Mentor Visual iQ™
VideoProbe™

Put the power of productivity in your hands

For industries that depend on critical visual inspections, the experts now have a better choice

Introducing the portable, connected VideoProbe from GE with 3D Phase Measurement

Spec Sheet

Powerful, portable, fast, connected.

The Mentor Visual iQ advanced VideoProbe is packed with features to help you make better decisions about critical assets and improve inspection productivity.

- Easy to operate using either optically bonded multipoint touchscreen and on-screen keyboard, or ergonomic joystick and hard keys

- Color SUPER HAD™ CCD video camera with 5x digital zoom and a new ground-up image processing system

- View crisp images and increase probability of detection on a 6.5" (16.5 cm) active matrix XGA color LCD, daylight readable display

- Capture crystal clear live video and still images with Adaptive Noise Reduction (ANR) and High Dynamic Range (HDR) still image capture

- Advanced analysis using improved 3D Phase Measurement (6.1mm diameter probe) or stereo (8.4mm, 6.1mm or 4mm diameter probes)

- Portable, lightweight, ergonomic design (6.75 pounds (3.0 KG) out of case)

- Rugged durability – designed to IP65, MIL STD 461F and MIL STD 810G standards

- Dual-Band Wi-Fi and Bluetooth 4.0 enabled

- Menu Directed Inspection (MDI) software in 14 languages digitally guides inspectors through the inspection process, intelligently names files and creates MS Word® and PDF compatible inspection reports

- Master advanced features faster and eliminate cumbersome paper manuals with on-device user manuals and context based help links

- 16 GB Internal SSD for user data storage

- Two USB 3.0 host 'A' ports, one USB 3.0 client micro 'B' port

- Powered by high-capacity interchangeable, rechargeable lithium ion batteries which are compliant with air travel regulations. With the charging circuit built into the batteries, no charging cradle is required

- Interchangeable high resolution 4.0mm and 6.1mm diameter probes available in multiple lengths to suit a variety of industries and applications

- Full tip optic interchangeability with secure double threads

- High intensity LED light source and advanced processing for improved image brightness

- Insertion tube markings for easy setup and reference

- Choose from a variety of customizable "Magic-arm" handset mounts in several sizes

- Your choice of ultraportable rolling carry-on case or roomier work station model configured to hold multiple probes and accessories

Choose the Right Tool for Your Inspection Job

Mentor Visual iQ VideoProbe* is available in three customized platform configurations to meet inspection needs across industries and applications.

Mentor Visual iQ Inspect
Best in class image quality and connectivity at a value price

Mentor Visual iQ Touch
Improve productivity with quick change probes and touch screen

Mentor Visual iQ Analyze
Our most capable VideoProbe with 3D Phase Measurement, extreme image quality and greater Probability of Detection

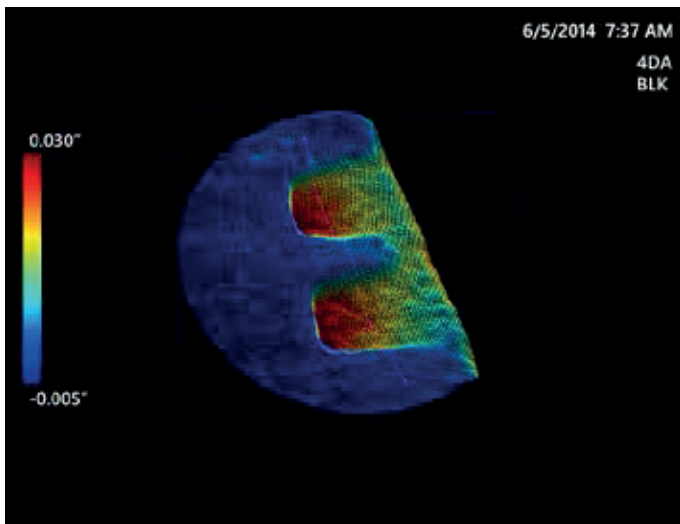| System	Inspect	Touch	Analyze
Capability			
Hard button/joystick interface	Y	Y	Y
IP65 / MIL-810 field durability and ruggedness	Y	Y	Y
QuickChange battery pack	Y	Y	Y
Connectivity • Wi-Fi/Bluetooth • Network drive mapping • InspectionWorks-ready	Y	Y	Y
Comparison Measurement	Y	Y	Y
Can be upgraded to Touch or Analyze configurations	Y	Y	Included
16 GB internal memory	N	Y	Y
QuickChange probes	N	Y	Y
Choose from multiple probe lengths and diameter configurations	N	Y	Y
Compatible with Custom Probes, i.e., LongSteer, UV, etc.	N	Y	Y
Menu Directed Inspection image management and reporting	N	Y	Y
Touchscreen interface	N	Y	Y
3D Phase Measurement	Upgrade	Upgrade	Y
Stereo Measurement	Upgrade	Upgrade	Y
Probability of Detection Suite • HDR Image Quality - View & Save • Adaptive Noise Reduction • Distortion Correction with Wide FOV tips • Image Transform Presets	Upgrade	Upgrade	Y

3D Phase Measurement

For critical equipment inspections, Mentor Visual iQ with 3D Phase Measurement provides precision and productivity.

