

VIVAX
METROTECH

vCamMX-2

Technical Specifications V1.0



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A. Typical Applications

Component	Specification
Purpose	A tool to inspect and provide a digital recording in and JPEG images of the interior of small diameter metallic and non-metallic, pipes, drains, conduits, and ducts. The most typical application is the inspection of sewer laterals and plumbing. Digital video and jpeg picture images are viewed on the control module LCD and recorded onto a USB thumb drive.
System Components	<ul style="list-style-type: none"> • Viewing & Recording Device: vCamMX-2 Control Module (comes with an accessory kit, quick guide, and setup guide) • Reels Options: (reels with pushrod come with an insertion sleeve) Type-MX Reel pushrod options of: <ul style="list-style-type: none"> - 100ft/30m - 150ft/45m • Camera Head Options: (Type-MX reel cameras are interchangeable) <ul style="list-style-type: none"> - D18-MX 0.70"/18mm Fixed position color camera - D26-MX 1"/26mm Self-leveling color camera

vCamMX-2 System	D18-MX Camera	D26-MX Camera
		

B. vCamMX-2 Control Module

Component	Specification
Dimensions	14.2" (L) x 5.91" (W) x 12.6" (H) (360mm (L) x 150mm (W) x 320mm (H))
Weight	6.6lb (3kg)
Power Supply	DC Power: 12V DC external power supply powers unit and charges internal batteries
Fuse	10 Amp – 250 Volt, glass, quick blow
Storage	<ul style="list-style-type: none"> • USB Port – Supports up to 128 GB Removable USB 2.0 Drives • SD Card Slot – Supports up to 128GB Removable SD Cards
File Format	<ul style="list-style-type: none"> • AVI Video (NTSC: 720 x 480, PAL: 720x 576) • JPEG Still image capture (NTSC: 720 x 480, 72 dpi PAL: 720 x 576)

	<ul style="list-style-type: none"> Automatically senses PAL or NTSC and changes format
Display	8" (20cm) Daylight viewable TFT LCD (800x600) (diagonal measurement)
Distance Counter	Approximate distance is shown (forward and backwards) in feet or meters on the LCD screen with the option to appear in still images or recorded video
Environmental	<ul style="list-style-type: none"> Water resistant to IP65 (IEC 60529-Light shower) (lid closed) Shock resistant (IEC 60068-2-31) (lid closed)
Temperature Range	<ul style="list-style-type: none"> Storage: -4°F to 158°F (-20°C to +70°C) Operating: 14°F to 122°F (-10°C to +50°C)
Internal Batteries	<ul style="list-style-type: none"> Internal Lithium-ion rechargeable batteries Six hours runtime when Sonde on, Seven hours with Sonde off
Mounting	Permanently mounted on the MX reel frame
Operating System	Firmware upgradable via USB port with files available from the local distributor, factory or Vivax-Metrotech website
Options and Accessories	Smartphone/Tablet App—App for video streaming, image capturing and texting or emailing still images

Operator Controls

Controls	Functions
Camera LED Dimmer	Variable control on front panel to adjust brightness of camera LED
Distance Counter	Push button control on front panel to zero out distance out*
Sonde Operation	<ul style="list-style-type: none"> Push button control on front panel turns Sonde on, cycles through available frequencies, then off Push button glows green and Sonde icon appears on the status bar on LCD when active
Microphone Operation	<ul style="list-style-type: none"> Push button control on front panel turns internal microphone on and off Push button glows red and microphone icon appears on the status bar on LCD when active
Power On/Off	<ul style="list-style-type: none"> Push button control on front panel turns unit on and off Push button glows green and battery icon appears on status bar on LCD showing battery status and if powered by AC/DC power or internal battery power
Recording Control	<ul style="list-style-type: none"> Push button on control module, push to record, push second time to stop recording Push button glows red when recording and flashing icon appears on status bar on LCD when recording
Image Capture	<ul style="list-style-type: none"> Push button on control module, press once and image is captured to the USB drive JPEG icon flashes on LCD with image file name
Video Playback control	<ul style="list-style-type: none"> Push button on control module for video pause, rewind/fast forward, play and stop

	<ul style="list-style-type: none"> Icons appear on status bar to advise which function is being used
Digital Zoom	Push button panel, pressing repeatedly toggles through 2 X view zoom mode, then off
On Screen Display (OSD)	OSD showing time, date, and distance counter on bottom of screen with option to display on top or turn off
Text Overlay	<ul style="list-style-type: none"> On-screen keyboard allows for text commenting over recorded video and JPEG images Option to use USB keyboard or wireless keyboard dongle

Sockets and Jacks	Functions
Video Out	<ul style="list-style-type: none"> Color coded industry standard RCA female socket in media compartment for video out Video out with OSD via mini-USB port
Microphone	Internal microphone located top center of LCD.
Media Sockets	<ul style="list-style-type: none"> USB 2.0 and SD (secure digital) sockets in media compartment supports up to 128GB USB 2.0 USB Drives and 128GB SD Cards Mini-USB port for video out with OSD
DC Power	12V 1 Pin male circular sock for DC power cable assembly. Battery charger and DC vehicle cable are supplied with control module.
Battery Indicators	<ul style="list-style-type: none"> Charging indicator on left side panel glows red while charging and turns green when fully charged. Battery icon on status bar shows battery level and if running on AC/DC power or internal batteries.

