

## A. vLocDM2 Typical Applications

Item	Parameter
<b>Description</b>	Pipeline defect mapper receiver and transmitter
<b>Uses</b>	<ul style="list-style-type: none"> <li>- Locating and pinpointing coating defects on buried pipelines</li> <li>- Profiling the CP current distribution on a pipeline network</li> <li>- Identification of short circuits from pipelines to other structures</li> <li>- Long distance pipeline location</li> <li>- Transmitting active signals for the location of coating defects on buried pipes</li> </ul>

## B. vLocDM2 Receiver Assembly

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> <li>- Removable ABS foot molding containing magnetometer</li> </ul>
<b>Weight</b>	6lbs (2.7kg)
<b>Dimension</b>	11.7in(L) x 5.5in(W) x 30in(H) (262mm x 122mm x 750mm)
<b>Display Type</b>	Sharp TFT LCD ¼ VGA color display, 3.52in (89mm)
<b>Receiver Antennas</b>	2 x Peak antennas, 1 x null antenna, 1 x compass antenna, 1 x magnetometer
<b>Batteries</b>	<ul style="list-style-type: none"> <li>- Rechargeable Lithium-ion batteries with 100-240V AC mains charger</li> <li>- Replaceable (6 x standard Alkaline AA batteries) batteries can be used when required</li> </ul>
<b>Battery Life</b>	<ul style="list-style-type: none"> <li>- Alkaline – typically 8 hours intermittent use at 70°F (21°C)</li> <li>- Lithium-ion – typically 24 hours continuous use at 70°F (21°C) (with full backlight turned on). Re-charging cycles approx. 500 times life cycle. Battery life varies with temperature.</li> </ul>
<b>Bluetooth</b>	- Plug and play custom Bluetooth interface
<b>External Connectors</b>	<ul style="list-style-type: none"> <li>- 1 x Socket for USB accessories &amp; analogue accessories</li> <li>- 1 x Mini USB socket for data transfer / programming</li> <li>- 1 x Socket for battery charger</li> <li>- 1 x Standard USB (Memory stick) socket for data transfer (Future feature)</li> </ul>
<b>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: A1 &amp; A2</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-8: A1</li> <li>• ETSI EN 300 330-2</li> <li>• ETSI EN 301 489-1</li> <li>• ETSI EN 301 489-3</li> </ul> </li> <li>- Complies with FCC Rules Part 15 <ul style="list-style-type: none"> <li>• CFR 47 part 2</li> <li>• CFR 47 Part 15</li> </ul> </li> </ul>
<b>Standard Accessories</b>	<ul style="list-style-type: none"> <li>- Bluetooth Module</li> <li>- Holux GPS (Bluetooth connectivity)</li> <li>- Transmitter: Loc-150Tx and connection leads</li> <li>- A-frame</li> </ul>

	<ul style="list-style-type: none"> <li>- USB data cable</li> <li>- 100-240V AC mains receiver charger (for Lithium-ion battery)</li> <li>- Soft carry bag (inclusive of accessories bag)</li> <li>- User handbook</li> <li>- Desktop application (desktop programming data management)             <ul style="list-style-type: none"> <li>• User selectable configuration management</li> <li>• Replication of user configuration</li> </ul> </li> </ul>
<b>Accessories (Optional)</b>	<ul style="list-style-type: none"> <li>- Remote Antenna USB</li> <li>- Sondes (waterproof self-contained transmitters for use in pipes &amp; ducts)             <ul style="list-style-type: none"> <li>• D18-33-SR44 - 0.75in(Dia.) x 3.1in(L) (18mm x 80mm), 33 kHz, range 15ft (4.5m), 2 x button cell batteries</li> <li>• D38-33-AA – 1.5in(Dia.) x 4.1in(L) (38mm x 105mm), 33 kHz, range 16.3ft (5m), 1 x AA battery</li> <li>• D38-09-AA – 1.5in(Dia.) x 4.1in(L) (38mm x 105mm), 9.82 kHz, range 16.3ft (5m), 1 x AA battery</li> <li>• D38-83-AA – 1.5in(Dia.) x 4.1in(L) (38mm x 105mm), 83 kHz, range 16.3ft (5m), 1 x AA battery</li> <li>• D64-33-6LR61 – 2.5in(Dia.) x 7.3in(L) (64mm x 186mm), 33 kHz, range 26ft (8m), 1 x 6LR61 battery</li> <li>• D64-09-6LR61 – 2.5in(Dia.) x 7.3in(L) (64mm x 186mm), 9.82 kHz, range 26ft (8m), 1 x 6LR61 battery</li> <li>• D64-83-6LR61 – 2.5in(Dia.) x 7.3in(L) (64mm x 186mm), 83 kHz, range 26ft (8m), 1 x 6LR61 battery</li> <li>• D23F-512-AA / D23F-640-AA – 1in(Dia.) x 18in(L) (23mm x 456mm), 512Hz or 640Hz, range 20ft (7m), flexible Sonde in 3 sections for use in cast iron pipes as well as non metallic pipes, 1 x AA battery</li> </ul> </li> </ul>

