

**RADIODETECTION** 

**RD8100**®

**Electromagnetic and RF Marker locator**

Technical specification

# RD8100 Electromagnetic and RF Marker locator technical specification

## 1. Product Summary

1.1 Product Descriptions	Multi-purpose Precision Locator Cable, Pipe and RF Marker Locator Locate System Receiver Multi-function Precision Locator
1.2 Intended Use	Locating the position / path of buried cables, pipes and RF Markers Detecting and pinpointing insulation faults on buried cables and pipes Creating survey records of buried cables and pipes locations
1.3 Standard Equipment	Locator Lithium Battery pack Mains and Automotive chargers Quickstart guide Mini USB 2.0 compliant data cable

## 2. Performance

2.1 Sensitivity	6E-15 Tesla 5 $\mu$ A at 1 meter (33kHz)
2.2 Dynamic range	140dB rms/ $\sqrt$ Hz
2.3 Selectivity	120dB/Hz
2.4 Depth measurement precision <sup>1</sup>	Cable / Pipe / Sonde: $\pm$ 3% RF Markers: $\pm$ 15% $\pm$ 5cm – RF Marker Type dependent. Depth precision valid to: Near Surface: 2' / 60cm Ball Marker: 4.9' / 1.5m Mid-Range: 5.9' / 1.8m Full Range: 7.9' / 2.4m
2.5 Locate accuracy	$\pm$ 5% of depth
2.6 Active Locate filter bandwidth	$\pm$ 3Hz, 0 < 1kHz $\pm$ 10Hz, $\geq$ 1kHz
2.7 Start-up time	<1 second
2.8 Maximum depth readout <sup>2</sup>	Cable / Pipe: 98' / 30m Sonde: 64' / 19.5m RF Markers: 16' / 5m

## 3. Locate Functions

3.1 Active Locate Modes	All models 7: <ul style="list-style-type: none"><li>▪ Peak</li><li>▪ Peak+™ (choice of combined Peak &amp; Guidance or Peak &amp; Null)</li><li>▪ Guidance</li><li>▪ Broad Peak™</li><li>▪ Null</li><li>▪ RF Marker</li><li>▪ Combined (Cable, Pipe and RF Marker)</li></ul>
3.2 Gain control	Guidance Mode: Automatic Other modes: Manual gain using "+" or "-" with one touch to return to center (50% of Full Scale)
3.3 Custom locate frequencies	Up to 5 additional frequencies in the range 50Hz to 1kHz at 1Hz resolution

3.4 Active locate frequencies	Up to 25:			
	RD8100 MODEL	PXLM	PDLM	PTLM
	Custom frequencies	5	5	5
	ELF (98/128Hz)		●	●
	273Hz			●
	512Hz	●	●	●
	570Hz		●	●
	577Hz	●	●	●
	640Hz	●	●	●
	760Hz		●	●
	870Hz	●	●	●
	920Hz		●	
	940Hz	●	●	●
	1090Hz			●
	1450Hz			●
	4kHz (4096Hz)	●		
	8kHz (8192Hz)	●	●	●
	8440Hz			●
	9.8kHz (9820Hz)		●	●
	33kHz (32768Hz)	●	●	●
65kHz (65536Hz)	●	●	●	
82kHz (82000Hz)			●	
83kHz (83077Hz)	●	●	●	
131kHz (131072Hz)	●	●	●	
200kHz (200000Hz)	●	●	●	
3.5 RF Markers	UTILITY	COLOR	FREQUENCY	
	French Power	Natural	40.0kHz	
	General / Non-drinkable water	Purple	66.35 kHz	
	Cable TV	Black / Orange	77.0 kHz	
	Gas	Yellow	83.0kHz	
	Telephone / Telecoms	Orange	101.4 kHz	
	Sanitary	Green	121.6 kHz	
	German Power	Blue / Red	134.0 kHz	
	Water	Blue	145.7 kHz	
	Electrical Power*	Red	169.8 kHz	
*Use of the red Electrical Power (PWR) marker locate mode is subject to radio licensing restrictions for Short Range Devices in the EU and possibly other countries. It is the responsibility of the user to ensure that the red Power (PWR) marker locate mode is only enabled in countries where radio licensing restrictions do not apply at the operating frequency of 169 kHz.				
3.6 Sonde Frequencies	All models: 4 <ul style="list-style-type: none"> <li>▪ 512Hz</li> <li>▪ 640Hz</li> <li>▪ 8kHz (8192Hz)</li> <li>▪ 33kHz (32768Hz)</li> </ul>			
3.7 Fault Find	<i>Locate insulation sheath faults on pipes and cables to 10cm / 4" accuracy using the accessory A-Frame and a compatible transmitter</i>			
	RD8100 MODEL	PXLM	PDLM	PTLM
	8kHz Fault Find		●	●
	CD Fault Find		●	●