C. Type-MX Reel Features

Component	Specification
Pushrod	Fiberglass rod surrounded by multi-conductors and coax with a high-density Polyethylene jacket
Pushrod length Options	100ft (30m) 150ft (45m)
Pushrod Diameter	0.39" (10mm)
Minimum Break Strength	4000lbs (1800kg)
Bend Radius	Approximately 40 x the pushrods diameter
Sonde Frequencies	33kHz, 512Hz and 640Hz. Selectable at time of control module feature setup
Sonde Output/Range	1-Watt output provided by the control module. Average maximum locatable depth approximately 9 feet (3m) in cast iron pipes. Possibly more in non-metallic pipes

Pushrod Tracing	Post for connecting an external utility locating transmitter. When connected and energized the entire length of pushrod can be traced with a buried utility locator
Termination Spring	Field serviceable termination spring consisting of the spring, coiled cable, and lanyard in one assembly
Distance Counter	The encoder driver is accurate to 0.33ft (0.1m) resolution*
Dimensions	20.9" (L) x 12.7" (W) x 22.4" (H) (531mm (L) x 322mm (W) x 570mm (H)).
Weight	100 ft (30m): 30 lbs (14 kg) 150 ft (45m): 37 lbs (17 kg)
Environmental	Water resistant to IP65
Construction	Stainless-steel tubular frame with carbon fiber pushrod drum
Braking/Locking	Hand tightening friction brake to slow pushrod cage, move brake lever left/right to lock/unlock pushrod drum
Options and Accessories	Drip Bag

D. Camera Heads for the Type-MX Reel

D18-MX 0.70" (18mm) fixed position camera head

Component	Specification
Application	Used with the Type-MX reel in pipe diameters from 1-1/2 to 4 inches / 40 to 100mm
Horizontal Resolution	520 TVL.
Active Pixels	NTSC 704 x 480, PAL 704 x 576.
Focus Point	4.7" (12cm)
Aperture / Field of View	F2.0/55°
Light Sensitivity	0.008Lux
Lighting	17.53 Lumens
Auto Upright	None, fixed position non-leveling camera
Construction	Stainless-steel housing with scratch resistant Sapphire lens
Environmental	Water resistance up to 11 BAR pressure
Temperature Range	Storage: -4°F to 158°F (-20°C to +70°C), Operating: 14°F to 122°F (-10°C to +50°C).
Dimension Installed	0.70" (Dia) x 1.2" (L) / 18.6mm (Dia) x 29.5mm (L) without skid

Weight	0.039lbs (0.018kg)
Options	Optional 2.5 skid (57mm) Camera exchange program

D26-MX, 1 inch (26mm) self-leveling color camera

Component	Specification
Application	Used with the Type-MX reel in pipe diameters from 2 to 4" / 50 to 100mm
Resolution	700 TVL
Active Pixels	NTSC 704 x 480, PAL 704 x 576
Focus Point	7.87" (20cm)
Aperture / Field of View	F2.0/88.4°
Light Sensitivity	0.01 Lux
Lighting	20.39 Lumens
Auto Upright	Cantilever self-leveling design
Construction	Stainless-steel housing with scratch resistant Sapphire lens
Environmental	Water resistance up to 10 BAR pressure
Temperature Range	Storage: -4°F to 158°F (-20°C to +70°C), Operating: 14°F to 122°F (-10°C to +50°C)
Dimensions Installed	1.02" (Dia) x 2" (L) / 26mm(Dia) x 55mm(L) without skid
Weight	0.205lbs (0.093kg)
Options	Optional 2.5 and 3" skids (57mm and 75mm) Camera exchange program

E. vCamMX-2 System Shipping Weights

Model	Dimensions and Weights
100ft/30m System (Control module, tool kit, reel with pushrod, insert sleeve, and camera)	<ul style="list-style-type: none"> • Dimension: 22.8" (L) x 15" (W) x 28" (H) (580(L) x 380(W) x 700(H) mm). • Weight: 41.4lbs (18.8kg).
150ft/45m System (Control module, tool kit, reel with pushrod, insert sleeve, and camera)	<ul style="list-style-type: none"> • Dimension: 22.8" (L) x 15" (W) x 28" (H) (580(L) x 380(W) x 700(H) mm). • Weight: 44.3lbs (20.1kg).
D18-MX Camera Head	<ul style="list-style-type: none"> • Dimensions: 9" (L) x 5" (W) x 5" (H) (228(L) x 127(W) x 127(H) mm)

	<ul style="list-style-type: none"> Weight: 2 lbs. (0.90kg)
D26-MX Camera Head	<ul style="list-style-type: none"> Dimensions: 9" (L) x 5" (W) x 5" (H) (228(L) x 127(W) x 127(H) mm) Weight: 2 lbs. (0.90kg)

*Shipping dimensions and weight are approximate.

F. Warranty

Item	Parameter
Warranty	Control module: One year Reels & Pushrod: One year Camera heads: One year Accessories: One year

G. Warnings



Dimensions and weight conversions are approximate (metric data is the most accurate). Shipping dimensions and weight are approximate.

The LCD display used in this product is an consumer products and models may change. Vivax-Metrotech Corporation attempts to ensure that the minimum features listed here are present in every LCD, some additional features may change from model to model.

Vivax-Metrotech Corporation continues to update and improved its products. The information in these specifications are subject to change, obsolescence, or superseding. Check with your local sales representative or Vivax-Metrotech Corporation for updates.

*Contact your local distributor or service center for more detail and ordering information on aftermarket skids.

*Distance counter show on LCD should be used for an estimate. Care should always be used by actual locating the camera head with a sonde locator or pipe and cable locator.

All products are designed and manufactured in accordance with ISO 9001:2008.

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