3M

Dynatel™
Cable/Pipe Locator 2250M
Cable/Pipe and Marker Locator 2250M-iD

GPS Interface Allows Real-Time Mapping

BPC

Boddingtons Power Controls

3M™ Dynatel™ Cable/Pipe Locator 2250M
and Cable/Pipe and Marker Locator   2250M-iD
incorporate advanced electronics   to quickly and
efficiently trace the path of underground cables and pipes
(with metallic tracer wire).

They provide accurate cable/pipe, or Sonde
depth measurements, giving a digital readout
in inches, feet and inches, or centimeters
(user-selectable). Lightweight, compact
and well-balanced, these cable and pipe
locators allow you to accurately and easily:

- Locate cable and pipe path
  Measure cable/pipe, or Sonde depth with the
  push of a button
- Display relative signal current in the cable or pipe •
Identify cable using toning
- Tone shorts and grounds in aerial cable
- Identify cable pairs through wet sections
- Locate energized power and CATV cable

3M™ Dynatel™ Cable/Pipe Locator 2250M

3m™ dynateL™ Cable/Pipe Locator 2250M
and Cable/Pipe and marker Locator
2250M-id

Advanced features detect more information about underground utilities

A feature exclusive to the 3M™ Dynatel™ Cable/Pipe and Marker Locator
2250M-iD is the ability to write, read and lock programmed information into the 3M™
Electronic Marker System iD Ball Markers 1400 Series.

Information such as a pre-programmed unique identification number, facility data,
owner information, application type, placement date and other details from up to
100 markers can all be stored with date/time stamp, and GPS coordinates*, and
transmitted back to your PC through a standard RS232 serial port for enhanced
resource management.

Designed to be more accurate, faster and more integrated, the new locators can
perform these additional functions:

- Pinpoint the location and estimate the depth of all existing models of
  properly installed underground passive EMS markers
- Conduct direct depth reading of RFiD markers
- Locate two different marker frequencies simultaneously
- Trace a cable or pipe path while simultaneously finding buried markers along the way

Exclusive GPS system adds acuracy with ease

The 2250M/2250M-iD locators are now compatible with select GPS/GIS
field mapping instruments for real-time mapping of marker placement. The customized Dynatel interface
remotely commands the GPS/GIS device allowing even a generalist field technician to perform real-time
mapping. Exporting information directly into leading CAD and GIS systems creates an automated paperless
system for records updating.

Visit our website at http://www.boddingtonscontrols.com for more details.

Several unique modes of operation for accurate locates in every situation

For cable or pipe locating, 2250M/2250M-iD locators have a highly accurate multi-antenna design for
various user-selected locating modes—Directional Peak, Multi-Directional Null, plus an ultra-sensitive
Special Peak mode for extreme depths.

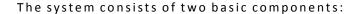| telephone	gas	catv/communication	power	water	wastewater	general

A unique "expander" function makes peaks and nulls more pronounced. Directional Peak mode combines the response from four peak antennas to indicate direction to the cable/pipe while a bar graph and numeric display indicate the sharp and accurate dual-peak response.

Semi-automatic gain set with manual override provides maximum flexibility and control. Multi-directional null mode shows null signal response with auto- matic gain and shows cable/pipe location and direction on a unique compass-like graphic display.

* When connected to standard NMEA compliant GPS devices.

3M™   Dynatel™

A simple, easy-to-use system

The 3M™ Dynatel™ Cable/Pipe Locators 2250M/2250M-iD require very little operator training. An RS232 communications port allows interface to an external computer for uploading/downloading of data, unit configuration and remote software upgrades. Estimated operating time is more than 30 hours on eight AA alkaline batteries.

The system consists of two basic components:

-
    Transmitter with built-in ohmmeter, which also measures the presence of foreign voltage and tests the continuity of the circuit.
- Rugged, one-piece hand-held receiver with large high-resolution LCD display. Bar graph signal strength and direction indicates received signal and proximity to the cable. M-iD versions locate and read/write to all EMS-RFiD markers.

