

3M Science.
Applied to Life.™

Trace the underground

**3M™ Locating and
Marking System**



Stress-free management and maintenance of underground assets requires tools you can depend on. 3M's integrated locating and marking solutions are engineered to help bring you peace of mind as you take on your toughest challenges.

[3m.com/Dynatel](https://www.3m.com/Dynatel)

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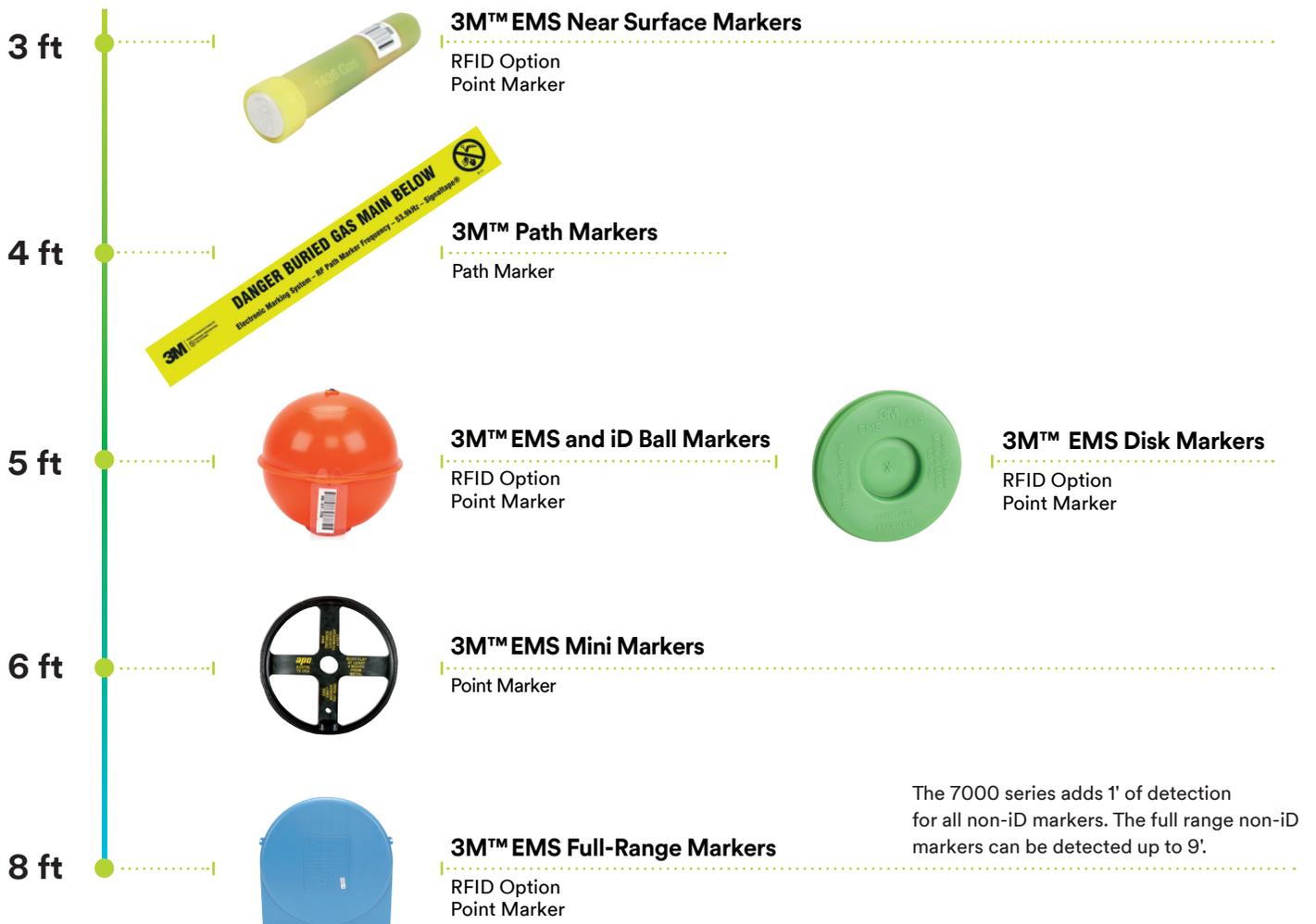
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Marker Burial Depth Chart



Save time and money by quickly pinpointing the location of buried assets with 3M™ Point and Path Markers and our Electronic Marking System (EMS) technology. Designed to be placed in various ranges of burial depths, our markers protect your critical assets wherever they are.



