



**VIVAX**  
**METROTECH**

# vLoc3 RTK-Pro

Technical Specifications V1.3



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## A. Description and Typical Applications

Item	Parameter
Model Name	RTK-Pro
Model Number	VX226-01
Description	Multi-purpose precision locator receiver with fully integrated RTK GNSS
Intended Use	<ul style="list-style-type: none"> <li>- Locating &amp; pinpointing the position of buried pipes, cables, and sondes</li> <li>- Detailed position mapping of buried utilities</li> <li>- Surveying</li> </ul>

## B. Characteristics

Item	Parameter
Construction	High impact thermoplastic (ABS) injection molded housing
Weight	5.5lbs (2.5kg)
Dimensions	14.7in(L) x 4.9in(W) x 29.8in(H) (374mm x 125mm x 758mm)
Display Type	High-Visibility Color Display, 4.3"/10cm with 480 x 272 resolution
Receiver Antennas	<ul style="list-style-type: none"> <li>- Two sets of Omnidirectional Antennas, each comprising:               <ul style="list-style-type: none"> <li>• Two Compass antennas</li> <li>• Two Horizontal antennas</li> <li>• Two Vertical antennas</li> </ul> </li> <li>- GNSS Antenna</li> <li>- 2G/3G/4G LTE Cellular Antenna</li> </ul>
Batteries	<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>
Battery Life	<ul style="list-style-type: none"> <li>- Alkaline – typically 6 hours of intermittent use at 70°F (21°C)</li> <li>- Lithium-ion – typically 14 hours of intermittent use at 70°F (21°C)</li> </ul> <p>* With backlight activated, Battery life varies with temperature; re-charging cycles are approximately 500 times the life cycle</p>
Environmental	<ul style="list-style-type: none"> <li>- IP65 and NEMA 4</li> </ul>
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> </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             <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>- RTK-Pro Receiver</li> <li>- USB data transfer cable</li> <li>- Custom lithium-ion battery pack</li> <li>- 100-240V AC mains charger</li> </ul>	<ul style="list-style-type: none"> <li>- Six x AA Alkaline battery holder</li> <li>- User handbook</li> <li>- Carry bag</li> </ul>
<b>Compatible Accessories</b>	<ul style="list-style-type: none"> <li>- A-frame fault locator</li> <li>- Remote Antenna (Stethoscope)</li> <li>- Vehicle Charging DC Lead</li> <li>- Choice of either: factory-installed Radio Link to a Loc3 series transmitter <u>or</u> a factory-installed internal Bluetooth Module</li> <li>- Range of Sondes (waterproof, self-contained transmitters for use in nonmetallic pipes &amp; ducts)</li> </ul>	

## C. RTK

Item	Parameter
<b>GNSS Features</b>	<ul style="list-style-type: none"> <li>- Satellite Tracked: - GPS/QZSS, GLONASS, Galileo, BeiDou</li> <li>- GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C</li> <li>- Position accuracy RTK 0.01 m + 1 ppm CEP</li> <li>- Convergence time RTK &lt; 10 sec</li> <li>- Acquisition: Cold starts = 24s, Reacquisition = 2s</li> <li>- Dependent on atmospheric conditions, baseline length, GNSS antenna, multipath conditions, satellite visibility, and geometry</li> </ul>
<b>NTRIP</b>	<ul style="list-style-type: none"> <li>- Compatible with Casters with RTCM3.x output messages</li> <li>- Real-time reference station connection status displayed on the receiver</li> <li>- Real-time horizontal accuracy in 2DRMS</li> </ul>
<b>Cellular Connection</b>	<ul style="list-style-type: none"> <li>- 4G with 3G fallback</li> <li>- LTE FDD bands 2, 4, 5, 7, 17</li> <li>- UMTS/HSPA [MHz]850, 900, 1700, 1900, 2100</li> </ul>

