



# Dynatel™ Locators 1420X and 7420X Series

Data Sheet

November 2021

Description	
3M™ Dynatel™ Locators 1420X Series 3M™ Dynatel™ Locators 7420X Series	3M™ Dynatel™ Locators 1420XE Series 3M™ Dynatel™ Locators 7420XE Series
<p>The 3M Dynatel 1420X and 1420XE series and 3M Dynatel 7420X and 7420XE series locators are designed to equip a locate professional with the following technologies for underground locating and mapping:</p> <ul style="list-style-type: none"> <li>• Receiver with Bluetooth® wireless technology</li> <li>• Integrated USB port is compatible with USB Type-C® Connector</li> <li>• Internal GPS that can be saved internally or directly to a memory stick that is compatible with USB Type-C connector</li> <li>• RFID Marker write/read/locate capabilities</li> <li>• EMS Path Marking Antennas (3M Dynatel 7420X and 7420XE series locators)</li> <li>• Multiple EMS antennas for maximum locate capabilities (3M Dynatel 7420X and 7420XE series locators)</li> <li>• Large LCD display with image driven graphical interface</li> </ul> <p>Visit our website at <a href="http://www.3M.com/dynatel">www.3M.com/dynatel</a> for product information.</p>	

Agency Approvals and Self Certifications
For RoHS information, please visit <a href="http://www.3M.com/ROHS">www.3M.com/ROHS</a>

Physical Specifications		
Receiver	Size (L x W x H) IN (CM)	Weight with batteries
3M Dynatel 1420X and 1420XE series locators	30" x 4.7" x 10.5" (76.2 cm x 11.9 cm x 26.7 cm)	4.1 lb. (1.8 kg)
3M Dynatel 7420X and 7420XE series locators	30" x 6.7" x 10.5" (76.2 cm x 17 cm x 26.7 cm)	4.9 lb. (2.2 kg)
Shipping Box	Size (L x W x H) IN (CM)	
3M Dynatel 1420X and 1420XE series locators	33" x 17" x 12.6" (84 cm x 43 cm x 32 cm)	5.7 lb. (2.6 kg)
3M Dynatel 7420X and 7420XE series locators	33" x 17" x 12.6" (84 cm x 43 cm x 32 cm)	9.5 lb. (4.3 kg)

Environmental Specifications	
Operating Environment	Outdoor; Indoor for charging and configuring with a PC
Operating Temperature	-4° F to 122° F (-20° C to 50° C)
Storage Temperature	-4° F to 158° F (-20° C to 70° C)
Regulatory	3M™ Dynatel™ Locators 1420X Series (FCC Part 15) 3M™ Dynatel™ Locators 7420X Series (FCC Part 15) 3M™ Dynatel™ Locators 1420XE Series (CE) 3M™ Dynatel™ Locators 7420XE Series (CE)
Environmental Standard	IP54
Maximum Altitude	6500 ft. (2000 m)

<b>Receiver Electrical Specifications</b>	
Power	Rechargeable 3M™ Rechargeable Battery Pack (Alkaline 8xAA size battery pack for backup) <sup>1</sup>
Battery Life	8 hours typical <sup>2</sup>
Charging time	3 hours with 3A USB Type-C™ Connector AC Adapter 15W *The unit will stop charging when unit temperature is 104° F (40° C) or higher and shuts off at 122° F (50° C)
Display	4.4" Diagonal LCD Display (Menu driven GUI)
Speaker	0.25W
Headphone Jack	Standard mini phone jack (used along with USB Type-C® adaptor)
Connectivity	Bluetooth® wireless technology - Dual-mode Bluetooth 5.0. Profiles support GAP, GATT, SPP USB port is compatible with USB Type-C Connector
GPS Mapping	GPS Interface (internal, 3 m) CEP50 (Autonomous Position Accuracy) External GPS Devices-Defer to Published Specifications of Device
Gain Control	Manual and Automatic
Marker depth accuracy	+/- (10% + 5 cm) or +/- (10% + 2 in) up to specified depth of marker <sup>3</sup>
<b>Notes:</b>	
<sup>1</sup> It's recommended to use the rechargeable battery pack. However, a battery holder and adapter are provided for using 8-AA size Alkaline batteries for backup, which would have reduced battery life.	
<sup>2</sup> The battery life is specified for the 3M™ Rechargeable Battery Pack for the receiver at 73° F / 23° C, with 10% usage of the backlight and audio volume at medium level.	
<sup>3</sup> Depth accuracy susceptible to high ambient noise conditions	

<b>Electronic marker frequencies (3M™ Dynatel™ 1420X and 1420XE series and 3M™ Dynatel™ 7420X and 7420XE series)</b>	
TEL: Telecommunications	101.4 kHz
PWR*: Power US	169.8 kHz
GAS: Gas	83.0 kHz
WTR: Water	145.7 kHz
WW: Wastewater/Sanitation	121.6 kHz
COM: CATV	77.0 kHz
GP: General Purpose/Reclaimed Water	66.35 kHz
CE PWR: European Power	134 kHz

\*Not available for E-Models

<b>3M™ Electronic Marking System “EMS” Path Marking Tape and Rope</b>	
TEL: Telecommunications	48.8 kHz
PWR: Power US	34.9 kHz
GAS: Gas	53.9 kHz
WTR: Water	73.5 kHz
WW: Wastewater/Sanitation	41.4 kHz
RW: Reclaimed Water	44.9 kHz
Max locate depth (3M Dynatel 7420X and 7420XE series)	4 ft (1.2 m)

<b>3M™ iD Marker and 3M™ EMS Markers</b>			
3M™ Dynatel™ Locators 1420X Series 3M™ Dynatel™ Locators 7420X Series 3M™ Dynatel™ Locators 7420XE Series*	3M EMS Markers	3M iD Max write range:	Max read/locate range:
	Near-Surface	6 in (15 cm)	3 ft (0.9 m)
	Ball Marker	12 in (30 cm)	5 ft (1.5 m)
	Mid-Range	N/A	6 ft (1.8 m)
	Full-Range	24 in (61 cm)	8 ft (2.4 m)
3M™ Dynatel™ Locators 1420XE Series*	3M EMS Markers	Max write range:	Max read range:
	Near-Surface	6 in (15 cm)	61 cm (24 in)
	Ball Marker	12 in (30 cm)	1.2 m (48 in) (Telephone, CE Power, Gas, Wastewater, Communication (CATV), General Purpose) 1.0 m (40 in) (US Power*, Water)
	Mid-Range	N/A	1.8 m (6 ft)
	Full-Range	24 in (61 cm)	2.0 m (78 in)

\*US Power frequency is not available for E-Models.

<b>Data Storage</b>	
EMS-iD Read Records*	512
EMS-iD Program Records*	128
Locate Records*	512
Number of EMS-iD Templates:	80
<i>* no record limit with External flash drive. (only limited by flash drive size)</i>	

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