



**VIVAX**  
**METROTECH**

# vLoc3-ML

Technical Specifications V1.1



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## A. Typical Applications

Item	Parameter
<b>Description</b>	<ul style="list-style-type: none"> <li>- Multi-purpose precision locator receiver</li> <li>- Electronic marker-ball detection</li> </ul>
<b>Uses</b>	<ul style="list-style-type: none"> <li>- Locating &amp; pinpointing the position of buried pipes and cables</li> <li>- Detection of any one of nine marker balls types buried to a depth of 6ft (2m)</li> </ul>

## B. Receiver Assembly

Item	Parameter
<b>Construction</b>	High impact ABS injection molded housing
<b>Weight</b>	5.7lbs (2.6kg)
<b>Dimensions</b>	12.2in(L) x 6.3in(W) x 28.4in(H) (310mm x 159mm x 721mm)
<b>Display Type</b>	Transmissive 480 x 272 Pixel, 16-bit Color, High Visibility LCD, 4.3"
<b>Receiver Antennas</b>	Two sets of 3D antennas for location and depth, EMS transmit and receive antennas.
<b>Batteries</b>	<ul style="list-style-type: none"> <li>- Six x AA Alkaline batteries</li> <li>- Rechargeable custom Lithium-ion batteries with 100-240V AC mains charger</li> </ul>
<b>Battery Life</b>	<ul style="list-style-type: none"> <li>- Alkaline – typically 12 hours intermittent use at 70F° (21C°)</li> <li>- Lithium-ion – typically 27 hours intermittent use at 70F° (21C°) (with full backlight turned on).</li> <li>- Re-charging cycles over 500 times life cycle. Battery life varies with temperature.</li> </ul>
<b>Environmental</b>	IP65 and NEMA 4
<b>External Connectors</b>	<ul style="list-style-type: none"> <li>- Accessory Socket – to change the internal batteries and attach accessories</li> <li>- Mini-USB socket for data transfer and programming</li> </ul>
<b>Temperature Range</b>	<ul style="list-style-type: none"> <li>- Operating: -4F° to 122F° (-20C° to 50C°)</li> <li>• Storage: -40F° to 140F° (-40C° to 60C°)</li> </ul>
<b>Compliance and Approvals</b>	<ul style="list-style-type: none"> <li>- Complies with European standard CE (Directive 99/5/EC) <ul style="list-style-type: none"> <li>• EN 55011</li> <li>• EN 61000-4-2: A1 &amp; A2</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-8: A1</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• ETSI EN 300 330-2</li> <li>• ETSI EN 301 489-1</li> <li>• ETSI EN 301 489-3</li> <li>• Complies with FCC Rules Part 15</li> <li>• CFR 47 part 2</li> </ul> <p>- CFR 47 Part 15</p>
<b>Standard Accessories</b> <b>(What's in the box)</b>	<ul style="list-style-type: none"> <li>- Custom Li-ion receiver battery</li> <li>- 100-240V AC mains charger</li> <li>- 6 x AA Alkaline battery holder</li> <li>- 6 x AA Alkaline batteries</li> <li>- Mini-USB data cable</li> <li>- Soft carry bag</li> <li>- User handbook</li> </ul>
<b>Compatible Accessory Options</b>	<ul style="list-style-type: none"> <li>- Portable Transmitters: Loc3-5Tx, Loc3-10Tx, VM-550FF, VM-560FF</li> <li>- Range of Sondes (waterproof self-contained transmitters for use in pipes &amp; ducts)</li> <li>- Accessory A-frame (for sheath fault finding)</li> <li>- Remote Antenna</li> <li>- GPS Module</li> <li>- Bluetooth module</li> <li>- Vehicle charging lead (Lithium-ion battery)</li> </ul>

