



**VIVAX**  
**METROTECH**

# vLoc3-Pro System

Technical Specifications V1.9



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## A. Description and Typical Applications

Item	Parameter
Model Name	vLoc3-Pro
Model Number	VX219-01
Description	Multi-purpose precision buried utility locator receiver
Intended Use	<ul style="list-style-type: none"> <li>- Locating &amp; pinpointing the position of buried pipes, cables, and sondes</li> <li>- Fault-finding of damaged cables or pipe defects</li> </ul>

## B. Characteristics

Item	Parameter
Construction	High-impact thermoplastic (ABS) injection molded housing
Weight	4.6lbs (2.1kg)
Dimensions	12.6in(L) x 4.9in(W) x 26.6in(H) (321mm x 124mm x 676mm)
Display Type	High-Visibility Color Display, 4.3"/10cm with 480 x 272 resolution and automatic backlight
Receiver Antennas	<p>Two sets of Omnidirectional Antennas, each comprising:</p> <ul style="list-style-type: none"> <li>• Two Compass Antennas</li> <li>• Two Horizontal Antennas</li> <li>• Two Vertical Antennas</li> </ul>
Batteries	<ul style="list-style-type: none"> <li>- Rechargeable custom Lithium-ion batteries with 100-240V AC mains charger (Standard)</li> <li>- Six x AA Alkaline batteries</li> </ul>
Battery Life <sup>1</sup>	<ul style="list-style-type: none"> <li>- Lithium-ion – typically 30 hours of continuous use at 70°F (21°C)</li> <li>- Alkaline – typically 10 hours of intermittent use at 70°F (21°C)</li> </ul>
Environmental	- IP65
External Connectors	<ul style="list-style-type: none"> <li>- Accessory Socket – to charge the internal batteries and attach accessories</li> <li>- Mini USB socket for data transfer and programming</li> </ul>
Temperature Range	<ul style="list-style-type: none"> <li>- Operating: -4°F to 122°F (-20°C to 50°C)</li> <li>- Storage: -40°F to 140°F (-40°C to 60°C)</li> <li>- Recommended storage temperature for lithium-ion batteries is typically: <ul style="list-style-type: none"> <li>• Long-term storage: 59°F to 77°F (15°C to 25°C)</li> <li>• Short-term storage: 104°F (Up to 40°C)</li> <li>• Avoid: Temperatures below -4°F (-20°C) or above 140°F (60°C)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>Storing batteries in a cool, dry place and at around 50% charge helps preserve battery health over time.</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> <li>ETSI EN 300 330-2</li> <li>ETSI EN 301 489-1</li> <li>ETSI EN 301 489-3</li> </ul> </li> <li>Complies with FCC Rules Part 15             <ul style="list-style-type: none"> <li>CFR 47 part 2</li> <li>CFR 47 Part 15</li> </ul> </li> </ul>
<b>Manufacturing</b>	Designed and manufactured per ISO 9001:2015
<b>What's In the Box</b>	<ul style="list-style-type: none"> <li>vLoc3-Pro Receiver</li> <li>USB data transfer cable</li> <li>Custom lithium-ion battery pack</li> <li>100-240V AC mains charger</li> <li>Alkaline battery holder</li> <li>User handbook</li> <li>Soft carry bag</li> <li>Combination Bluetooth &amp; Wi-Fi module (factory embedded not accessible)</li> </ul>
<b>Network &amp; Wireless Interfaces</b>	<ul style="list-style-type: none"> <li>Wi-Fi: IEEE 802.11b/g/n (2.4 GHz)</li> <li>ASCII password entry support</li> <li>Bluetooth: Version 4.2 (BR/EDR and Low Energy)</li> <li>Dual-mode operation: Supports simultaneous Wi-Fi and Bluetooth connections</li> </ul>
<b>Compatible Accessories</b>	<ul style="list-style-type: none"> <li>MLA (Marker Locator Adapter) to locate buried EMS Markers</li> <li>A-frame Fault Locator</li> <li>Remote Antenna (Stethoscope)</li> <li>Vehicle Charging DC Lead</li> <li>Range of Sondes (waterproof, self-contained transmitters for use in nonmetallic pipes &amp; ducts)</li> <li>Tall Adapter</li> <li>Receiver clamp</li> </ul>

## C. Operational

Item	Parameter
<b>Information Displayed</b>	<b>Information screen:</b> <ul style="list-style-type: none"> <li>Real-time horizontal accuracy</li> <li>Altitude</li> <li>SD Reset</li> </ul>

- GPS coordinates available in DD, DDM, DMS format
- Measured signal current in mA or Amps
- Measured estimated depth of signal in Ft. and inches, Inches, Meter
- Data logging storage options store or discard
- Incremental data log count per survey