● Available feature

**3.8 Current Direction™ (CD) Signal Pairs**

*Confirm operator is following the target pipe or cable with CD arrows and a compatible transmitter*

RD8100 MODEL	PXLM	PDLM	PTLM
219.9Hz / 439.8Hz			●
256Hz / 512Hz		●	●
280Hz / 560Hz			●
285Hz / 570Hz		●	●
320Hz / 640Hz		●	●
380Hz / 760Hz		●	●
460Hz / 920Hz		●	
680Hz / 340Hz			●
800Hz / 400Hz			●
920Hz / 460Hz			●
968Hz / 484Hz			●
1168Hz / 584Hz			●
1248Hz / 624Hz			●
4096Hz / 8192Hz 4kCD		●	●

**3.9 Passive Locate Modes**

RD8100 MODEL	PXLM	PDLM	PTLM
Power	●	●	●
Radio	●	●	●
CPS (Cathodic Protection System)		●	●
CATV (Cable TV)		●	●
Passive Avoidance (Combined Power + Radio)		●	●

**3.10 Power Filters™ function**

Switch out of sensitive Power Mode to locate on any of 5 individual mains harmonic frequencies:

HARMONIC	50 Hz regions	60 Hz regions
Primary	50 Hz	60 Hz
3rd	150 Hz	180 Hz
5th	250 Hz	300 Hz
7th	350 Hz	420 Hz
9th	450 Hz	540 Hz

**3.11 Information displayed**

- Signal strength - moving bar graph and numeric value
- Mode indication (Peak, Null, Guidance, Broad Peak, Peak+ with option of Guidance arrows or Null arrows)
- Line or Sonde locate type
- Proportional left/right indication
- Compass: full 360° line direction indicator
- Accessories in use indication
- Accessory specific custom screen
- Depth and current readout (Line location)
- Depth readout (Sonde location)
- Gain level (in dB)
- Frequency selected
- Marker selected
- Battery condition
- Speaker volume
- Operating frequency
- Bluetooth status
- GPS satellites in view (where fitted)
- GPS status (where fitted)
- Configuration menu and submenus
- Software version
- Last calibration date
- Survey measurement counter
- Current Direction mode indicator
- Current Direction arrows
- Fault Find mode indicator
- Transmitter communication status
- Transmitter standby status
- StrikeAlert™ warning
- Overload warning

3.12 Audio output tones	<p><b>Power / Passive Avoidance / Radio modes:</b> Real Sound™ derived from detected electromagnetic signal</p> <p><b>Peak / Peak+ modes and CPS / CATV modes:</b> Synthesized audio tone proportional to signal strength</p> <p><b>Guidance mode:</b> Continuous tone when locator is to the left of target, intermittent tone when to the right of target</p> <p><b>Null mode:</b> Synthesized Audio tone proportional to signal strength. Low pitch to left of target, high pitch to right of target</p> <p><b>StrikeAlert audio warning:</b> Audio feedback for menu navigation</p>
3.13 Accessory locate functions	<p><b>Locator clamps:</b> Used to identify individual target cable(s) in a bundle or cabinet using signal strength read-out</p> <p><b>Stethoscopes:</b> Used to identify individual target cable(s) in a bundle or confined space such as a cabinet using signal strength read-out</p> <p><b>CD/CM clamp:</b> Used to measure locate current and to confirm target cable using Current Direction</p>

