



**VIVAX**  
**METROTECH**

# VM-585 Utility Locator and Metal Detector

## Technical Specifications V1.6



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### A. Description and Typical Applications

Item	Parameter	
<b>Model Number</b>	VM-585 Receiver	VM-550 Transmitter
	VX215-08	VX215-02
<b>Description</b>	Pipe and cable locator with ferrous metal detection mode	
<b>Uses</b>	Locating buried utilities and buried ferrous metal objects	

### B. Receiver Characteristics

Item	Parameter	
<b>Construction</b>	<ul style="list-style-type: none"> <li>- Carbon fiber reinforced antenna tube</li> <li>- High-impact thermoplastic (ABS) injection molded housing</li> </ul>	
<b>Weight</b>	1.37lbs (0.74kg)	
<b>Dimensions</b>	43in(L) x 2.5in(W) x 2.6 in(H) (1090mm x 88mm x 67mm)	
<b>Display Type</b>	Dot Matrix, 98 x 64 dots, COG LCD with backlight	
<b>Controls</b>	Four-button keypad	
<b>Power Options</b>	2 x AA Alkaline batteries	
<b>Battery Life</b>	Typically, 20 hours of continuous use at 70°F (21°C)	
<b>Environmental</b>	IP54 and NEMA 4	
<b>External Connectors</b>	1 x Mini USB socket for programming	
<b>Temperature Range</b>	Operating: 14°F to 120°F (-10°C to 50°C) Storage: -40°F to 140°F (-40°C to 60°C)	
<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</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-8</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Complies with FCC Rules Part 15               <ul style="list-style-type: none"> <li>• CFR 47 Part 15: 2006</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>- VM-585 Receiver and VM-550 Transmitter</li> <li>- Soft carry bag</li> <li>- Quick guide</li> </ul>	

## C. Receiver Operational

Item	Parameter
<b>Information Displayed</b>	<ul style="list-style-type: none"> <li>- Signal level (Bar graph and Numeric indicators)</li> <li>- Battery condition</li> <li>- Polarity</li> <li>- Power signal warning</li> <li>- Mode selected</li> <li>- Line Depth</li> </ul>
<b>Operating Frequencies</b>	<ul style="list-style-type: none"> <li>- Passive: 50Hz or 60Hz</li> <li>- Active : 512Hz or 640Hz, 8.192kHz, 83.1kHz</li> </ul>
<b>Operating Modes</b>	<ul style="list-style-type: none"> <li>- Passive Power and active locate modes</li> <li>- Ferrous metal locate mode</li> </ul>
<b>Gain / Scaling Control</b>	Manual gain using "+" or "-" with one touch to return to center (60% of FSD)
<b>Sensitivity</b>	Frequency: 50/60Hz 5mA for 20dB SNR and 10Hz bandwidth 512/640Hz 1.5mA for 20dB SNR and 10Hz bandwidth 8.192kHz 27uA for 20dB SNR and 10Hz bandwidth 83.1kHz 6uA for 20dB SNR and 10Hz bandwidth
<b>Line mode Accuracy</b>	Depth range 5m (16ft), accuracy +/- 5% of depth (with a stable signal)
<b>Compatible Transmitters</b>	VM-550FF, All Loc series transmitters configured with appropriate frequencies

## D. VM-550 Transmitter Characteristics

Item	Parameter									
<b>Construction</b>	High-impact ABS plastic									
<b>Weight</b>	<ul style="list-style-type: none"> <li>- With Alkaline battery tray: 2.47 lbs. (1.12kg)</li> <li>- With Rechargeable battery tray: 2 lbs. (0.92 kg.)</li> </ul>									
<b>Dimensions</b>	18.1in(L) x 3.5in(W) x 2.6in(H) (460mm x 90mm x 65mm)									
<b>Display</b>	Flashing red LED lights show active transmit and output modes.									
<b>Power Options</b>	4 x Alkaline "D" cells Optional Li-Ion rechargeable battery pack									
<b>Battery Life</b>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Output Power</th> <th style="text-align: center;">Alkaline</th> <th style="text-align: center;">Li-Ion (Rechargeable)</th> </tr> </thead> <tbody> <tr> <td>Full Power</td> <td style="text-align: center;">13 hours</td> <td style="text-align: center;">17 hours</td> </tr> <tr> <td>Low Power</td> <td style="text-align: center;">44 hours</td> <td style="text-align: center;">45 hours</td> </tr> </tbody> </table> <p><i>At 70°F (21°C) - continuous use (based on the battery type and quality)</i>  <i>Li-Ion batteries will withstand 500 charging life cycles</i></p>	Output Power	Alkaline	Li-Ion (Rechargeable)	Full Power	13 hours	17 hours	Low Power	44 hours	45 hours
Output Power	Alkaline	Li-Ion (Rechargeable)								
Full Power	13 hours	17 hours								
Low Power	44 hours	45 hours								
<b>Environmental</b>	IP54 and NEMA 4									

