



VIVAX
METROTECH

VM-850

Technical Specifications V2.3



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A. Description and Typical Applications

Item	Parameter	
Model Number	VM-850 Receiver	VM-850 Transmitter
	VX216-01	VX216-02
Description	Single low-frequency locator receiver and transmitter	
Uses	Locating and pinpointing the position of buried pipes and cables	

B. Receiver Characteristics

Item	Parameter	
Construction	<ul style="list-style-type: none"> - High-impact thermoplastic (ABS) injection molded housing - Retractable aluminum antenna tube 	
Weight	3.1lbs (1.4kg)	
Dimensions	Collapsed: 22in(L) x 8.3in(W) x 11in(H) (560mm x 210mm x 280mm) Extended: 31.1in(L) x 8.3in(W) x 11in(H) (790mm x 210mm x 280mm)	
Display Type	Black & white TFT 2.7" LCD WQVGA display (400 x 240 pixels)	
Receiver Antennas	3 x Peak antennas, 1 x compass antenna	
Batteries	2 x D-Cell alkaline batteries	
Battery Life	Alkaline – typically 65 hours of continuous use at 70°F (21°C)	
Environmental	IP54 and NEMA 4	
Manufacturing	Designed and manufactured per ISO 9001:2015	
External Connectors	<ul style="list-style-type: none"> <li style="width: 50%;">- 1 x 3.5mm Headphone jack <li style="width: 50%;">- 1 x 4pin Accessories jack <li style="width: 50%;">- 1 x Mini USB socket for software update 	
Temperature Range	- Operating: -4°F to 122°F (-20°C to 50°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 	<ul style="list-style-type: none"> - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 Part 15: 2006
What's In the Box	<ul style="list-style-type: none"> <li style="width: 33%;">- VM-850 Receiver <li style="width: 33%;">- Mini-USB cable <li style="width: 33%;">- User handbook <li style="width: 33%;">- Hard case <li style="width: 33%;">- 2 x Alkaline D-Cell batteries 	

Compatible Accessory Options	<ul style="list-style-type: none"> - D22 Sonde, 8ft/2.4m depth range – 9.82kHz - D38 Sonde, 16.3ft/5m depth range – 9.82kHz - D64 Sonde, 26ft/8m depth range – 9.82kHz - Headphones with 3.5mm jack
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C. Receiver Operational

Item	Parameter								
Information Displayed	<ul style="list-style-type: none"> - Signal strength: Numeric value - Distance-sensitive Left/Right Centerline offset needle indicator - Compass: +/- 90° line direction indicator - Battery indicator - Depth and current reading 								
Audio Indication	<ul style="list-style-type: none"> - Tones for Left or Right - Fading when close to the centerline - Silence when centered or the signal is too weak 								
Configuration	Easy One-button operation: <ul style="list-style-type: none"> - Automatic backlight control - Short press – On - Long press – Off - Short press when the unit is switched on – Depth and Current reading 								
Operating Frequencies	9.8kHz (9,820 Hz)								
Operating Modes	<ul style="list-style-type: none"> - Peak locate - Sonde 								
Gain / Scaling Control	Automatic Gain control								
Performance Using Single Undistorted Signal Source	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Trace accuracy:</td> <td>- Distance Sensitive Left/Right Guidance™</td> </tr> <tr> <td>Current measurement accuracy:</td> <td> <ul style="list-style-type: none"> - 5% of actual current – up to 10ft (3m) - 10% of actual current – up to 20ft (6m) </td> </tr> <tr> <td>Depth measurement accuracy:</td> <td> <ul style="list-style-type: none"> - 10 feet (3m): +/-5% - 20 feet (10m): +/-10% </td> </tr> <tr> <td colspan="2">Depth range: Dependent on the strength of the signal radiating to the locator</td> </tr> </table>	Trace accuracy:	- Distance Sensitive Left/Right Guidance™	Current measurement accuracy:	<ul style="list-style-type: none"> - 5% of actual current – up to 10ft (3m) - 10% of actual current – up to 20ft (6m) 	Depth measurement accuracy:	<ul style="list-style-type: none"> - 10 feet (3m): +/-5% - 20 feet (10m): +/-10% 	Depth range: Dependent on the strength of the signal radiating to the locator	
Trace accuracy:	- Distance Sensitive Left/Right Guidance™								
Current measurement accuracy:	<ul style="list-style-type: none"> - 5% of actual current – up to 10ft (3m) - 10% of actual current – up to 20ft (6m) 								
Depth measurement accuracy:	<ul style="list-style-type: none"> - 10 feet (3m): +/-5% - 20 feet (10m): +/-10% 								
Depth range: Dependent on the strength of the signal radiating to the locator									
Compatible with Transmitter	850 Classic, VM-850								