## C. Operational

Item	Parameter
<b>Information Displayed</b>	<ul style="list-style-type: none"> <li>- Push button depth on marker</li> <li>- Marker reference number and icon</li> <li>- Response to marker ball</li> <li>- Circular bar graph and variable pitch tone to indicate signal strength -</li> <li>- Manual EMS (Electronic Marker System) gain control</li> <li>- Standard "Bar graph" Locate with Peak, Peak with arrows, Null, Broad, Delta Null, Omni Directional Peak, Omni Directional Broad</li> <li>- Transverse Graph Mode - visual assessment of signal quality and distortion</li> <li>- Dedicated Sonde Locate - directing arrow to move to the Sonde position along the polar axis</li> <li>- Vector Screen - fully automatic locate including offset, depth and locate uncertainty</li> <li>- Plan View Screen - fully automatic graphical representation of the cable position</li> </ul>

	<p>independent of cable direction</p> <ul style="list-style-type: none"> <li>- Signal strength - moving bar graph &amp; numeric value</li> <li>- Proportional left/right indication</li> <li>- Compass: full 360°-line direction indicator</li> <li>- Plug and play automatic recognition of accessories</li> <li>- Accessory specific custom screens</li> <li>- Line location - depth &amp; current measurement</li> <li>- Sonde location - depth measurement</li> <li>- Gain level (in dB)</li> <li>- Frequency selected</li> <li>- Battery condition</li> <li>- Speaker volume</li> <li>- Bluetooth and GPS status</li> <li>- Product configuration menu &amp; submenus</li> <li>- Customer definable start up screen</li> </ul>
<p><b>Configuration</b></p>	<ul style="list-style-type: none"> <li>- Intuitive setup menu enables user to configure:             <ul style="list-style-type: none"> <li>• Setup frequency selection to toggle by “f” pushbutton</li> <li>• Setup location mode selection to toggle by “m” pushbutton</li> <li>• Setup screen views selection to toggle by long press “m” pushbutton</li> <li>• Units of measure (feet/me)</li> <li>• Sound (Pitch) – normal/modulated</li> <li>• Language</li> <li>• Continuous depth/current options</li> <li>• Loudspeaker level</li> <li>• Backlight</li> <li>• Bluetooth pairing if fitted</li> <li>• Transmitter Radio Link if fitted</li> <li>• Warnings (Excessive Tilt, Overhead Signal, Shallow Cable, Signal Overload)</li> <li>• Auto shut down – configurable to power down at five minutes, ten minutes, or never</li> </ul> </li> </ul>