## 4. Locate Function Enhancements

4.1 StrikeAlert™	Audio and visual warning when a cable or pipe less than 30cm deep is detected. Operates in Active and Passive locating modes
4.2 Dynamic Overload Protection™	<p>40dB, automatic</p> <ul style="list-style-type: none"> <li>Automatically manages the system gain to compensate for strong signals e.g. from mains power or substations, to enable accurate locating</li> </ul>
4.3 Current Direction™ (CD)	<ul style="list-style-type: none"> <li>Measures the direction of current flowing in buried pipes or cables to ensure that an operator is able to identify and follow the target utility</li> <li>Provides operator with arrows indicating the direction of current flowing in the located pipe or cable to confirm that they are following the target utility</li> </ul>
4.4 iLOC™	<p><b>Metric:</b> Remote transmitter control from up to 450m away<sup>3</sup></p> <p><b>Imperial:</b> Remote transmitter control from up to 1400' away<sup>3</sup></p> <p>Control transmitter frequency, power level and SideStep</p>
4.5 SideStep™	<p>Enables locating where other signals are interfering, and without compromising the optimum locate frequency</p> <p>Remotely shifts the locate and transmitter frequency by several Hz, out of the bandwidth of other locate signals that may be interfering with the locate</p>
4.6 Simultaneous depth and current readout	Both utility depth and locate signal current are displayed simultaneously, giving the operator more information to help them to follow the target utility
4.7 Survey Measurements	<p>Store up to 1,000 survey points within the locator, and append GPS data from internal GPS (if fitted) or external GNSS sources over Bluetooth®</p> <p>Export data immediately or as a batch over Bluetooth</p>
4.8 Fault Find	<p>Apply a Fault Find signal with a Tx-5 and Tx-10 transmitter, then use an accessory A-Frame to detect and pinpoint insulation faults</p> <p><b>Fault find accuracy:</b> <b>Metric:</b> 100mm <b>Imperial:</b> 4"</p>
4.9 4kHz locate frequency and 4kHz CD	<p>Designed for tracing higher impedance lines such as twisted pair telecoms or street lighting over distance</p> <p>Combine with Current Direction to help trace the target utility through dense or complex infrastructure</p>
4.10 Peak+ mode	Use the accurate Peak bargraph, and add either proportional Guidance arrows for faster locating, or Null arrows to check for the presence of distortion
4.11 Integrated GPS option	Faster surveying using integrated GPS – no need for a separate hand-held device

## 5. Configurability

5.1 Option selection	All options can be enabled or disabled on the locator or using the RD Manager PC software
5.2 Languages supported	Fourteen: English, French, German, Dutch, Polish, Czech, Slovakian, Spanish, Portuguese, Swedish, Italian, Turkish, Russian, Hungarian
5.3 Mains power network options	50 Hz or 60 Hz
5.4 Mode selection	All locate modes can be individually enabled or disabled
5.5 Active frequency selection	All active frequencies available can be individually enabled or disabled
5.6 Active RF Marker selection	All RF Markers can be individually enabled or disabled
5.7 Passive mode selection	All passive modes can be individually enabled or disabled
5.8 StrikeAlert	Enable / disable
5.9 Peak+ arrow selection	Guidance arrows or Null arrows Selected using the locator menu or with a long press of the antenna key
5.10 GNSS ('GPS') settings	Internal / External (connect over Bluetooth) / Off / Reset SBAS On / Off
5.11 Bluetooth	On / Off
5.12 Data export protocols supported	PPP / choice of 3 ASCII formats. Optionally append positional data
5.13 Time / date setting	Correct or update locator real-time clock using the RD Manager PC software or GNSS signals
5.14 CD Reset	Reset CD phase analysis with a single long press of the frequency key

## 6. Connectivity

6.1 Wireless connections	Bluetooth 2.0 – SPP profile, class 1
6.2 iLOC™ remote transmitter control range <sup>3</sup>	Metric: Up to 450m Imperial: Up to 1400'
6.3 iLOC remote transmitter control functions	Set transmitter frequency Set transmitter power output level Transmitter standby SideStep
6.4 Wired connections	<b>Mini-USB:</b> Connect to a PC to configure and update locator, and to retrieve usage log and survey measurement data <b>3.5mm Stereo jack:</b> Connect wired headphones <b>Accessory port:</b> Connect Radiodetection accessories