Note: burial depths are approximate. Review the marker specification sheet and locator compatibility for precise indication of burial depth for each of the marker models.

3M™ Electronic Marking System (EMS) Warning Tape 7900 Series for underground utilities

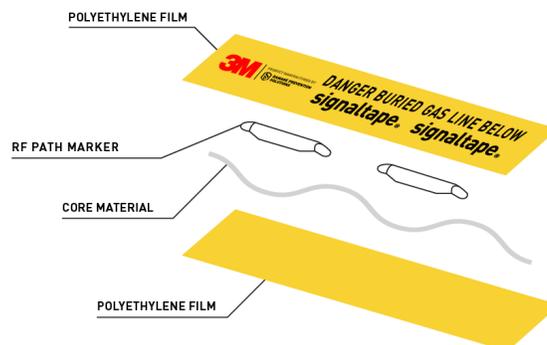
An updated approach to path marking, the 3M EMS warning tape 7900 series helps alert the user that there is a risk of damage when digging near underground utility lines by providing visual verification powered by our EMS technology.

3M's latest line of tapes offer a virtually maintenance-free solution that helps eliminate the challenges and costs associated with tracer wire and test stations. For use in open trench applications, the 3M EMS warning tape 7900 series uses radio frequency (RF) path markers to work independently, so even if a section of path marking tape is cut or removed, the other markers on the tape will continue to provide an accurate location.

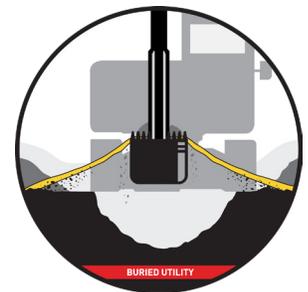
The tape also features a high-strength core material called extreme tensile (XT) which provides an early warning for excavators that an underground asset is below.



- EMS Markers with unique frequencies for each utility



- XT features 3000 lb strength core material



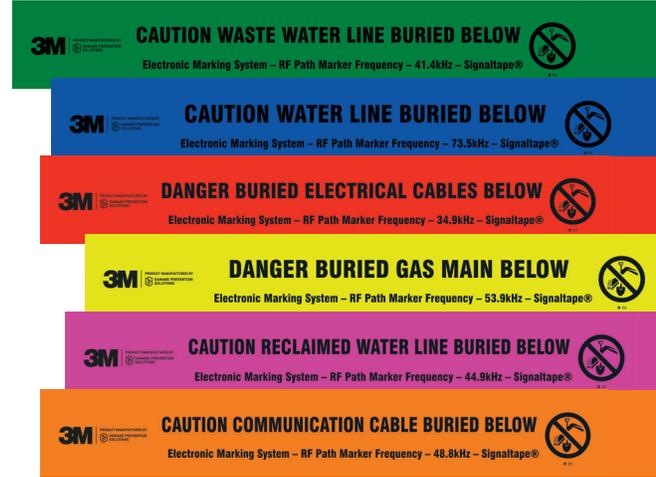
- Visual Warning

3M™ Path Markers

A maintenance-free solution for marking and locating

3M™ Electronic Marking System (EMS) Warning Tape 7900 Series and 3M™ EMS Caution Tape 7900 Series provide a virtually maintenance-free solution for marking and locating the path of underground plastic pipes and conduits. Together, they help eliminate problems and costs associated with tracer wire and test stations.