### C. vLocDM2 Receiver Operational

Item	Parameter
<b>Information Displayed</b>	<ul style="list-style-type: none"> <li>- Signal strength - moving bar graph &amp; numeric value</li> <li>- Mode indication (“Peak”, “Null” and “Peak with proportional left/right arrows” location)</li> <li>- Proportional left/right indication</li> <li>- Compass: line direction indicator</li> <li>- vLocDM2 signal direction</li> <li>- Plug and play automatic recognition of accessories</li> <li>- Accessory specific custom screen</li> <li>- Line location - depth &amp; current measurement</li> <li>- Measurement of vLocDM2 mapping current</li> <li>- Gain level (in dB)</li> <li>- Battery condition</li> <li>- Speaker volume</li> <li>- Operating frequency</li> <li>- Bluetooth and GPS status</li> <li>- Configuration menu &amp; submenus</li> </ul>

	<ul style="list-style-type: none"> <li>- Start up screen – product and USB accessories software revision</li> <li>- Customer definable start up screen</li> <li>- Distance from last reading (when GPS facility activated)</li> <li>- Log number</li> <li>- Real time vLocDM2 mapping and on screen graphing (walk back feature)</li> <li>- “Walk back feature” giving physical position on graph allowing the user to walk back to a point of interest.</li> <li>- Real time A-frame fault mapping and on screen graphing</li> </ul>
<b>Configuration</b>	<p>Intuitive setup menu enables user to configure vLocDM2 receiver or use MyLocator2 application to configure vLocDM2 receiver:</p> <ol style="list-style-type: none"> <li>1. Setup frequency selection to toggle by “F” pushbutton</li> <li>2. Setup location mode selection to toggle by “M” pushbutton</li> <li>3. Units of measure (feet/meter)</li> <li>4. Power and radio modes – 50Hz or 60Hz environments</li> <li>5. Sound (Pitch) – normal/modulated</li> <li>6. Language</li> <li>7. Continuous depth/current options</li> <li>8. Loudspeaker level</li> <li>9. Backlight</li> <li>10. Bluetooth pairing if fitted</li> </ol>
<b>Internal Data Logging</b>	<ul style="list-style-type: none"> <li>- At least 1000 records.</li> <li>- All parameters stored at each location including Depth, Current, Mode, Gain Setting, and Frequency.</li> <li>- If connected to GPS (via Bluetooth) data also recorded with coordinates and date time.</li> <li>- Files can be saved as .kml, .txt, .xls, .shp, csv</li> <li>- Data transfer program MyLocator2 available from <a href="http://www.vivax-metrotech.com">www.vivax-metrotech.com</a></li> </ul>
<b>Operating Frequencies</b>	<p>vLocDM2 (magnetometer) frequencies: 3Hz/6Hz , 4Hz/8Hz  vLocDM2 related locate frequencies: 98Hz, 128Hz, 512Hz, 640Hz  Configurable frequencies from 16Hz to 200 kHz.</p> <p>Vivax-Metrotech Corporation retains the right to make additions or deletions to this list at any time</p>
<b>Operating Modes</b>	<ul style="list-style-type: none"> <li>- Peak</li> <li>- Null</li> <li>- Peak with proportional left/right arrows</li> </ul>
<b>Gain Control</b>	Manual gain using “+” or “-“ with one touch to return to center (60% of FSD)
<b>Performance Using Single Undistorted Signal Source</b>	<p>Locate pinpointing accuracy:</p> <ul style="list-style-type: none"> <li>- up to 9ft (3m) – 3% of depth</li> <li>- over 9ft (3m) – 5% of depth</li> </ul> <p>Depth measurement accuracy:</p> <ul style="list-style-type: none"> <li>- 3% of depth</li> </ul> <p>Current measurement accuracy:</p>