**Status Bar Information:**

- Antenna configuration: Peak, Peak with arrows, Null, Broad, Broad with arrows, Delta Null, Omni Directional Peak, Omni Directional Broad
- Continuous depth estimation
- Continuous current measurement
- Battery charge level condition and battery type (Li-Ion / Alkaline)
- Speaker volume
- Bluetooth status
- GNSS Fix type status
- Wi-Fi connection status

**Locate screen (Classic display):**

- Signal strength moving bar graph & numeric value from 0% to 99.9%
- Bar graph color-coded indicating distortion level
- Peak level indicator
- Proportional left/right null indication
- Compass with full 360°-line direction indicator
- Gain level 0dB to 140dB
- Frequency selected
- Warnings when triggered
- Plug and play automatic recognition of accessories
- Accessory specific custom screens

**Customer definable start-up screen**

**Locate Perspectives**

- **Classic Locate** – moving bar graph with numeric value showing signal strength
- **Vector Locate Screen** – fully automatic gain control with information display
  - Offset distance measurement to signal
  - Directional left or right arrow to offset location
  - Continuous depth estimation
  - Locate signal uncertainty with scaled circle indicator
  - Mini plan view for line orientation
  - Scale adjustment for deep utilities
- **Transverse Graph Screen** - visual assessment of locate quality and distortion

	<ul style="list-style-type: none"> <li>• Visual peak indicator</li> <li>• Visual null indicator</li> <li>• Comparison of peak and null signal simultaneously</li> <li>- <b>Plan View Screen</b> – fully automatic gain graphical representation of the cable position independent of cable direction,             <ul style="list-style-type: none"> <li>• Directional guidance arrow</li> <li>• Line orientation</li> <li>• Locate uncertainty represented with dash lines</li> <li>• Locate Uncertainty Line – Color Change Indicator</li> </ul> </li> <li>- <b>Sonde Locate Screen</b> – directing arrow to move to the Sonde position along the polar axis             <ul style="list-style-type: none"> <li>• Directional guidance arrow</li> <li>• Null point indicator</li> <li>• Bar graph with peak signal response</li> <li>• Magnetic field alignment indicator</li> </ul> </li> </ul>
<p><b>Configuration</b></p>	<p>The intuitive setup menu enables the user to configure:</p> <ul style="list-style-type: none"> <li>- Display Backlight (Low, Medium, High, Auto)</li> <li>- Frequency menu</li> <li>- Pipe diameter</li> <li>- Locate Perspective (Classic, Vector, Transverse Graph, Plan View, Sonde)</li> <li>- Measurement units (Feet, Inches, Metres)</li> <li>- Speaker Volume (Low, Medium, High, Off)</li> <li>- Continuous information (Depth, Signal current, Depth &amp; Current, Off)</li> <li>- Warnings (Overhead cable, Swing alert, Shallow depth, Signal overload)</li> <li>- Sound configuration (AM, FM)</li> <li>- Antenna configuration (Peak, Peak with arrows, Null, Broad, Broad with arrows, Delta Null, Omni Directional Peak, Omni Directional Broad)</li> <li>- Auto Power off (5 mins, 10 mins, Never)</li> <li>- Coordinate Format (DMS, DDM, DD)</li> <li>- Language (31 different languages available)</li> <li>- Survey type (Electric, Gas, Communications, Potable Water, Reclaimed Water, Sewer, Temporary Survey, Proposed Excavation, Oil)</li> <li>- Adapter (Tall, Survey, Long Survey, Not attached)</li> <li>- Marker type (when MLA is connected: Power, Water, Sanitary, Telephone, Gas, CATV, Non-Potable Water, Power-Europe)</li> <li>- Bluetooth/WiFi Connection Enable/Disable/Auto Connect</li> <li>- Bluetooth Pairing</li> <li>- WiFi Network connection</li> </ul>