This innovative measurement technology, available only from GE, enables inspectors to both view and measure a defect using a single tip optic, eliminating the extra steps required to back out, change the tip and then relocate the indication.
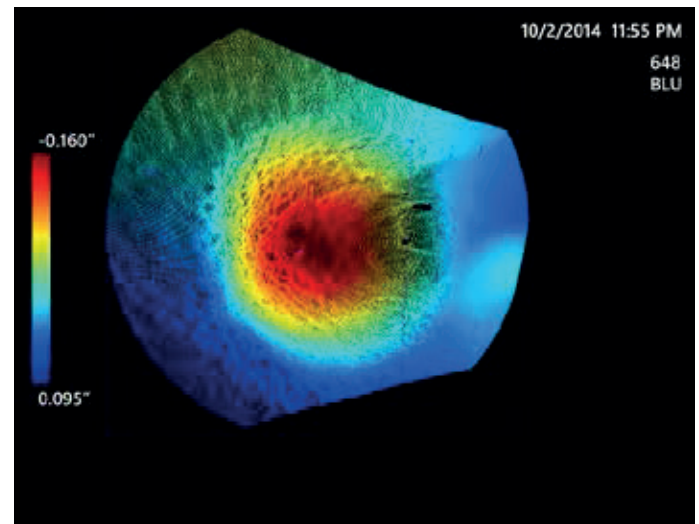
In effect, 3D Phase Measurement provides accurate measurement "on-demand" while saving time and increasing overall inspection productivity.

The 3D Phase Measurement combined with the Mentor Visual iQ can create a 3D surface scan of the viewing area and can measure all aspects of surface indications using a 3D scan. The probe creates a new type of measurement called Profile View, a cross section view of the surface, allowing inspectors to better visualize the shape and characteristics of an indication and make a well informed decision on the serviceability of the asset.

3D Phase Measurement comes standard on the Mentor Visual iQ Analyze model, and can be added as an optional upgrade to Mentor Visual iQ Touch and Inspect.
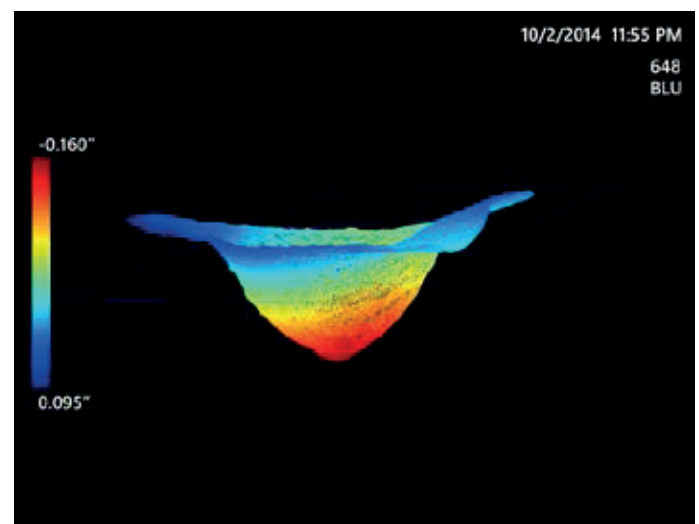

3d point cloud image

Surface Pit Depth Map

Surface Pit Normal View with Depth

Surface Pit Depth Map Rotated

Specialty and Custom Probes

At GE we recognize that every inspection application has its unique challenges. That's why we provide a variety of specialty and customer probes. For example, the LongSteer™ probe provides the same great image quality, light output and articulation as standard probes in lengths of up to 30 meters. Don't see what you need in our product catalog? Ask your sales manager for more information about specialty and custom probe configuration options.

Remote Collaboration with InspectionWorks Connect

For the first time, live video from the Mentor Visual iQ VideoProbe can now be viewed in real time from a PC, tablet or smartphone across the room or around the world. The InspectionWorks Connect remote collaboration tool allows two-way collaboration and image annotation with field inspectors in real time using Wi-Fi connectivity. By putting extra eyes on inspections, you'll benefit from greater expertise, improved probability of detection, better inspection productivity and reduced costs. InspectionWorks Connect operates on all models of Mentor Visual iQ with an additional licensing fee. See how remote collaboration can improve your inspections today.