<b>External Connectors</b>	1 x 3-pin XLR socket	
<b>Temperature Range</b>	Operating : -4°F to 122°F (-20°C to 50°C) Storage : -40°F to 140°F (-40°C to 60°C)	
<b>Compliance/Approvals</b>	<ul style="list-style-type: none"> <li>- Complies with European standard CE (Directive 99/5/EC)</li> <li>• EN 55011</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-2</li> </ul>	<ul style="list-style-type: none"> <li>- Complies with FCC rules part 15</li> <li>• CFR 47 part 15</li> <li>• EN 61000-4-4</li> <li>• EN 61000-4-5</li> <li>• EN 61000-4-8</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>- Direct Connection Leads (XLR plug with 10-foot (3.5m) red/black leads)</li> <li>- Ground stake</li> <li>- Alkaline batteries</li> <li>- Carry strap</li> <li>- User guide</li> </ul>	
<b>Compatible Accessories Options</b>	<ul style="list-style-type: none"> <li>- Li-ion rechargeable battery and charger</li> <li>- 2-inch (50mm) transmitter clamp</li> <li>- 4-inch (100mm) transmitter clamp</li> <li>- 5-inch (150mm) transmitter clamp</li> <li>- 18-inch (450mm) Flexible transmitter clamp</li> <li>- Live Plug Connector</li> <li>- Live Cable Connector</li> <li>- Ground Extension Spool</li> </ul>	

### E. Transmitter Operational

Item	Parameter
<b>Information Displayed</b>	Solid and blinking LED shows <ul style="list-style-type: none"> <li>- Frequency selected</li> <li>- Output power level</li> </ul>
<b>Transmitting Modes</b>	<ul style="list-style-type: none"> <li>- <b>Induction mode</b> – applies signal inductively using the internal antenna</li> <li>- <b>Direct connection mode</b> - applies signal directly to the cable by clipping one output lead to the cable, the other to an independent ground</li> <li>- <b>Clamp mode</b> – applies signal using an inductive clamp (aka toroid or coupler) that is placed around the target pipe or cable</li> </ul> <p>* Modes are automatically selected when accessories are plugged in. The default mode (no accessories) is Induction.</p>

## Transmitting Frequency by Mode

<b>Induction Mode</b>	83.1kHz
<b>Direct Connection Mode</b>	512Hz, 640Hz, 8.192kHz, and 83.1kHz
<b>Clamp Mode</b>	8.192kHz, and 83.1kHz
<b>Fault Find Mode</b>	8kFF, Fault locating mode for use with vLoc accessory A-frame or VM-510FFL ground fault locator (8.192kHz amplitude modulated with 8Hz and phase-modulated with 2.66Hz)
<b>Transmitting Mode Power Output</b>	<ul style="list-style-type: none"> <li>- Per FCC part 15:             <ul style="list-style-type: none"> <li>• 1 watt – in High output level</li> <li>• 0.1 watt – in Low output level</li> </ul> </li> </ul>
<b>Maximum Output Voltage</b>	60V RMS
<b>Maximum Output Current</b>	Maximum output current = 70mA RMS constant current
<b>Output Protection</b>	Output protected against accidental connection to up to 240V AC
<b>Audio Indication</b>	<ul style="list-style-type: none"> <li>- Connection quality – variable beep rate sound showing the better signal applied</li> <li>- Beep constantly – for high voltage detected</li> </ul>
<b>Controls</b>	Use pushbuttons to select: <ul style="list-style-type: none"> <li>- Power button: On / Off (Press and hold)</li> <li>- Low / High output (Short press)</li> <li>- Frequency</li> </ul>
<b>Compatible Receivers</b>	VM-550, VM-560, VM-585, VM-510FFL+, vLoc3-Cam

## F. Transmitter Rechargeable Battery Tray (optional accessory)

Item	Parameter
<b>Description</b>	Custom Lithium-ion battery pack and charger Li-ion batteries will withstand 500 charging life cycles
<b>Input/output</b>	Input: 8.4V ~ 8.5V Output: 6V ~ 8.4V
<b>Battery Type</b>	Li-ion battery
<b>Temperature Range</b>	Operating: 14°F to 140°F (-10°C to 60°C) Storage: 14°F to 113°F (-10°C to 45°C)
<b>Storage humidity</b>	≤75% RH
<b>Weight</b>	1.26lb (0.57kg)

<b>Dimension</b>	8.3in(L) x 3.7in(W) x 2.5in(H) (210mm x 93mm x 63mm)
<b>Shipping Weight</b>	1.38lb (0.63kg)
<b>Shipping Dimension</b>	9in(L) x 3.7in(W) x 2.8in(H) (228mm x 95mm x 70mm)
<b>Warranty</b>	12 months

## G. Kit Shipping and Packaging

Item	Parameter
<b>Shipping Weight</b>	11.5lbs (5.2kg) (with alkaline batteries) (estimation) 11lbs (5kg) (with Li-Ion batteries) (estimation)
<b>Shipping Dimension</b>	48in(L) x 6.3in(W) x 4.7in(H) (1220mm x 160mm x 120mm) (estimation)

## H. Warranty

Item	Parameter
<b>Warranty</b>	- 12 months - Extended warranty available

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