracer wire with .030” and .045” thick insulation
- Waterproof & corrosion resistant
- Wire Range: 14-AWG - 12-AWG





EXTRAS

Buried Warning Tape is the last line of defense to avoid accidental dig-ins letting an excavator know they are too close to your cable or pipeline. Homeowners often do not call before they dig so warning tape can be especially effective in residential areas. An investment of a few pennies per foot potentially can save you thousands of dollars.

DESCRIPTION:

- Non-Detectable & Detectable Tape available
- Heavy metal-free
- APWA colors provided
- Long-lasting colors to protect utility lines
- Exceeds all industry specs
- Private labeling, UPC coding and other custom packaging requirements available

STANDARD WIDTHS

3" | 6"

STANDARD LENGTH

1,000'

STANDARD THICKNESS

4mil | 6mil



Solid Color & Printed Flags are ideal for above ground marking for a variety of industries. Our line of high-quality specialty marking flags is manufactured in a wide range of sizes and long-lasting colors, ensuring consistent communication and ongoing visibility for projects spanning utility construction, and line locating.

DESCRIPTION:

- Flag Size Options: 2" x 3" | 4" x 5"
- Steel Staff
- 18 Flag Colors | 11 Ink Colors
- Staff Lengths: 12" | 15" | 18" | 21" | 24" | 30" | 36"
- Long lasting material colors
- Wind-tear resistance for high performance
- Bright inks for high visibility
- Temperature stable down to -40 °F
- Flag is glued to staff – not wrapped
- Back-of-flag fold creates a larger print area
- Private labeling, UPC coding and other custom packaging requirements available

