



VIVAX
METROTECH

VM-585 Utility Locator and Metal Detector

Technical Specifications V1.4



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A. Typical Applications

Item	Parameter
Description	Pipe and cable locator with ferrous metal detection mode
Uses	Locating buried utilities and buried ferrous metal objects

B. Receiver Characteristics

Item	Parameter
Construction	<ul style="list-style-type: none"> - Carbon fiber reinforced antenna tube - High impact thermoplastic (ABS) injection molded housing
Weight	1.37lbs (0.74kg)
Dimensions	43in(L) x 2.5in(W) x 2.6 in(H) (1090mm x 88mm x 67mm)
Display Type	Dot Matrix, 98 x 64 dots, COG LCD with backlight
Controls	Four-button keypad
Power Options	2 x AA Alkaline batteries
Battery Life	Typically, 20 hours of continuous use at 70°F (21°C)
Environmental	IP54 and NEMA 4
External Connectors	1 x Mini USB socket for programming
Temperature Range	Operating: 14°F to 120°F (-10°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 • EN 61000-4-3 • EN 61000-4-8 - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 Part 15: 2006
Manufacturing	ISO 9001:2015
Standard Accessories (comes with receiver)	<ul style="list-style-type: none"> - Soft carry bag - Quick guide

C. Receiver Operational

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

D. VM-585 Transmitter Characteristics

Item	Parameter									
Construction	High-impact ABS plastic									
Weight	<ul style="list-style-type: none"> - With Alkaline battery tray: 2.47 lbs. (1.12kg) - With Rechargeable battery tray: 2 lbs. (0.92 kg.) 									
Dimensions	18.1in(L) x 3.5in(W) x 2.6in(H) (460mm x 90mm x 65mm)									
Display	Flashing red LED lights show active transmit and output modes									
Power Options	4 x Alkaline “D” cells Optional Li-Ion rechargeable battery pack									
Battery Life	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Output Power</th> <th style="text-align: left;">Alkaline</th> <th style="text-align: left;">Li-Ion (Rechargeable)</th> </tr> </thead> <tbody> <tr> <td>Full Power</td> <td>13 hours</td> <td>17 hours</td> </tr> <tr> <td>Low Power</td> <td>44 hours</td> <td>45 hours</td> </tr> </tbody> </table>	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								

	<p><i>At 70°F (21°C) - continuous use (based on the battery type and quality)</i></p> <p><i>Li-Ion batteries will withstand 500 charging life cycles</i></p>	
Environmental	IP54 and NEMA 4	
External Connectors	1 x 3 pin XLR socket	
Temperature Range	<p>Operating : -4°F to 122°F (-20°C to 50°C)</p> <p>Storage : -40°F to 140°F (-40°C to 60°C)</p>	
Compliance/Approvals	<ul style="list-style-type: none"> - Complies with European standard CE (Directive 99/5/EC) • EN 55011 • EN 61000-4-3 • EN 61000-4-2 • EN 61000-4-4 • EN 61000-4-5 • EN 61000-4-8 	<ul style="list-style-type: none"> - Complies with FCC rules part 15 • CFR 47 part 15
Manufacturing	ISO 9001:2015	
Standard Accessories (Supplied with the Transmitter)	<ul style="list-style-type: none"> - Direct Connection Leads (XLR plug with 10-foot (3.5m) red/black leads) - Ground stake - Alkaline batteries - Carry strap - User guide 	
Compatible Accessories Options	<ul style="list-style-type: none"> - Li-ion rechargeable battery and charger - 2-inch (50mm) transmitter clamp - 4-inch (100mm) transmitter clamp - 5-inch (150mm) transmitter clamp - 18-inch (450mm) Flexible transmitter clamp - Live Plug Connector - Live Cable Connector - Ground Extension Spool 	

E. Transmitter Operational

Item	Parameter
Information Displayed	<p>Solid and blinking LED shows</p> <ul style="list-style-type: none"> - Frequency selected - Output power level
Transmitting Modes	<ul style="list-style-type: none"> - Induction mode – applies signal inductively using the internal antenna - Direct connection mode - applies signal directly to the cable by clipping one output lead to the cable, the other to an independent ground

	<ul style="list-style-type: none"> - Clamp mode – applies signal using an inductive clamp (aka toroid or coupler) that is placed around the target pipe or cable * Modes are automatically selected when accessories are plugged in. The default mode (no accessories) is Induction.
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Transmitting Frequency by Mode

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

F. Transmitter Rechargeable Battery Tray (optional accessory)

Item	Parameter
Description	Custom Lithium-ion battery pack and charger Li-ion batteries will withstand 500 charging life cycles
Input/output	Input: 8.4V ~ 8.5V Output: 6V ~ 8.4V
Battery Type	Li-ion battery

Temperature Range	Operating: 14°F to 140°F (-10°C to 60°C) Storage: 14°F to 113°F (-10°C to 45°C)
Storage humidity	≤75% RH
Weight	1.26lb (0.57kg)
Dimension	8.3in(L) x 3.7in(W) x 2.5in(H) (210mm x 93mm x 63mm)
Shipping Weight	1.38lb (0.63kg)
Shipping Dimension	9in(L) x 3.7in(W) x 2.8in(H) (228mm x 95mm x 70mm)
Warranty	12 months

G. Kit Shipping and Packaging

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

H. Warranty

Item	Parameter
Warranty	- 12 months - Extended warranty available

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