The 3M™ EMS Warning Tape 7900 Series and 3M™ EMS Caution Tape 7900 Series are both embedded with markers that are activated using the 3M™ Dynatel™ Locators 7000 Series. The EMS Warning Tape 7900 Series also includes an additional high strength core material feature called extreme tensile (XT) which provides an early warning for excavators that an underground asset is below.



- Can be installed near or above buried assets
- Easy to follow, creating a detectable path above ground
- For use in open trench applications
- Does not require batteries and there's no need to hook up an external transmitter or spend time searching for access points
- The markers work independently, so even if a section of path marking tape is cut or removed, the other markers on the tape will continue to provide an accurate location
- Comes in 5 or 6 frequencies, creating a unique identification for each utility type

	Depth	Length	Marker Spacing	Tensile Strength	Width	Telephone	Power	Gas	Water	Wastewater	General Purpose/ Reclaimed Water
3M™ EMS Warning Tape 7900 Series	up to 4 ft	500 ft	8 ft	13 kN	4 in, 6 in, or 12 in	7901-XT	7902-XT	7905-XT	7903-XT	7904-XT	7908-XT
3M™ EMS Caution Tape 7900 Series	up to 4 ft	500 ft	8 ft	1.6 kN	6 in	7901	7902	7905	7903	7904	7908

The optimal depth for the XT early warning system is < 1 ft (30 cm) while the embedded EMS markers are locatable < 4 ft (1.2 m).

XT – Extreme Tensile, EMS – Electronic Marker System

3M™ Point Markers

Marking points of interest

Unlike surface features, maps and other methods of recording position, our Point Markers are a point of reference you can depend on.

3M Non-iD Markers:

- Operate in all soil types; under asphalt, cement, and wet or dry soil
- Provide easy positive identification with each utility having its own frequency
- Color-coded to APWA standards

3M iD Markers can be customized to include customer-specific information:

- Facility data
- Material type and size
- Type of application
- Placement date

Access all of this information in the field through a 3M™ Dynatel™ ID capable locator, or by uploading and using with your GIS system.

	Detection/ Read Range	Type	Telephone	Power	CATV	General Purpose	Water	Wastewater	Gas
3M™ EMS Near Surface Marker	3 ft	EMS	1432	1433	–	–	1434	1435	1436
	2 ft	iD	1432-XR/iD	1433-XR/iD	1437-XR/ iD	1438-XR/iD	1434-XR/iD	1435-XR/iD	1436-XR/iD
3M™ EMS Ball Marker	6 ft	EMS	1401-XR	1402-XR	1407-XR	1408-XR	1403-XR	1404-XR	1405-XR
	5 ft	iD	1421-XR/iD	1422-XR/iD	1427-XR/ iD	1428-XR/iD	1423-XR/iD	1424-XR/iD	1425-XR/iD
3M™ EMS Mini-Marker	6 ft	EMS	1255	1256	–	–	1257	1258	1259
3M™ EMS Full Range Marker	9 ft	EMS	1250	1251	–	–	1252	1253	1254
	8 ft	iD	1250-XR/iD	1251-XR/iD	–	1248-XR/iD	1252-XR/iD	1253-XR/iD	1254-XR/iD
3M™ EMS Disk Marker	5 ft	EMS	1411-XR	1412-XR	1417-XR	1418-XR	1413-XR	1414-XR	1415-XR
	5 ft	iD	1411-XR/iD	1412-XR/iD	–	1418-XR/iD	1413-XR/iD	1414-XR/iD	1415-XR/iD



3M™ EMS Near Surface Marker

Ideal for marking at shallow depths of 2–3'



3M™ EMS and iD Ball Marker

Self-leveling feature, suited for depths of 5–6'



3M™ EMS Mini-Marker

Designed for maintaining a stable position after placement at depths of 6'



3M™ EMS Full-Range Marker

Suited for deep applications of up to 8–9'



3M™ EMS Disk Marker

Ideal for marking at shallow depths of 3–5'