	<ul style="list-style-type: none"> <li>- 3% of actual current – up to 9ft (3m)</li> <li>- 5% of actual current – over 9ft (3m)</li> </ul>
	<p>Depth range:</p> <ul style="list-style-type: none"> <li>- Dependent on strength of signal radiating to locator – Generally up to 15ft (5m)</li> </ul>
<p><b>Compatible With Transmitter</b></p>	<p>Loc-150Tx, Loc-10Tx, Loc-5Tx, Loc-1Tx</p>

## D. Loc-150Tx Transmitter Assembly

Item	Parameter
<b>Construction</b>	High impact ABS
<b>Weight</b>	27.5lbs (12.5kg)
<b>Dimension</b>	16.7in(L) x 10.3in(W) x 12.9in(H) (425mm x 262mm x 328mm)
<b>Display Type</b>	Monochrome dot matrix display 2.4in x 1.3in (60mm x 32mm)
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>- Cathodic Protection (nominally 26V - 60V DC) (max 14A)</li> <li>- 100 – 250V AC mains power (max 4A)</li> <li>- or 12V DC external supply or higher (output power is limited when using 12V DC) (max 8A)</li> </ul>
<b>External Connectors</b>	<ul style="list-style-type: none"> <li>- 100 – 250V AC mains input - three pin “Multi-Con-X” connector (Male)</li> <li>- DC Input - two pin “Multi-Con-X” connector (Male)</li> <li>- Transmitter output - two pin “Multi-Con-X” connector (Female)</li> <li>- Fuse sockets – mains input fuse (5A, 250V), output fuse (10A, 250V)</li> </ul>
<b>Output Protection</b>	Output fuse protected against accidental connection to up to AC/DC 250V
<b>Approvals</b>	<ul style="list-style-type: none"> <li>- Complies with European standard CE (Directive 99/5/EC) (Pending) <ul style="list-style-type: none"> <li>• EN 55011</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-2: A1 &amp; A2</li> <li>• EN 61000-4-8: A1</li> <li>• ETSI EN 300 330-2</li> <li>• ETSI EN 301 489-1</li> <li>• ETSI EN 301 489-3</li> </ul> </li> <li>- Complies with FCC Rules Part 15 (Pending) <ul style="list-style-type: none"> <li>• CFR 47 part 2</li> <li>• CFR 47 Part 15</li> </ul> </li> </ul>
<b>Standard Accessories (Supplied With Transmitter)</b>	<ul style="list-style-type: none"> <li>- 1 x direct connection lead (with two cables each 10ft(3.5m) long with crocodile clips)</li> <li>- 1 x DC input lead (with two cables each 10ft (3.5m) long with crocodile clips)</li> <li>- 1 x 9ft (3m) mains input lead</li> </ul>

## E. Loc-150Tx Transmitter Operational

Item	Parameter
<b>Information Displayed</b>	<ul style="list-style-type: none"> <li>- Output Frequency</li> <li>- Output Current setting</li> <li>- Output Current</li> <li>- Output Voltage (info menu)</li> <li>- Operating Temperature (info menu)</li> </ul>
<b>Signal Application Modes</b>	- <b>Direct connection mode only</b> - applies signal directly to the cable by clipping one output lead to the pipe, the other to an independent ground or anode bed.
<b>Transmitting Frequencies (Varies By Country &amp; Market)</b>	<ul style="list-style-type: none"> <li>- 98Hz, 128Hz, 512Hz, 640Hz, 3Hz/98Hz, 3Hz/128Hz, 4Hz/98Hz, 4Hz/128Hz;</li> <li>- ELF1-3Hz/6Hz/98Hz;</li> <li>- ELF2-3Hz/6Hz/128Hz;</li> <li>- ELF3-4Hz/8Hz/98Hz;</li> <li>- ELF4-4Hz/8Hz/128Hz;</li> <li>- 3Hz/6Hz/512Hz;</li> <li>- 3Hz/6Hz/640Hz;</li> </ul>

	<ul style="list-style-type: none"> <li>- 4Hz/8Hz/512Hz;</li> <li>- 4Hz/8Hz/640Hz</li> </ul> <p>Other multiple frequencies in the range of 3Hz to 2kHz available upon request.</p>
<b>Transmitting Mode</b>	- Powered by AC: 150W
<b>Power Output</b>	- Powered by DC: 12-28V, 50W; > 28V, 150W
<b>Output Voltage</b>	Maximum output voltage = 120V RMS
<b>Output Current</b>	Maximum output current = 4A RMS with up to 2 frequencies. Output limited to 3A RMS with 3 simultaneous frequencies.
<b>Controls</b>	<p>2 Rotary/Push control knobs to select:</p> <ul style="list-style-type: none"> <li>- Frequency</li> <li>- Output level</li> <li>- Information</li> <li>- ACTIVE/STANDBY pushbutton</li> </ul> <p>One On/OFF pushbutton</p>
<b>Compatible With Receivers</b>	vLocDM & vLocDM2

