



VIVAX
METROTECH

vLoc3-ML

Technical Specifications V1.4



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A. Description and Typical Applications

Item	Parameter
Model Name	vLoc3-ML
Model Number	VX220-01
Description	<ul style="list-style-type: none"> Multi-purpose precision locator receiver Electronic marker-ball detection
Intended Use	<ul style="list-style-type: none"> Locating & pinpointing the position of buried pipes and cables Detection of any one of nine marker ball types buried to a depth of 2m (6ft)

B. Characteristics

Item	Parameter
Construction	High-impact thermoplastic (ABS) injection molded housing
Weight	5.7lbs (2.6kg)
Dimensions	12.2in(L) x 6.3in(W) x 28.4in(H) (310mm x 159mm x 721mm)
Display Type	High-Visibility Color Display 4.3"/10cm with 480 x 272 resolution
Receiver Antennas	<p>Two sets of Omnidirectional Antennas, each comprising:</p> <ul style="list-style-type: none"> Two Compass antennas Two Horizontal antennas Two Vertical antennas <p>One set of EMS transmit/receive antennas.</p>
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 12 hours of intermittent use at 70°F (21°C) Lithium-ion – typically 27 hours of intermittent use at 70°F (21°C) <p>* With the backlight activated, battery life varies with temperature; re-charging cycles are approximately 500 times the life cycle</p>
Environmental	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 - ETSI EN 300 330-2 	<ul style="list-style-type: none"> - ETSI EN 301 489-1 - ETSI EN 301 489-3 - Complies with FCC Rules Part 15 - 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"> • vLoc3-ML Receiver • Custom Li-ion receiver battery • 100-240V AC mains charger • Six x AA Alkaline battery holder • Mini-USB data cable • Soft carry bag • User handbook 	
Compatible Accessories	<ul style="list-style-type: none"> • A-frame fault locator • Remote Antenna (Stethoscope) • Bluetooth Module • Vehicle Charging DC Lead • Range of Sondes (waterproof, self-contained transmitters for use in nonmetallic pipes & ducts) 	

C. Marker Frequencies

Item	Parameter		
Marker Frequencies	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
<i>* Not available in all markets</i>			

D. Operational

Item	Parameter
Information Displayed	<p>Dedicated Marker Screen:</p> <ul style="list-style-type: none"> • Marker type icon • Marker signal strength bar graph (marker color-coded) with numeric value and peak level indicator • Circular bar graph to indicate marker signal strength <p>Dual - Marker and Locate Screen: (In addition to the Classic Locate screen)</p> <ul style="list-style-type: none"> • Marker type icon • Marker signal strength bar graph (marker color-coded) with numeric value and peak level indicator • Circular bar graph to indicate marker signal strength <p>Status Bar Information:</p> <ul style="list-style-type: none"> • Line locate icon • Marker detection icon • Antenna configuration: Peak, Peak with arrows, Broad Peak, Null, Delta Null, Omni Directional Peak, Omni Directional Broad, Marker mode • Line location - depth & current measurement • Battery condition • Speaker volume • Bluetooth and GNSS status (If installed) • 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, including 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>Information screen:</p> <ul style="list-style-type: none"> • GPS coordinates

	<ul style="list-style-type: none"> • Signal current and depth value of line or sonde • Log number • Logging options • Depth to marker <p>Customer definable start-up screen</p>
Locate Perspectives	<ul style="list-style-type: none"> - Classic Locate – moving bar graph with a 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 - 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
Configuration	<p>The Intuitive setup menu enables the user to configure:</p> <ul style="list-style-type: none"> - 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
Data Logging	<ul style="list-style-type: none"> - 50 million records of 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	<ul style="list-style-type: none"> - Via the Vivax-Metrotech "MyLocator3" software application 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>Or</p> <ul style="list-style-type: none"> - Cellular transfer to the VMMAp Cloud (Vivax-Metrotech Cloud) via the VMMAp mobile app

Operating Frequencies	<ul style="list-style-type: none"> - Configurable frequencies from 98Hz to 200 kHz - Power 50Hz and 60Hz - Radio 10.0kHz - 22.7kHz bandwidth - Signal Direction (SD) - enhanced frequency identifies the direction the signal flows. SD-USA: 256Hz/512Hz, SD-Europe: 320Hz/640Hz 	
Operating Modes	<ul style="list-style-type: none"> - Peak, Peak with arrows, Broad Peak - Null, Delta Null - Omni Directional Peak, Omni Directional Broad - Marker locate - Marker and line locate 	
Gain Control	<ul style="list-style-type: none"> - Manual gain using "+" or "-" keys - One-touch of "+" or "-" keys rescales to 60% of the bar graph scale - In Vector Screen, "+" and "-" keys act as zoom feature to keep the target utility in view - In the Transverse Graph screen, "+" key saves the screen graph, "-" key clears the screen 	
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 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
	Marker Depth Accuracy:	<ul style="list-style-type: none"> - 4% of depth – up to 4ft (1.2m) - 10% of depth – up to 5ft (1.5m) <p><i>Typical accuracy with ball markers</i></p>
	* Performance rated using a single undistorted signal source	
Compatible Transmitters	Loc series, Loc3 series, VM-550FF, VM-560FF, FLS series	

E. Shipping and Packaging

Item	Parameter
Shipping Weight	14.9lbs (6.76kg)
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 and locator software updates are available via the free MyLocator3 app.

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