3M™ Dynatel™ Locator X Series

Electronic Marking System (EMS)/ID/Marker Locator 1420X

EMS/ID/Marker/Path Locator 7420X

Cable/Pipe/Fault Locator 2273X*

EMS/ID/Marker/Cable/Pipe Locator 2550X-ID

EMS/ID/Marker/Cable/Pipe/Fault Locator 2573X-ID

EMS/ID/Marker/Path/Cable/Pipe Locator 7550X

EMS/ID/Marker/Path/Cable/Pipe/Fault Locator 7573X

Our latest innovation, the Dynatel X Series Locators are best in class, allowing you to quickly locate underground assets. They are equipped with Bluetooth® wireless technology receivers, which none of our other locators have, along with improved software and GPS capabilities.



- Receiver with Bluetooth® wireless technology
- Integrated USB port is compatible with USB Type-C connector
- Built-in GPS can be saved internally or directly to a memory stick compatible with USB Type-C connector
- RFID Marker write/read/locate capabilities
- EMS Path Marking Antennas
- Multiple EMS antennas for maximum locate capabilities
- Large LCD display with image-driven graphical interface
- Integrated tone functions
- Dynatel Locators 2573X and 7573X include fault locating
- 12 W transmitter



3M™ Dynatel™ Locators
1420X/7420X Series



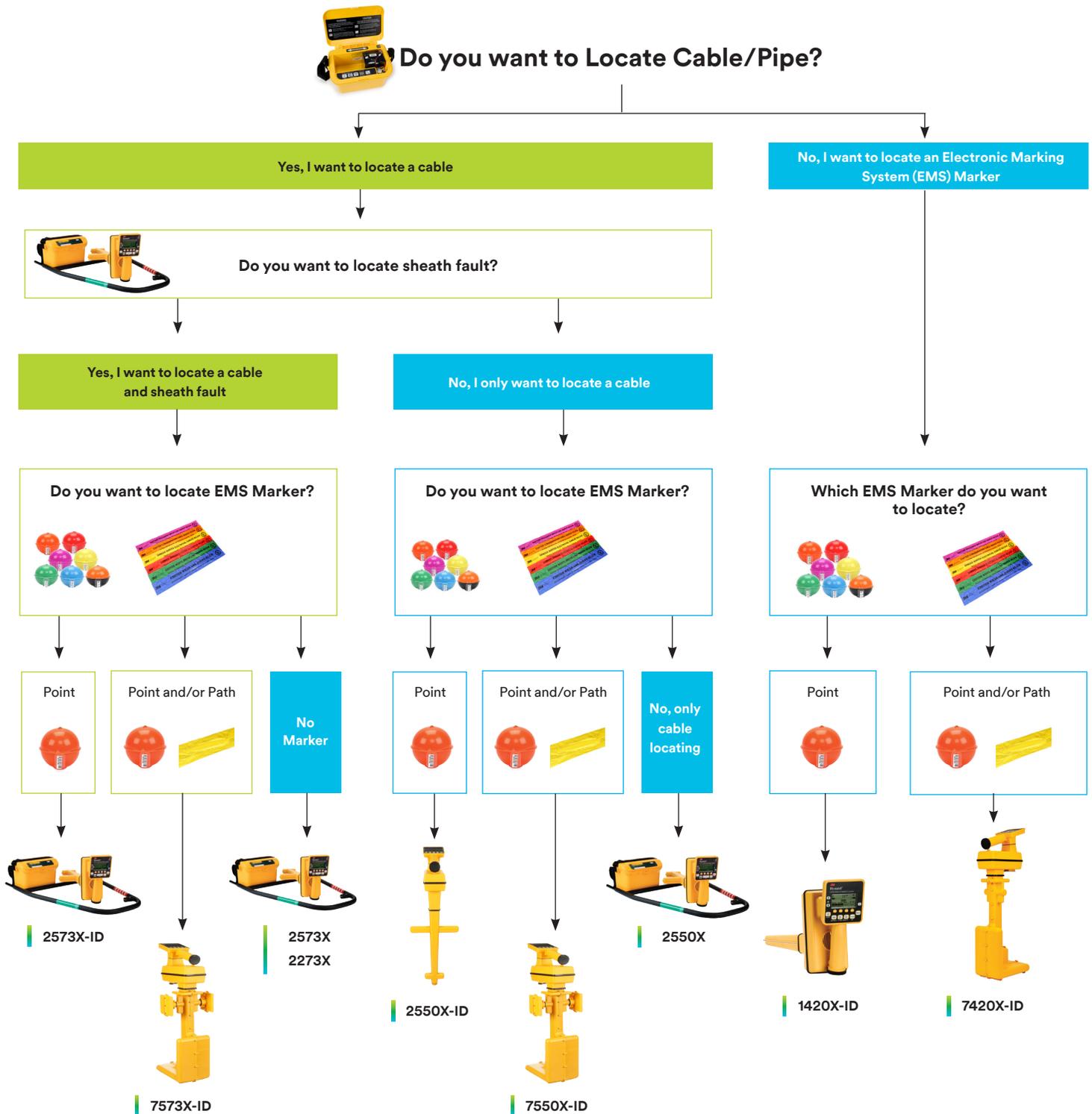
3M™ Dynatel™ Locator
2273X*/ 2550X-ID/2573X-ID Series