<p><b>Operating Frequencies</b></p> <p><b>Pre-defined Marker Ball Frequencies</b></p>	<p>Frequency list defined below:</p> <table border="1" data-bbox="470 255 1289 655"> <thead> <tr> <th>Ref #</th> <th>Utility</th> <th>Frequency (Hz)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Power (Red)</td> <td>169,800</td> </tr> <tr> <td>2</td> <td>Water (Blue)</td> <td>145,700</td> </tr> <tr> <td>3</td> <td>Sanitary (Green)</td> <td>121,600</td> </tr> <tr> <td>4</td> <td>Telephone (Orange)</td> <td>101,400</td> </tr> <tr> <td>5</td> <td>Gas (Yellow)</td> <td>83,000</td> </tr> <tr> <td>6</td> <td>CATV (Orange/Black)</td> <td>77,000</td> </tr> <tr> <td>7</td> <td>Non-potable Water (Purple)</td> <td>66,350</td> </tr> <tr> <td>8</td> <td>EDF (French Power) (natural)</td> <td>40,000</td> </tr> <tr> <td>9</td> <td>Power Europe (Blue/Red)</td> <td>134,000</td> </tr> </tbody> </table> <p>***Note: #9 – some markets only***</p>		Ref #	Utility	Frequency (Hz)	1	Power (Red)	169,800	2	Water (Blue)	145,700	3	Sanitary (Green)	121,600	4	Telephone (Orange)	101,400	5	Gas (Yellow)	83,000	6	CATV (Orange/Black)	77,000	7	Non-potable Water (Purple)	66,350	8	EDF (French Power) (natural)	40,000	9	Power Europe (Blue/Red)	134,000
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<p><b>Data Logging</b></p>	<ul style="list-style-type: none"> <li>- 50 million record internal storage</li> <li>- All parameters stored at each location including depth, current, date, time, mode, gain setting, frequency, locate uncertainty, longitude, latitude and height above sea-level</li> <li>- If connected to GPS (via Bluetooth) data also recorded with coordinates and date time</li> </ul>																															
<p><b>Data Transfer</b></p>	<p>Uses Vivax-Metrotech “MyLocator” software application tool available free of charge from <a href="http://www.vivax-metrotech.com">www.vivax-metrotech.com</a>. Data can be saved in xlsx, txt, fhp, kml (Google earth) formats.</p>																															
<p><b>Operating Frequencies</b></p>	<ul style="list-style-type: none"> <li>- Configurable frequencies from 98Hz to 200 kHz <ul style="list-style-type: none"> <li>• Power 50Hz and 60Hz</li> <li>• Radio 22.7kHz, 10kHz bandwidth</li> </ul> </li> <li>- Optional “Signal Direction” (SD) - enhanced product model giving direction of outgoing current. SD-USA: 256Hz/512Hz, SD-EUROPE: 320Hz/640Hz</li> </ul>																															
<p><b>Operating Modes</b></p>	<ul style="list-style-type: none"> <li>- Marker Locate Mode</li> <li>- Classic Locate (2-section Bar graph)</li> <li>- Transverse Graph Mode</li> <li>- Plan View (Omni Directional)</li> <li>- Vector Locate (Lateral Position &amp; Depth)</li> <li>- Sonde Locate</li> </ul>																															
<p><b>Gain / Scaling Control</b></p>	<p>Manual gain using “+” or “-” with one touch to return to center (60% of FSD)  “+” or “-” used to rescale the vector screen dependent on cable depth and offset</p>																															
<p><b>Accuracy</b></p>	<p><b>Locate pinpointing accuracy:</b></p>	<ul style="list-style-type: none"> <li>- Over 9ft (3m) – 5% of depth</li> <li>- Up to 9ft (3m) – 3% of depth</li> </ul>																														
	<p><b>Depth measurement accuracy:</b></p>	<p>3% of depth</p>																														

	<b>Current measurement accuracy:</b>	<ul style="list-style-type: none"> <li>- 3% of actual current – up to 9ft (3m)</li> <li>- 5% of actual current – over 9ft (3m)</li> </ul>
	<b>Depth range:</b>	Dependent on strength of signal radiating to locator
	<b>Marker Depth Accuracy:</b>	<ul style="list-style-type: none"> <li>- 4% of depth – up to 4ft (1.2m)</li> <li>- 10% of depth – up to 5ft (1.5m)</li> </ul> <p>Typical accuracy with ball markers</p>
	Performance rated using a single undistorted signal source	
<b>Compatible Transmitter</b>	Loc3-5Tx, Loc-5STx, Loc-5DTx, Loc3-10Tx, Loc-10Tx, VM-550FF, VM-560FF, Loc-1Tx	

## D. Shipping and Packaging

Item	Parameter
<b>Shipping Weight</b>	14.9lbs (6.76kg) (receiver only)
<b>Shipping Dimension</b>	16.5in(L) x 11in(W) x 27.6in(H) (420mm x 280mm x 700mm) (receiver only)

## E. Warranty

Item	Parameter
<b>Warranty</b>	Two years (Optional extended warranty available)

## F. Firmware Updates

Item	Parameter
<b>Software</b>	Software can be upgraded using a PC with USB port. Programs & locator software are available via MyLocator3 app

All products are designed and manufactured per ISO 9001:2015.

Disclaimer: Product and accessory specification and availability information are subject to change without prior notice..