## F. Sensitivity

Mode	Sensitivity at 3.2ft (1m)
<b>3Hz DM Mapping Frequency</b>	1 mA
<b>50Hz/ Power Mode</b>	7.5 mA
<b>Radio Mode</b>	20 $\mu$ A
<b>512Hz / 640Hz</b>	400 $\mu$ A
<b>8 kHz</b>	40 $\mu$ A
<b>32 kHz and Above</b>	25 $\mu$ A

## G. Environmental

Item	Parameter
<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>Weather Proof</b>	IP54 and NEMA 4
<b>Shipping Weight</b>	vLocDM2 Receiver: 12lbs (5.5kg)
	Loc-150Tx Transmitter: 44.1lbs (20kg)
<b>Shipping Dimension</b>	vLocDM2 Receiver: 13.0(L) x 8.7in(W) x 32.7in(H) (330mm x 220mm x 830mm)
	Loc-150Tx Transmitter: 21.7in(L) x 15.2in(W) x 18.3in(H) (550mm x 385mm x 465mm)

## H. Warranty

Item	Parameter
<b>Warranty</b>	12 months

## I. Upgrade

Item	Parameter
<b>Software</b>	Software can be upgraded using a PC with USB port. Programs & locator software will be available via email. Additional frequencies will be available free of charge.

## J. A-frame

Item	Parameter
<b>Construction</b>	Carbon fiber
<b>Sensitivity</b>	2MΩ
<b>Weight</b>	4.0lbs (1.80kg)
<b>Dimension</b>	28.3in(L) x 25.2in(W) x 1.6in(H) (720mm x 640mm x 40mm)
<b>Weather Proof</b>	IP54
<b>Shipping Weight</b>	9.9lbs (4.50kg)
<b>Shipping Dimension</b>	31.5in(L) x 27.8in(W) x 4.5in(H) (800mm x 705mm x 115mm)

## K. Holux Bluetooth GPS

Item	Parameter
<b>Overview</b>	The M-1200 high performance Bluetooth™ GPS Receiver which featured with: <ul style="list-style-type: none"> <li>- Dual interface (Bluetooth + GPS - mouse)</li> </ul>
	<ul style="list-style-type: none"> <li>- Compatible with Bluetooth™ Serial Port Profile (SPP) completely</li> <li>- Built-in rechargeable Lithium-ion battery without external power supply</li> </ul>
<b>Weight</b>	- 0.07lbs (30g)
<b>Dimension</b>	- 2.63in(L) x 0.9in(W) x 0.63in(H) (67mm x 23mm x 16mm)
<b>Specification</b>	<ul style="list-style-type: none"> <li>- Tracks up to 32 satellites</li> <li>- Receiver: L1, 1575.42 MHz</li> <li>- C/A code: 1.023 MHz</li> <li>- Update rate: 1Hz</li> <li>- Antenna type: built-in patch antenna</li> <li>- Minimum signal tracked: -159dBm</li> <li>- On/Off switch: slide switcher</li> <li>- Lithium-ion battery lasts for 15 hours of use.</li> </ul>
<b>LED Indication</b>	<ul style="list-style-type: none"> <li>- Bluetooth</li> <li>- Navigation update</li> <li>- Battery/charger status indication</li> </ul>
<b>Temperature Range</b>	<ul style="list-style-type: none"> <li>- Store Temperature : -4°F to 140°F (-20°C to 60°C)</li> <li style="padding-left: 150px;">: -22°F to 176°F (-30°C to 80°C) (Without Lithium-ion battery)</li> <li>- Operation Temperature : 14°F to 140°F (-10°C to 60°C)</li> </ul>

## L. Features

Item	Parameter
<b>Enhanced Features</b>	<ul style="list-style-type: none"> <li>- Removable foot</li> <li>- Reduced size and weight with enhanced ergonomic design</li> <li>- Improved power management and Lithium-ion rechargeable batteries provide longer battery life</li> <li>- Auto detects batteries type (Lithium-Ion/Alkaline) and displays appropriate status.</li> <li>- Non-reflective display</li> <li>- Enable / Disable auto shut off mode</li> <li>- USB data Logging</li> <li>- Analogue channel</li> <li>- Overload protection</li> </ul>

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

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