VIVAX METROTECH

# VM-850

## Technical Specifications V2.4

VIVAX METROTECH

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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** | - High-impact thermoplastic (ABS) injection molded housing<br>- 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)*<br>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 70ºF *(21ºC)* |
| **Environmental** | IP54 |
| **Manufacturing** | Designed and manufactured per ISO 9001:2015 |
| **External Connectors** | - 1 x 3.5mm Headphone jack<br>- 1 x Mini USB socket for software update<br>- 1 x 4pin Accessories jack |
| **Temperature Range** | - Operating: -4ºF to 122ºF *(-20ºC to 50ºC)* |
| **Compliance and Approvals** | - Complies with European standard CE (Directive 99/5/EC)<br>• EN 55011<br>• EN 61000-4-2<br>• EN 61000-4-3<br>• EN 61000-4-8<br>- Complies with FCC Rules Part 15<br>• CFR 47 Part 15: 2006 |
| **What’s In the Box** | - VM-850 Receiver<br>- Hard case<br>- Mini-USB cable<br>- 2 x Alkaline D-Cell batteries<br>- User handbook |

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| **Compatible Accessory Options** | - D22 Sonde, 8ft/2.4m depth range – 9.82kHz<br>- D38 Sonde, 16.3ft/5m depth range – 9.82kHz<br>- D64 Sonde, 26ft/8m depth range – 9.82kHz<br>- Headphones with 3.5mm jack |

## C. Receiver Operational

| Item | Parameter | |
|---|---|---|
| **Information Displayed** | - Signal strength: Numeric value<br>- Distance-sensitive Left/Right Centerline offset needle indicator<br>- Compass: +/- 90° line direction indicator | - Battery indicator<br>- Depth and current reading |
| **Audio Indication** | - Tones for Left or Right<br>- Fading when close to the centerline<br>- Silence when centered or the signal is too weak | |
| **Configuration** | Easy One-button operation:<br>- Automatic backlight control<br>- Short Press – On<br>- Long press – Off<br>- Short press when the unit is switched on – Depth and Current reading | |
| **Operating Frequencies** | 9.8kHz (9,820 Hz) | |
| **Operating Modes** | - Peak locate<br>- Sonde | |
| **Gain / Scaling Control** | Automatic Gain control | |
| **Performance Using Single Undistorted Signal Source** | Trace accuracy: | - Distance Sensitive Left/Right GuidanceTM |
| | Current measurement accuracy: | - 5% of actual current – up to 10ft *(3m)*<br>- 10% of actual current – up to 20ft *(6m)* |
| | Depth measurement accuracy: | - 10 feet (3m): +/-5%<br>- 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 70ºF (21ºC) (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** | - 3-pin XLR connection socket<br>- Fuse compartment |
| **Temperature Range** | Operating: -4ºF to 122ºF *(-20ºC to 50ºC),* Storage: -40ºF to 140ºF *(-40ºC to 60ºC)* |
| **Compliance/Approvals** | - Complies with European standard CE (Directive 99/5/EC)<br>• EN 55011<br>• EN 61000-4-2<br>• EN 61000-4-3<br>• EN 61000-4-8<br>- Complies with FCC Rules Part 15<br>• CFR 47 Part 15: 2006 |
| **What's In the Box** | - VM-850 Transmitter<br>- 1 x direct connection lead (XLR plug on two 10ft *(3.5m)* cables each with crocodile clips)<br>- 1 x Ground stake<br>- Battery charger<br>- 1 x 3.15A Fuse<br>- Transmitter shoulder strap |
| **Compatible Accessories Options** | - 2in *(50mm)* transmitter clamp<br>- 4in *(100mm)* transmitter clamp<br>- 5in *(125mm)* transmitter clamp<br>- Live Plug Connector<br>- Live Cable Connector<br>- Ground Extension Spool<br>- Telco Clip Connection Lead |

## B. Transmitter Operational

| Item | Parameter |
|---|---|
| **Location Modes** | - Induction mode – applies signal inductively using the internal antenna<br>- Direct connection mode - applies signal directly to the cable by clipping one output lead to the cable, the other to an independent ground |

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| | - Clamp mode – applies signal using an inductive clamp (toroid) that is placed around the target cable<br>* Modes are selected automatically when accessories are plugged in.<br>* Default mode (no accessories) is induction. |
| **Transmitting Frequency by Mode** | - Induction mode / Direct connection mode / Clamp mode :<br>9.82kHz (9,820Hz) |
| **Transmitting Mode**<br>**Power output** | In accordance with FCC part 15:<br>- *2* watt – *in High output level*<br>- *1/2watt – in Low output level* |
| **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** | - Connection quality – Fast beep sound showing the better signal applied<br>- Low battery warning |
| **Controls** | Use pushbuttons to select:<br>- Power button: On / Off<br>- Output level button: Low / High<br>- 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.