## D. Operational

Item	Parameter
<b>Information Displayed</b>	<p><b>Information screen:</b></p> <ul style="list-style-type: none"> <li>- Real-time horizontal accuracy in 2DRMS</li> <li>- Spirit level used to calculate offset correction</li> <li>- GPS coordinates</li> <li>- Current on the line</li> <li>- Depth reading</li> <li>- Logging options</li> </ul> <p><b>Status Bar Information:</b></p> <ul style="list-style-type: none"> <li>- Antenna configuration: Peak, Peak with arrows, Broad Peak, Null, Delta Null, Omni Directional Peak, Omni Directional Broad</li> <li>- Line location - depth &amp; current measurement</li> <li>- Battery condition</li> <li>- Speaker volume</li> <li>- Bluetooth and GNSS status (If installed)</li> <li>- Cellular connection status</li> <li>- Radio link to transmitter status (if installed)</li> </ul> <p><b>Locate screen (Classic display):</b></p> <ul style="list-style-type: none"> <li>- Signal strength - moving bar graph &amp; numeric value</li> <li>- Bar graph color-coded indicating distortion level</li> <li>- Peak level indicator</li> <li>- Proportional left/right indication</li> <li>- Compass: full 360°-line direction indicator</li> <li>- Gain level (in dB)</li> <li>- Frequency selected</li> <li>- Configuration menus with RTK status, GNSS status, and data logging transfer status</li> <li>- Depth and current</li> <li>- Warnings (if activated)</li> <li>- Plug and play automatic recognition of accessories</li> <li>- Accessory specific custom screens</li> </ul> <p><b>Customer definable start-up screen</b></p>
<b>Locate Perspectives</b>	<ul style="list-style-type: none"> <li>- <b>Classic Locate</b> – moving bar graph with numeric value showing signal strength</li> <li>- <b>Vector Locate Screen</b> – fully automatic locate including offset, depth and locate uncertainty</li> <li>- <b>Transverse Graph Screen</b> - visual assessment of locate quality and distortion</li> </ul>

	<ul style="list-style-type: none"> <li>- <b>Plan View Screen</b> – fully automatic graphical representation of the cable position independent of cable direction, including depth/current and locate uncertainty.</li> <li>- <b>Sonde Locate Screen</b> – directing arrow to move to the Sonde position along the polar axis</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>- RTK setup</li> <li>- Data transfer to cloud setup</li> <li>- Set up 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/meters)</li> <li>- Sound (Pitch) – normal or modulated</li> <li>- Language</li> <li>- Continuous depth and current options</li> <li>- Loudspeaker level</li> <li>- Backlight</li> <li>- Bluetooth pairing if installed</li> <li>- Transmitter Radio Link if installed</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>
<p><b>Data Logging</b></p>	<ul style="list-style-type: none"> <li>- 50 million record internal storage</li> <li>- Data can also be transferred for storage, via cellular connectivity, into the cloud using the Vivax-Metrotech application, VM MAP</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> </ul>
<p><b>Data Transfer</b></p>	<ul style="list-style-type: none"> <li>- 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, klm, shp, txt, xls and xlsx formats. The transfer is via a USB cable connection from the locator to the host computer.</li> </ul> <p style="text-align: center;"><b>Or</b></p> <ul style="list-style-type: none"> <li>- Cellular transfer to the VMMap Cloud (Vivax-Metrotech Cloud)</li> </ul>
<p><b>Operating Frequencies</b></p>	<ul style="list-style-type: none"> <li>- Configurable frequencies from 98Hz to 200kHz             <ul style="list-style-type: none"> <li>• Power 50Hz and 60Hz</li> <li>• Radio 10.0kHz - 22.7kHz bandwidth</li> </ul> </li> </ul>
<p><b>Operating Modes</b></p>	<ul style="list-style-type: none"> <li>- Peak, Peak with arrows, Broad Peak</li> <li>- Null, Delta Null</li> <li>- Omni Directional Peak, Omni Directional Broad</li> </ul>

<b>Gain Control</b>	<p>Manual gain using “+” or “-“ keys</p> <p>One-touch of “+” or “-“ keys rescales to 60% of the bar graph scale</p> <p>In Vector Screen, “+” and “-“ keys act as zoom feature to keep target utility in view</p> <p>In the Transverse Graph screen, “+” key saves the screen graph, “-“ key clears the screen</p>	
<b>Accuracy</b>	Locate pinpointing accuracy:	<ul style="list-style-type: none"> <li>- Over 9ft (3m) – 5% of the depth</li> <li>- Up to 9ft (3m) – 3% of the depth</li> </ul>
	Depth measurement accuracy:	+/- 5% of the depth
	Current measurement accuracy:	<ul style="list-style-type: none"> <li>- 5% of actual current – over 9ft (3m)</li> <li>- 3% of actual current – up to 9ft (3m)</li> </ul>
	Depth range:	Dependent on the strength of the signal radiating to the locator
* Performance rated using a single undistorted signal source		
<b>Compatible Transmitters</b>	Loc3-5Tx, Loc3-10Tx, and any Vivax-Metrotech transmitter with matching frequencies	

## E. Shipping and Packaging

Item	Parameter
Shipping Weight	10.8lbs (4.9kg)
Shipping Dimension	16.5in(L) x 11in(W) x 27.6in(H) (420mm x 280mm x 700mm)

## F. Warranty

Item	Parameter
Warranty	<ul style="list-style-type: none"> <li>- Two years</li> <li>- Optional extended warranty available</li> </ul>

## G. Software Updates

Item	Parameter
Software	The software can be upgraded using a PC with a USB port. Program updates & locator software updates are available via the free MyLocator3 app.

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

