

3M[™] Dynatel[™] 1420X(E) and 1420X(E) Series Locator

Technical Data Sheet







7420X/7420XE Locator

Product Description

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

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:

- Receiver with Bluetooth® wireless technology
- Integrated USB port is compatible with USB Type-C[®] Connector
- Internal GPS that can be saved internally or directly to a memory stick that is compatible with USB Type-C® connector
- Write/read/locate 3M™ iD Markers
- Locate 3M[™] Electronic Marker System (EMS)
- EMS Path Marking Antennas (3M[™] Dynatel[™] 7420X and 7420XE Series Locators)
- Multiple EMS antennas for maximum locate capabilities (3M™ Dynatel™ 7420X and 7420XE Series Locators)
- Large LCD display with image driven graphical interface

Visit our website at <u>3m.co.uk/LocatingAndMarking</u> for product information.

Agency Approvals and Self Certifications

For RoHS information, please visit www.3M.com/ROHS

Physical Specifications		
Receiver	Size (L x W x H) inch (cm)	Weight with batteries
Dynatel™ 1420X/1420XE Locators Dynatel™ 7420X/7420XE Locators	30 x 4.7 x 10.5 (76.2 x 11.9 x 26.7) 30 x 6.7 x 10.5 (76.2 x 17 x 26.7)	4.1 lbs (1.8 kg) 4.9 lbs (2.2 kg)
Shipping Box	Size (L x W x H) inch (cm)	Weight with batteries
Dynatel™ 1420X/1420XE Locators Dynatel™ 7420X/7420XE Locators	33 x 17 x 12.6 (84 x 43 x 32) 33 x 17 x 12.6 (84 x 43 x 32)	5.7 lbs (2.6 kg) 9.5 lbs (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/7420X Series (FCC Part 15) 3M™ Dynatel™ Locators 1420XE/7420XE Series (CE)	
Environmental Standard	IP54	
Maximum Altitude	6500 ft. (2000 m)	

Receiver Electrical Specifications		
Power	3M™ Rechargeable Battery Pack (Alkaline 8xAA size battery pack for backup) ¹	
Battery Life	8 hours typical ²	
Charging time	3 hours with 3A USB Type-C [®] Connector AC Adapter 15W ³	
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. Bluetooth 5.0 wireless module at 2.4 GHz. 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% ± 2 inch (5 cm) up to specified depth of marker ⁴	

Notes:

⁴Depth accuracy susceptible to high ambient noise conditions

3M™ EMS Marker Frequencies	
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 XE-Models

¹ 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.

² 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.

³The unit will stop charging when unit temperature is 104° F (40° C) or higher and shuts off at 122° F (50° C)

3M [™] EMS Path Marking Tape & Rope Frequencies (3M [™] Dynatel [™] 7420X and 7420XE Series)	
TEL: Telecommunications	48.8 kHz
PWR: Power US & European Power	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

3M™ EMS Marker & Path Marking - Reading Range		
	1420X/1420XE	7420X/7420XE
3M EMS Markers	Max Read Range:	Max Read Range:
Near-Surface	3 ft (0.9 m)	3 ft (0.9 m)
Ball Marker	5 ft (1.5 m)	5 ft (1.8 m)
Mid-Range	6 ft (1.8 m)	6 ft (2.1 m)
Full-Range	8 ft (2.4 m)	8 ft (2.8 m)
3M EMS Path Marking	Max Read Range:	Max Read Range:
7### Series Tape or Rope	Not Applicable	4 ft (1.2 m)

3M™ EMS iD Marker - Writing & Reading Range			
		1420X/1420XE	7420X/7420XE
3M EMS iD Markers	Max Write Range:	Max Read Range:	Max Read Range:
Near-Surface	6 inch (15 cm)	2 ft (0.6 m)	3 ft (0.9 m)
Ball Marker: PWR: US Power WTR: Water	12 inch (30 cm)	3.3 ft (1.0 m)	5 ft (1.5 m)
Ball Marker: TEL: Telecommunications CE PWR: CE Power WW: Wastewater GAS: Gas CATV: Communication GP: General Purpose	12 inch (30 cm)	4 ft (1.2 m)	5 ft (1.5 m)
Full-Range	24 inch (60 cm)	6.6 ft (2.0 m)	8 ft (2.4 m)

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

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