VIVAX METROTECH

vLoc3 RTK-Pro

Technical Specifications V1.1

VIVAX METROTECH

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A. Typical Applications

Item	Parameter
Description	Multi-purpose precision locator receiver with fully integrated RTK GNSS
Uses	- 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	- Two sets of 3D antennas - GNSS Antenna - 2G/3G/4G LTE Cellular Antenna
Battery	- Six x AA Alkaline batteries - Rechargeable custom Lithium-ion batteries with 100-240V AC mains charger
Battery Life	- Alkaline – typically 6 hours of intermittent use at 70ºF (21ºC) - Lithium-ion – typically 14 hours of intermittent use at 70ºF (21ºC) (with full backlight turned on). Re-charging cycles approx. 500 times life cycle. Battery life varies with temperature.
Environmental	- IP65 and NEMA 4
External Connectors	- Accessory Socket – to charge the internal batteries and attach accessories - Mini USB socket for data transfer and programming
Temperature Range	- Operating: -4ºF to 122ºF (-20ºC to 50ºC) - Storage: -40ºF to 140ºF (-40ºC to 60ºC)
Compliance and Approvals	- Complies with European standard CE (Directive 99/5/EC) • EN 55011 • EN 61000-4-2: A1 & A2 • EN 61000-4-3

	• EN 61000-4-8: A1 • ETSI EN 300 330-2 • ETSI EN 301 489-1 • ETSI EN 301 489-3 - Complies with FCC Rules Part 15 • CFR 47 part 2 • CFR 47 Part 15
Standard Accessories (comes with receiver)	- USB data transfer cable - Custom lithium-ion battery pack - 100-240V AC mains charger - Six x AA Alkaline battery holder - User handbook - Carry bag
Compatible Accessory Options	- A-frame fault locator - Remote Antenna (Stethoscope) - Vehicle Charging DC Lead - Choice of either: factory fitted Radio Link to a Loc3 series transmitter or a factory fitted internal Bluetooth Module - Range of Sondes (waterproof, self-contained transmitters for use in pipes & ducts)

C. RTK

Item	Parameter
GNSS Features	- 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	- 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	- 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	**Status Bar Information:** - Antenna configuration: Peak, Peak with arrows, Null, Broad, Delta Null, Omni Directional Peak, Omni Directional Broad - Line location - depth & current measurement - Battery condition - Speaker volume - Bluetooth and GNSS status (If fitted) - Cellular connection status - Radio link to transmitter status (if fitted) **Locate screen (Classic display):** - 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 - Product configuration menu & submenus including RTK and GNSS status and data logging transfer status. - Customer definable start-up screen - Depth and current - Warnings (if activated) - Plug and play automatic recognition of accessories - Accessory specific custom screens **Information screen:** - GPS co-ordinates - Real-time horizontal accuracy in 2DRMS - Signal current and depth value - Log number - Spirit level used to calculate offset correction **Alternative locate screens:** - Transverse Graph Screen - visual assessment of locate quality and distortion - Sonde Locate Screen – directing arrow to move to the Sonde position along the polar axis

	- Vector Locate Screen – fully-automatic locate including offset, depth and locate uncertainty - Plan View Screen – fully-automatic graphical representation of the cable position independent of cable direction including depth/current and locate uncertainty.
Configuration	Intuitive setup menu enables the user to configure: - 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/modulated - Language - Continuous depth/current options - Loudspeaker level - Backlight - Bluetooth pairing if fitted - Transmitter Radio Link if fitted - Warnings (Excessive Tilt, Overhead Signal, Shallow Cable, Signal Overload) - Auto shut down – configurable to power down at five minutes, ten minutes, or never - RTK set-up - Data transfer to cloud set-up
Data Logging	- 50 million record internal storage - Data can also be transferred for storage, via cellular connectivity, into the cloud using the Vivax-Metrotech application, VMMAP - All parameters stored at each location including depth, current, date, time, mode, gain setting, frequency, locate uncertainty, longitude, latitude, and height above sea-level
Data Transfer	- Uses Vivax-Metrotech “MyLocator3” software application available free of charge from www.vivax-metrotech.com. Data can be saved in xls, txt, shp, csv and kml (Google Earth) formats. The transfer is via a USB cable connection from the locator to the host PC. **Or** - Cellular transfer via the “cloud” using Vivax-Metrotech application software, VMMap
Operating Frequencies	- Configurable frequencies from 98 Hz to 200 kHz • Power 50Hz and 60Hz • Radio 22.7kHz, 10kHz bandwidth
Operating Modes	- Classic Locate (Signal strength bar graph) - Transverse Graph Mode

	- Plan View (Omni Directional) - Vector Locate (Lateral Position & Depth) - Sonde Locate	
Gain / Scaling Control	Manual gain using “+” or “- “with one touch to return to 60% of FSD, “+” or “- “used to rescale the vector screen dependent on cable depth and offset	
Accuracy	Locate pinpointing accuracy:	- Over 9ft (3m) – 5% of th depth - Up to 9ft (3m) – 3% of the depth
	Depth measurement accuracy:	3% of the depth
	Current measurement accuracy:	- 5% of actual current – over 9ft *(3m)* - 3% of actual current – up to 9ft *(3m)*
	Depth range:	Dependent on the strength of signal radiating to the locator
	Performance rated using a single undistorted signal source	
Compatible Transmitters	Loc3-5Tx, Loc3-10Tx, Loc-5STx, and any Vivax-Metrotech transmitter with matching frequencies	

E. Shipping and Packaging

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

F. Warranty

Item	Parameter
Warranty	- Two years - Optional extended warranty available

G. Firmware Updates

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

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

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