The 2250M/2250M-iD locators use four active trace frequencies (individually or simultaneously) to compensate for varying field conditions. The receiver incorporates passive power, CATV, and auxiliary frequencies that do not require the use of the transmitter. The receiver also offers four user-defin- able auxiliary frequencies.

With the easy-to-use configuration tool, users can enable or disable any of 22 frequencies. Both the receiver and the transmitter feature a self-test routine that is executed each time the unit is turned on.

3M™ dynatel™ Cable/Pipe LoCator 2250m and CaBLe/PiPe and marker locator 2250m-id

Standard 3M™ dynateL™ accessories

Product Number	Description
8006	Ground Rod, Stainless steel
3019	Dyna-Coupler Kit, Consists of 3 in. Dyna-Coupler, Coupler Cable and Pouch
2876	Direct-Connect Transmitter Cable, 3 m (10 ft.) in length; for Utility (U) models
9012	Direct-Connect Transmitter Cable, 1,5 m (5 ft.) n length; for Communications (C) models

OptionaL 3M™ dynatel™ accessories

Product Number	Description
2892	Small Clip Direct-Connect Transmitter Cable,3 m (10 ft.) in length
9043	Ground Extension Cable
3001	Dyna-Coupler 3 in., for use on cables up to 7,6 cm (3 in.) in diameter
1196	Dyna-Coupler 6 in., for use on cables up to 17,5 cm (6.9 in.) in diameter With pouch
9011	Dyna-Coupler Cable 12ft.
2200M	Carrying Case/Bag
2200RB	Rechargable auxilliary battery for 5-watt units

Environmental specifications

Operating temperature	-20° C to 50° C (-4° F to122° F)
Storage temperature	-20° C to 70° C (-4° F to 158° F)
Standard	IP54
Regulatory	CE (Export Models Only)

Physical specifications

	Size (H x W x D)cm	Weight (including batteries)
Transmitter	17,2 x 28,6 x 19,7	2,4kg
Receiver	26,7 x 26,1 x 76,2	2250M – 1,9 kg 2250M-iD – 2,3 kg
Shipping	N/A	2250M – 7,9kg 2250M-iD –8,1 kg

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Electrical specifications

receiver

Frequencies

Trace and tone modes   Active: 577Hz, 8kHz, 33kHz, and 200kHz (577Hz, 8kHz, 33kHz, 133kHz CE Approved Models)

Passive power: 50L, 50H, 100, 60L, 60H, 120

Passive (other): CATV 31.5kHz (LF 9-30 kHz)

Auxiliary: 560, 512, 460, 400, 393, 340, 333, 273Hz

User defined: up to four frequencies (50~999Hz)

Display resolution	0.1 dB
Depth display range	9 m (0 to 30 ft.)
Depth units	cm, inch, ft.- in.
Depth accuracy*	+/- 2% +/- 5 cm (3 in.) 1,5 m (0 to 60 in.)
	+/- 6% +/- 5 cm (3 in.) 1,5 to 3 m (61 to 120 in.)
	+/- 10% +/- 5 cm (3 in.) 3 to 4,5 m (121 to 180 in.)
Cable current display	0.1 dB resolution or 0.01 mA resolution
	Units: dB and mA

Power   Battery type: Eight AA size, alkaline

Typical battery life   40 hours - M-units

30 hours - M-iD units

Transmitter

Output frequencies

Trace mode	577Hz, 8kHz, 33kHz, 200kHz (577Hz, 8kHz, 33kHz, 133kHz CE Approved Models)
Sheath(earth return) fault mode	10/20 Hz for sheath (earth return) fault; 577Hz and 33kHz for tracing
Tone mode	577Hz and 200kHz pulsed at 8Hz
Induction mode	33kHz, 200kHz

Output voltage (maximum)

Sheath (earth return) fault	70 Vrms
Trace	70 Vrms
Tone	Normal setting: 10 Vrms, high setting: 60 Vrms

Output power   Normal setting: Limited to 0.5W

High setting: Limited to 3W, or 5W with external DC power

Output protection   240 Vrms

Power   Battery type: Six C size, alkaline (LR14) cells;

External DC: 9-18V DC (1A) (5-watt units only)

Typical battery life   Normal output level: 50 hours

High output level: 10 hours

*Note: Locators are tested in model field conditions with no adjacent signals. Actual operating conditions may result in decreased depth accuracy due to outside signal disruptions.