## 7. Data capabilities and GNSS ('GPS')

7.1 Usage-logging, survey measurements and GNSS ('GPS')	<b>RD8100 MODEL</b>	<b>PXLM</b>	<b>PDLM</b>	<b>PDLM G</b>	<b>PTLM G</b>
	Usage-logging			●	●
	Survey measurements	●	●	●	●
	On-board GNSS ('GPS')			●	●
7.2 On-board GNSS ('GPS')	<p>GNSS data automatically added to Survey Measurements every time locate data is saved, and every second on usage-logging data</p> <p>Accurate to 2.5m CEP with SBAS enhancement available</p> <p>Supports GPS, GLONASS and Galileo satellites constellations</p> <p>Positional data enhancement systems (where available)</p> <ul style="list-style-type: none"> <li>▪ WAAS – North America</li> <li>▪ EGNOS – Europe</li> <li>▪ MSAS – Japan</li> <li>▪ SBAS (satellite based augmentation system)</li> </ul> <p>SBAS can be enabled or disabled in locator menu</p>				
7.3 Link to external GNSS ('GPS')	<p>Over Bluetooth via RD Map™ for Android</p> <ul style="list-style-type: none"> <li>▪ Connect an external GNSS enabled device to RD Map for Android to combine external GPS data with survey measurements</li> </ul>				

7.4 External GNSS position read-in to locator memory	Over Bluetooth from compatible mobile device / PDA running the SurveyCert+™ app. ▪ Connect to an external GNSS device to read positional positioning from that device and combine with the locator's survey measurement data on board the locator		
7.5 Usage-logging memory	4 Gb		
7.6 Usage-logging capacity	Over 500 days, measured at 8 hours use per day		
7.7 Usage-logging capture rate	1 / second		
7.8 Usage parameters logged	Serial number Log reference and ID Operating mode Locate frequency Sonde/line Signal strength Gain setting Depth Current Accessory in use Antenna mode Arrows readout Compass angle CD phase Overload status Dynamic Overload Protection Status RF Marker Type Marker Depth	Marker Signal Strength (%) Keys pressed Audio status Volume Menu in use Battery status User warnings status StrikeAlert status Bluetooth status Fault find arrow SideStep status Language Depth units Power setting Compass setting CD reset status	<b>Logging Units:</b> Date and time  <b>With a GNSS fix:</b> Latitude Longitude Altitude GNSS mode GNSS date and time Horizontal Dilution Geoid DGPS Time and ID Geoid Units GNSS fix Number of satellites Altitude units Time reference
7.9 Survey measurement capacity	Up to 1,000 data records		
7.10 Survey measurement data captured	<b>Standard data:</b> Log # Survey Reference Antenna Mode Depth Current (mA) Frequency in use (Hz) Sonde/Line Signal Strength (dBµV and %) Signal Strength (%) Gain Setting (dB) Compass (deg) Arrow readout CD Phase (deg) Accessory Type Battery level Volume Overload Flag Marker Type Marker Depth Marker Signal Strength (%) Marker Gain (dB)		<b>Usage-Logging Units:</b> Date and Time  <b>With Internal or External GNSS Fix:</b> GPS Mode GPS Date and Time GPS Distance (m) Latitude Angle (deg) Latitude Direction Longitude Angle (deg) Longitude Direction GPS Fix Satellites in use Horizontal Dilution Altitude Value (m) Altitude Units Geoid Value (m) and Units DGPS Time DGPS ID Time Reference GPS Mode GPS Date and Time GPS Distance (m) Latitude Angle (deg)
7.11 Survey measurement export options	Bluetooth – 'live,' per measurement Bluetooth – batch export USB – selectable / batch export		
7.12 Bluetooth survey measurement data protocol options	PPP ASCII (choice of 3 formats) Optional GPS data appended		

## 8. Power options

8.1 Lithium-Ion (Li-Ion)	Custom Lithium-Ion (Li-Ion) battery pack
8.2 Alkaline	3 × D-Cell (MN1300 / LR20) alkaline batteries (standard)
8.3 Rechargeable	3 × D-Cell (MN1300 / LR20) Nickel Metal Hydride (NiMH) batteries
8.4 Battery run-time (continuous) <sup>4</sup>	Li-Ion pack: 22 hours 3 × Alkaline D-Cells: 15 hours
8.5 Battery chemistry identification	Lithium-Ion pack: Automatic sensing NiMH / Alkaline: Software switchable
8.6 Charging options (Li-Ion pack)	Mains charger: 100-250 Volts AC, 50/60 Hz Automotive charger: 12-24V DC
8.7 Charging time (Li-Ion pack)	3 hours to 80% from empty with maintenance trickle charging thereafter