3M™ Dynatel™ Locator
7550X/7573X Series

*The 2273X does not support Bluetooth® or GPS.

3M™ Dynatel™ Locator Selection Chart



The numbers above reference Dynatel Locator models.

Some kits have 3 or 12 W transmitters. 12 W transmitters can be useful with locates that have a weak signal. To pick specific kits please refer to the locator kit ordering information starting on page 13.

3M™ Dynatel™ Locator Features by Model

Features	Dynatel Locator Models				
	1420X-ID	7420X-ID	2273X	2500X Series	7500X Series
Pipe and cable locate			✓	✓	✓
Electronic marker locate/read/write	✓	✓		*	✓
EMS Frequencies	8	8		8	8
Path Marking Frequencies		6			6
Path Marker locate		✓			✓
Active frequencies			4	6	6
Inductive frequencies			✓	✓	✓
Passive power			✓	✓	✓
Passive low frequency (LF)			✓	✓	✓
Sonde locating			✓	✓	✓
Fault locate (A-frame)			✓	*	*
Transmitter power options (watts)			3 or 12	3 or 12	3 or 12
3M™ Dyna-coupler size (inches)			3	3 or 4.5	3 or 4.5
3M™ Rechargeable Battery 2200RB (Tx)			*	*	*
Li-Ion battery (Rx)	✓	✓	*	✓	✓
GPS compatible	✓	✓		✓	✓
Built in GPS	✓	✓		✓	✓
Bluetooth® wireless technology	✓	✓		✓	✓
USB	✓	✓	✓	✓	✓

✓ Standard feature * Optional feature

3M Locating and Marking Accessories



7000027975

3M™ Ribbed Battery Compartment Cap With Liner For Dynatel™ M-Series Cable/Pipe Locators

The cap screws onto the locator handle to help protect the battery.



7000058654

3M™ 6” Dyna-Coupler with Pouch & 9011 Coupler Cable, 1196/C, 1/Case

Permits coupling of RF trace tone to large diameter cables, bundle cables, and cables enclosed in accessible non-metallic ducts. For use on cables and conduits with a maximum diameter of 6.9” (17.5 cm).



7000057745

3M™ Direct Connect, 5-Foot Transmitter Cable, Telephone 9012, 1/Case

Two-lead, 5' (1.5 m) cables used for direct connection to conductor and ground. The 9012 cable has smaller Telco style alligator clips with an insulation piercing needle incorporated.



7000058141

3M™ Small Clip Direct-Connect Transmitter Cable for All Cable/Fault Locators 2892, 1/Case

Two-lead, 10' (3 m) cable used for direct connection to cable and ground.