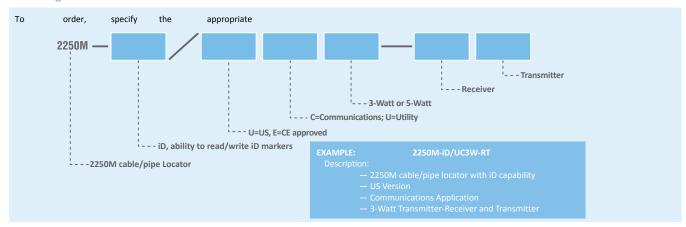## 3M™ DynateL™ Cable/PiPe LoCator 2250M and Cable/Pipe and marker Locator 2250M-id

Features

Receiver	2250M	2250M-id
Directional peak, directional null, single peak locate modes	x	x
Large backlit, high-resolution graphic display	x	x
Push-button cable/pipe depth readout with continuous depth measurement mode	x	x
Active duct probe (Sonde) depth measurement	x	x
Signal current measurement	x	x
Toning amplifier function	x	x
Cable identification	x	x
Marker alert mode while path tracing		x
Expander amplifier	x	x
Pre-set auxiliary frequencies for power, CATV, radio and long haul fiber applications	x	x
Four user-definable auxiliary frequencies (50-999Hz)	x	x
PC interface via standard RS232 serial port	x	x
User-configurable frequencies	x	x
Detects all seven EMS marker frequencies		x
Locator PC tools software	x	x
Rfid marker read/write capability		x
Dual marker frequency search-simultaneous		x
Marker depth estimation		x
GPS communications capability with selected GPS receivers		x
Transmitter	**2250M**	**2250M-id**
Simultaneous signals	x	x
Built-inohmmeter and continuity tester	x	x
Indicates presence of hazardous voltage	x	x
Three tone application methods (directconnect, coupler, inductive)	x	x
Auto load (impedance) matching	x	x
High and normal output level	x	x
3-watt and 5-watt models available	x	x

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ordering information

EXAMPLE: 2250M-iD/UC3W-RT
Description:
— 2250M cable/pipe locator with iD capability
— US Version
— Communications Application
— 3-Watt Transmitter-Receiver and Transmitter

Product Number	Description
2250M-iD/UR	Cable/pipe locator US Receiver only, with EMS-iD capabilities
2250M-iD/UC5W-RT	Cable/pipe locator US Communications 5-watt with EMS-iD capabilities
2250M-iD/UU5W-RT	Cable/pipe locator US Utility 5-watt with EMS-iD capabilities
2250M-iD/UC3W-RT	Cable/pipe locator US Communications 3-watt with EMS-iD capabilities
2250M-iD/UU3W-RT	Cable/pipe locator US Utility 3-watt with EMS-iD capabilities
2250M-UR	Cable/pipe locator US Receiver only
2250M-UC5W/RT	Cable/pipe locator US Communications 5-watt
2250M-UU5W/RT	Cable/pipe locator US Utility 5-watt
2250M-UC3W/RT	Cable/pipe locator US Communications 3-watt
2250M-UU3W/RT	Cable/pipe locator US Utility 3-watt
2250M-EC5W/RT	Cable/pipe and fault locator OUS Communications 5-watt (CE Approved Model)
2250M-EU5W/RT	Cable/pipe and fault locator OUS Utility 5-watt (CE Approved Model)
2250M-iD/EC5W-RT	Cable/pipe and fault locator OUS Communications 5-watt w/EMS-iD capability(CE Approved Model)
2250M-iD/EU5W-RT	Cable/pipe and fault locator OUS Utility 5-watt w/EMS-iD capability (CE ApprovedModel)

To order, call +44 (0) 1371 876 543

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