	<ul style="list-style-type: none"> <li>- Set up frequency selection to toggle by “F” pushbutton</li> <li>- Change antenna mode by toggling “Enter” pushbutton</li> <li>- Change screen views selection to toggle by long press “<b>Enter</b>” pushbutton</li> </ul>	
<b>Data Logging</b>	<ul style="list-style-type: none"> <li>- 50 million records of internal storage</li> <li>- Data can also be transferred via Bluetooth to the VMMap Mobile App and VMMap Cloud</li> <li>- All parameters stored at each location, including depth, current, date, time, mode, gain setting, frequency, longitude, latitude, and more</li> </ul>	
<b>Data Transfer</b>	<p>Via the Vivax-Metrotech “MyLocator3” software application available free of charge from <a href="http://www.vivax-metrotech.com">www.vivax-metrotech.com</a>. Data can be saved in csv, kml, shp, dxf, txt, xls and xlsx formats. The transfer is via a USB cable connection from the locator to the host computer.</p> <p><b>Or</b></p> <p>Via Bluetooth from the locator to the VMMap App and also into the VMMap Cloud (Vivax-Metrotech Cloud)</p>	
<b>Operating Frequencies</b>	<ul style="list-style-type: none"> <li>- Configurable frequencies from 98Hz to 200kHz <ul style="list-style-type: none"> <li>• Dedicated Power 50Hz and 60Hz</li> <li>• Radio 10.0kHz - 22.7kHz bandwidth</li> <li>• Power harmonics for 50Hz or 60Hz regions</li> <li>• SD-USA: 256Hz/512Hz, SD-EUROPE: 320Hz/640Hz</li> </ul> </li> </ul>	
<b>Operating Antenna Modes</b>	<ul style="list-style-type: none"> <li>- Peak, Peak with arrows, Broad Peak</li> <li>- Broad with arrows</li> <li>- Null, Delta Null</li> <li>- Omni Directional Peak, Omni Directional Broad</li> </ul>	
<b>Integrity Test</b>	<ul style="list-style-type: none"> <li>- Calibration Self-test <ul style="list-style-type: none"> <li>• Uses direct signal injection to test antenna transfer function (TRF)</li> </ul> </li> <li>- Distorted Frequency Test (DFT) <ul style="list-style-type: none"> <li>• Aids in selecting optimal locate frequencies in noisy environments</li> </ul> </li> </ul>	
<b>Gain Control</b>	<ul style="list-style-type: none"> <li>- Manual gain using “+” or “-” keys</li> <li>- One-touch of “+” or “-” keys rescales to 60% of the bar graph scale</li> <li>- In Vector Screen automatic gain control is used, “+” and “-” keys act as zoom feature to keep target utility in view</li> <li>- In the Transverse Graph screen, “+” key saves the screen graph, “-” key clears the screen</li> </ul>	
<b>Accuracy</b>	Locate pinpointing accuracy:	<ul style="list-style-type: none"> <li>- Up to 9ft (3m) – +/- 3% of the depth</li> <li>- Over 9ft (3m) – +/- 5% of the depth</li> </ul>
	Depth measurement accuracy:	+/- 3%
	Current measurement accuracy:	- +/- 3% of actual current – up to 9ft (3m)

		- +/- 5% of actual current – over 9ft (3m)
	Depth range:	- Dependent on the strength of the signal radiating to the locator - Maximum depth displayed 98ft (30m)
<b>Compatible Transmitters</b>	Loc3 series and any Vivax-Metrotech transmitter with matching frequencies	

## D. Communications

Item	Parameter
<b>Bluetooth &amp; Wi-Fi</b>	Internal Bluetooth for communicating with: <ul style="list-style-type: none"> <li>- External GPS, data logging devices or Apps</li> <li>- Apple® devices</li> <li>- Android™ devices</li> <li>- Windows® devices</li> </ul> Internal Wi-Fi for Over the air updates and future applications

## E. Shipping and Packaging

Item	Parameter
<b>Shipping Weight</b>	16lbs. (7.3kg)
<b>Shipping Dimension</b>	30in(L) x 11in(W) x 14in(H) (800mm x 280mm x 380mm)

## F. Warranty

Item	Parameter
<b>Warranty</b>	- 24 months - Extended warranty available

## G. Software Updates

Item	Parameter
<b>Software</b>	- The software can be upgraded using a PC with a USB port. Program updates and locator software updates are available via the free MyLocator3 app. - Software updates provided over the air (OTA) when connected to Wi-Fi hotspot.

- 1) Battery life varies with usage conditions such as backlight, brightness, speaker volume, and Wi-Fi/BT connectivity; continuous operation may reduce the runtime compared to typical intermittent use. Lithium-ion battery performance will gradually degrade over time and with repeated charge cycles, leading to reduced operating duration under continuous use. Re-charging cycles are approximately 500 times the life cycle.
- 2) Locate and depth accuracy are quoted for 20°C and average soil conductivity. It is also assumed the return current localisation is deep compared to the target cable.

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

**Performance Disclaimer**

Actual performance may vary depending on environmental conditions, user technique, and signal interference.

**Software & Firmware Disclaimer**

Functionality described may depend on the software or firmware version installed. Features are subject to modification through future updates.

**Battery & Power Disclaimer**

Battery life is estimated and may vary based on settings, usage, temperature, and battery age.

**Calibration Disclaimer**

Self-Test results confirm system consistency with factory calibration but do not replace periodic professional calibration if required by company policy or regulation.

**Compliance Disclaimer**

Compliance with regional standards may vary by country. Users are responsible for ensuring the product is used in accordance with local laws and regulations.

**Use Case Disclaimer**

The system is intended for professional utility locating and should not be used for purposes outside the manufacturer's defined scope.

**Third-Party Services Disclaimer**

Use of GNSS correction services or cloud platforms may require third-party subscriptions and are subject to their terms and availability.

**Feature Availability Disclaimer**

Certain features, frequencies, or accessories may only be available in specific markets due to regional regulations or product certifications. Please consult your local Vivax-Metrotech representative for availability in your area.

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