A. Transmitter Characteristics

Item	Parameter	
Construction	High-impact thermoplastic (ABS) injection molded housing	
Weight	4.1lbs (1.86kg)	
Dimensions	9.4in(L) x 4.6in(W) x 7.2in(H) (239mm x 117mm x 182 mm)	
Power Options	Internal rechargeable Lithium-ion battery	
Battery Life	Lithium-ion – typically 40 hours of intermittent use at 70°F (21°C) (with full backlight turned on). Re-charging cycles approx. 500 times the life cycle. Battery life varies with temperature.	
Environmental	IP54 and NEMA 4	
Manufacturing	Designed and manufactured per ISO 9001:2015	
External Connectors	<ul style="list-style-type: none"> - 3-pin XLR connection socket - Fuse compartment 	
Temperature Range	Operating: -4°F to 122°F (-20°C to 50°C), Storage: -40°F to 140°F (-40°C to 60°C)	
Compliance/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 	<ul style="list-style-type: none"> - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 Part 15: 2006
What's In the Box	<ul style="list-style-type: none"> - VM-850 Transmitter - 1 x direct connection lead (XLR plug on two 10ft (3.5m) cables each with crocodile clips) - 1 x Ground stake 	<ul style="list-style-type: none"> - Battery charger - 1 x 3.15A Fuse - Transmitter shoulder strap
Compatible Accessories Options	<ul style="list-style-type: none"> - 2in (50mm) transmitter clamp - 4in (100mm) transmitter clamp - 5in (125mm) transmitter clamp - Live Plug Connector 	<ul style="list-style-type: none"> - Live Cable Connector - Ground Extension Spool - Telco Clip Connection Lead

B. Transmitter Operational

Item	Parameter
Location 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 (toroid) that is placed around the target cable * Modes are selected automatically when accessories are plugged in. * Default mode (no accessories) is induction.
Transmitting Frequency by Mode	<ul style="list-style-type: none"> - Induction mode / Direct connection mode / Clamp mode : 9.82kHz (9,820Hz)
Transmitting Mode Power output	<p>In accordance with FCC part 15:</p> <ul style="list-style-type: none"> - 2 watt – <i>in High output level</i> - 1/2watt – <i>in Low output level</i>
Maximum Output Voltage	Maximum output voltage = 60V RMS
Maximum Output Current	Maximum output current = 400mA RMS constant power
Output Protection	Output protected against accidental connection to up to 240V AC (50/60Hz)
Audio indication	<ul style="list-style-type: none"> - Connection quality – Fast beep sound showing the better signal applied - Low battery warning
Controls	<p>Use pushbuttons to select:</p> <ul style="list-style-type: none"> - Power button: On / Off - Output level button: Low / High - Audio button: Off / Low / High
Compatible Receivers	850 Classic, VM-850

C. Shipping and Packaging (Full Kit)

Item	Parameter
Shipping Weight	18.7lbs (8.5kg) (Full Kit)
Shipping Dimension	26in(L) x 12.2in(W) x 18.1in(H) (660mm x 310mm x 460mm) (estimation)

D. Warranty

Item	Parameter
Warranty	12 months (Limited warranty)

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