## 9. Physical Characteristics

9.1 Design	Ergonomic, balanced and lightweight design for comfortable use during extended surveys
9.2 Construction	Injection Molded ABS Plastic
9.3 Weight	<b>With Lithium-Ion battery pack fitted:</b> Metric: 2.1kg Imperial: 4.2lb <b>With D-cell alkaline batteries fitted:</b> Metric: 2.3kg Imperial: 5lb
9.4 Ingress Protection rating	IP65* (see note) Protected against dust ingress and jets of water <sup>5</sup> applied from any direction *Note: The antenna loop is protected to IP55, as small amounts of dust can penetrate but its operation is not impacted
9.5 Display type	High contrast custom made monochrome LCD
9.6 Audio options	Built-in waterproofed speaker 3.5mm headphone socket
9.7 Operating temperature <sup>6</sup>	As a cable and pipe locator: Metric: -20°C to 50°C Imperial: -4°F to 122°F As a RF locator: Metric: -10°C to 50°C Imperial: 14°F to 122°F
9.8 Storage temperature	Metric: -20°C to 70°C Imperial: -4°F to 158°F
9.9 Unit dimensions	Metric: 648mm × 286mm × 125mm Imperial: 25.5" × 11.3" × 4.9"
9.10 Shipping dimensions	Metric: 700mm x 260mm × 330mm Imperial: 27.6" x 10.2" x 13"
9.11 Shipping weight (with batteries fitted)	Metric: 3.6kg Imperial: 7.9lb

## 10. RD Manager™ Supporting PC Software

10.1 Operating System Compatibility	Microsoft® Windows® 10 64-bit
10.2 Locator system compatibility	Radiodetection RD7100 and RD8100 Precision Locators RD7000+ and RD8000 Cable, Pipe and Marker Locators
10.3 Functions	<ul style="list-style-type: none"> <li>▪ Locator configuration</li> <li>▪ eCert™ remote calibration certification</li> <li>▪ Factory calibration certificate retrieval</li> <li>▪ Usage-logging data collation and export</li> <li>▪ Survey measurements data collation and export</li> <li>▪ User account management</li> <li>▪ CALSafe™ maintenance schedule enforcement</li> <li>▪ Product registration for extended warranty</li> <li>▪ Locator software update</li> </ul>
10.4 Data export formats	.kml for Google® Maps .csv for database and spreadsheet applications .xls / .xlsx for Microsoft® Excel®
10.5 KML data export options	Filter usage-logging and survey measurement points on Google® maps. Select data to be tagged. Customize icon type / color, label type / color, line type / color



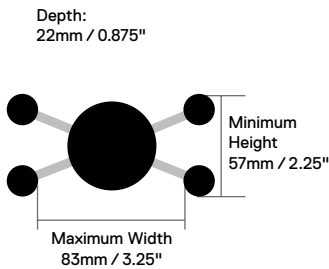
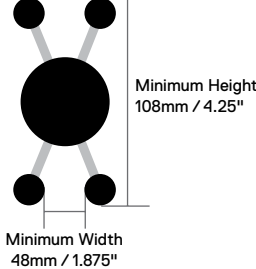
## 11. Warranty and Maintenance

11.1 Manufacturer's warranty duration	3 years standard, on registration
11.2 Recommended calibration and maintenance schedule	Annual, or at the beginning / end of a lease period if earlier
11.3 eCert remote calibration	<ul style="list-style-type: none"> <li>▪ Remote calibration certification using an internet connection to Radiodetection</li> <li>▪ Recommended schedule: annual, or at the beginning / end of a lease period</li> </ul>
11.4 CALSafe™	<ul style="list-style-type: none"> <li>▪ Can be enabled to prevent the locator operating when beyond a defined calibration / maintenance schedule</li> <li>▪ Disabled by default</li> <li>▪ 30-day countdown to calibration due date</li> </ul>
11.5 Enhanced Self-Test	<p>On-unit</p> <p>Applies test signals to locate circuitry to confirm correct operation, as well as the typical tests for screen and DSP functions.</p> <p>Recommended schedule: weekly, or before each use.</p>
11.6 Storage recommendation	<p>Store in a clean and dry environment.</p> <p>Ensure all terminals and connection sockets are clean, free of debris and corrosion and are undamaged</p>
11.7 Cleaning	<p>Clean with a soft, moistened cloth.</p> <p>Do not use</p> <ul style="list-style-type: none"> <li>▪ Abrasive materials or chemicals</li> <li>▪ High pressure jets of water</li> </ul> <p>If using this equipment in foul water systems or other areas where biological hazards may be present, use an appropriate disinfectant.</p>