7000058140

3M™ Large Clip Direct-Connect Transmitter Cable for Most Cable/Fault Locators 2876, 1/Case

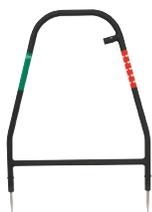
Two-lead, 10' (3 m) cable used for direct connection to cable and ground.



7000043006

3M™ Ground Extension Cable 9043, 1/Case

Extends ground capability to 12' (3.7 m).



7000031431

3M™ Earth Contact Frame 3014, 1/Case

Used only when locating sheath (earth return) faults. It indicates direction to the fault and is color coded to correspond with the Receiver's indicator.

3M Locating and Marking Accessories



7000031433

3M™ Earth Contact Frame Cable 9026, 1/Case

For use with the 3M™ Earth Contact Frame 3014 for sheath (earth return) fault location; 4' (1.2 m) in length.



7000057820

3M™ Ground Rod 8006, 1/Case

For applying ground capability, made of stainless steel.



7000058653

3M™ Rechargeable Battery 2200RB, 1 Kits/Case

For use with 5 W and 12 W transmitters (non-spillable).



7000058906

3M™ Rechargeable Battery Pack

For use with 3M™ Dynatel™ 7000 and 2500 Series Receiver.



7000057744

3M™ 3” Dyna-Coupler, 3001, 1/Case

Permits coupling of RF trace tone to cables with a maximum diameter of 3" (7.6 cm).



7000031716

3M™ 4.5” Dyna-Coupler 4001, 1/Case

Permits coupling of RF trace tone to cables with a maximum diameter of 4.5" (11.4 cm).



7000031432

3M™ Coupler Cable 9011, 1/Case

For use with any Dynatel Transmitter, Receiver, or Coupler: 12' (3.7 m) in length.

3M Locating and Marking Accessories



7000006221

3M™ Dynatel Locator Coupler Accessory Kit 4519, 1/Case

Contains a 4001 4.5" (11.4 cm) 3M Dyna-coupler and a 3M Coupler Cable 9011 with a case that can be attached to the transmitter.



7000058326

3M™ Cable Locator Coupler Accessory Kit 3019

Contains a 3001 3" (7.6 cm) Dyna-coupler and a Coupler Cable 9011 with a case that can be attached to the transmitter.



7100231120

3M™ Soft Carrying Bag for 2200M, 2500 and 7000 Series, 1/Case

Carrying bag for the 2200M/2500/7000 series locators.

3M Legacy Locate Receivers



7010321054

AC Charger

For use with 3M™ Dynatel™ 7000 and 2500 Series Locators.

