



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"> - Locating & pinpointing the position of buried pipes, cables, and sondes - Detailed position mapping of buried utilities - Surveying

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"> - Two sets of Omnidirectional Antennas, each comprising: <ul style="list-style-type: none"> • Two Compass antennas • Two Horizontal antennas • Two Vertical antennas - GNSS Antenna - 2G/3G/4G LTE Cellular Antenna
Batteries	<ul style="list-style-type: none"> - Six x AA Alkaline batteries - Rechargeable custom Lithium-ion batteries with 100-240V AC mains charger
Battery Life	<ul style="list-style-type: none"> - Alkaline – typically 6 hours of intermittent use at 70°F (21°C) - Lithium-ion – typically 14 hours of intermittent use at 70°F (21°C) <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"> - IP65 and NEMA 4
External Connectors	<ul style="list-style-type: none"> - Accessory Socket – to charge the internal batteries and attach accessories - Mini USB socket for data transfer and programming
Temperature Range	<ul style="list-style-type: none"> - Operating: -4°F to 122°F (-20°C to 50°C) - Storage: -40°F to 140°F (-40°C to 60°C)

Compliance and Approvals	<ul style="list-style-type: none"> - Complies with European standard CE (Directive 99/5/EC) <ul style="list-style-type: none"> • EN 55011 • EN 61000-4-2: A1 & A2 • EN 61000-4-3 • EN 61000-4-8: A1 	<ul style="list-style-type: none"> • ETSI EN 300 330-2 • ETSI EN 301 489-1 • ETSI EN 301 489-3 <ul style="list-style-type: none"> - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 part 2 • CFR 47 Part 15
Manufacturing	Designed and manufactured per ISO 9001:2015	
What's In the Box	<ul style="list-style-type: none"> - RTK-Pro Receiver - USB data transfer cable - Custom lithium-ion battery pack - 100-240V AC mains charger 	<ul style="list-style-type: none"> - Six x AA Alkaline battery holder - User handbook - Carry bag
Compatible Accessories	<ul style="list-style-type: none"> - A-frame fault locator - Remote Antenna (Stethoscope) - Vehicle Charging DC Lead - Choice of either: factory-installed Radio Link to a Loc3 series transmitter <u>or</u> a factory-installed internal Bluetooth Module - Range of Sondes (waterproof, self-contained transmitters for use in nonmetallic pipes & ducts) 	

C. RTK

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

D. Operational

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

	<ul style="list-style-type: none"> - Plan View Screen – fully automatic graphical representation of the cable position independent of cable direction, including depth/current and locate uncertainty. - Sonde Locate Screen – directing arrow to move to the Sonde position along the polar axis
<p>Configuration</p>	<p>The intuitive setup menu enables the user to configure:</p> <ul style="list-style-type: none"> - RTK setup - Data transfer to cloud setup - Set up frequency selection to toggle by “f” pushbutton - Setup location mode selection to toggle by “m” pushbutton - Setup screen views selection to toggle by long press “m” pushbutton - Units of measure (feet/meters) - Sound (Pitch) – normal or modulated - Language - Continuous depth and current options - Loudspeaker level - Backlight - Bluetooth pairing if installed - Transmitter Radio Link if installed - Warnings (Excessive Tilt, Overhead Signal, Shallow Cable, Signal Overload) - Auto shut down – configurable to power down at five minutes, ten minutes, or never
<p>Data Logging</p>	<ul style="list-style-type: none"> - 50 million record internal storage - Data can also be transferred for storage, via cellular connectivity, into the cloud using the Vivax-Metrotech application, VM MAP - All parameters stored at each location including depth, current, date, time, mode, gain setting, frequency, locate uncertainty, longitude, latitude, and height above sea-level
<p>Data Transfer</p>	<ul style="list-style-type: none"> - Via the Vivax-Metrotech “MyLocator3” software application available free of charge from www.vivax-metrotech.com. 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. <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> - Cellular transfer to the VMMap Cloud (Vivax-Metrotech Cloud)
<p>Operating Frequencies</p>	<ul style="list-style-type: none"> - Configurable frequencies from 98Hz to 200kHz <ul style="list-style-type: none"> • Power 50Hz and 60Hz • Radio 10.0kHz - 22.7kHz bandwidth
<p>Operating Modes</p>	<ul style="list-style-type: none"> - Peak, Peak with arrows, Broad Peak - Null, Delta Null - Omni Directional Peak, Omni Directional Broad

Gain Control	<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>	
Accuracy	Locate pinpointing accuracy:	<ul style="list-style-type: none"> - Over 9ft (3m) – 5% of the depth - Up to 9ft (3m) – 3% of the depth
	Depth measurement accuracy:	+/- 5% of the depth
	Current measurement accuracy:	<ul style="list-style-type: none"> - 5% of actual current – over 9ft (3m) - 3% of actual current – up to 9ft (3m)
	Depth range:	Dependent on the strength of the signal radiating to the locator
* Performance rated using a single undistorted signal source		
Compatible Transmitters	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"> - Two years - Optional extended warranty available

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.