## 12. Certification and Compliance

12.1 Standards	<p><i>Safety:</i></p> <p>EN 61010-1:2010</p> <p><i>EMC:</i></p> <p>EN 61326-1:2013</p> <p>EN 300 330-2 (V1.5.1)</p> <p>EN 300 440-2 (V1.4.1)</p> <p>EN 301 489-3 (V1.6.1)</p> <p>EN 301 489-17 (V2.2.1)</p> <p><i>Environmental:</i></p> <p>EN 60529 1992 A2 2013</p> <p>EN 60068-2-64:2008 Test Fh</p> <p>ESTI EN 300 019-2-2:1999 (per table 6)</p> <p>EN 60068-2-27:2009 (Test Ea)</p> <p>ESTI EN 300 019-2-2:1999 (per table 6)</p>
12.2 European directives	<p>Radio Equipment Directive – 2014/53/EU</p> <p>Low Voltage Directive – 2014/35/EU</p> <p>EMC Directive – 2014/30/EU</p> <p>RoHS – Restriction of Hazardous Substances – Directive – 2011/65/EU</p> <p>Declaration of conformity is available from <a href="http://www.radiodetection.com">www.radiodetection.com</a></p>
12.3 Radio	FCC, IC
12.4 Environmental	<p>WEEE compliant</p> <p>ROHS compliant</p>
12.5 Manufacturing	ISO 9001:2015

## 13. Compatible Accessories

Accessory	Part description	Part number
13.1 Phone support kit	Locator bracket adapter, arms and mobile phone holder – complete kit (see mobile phone holder dimensions 13.4)	10/RX-PHONE-HOLD-KIT
13.2 Tablet support kit	Locator bracket adapter, arms and tablet holder – complete kit	10/RX-TABLET-7-8-HOLD-KIT
13.3 Mobile device support bracket and arm	Locator bracket adapter and arms (needs either a Phone or Tablet holder)	10/RX-HOLDER-MOUNT
13.4 Mobile phone holder	<p>Mobile phone holder (requires a mobile device support bracket and arm)</p>  	10/RX-PHONE-HOLDER
13.5 Tablet holder	7"-8" Tablet holder (requires a mobile device support bracket and arm)	10/RX-TABLET-7-8-HOLDER
13.6 RAM Bracket adapter	Bracket adapter for RAM® mounts	10/RX-RAM-ADPT
13.7 RAM Bracket O-Ring set	Spare set of 2 O-rings	10/RX-RAM-ADPT-ORING
13.8 Lithium-Ion battery packs	Li-Ion rechargeable battery mains kit (Includes mains charger) Li-Ion rechargeable battery pack (no charger)	10/RX-MBATPACK-LION-K 10/RX-BATPACK-LION
13.9 Lithium-Ion battery chargers	Li-Ion automotive charger Li-Ion mains charger	10/RX-ACHARGER-LION 10/RX-MCHARGER-LION
13.10 Alkaline battery trays	3 × D Cell battery tray (MN1300 / LR20)	10/RX-3DCELL-TRAY
13.11 Transportation and storage accessories – <i>For combined locator and transmitter</i>	Soft Carry Bag Wheeled Flight Case Hard Case	10/LOCATORBAG 10/RD7K8KCASE 10/RD7K8KCASE-USA
13.12 Locator signal clamps – <i>For identification and location of utilities</i>	Metric: 50mm Locator Clamp Imperial: 2" Locator Clamp Metric: 100mm Locator Clamp Imperial: 4" Locator Clamp Metric: 130mm Locator Clamp Imperial: 5" Locator Clamp CD and Current Measurement Clamp	10/RX-CLAMP-50 10/RX-CLAMP-2 10/RX-CLAMP-100 10/RX-CLAMP-4 10/RX-CLAMP-130 10/RX-CLAMP-5 10/RX-CD-CLAMP
13.13 Signal stethoscopes – <i>To locate and identify individual utilities e.g. within walls, congested areas or when cables/utilities are in close proximity to each other</i>	High Gain Stethoscope Large Stethoscope Small Stethoscope CD Stethoscope	10/RX-STETHOSCOPE-HG 10/RX-STETHOSCOPE-L 10/RX-STETHOSCOPE-S 10/RX-CD-STETHOSCOPE