3M™ Dynatel™ Locator Kits Ordering Information

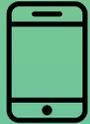
For US	■ Point and path markers enabled	Cable/Pipe Locate	Fault Locate	Electronic Marker Locate	Path Marker Locate	Transmitter Output	Direct Connect Cable – small clips	Direct Connect Cable – large clips	Coupler Size (inches)	2200RB Rechargeable Battery	Receiver Rechargeable Battery	Cigarette Lighter Adapter Cable	Carrying Bag
	▲ Point markers enabled												
7573X Series Kits	In addition to the items checked below, each kit contains an A-Frame, ground rod, Alkaline battery accessories and USB Type-C® accessories.												
7100253529	■ 7573X U12 Mkr/Pth Cb/Pp/Flt Loc 4.5" 12 W	x	x	x	x	12 W		x	4.5	x	x	x	x
7100253536	■ 7573X U3 Mkr/Pth Cb/Pp/Flt Loc 4.5" 3 W	x	x	x	x	3 W		x	4.5		x		
7550X Series Kits	In addition to the items checked below, each kit contains a ground rod, Alkaline battery accessories and USB Type-C® accessories.												
7100253527	■ 7550X U12 Mkr/Pth Cb/Pp Loc 4.5" 12 W	x		x	x	12 W		x	4.5	x	x	x	x
7100253534	■ 7550X U3 Mkr/Pth Cb/Pp Loc 4.5" 3 W	x		x	x	3 W		x	4.5		x		x
7420X	Each kit contains a soft carrying bag, alkaline battery and USB Type-C® accessories.												
7100213466	■ 7420X ID Marker/Path Locator			x	x						x		x
2573X Series Kits	In addition to the items checked below, each kit contains an A-Frame, ground rod, Alkaline battery accessories and USB Type-C® accessories.												
7100253061	▲ 2573X-ID U12 Mkr Cb/Pp/Flt Loc 4.5" 12 W	x	x	x		12 W		x	4.5	x	x	x	x
7100253117	▲ 2573X-ID U3 Mkr Cb/Pp/Flt Loc 4.5" 3 W	x	x	x		3 W		x	4.5		x		x
7100253115	▲ 2573X-ID C3 Mkr Cb/Pp/Flt Loc 3" 3 W	x	x	x		3 W	x		3		x		x
7100253525	● 2573X C12 Cb/Pp/Flt Loc 3" 12 W	x	x			12 W	x	x	3	x	x	x	x
7100253522	● 2573X C3 Cb/Pp/Flt Loc 3" 3 W	x	x			3 W	x	x	3		x		x
2550X Series Kits	In addition to the items checked below, each kit contains a ground rod, Alkaline battery accessories and USB Type-C® accessories.												
7100253205	▲ 2550X-ID U12 Mkr Cb/Pp Loc 4.5" 12 W	x		x		12 W		x	4.5	x	x	x	x
7100253204	▲ 2550X-ID U3 Mkr Cb/Pp Loc 4.5" 3 W	x		x		3 W		x	4.5		x		x
7100253530	● 2550X C3 Cb/Pp Loc 3" 3 W	x				3 W	x	x	3		x		x

3M™ Dynatel™ Locator Kits Ordering Information

For US	<ul style="list-style-type: none"> ■ Point and path markers enabled ▲ Point markers enabled ● No point or path enabled 	Cable/Pipe Locate	Fault Locate	Electronic Marker Locate	Path Marker Locate	Transmitter Output	Direct Connect Cable – small clips	Direct Connect Cable – large clips	Coupler Size (inches)	2200RB Rechargeable Battery	Receiver Rechargeable Battery	Cigarette Lighter Adapter Cable	Carrying Bag
		2273X Series	In addition to the items checked below, each kit contains an A-Frame, ground rod, Alkaline battery accessories and USB Type-C® accessories.										
7100290212	▲ 2273X C12 Cb/Pp/Flt Loc 3" 12W Ready	x	x			3 W (12 W)		x	4.5		x		
1420X	Each kit contains battery and USB Type-C® accessories.												
7100213431	▲ 1420X ID Marker Locator			x							x		
X-Series Receiver Only	In addition to the items checked below, each kit contains Alkaline battery accessories and USB Type-C® accessories.												
7100213428	■ 7573X Mkr/Pth Cb/Pp/Flt Rec Only	x	x	x	x						x		
7100253533	■ 7550X Mkr/Pth Cb/Pp Rec Only	x		x	x						x		
7100213471	▲ 2573X-ID Mkr Cb/Pp/Flt Rec Only	x	x								x		
7100253535	● 2573X Cb/Pp/Flt Rec Only	x	x								x		
7100253531	▲ 2550X-ID Mkr Cb/Pp Rec Only	x		x							x		
7100253526	● 2550X Cb/Pp Rec Only	x									x		
Transmitter Only	In addition to the items checked below, each kit contains a ground rod and Alkaline batteries.												
7100158928	2573-T12 M-SERIES Transmitter Only, US 12 W	x	x			12W	x	x		x			x
7100144283	2550-T12 M-SERIES Transmitter Only, US 12 W	x				12W	x	x		x			x
7100029363	2273M-U12WT Cable/Fault Locator Transmitter, US 12W & RB	x	x			12W	x	x		x			x
7100013969	2250M-U12WT Cable/Pipe Transmitter Only, US 12 W & RB	x				12W	x	x		x			x
7010397265	2273-U3T Cable/Fault Locator Transmitter, US 3 W	x	x			3W							



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