



VIVAX
METROTECH

VM-850

Technical Specifications V2.1



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VM-850 Receiver

A. Typical Applications

Item	Parameter
Description	Single low-frequency locator receiver
Uses	Locating & pinpointing the position of buried pipes and cables

B. 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 pixel)
Receiver Antennas	3 x Peak antennas, 1 x compass antenna
Batteries	2 x D-Cell alkaline batteries
Battery Life	Alkaline – typically 65 hours continuous use at 70°F (21°C)
Environmental	IP54 and NEMA 4
External Connectors	<ul style="list-style-type: none"> - 1 x 3.5mm Headphone jack - 1 x Mini USB socket for software update - 1 x 4pin Accessories jack
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 - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 Part 15: 2006
Standard Accessories (comes with receiver)	<ul style="list-style-type: none"> - Hard case - Mini-USB cable

	<ul style="list-style-type: none"> - 2 x Alkaline D-Cell batteries - User handbook
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

C. 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 centerline - Silence when centered or 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	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 signal radiating to the locator	

Compatible with Transmitter	VM-850, 850 classic
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VM-850 Transmitter

A. Typical Applications

Item	Parameter
Description	Pipe & cable locator transmitter
Designed Use	Transmitting active signals for the location of buried pipes and cables

B. Characteristics

Item	Parameter
Construction	High impact thermoplastic (ABS) injection molded housing
Weight	4.1lbs (1.86kg)
Dimensions	14.6in(L) x 4.5in(W) x 3.3in(H) (370mm x 115mm x 85 mm)
Power Options	Internal rechargeable Lithium-ion battery
Battery Life	Lithium-ion – typically 40 hours 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
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 - Complies with FCC Rules Part 15 <ul style="list-style-type: none"> • CFR 47 Part 15: 2006
Standard Accessories (Supplied With Transmitter)	<ul style="list-style-type: none"> - 1 x direct connection lead (XLR plug with two cables each 10ft (3.5m) long with crocodile clips) - 1 x T shaped ground stake - Battery charger

	<ul style="list-style-type: none"> - 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 - Live Cable Connector - Ground Extension Spool - Telco Clip Connection Lead

C. 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 - Clamp mode – applies signal using an inductive clamp (toroid) that is placed around the target cable <p>* Modes are selected automatically when accessories are plugged in. * Default mode (no accessories) is induction.</p>
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> <p><i>2 watt – in High output level</i></p> <p><i>1/2watt – in Low output level</i></p>
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	VM-850, 850 Classic

D. Shipping and Packaging (Full Kit)

Item	Parameter
Shipping Weight	18.7lbs (8.5kg) (Full Kit)
Shipping Dimension	22.7in(L) x 13.8in(W) x 4.3in(H) (577mm x 350mm x 109mm)

E. Warranty

Item	Parameter
Warranty	12 months(Limited warranty)

F. Firmware Updates

Item	Parameter
Firmware	The VM-850 Receiver firmware can be updated with a PC and mini-USB cable. VM-850 Transmitter updates are done through an authorized repair center.

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

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