Accessory	Part description						Part number
13.14 Sondes <i>Battery powered signal transmitters for tracing or locating non-conductive utilities</i>	<b>Diameter</b>		<b>Range</b>		<b>Freq (Hz)</b>		
	<b>mm</b>	<b>In</b>	<b>m</b>	<b>Ft</b>			
	S6 Microsonde	6	¼	2	6½	33k	10/SONDE-MICRO-33
	S9 Minisonde	9	3/8	4	13	33k	10/SONDE-MINI-33
	S13 Super Small Sonde	13	½	2	6½	33k	10/SONDE-S13-33
	S18 Small Sonde	18	¾	4	14	33k	10/SONDE-S18A-33
	Standard C-Sonde	39	1½	5	16½	33k	10/SONDE-STD-33
						8k	10/SONDE-STD-8
						512	10/SONDE-STD-512
	Sewer Sonde	64	2½	8	26	33k	10/SONDE-SEWER-33
Super Sonde	64	2½	15	50	33k	10/SONDE-SUPER-33	
Flexi Sonde	23	7/8	6	20	512	10/SONDE-BENDI-512	
13.15 Submersible antennas	512Hz Submersible DD Antenna 640Hz Submersible DD Antenna 8kHz Submersible DD Antenna					10/RX-SUBANTENNA-512 10/RX-SUBANTENNA-640 10/RX-SUBANTENNA-8K	
13.16 FlexiTrace™ <i>– Use with a transmitter to trace small diameter pipes</i>	FlexiTrace 50m / 165' FlexiTrace 80m / 260'					10/TRACE50-GB 10/TRACE80-GB	
13.17 Flexrods <i>– Fibreglass rod used for propelling Radiodetection sondes through pipes to trace the path and locate blockages</i>	<b>Length</b>		<b>Diameter</b>				
	<b>m</b>	<b>Ft</b>	<b>mm</b>	<b>In</b>			
	50	160	4.5	3/16	10/FLEXRODF50-4.5		
	80	260	4.5	3/16	10/FLEXRODF80-4.5		
	50	160	7	¼	10/FLEXRODF50-7		
	100	320	7	¼	10/FLEXRODF100-7		
	150	485	7	¼	10/FLEXRODF150-7		
	60	195	9	3/8	10/FLEXRODF60-9		
	120	390	9	3/8	10/FLEXRODF120-9		
13.18 A-Frame – <i>Used for locating sheath faults on cables and coating defects on pipelines</i>	A-Frame (includes A-Frame Lead) A-Frame Bag					10/RX-AFRAME 10/RX-AFRAME-BAG	
13.19 Headphones	Recommended for use in noisy environments					10/RX-HEADPHONES	
13.20 Calibration Certificates	Locator Calibration Certificate, per unit (request with initial locator order)					97/RX-CALCERT	
	eCert™ Calibration Credit					10/RX-ECERT	

All specifications are measured in test conditions, at 21°C / 70°F, and fitted with fully charged Li-Ion battery pack unless otherwise noted.

<sup>1</sup> Based on volumetric testing at a known fixed depth. True depth accuracy depends on factors such as ground composition, utility characteristics and the locate frequency / signal strength employed. Always follow local safe digging guidelines.

<sup>2</sup> The RD8100M will locate to greater depths in the right conditions, but depth accuracy will be compromised. Depth measurement will not be displayed beyond these depths.

<sup>3</sup> Tested with clear line-of-sight. Range is dependent on electrical environment and weather conditions. For optimum range, face the locator toward the transmitter and raise the transmitter 2' / 60cm from the ground.

<sup>4</sup> To provide repeatable measurements, run-time is measured with GPS and Bluetooth functions switched to 'off'.

<sup>5</sup> Water projected by a nozzle at a pressure of 30kPa / 0.3 bar / 4.4 psi in accordance with BS EN 60529 1992 A2 2013.

<sup>6</sup> At very low temperatures, battery life will be degraded, LCD performance may slow and measurement precision may reduce.

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