Appendices
Technical Specifications - Handset

Operating Temperature

Tip	-25ºC to 100ºC (-13ºF to 212ºF). Reduced articulation below 0ºC (32ºF)
System	-20º to 46ºC (-4ºF to 115ºF). LCD may require warm-up period below 0ºC (32ºF)
Storage Temperature	-25º to 60ºC (-13ºF to 140ºF)
Relative Humidity	95% max, non-condensing
Waterproof	Insertion tube and tip to 14.7 psi (1 bar, 10.2 m of H_2O, 33.5 ft of H_2O)

Camera

Diameter Probe	4.0 mm (0.16"), 6.1 mm (0.24"), 8.4 mm (0.33")
Image Sensor	1/6" Color SUPER HAD™ CCD camera (6.1) 1/10" (4.0 mm)
Pixel Count	440,000 pixels
Housing	Titanium

System

System Dimensions	17.1 x 19.7 x 38.1 cm (6.75 x 7.75 x 15")
Case Dimensions (Standard)	Small standard case 35.0 x 54.5 x 23.0 cm (13.78 x 21.46 x 9.05") Large case 57.2 x 56.3 x 41.2 cm (22.52 x 22.16 x 16.22")
System Weight	In small case with contents: 10.2 kg (22.4 lbs). In large case with contents: 19.6 kg (43.2 lbs) Out of Case: 6120 system - 3.0 kg (6.7 lbs). 61100 system - 4.0 kg (8.7 lbs)
Construction	Magnesium and Polycarbonate housing with integrated elastomeric bumpers
LCD Monitor	Integrated (6.5") active matrix XGA color LCD, daylight readable display, with opticallybonded, multipoint capacitive Dragontrail™ touchscreen (Touchscreen available only on Analyze and Touch models)
Joystick Control	360º All-Way® tip articulation, menu access, and navigation
Button Set	Access user functions, measurement, and digital functions
Audio	Integrated 3.5mm headset / microphone jack or bluetooth headset
Internal Memory	16 GB SSD for user storage (Internal memory only available on Analyze and Touch models)
Data I/O Ports	Two USB 3.0 host 'A' ports, one USB 3.0 client micro 'B' port
Video Out	DisplayPort
Brightness Control	Auto and Variable
Illumination Type	White LED
Long Exposure	Auto - up to 16 seconds
White Balance	Factory default or user defined

Power

Lithium Ion Battery	10.8V (nominal), 73Wh, 6.8Ah

Power Supply

AC	100-240VAC, 50-60Hz, <1.5A RMS
DC	18V, 3.34A

Standards Compliance and Classifications

MIL-STD-810G	United States Department of Defense Environment Tests Sections 501.5, 502.5, 507.5, 510.5, 511.5, 514.5, 516.5, 521.5
MIL-STD-461F	U.S. Department of Defense — Electromagnetic Interference RS103 - ABOVE DECK
Standards Compliance	Group 1, Class A: EN61326-1, UL, IEC, EN CSA-C22.2:61010-1, UN/DOT T1-T8
IP Rating	IP65 (assembled), IP55 (disassembled)

Software

Operating System	Embedded multi-tasking operating system
User Interface	Menu-driven and soft button operation; menu navigation using either touchscreen or joystick (Touchscreen only available on Analyze and Touch models)
File Manager	Embedded file manager supports the following operation on files and folders: copy, cut, create, rename, delete, filter and sort. USB and internal flash storage
Audio Data	PC Compatible ACC (.M4A file) format
Image Control	Invert, Inverse+, Adaptive Noise Reduction, Distortion Correction, Illumination, Brightness, Long Exposure, Single View, Zoom (5x digital), Image Capture and Recall
Digital Zoom	Continuous (5x)
Image Formats	Bitmap (.BMP), JPEG (.JPG)
Video Format	MPEG4 AVC/H.264 (.MP4 file)
Text Annotation	Built-in full-screen text overlay generator
Graphic Annotation	User placement of arrows
Articulation Control	User-selectable steer and steer & stay articulation; tip "Home" return to neutral forward-tip orientation
Software Updates	Field upgradeable via USB ThumbDrive®
Languages	English, Spanish, French, German, Italian, Russian, Japanese, Korean, Portuguese, Chinese, Polish, Hungarian, Finnish and Swedish
Application Software	Menu Directed Inspection (MDI) software digitally guides inspectors through the inspection process, intelligently names files and creates MS Word® and PDF compatible inspection reports (MDI only available on Analyze and Touch models)

Appendices

Technical Specifications - Probes and Tips

Probe Measurements

Diameter	Length
4.0 mm (0.15")	2.0, 3.0 m (6.6, 9,8 ft.)
6.1 mm (0.24")	2.0, 3.0, 4.5, 6.0, 10.0 m (6.6, 9.8, 14.8, 19.7, 32.8 ft.)
8.4 mm (0.33")	2.0, 3.0, 4.5, 6.0, 10.0 m (6.6, 9.8, 14.8, 19.7, 32.8ft)

Longer lengths up to 30 m are available. Contact your sales representative for details.

Tip Articulation

Insertion Tube Length	Articulation
2 m - 4.5 m	Up/Down 160° min, Left/Right 160° min
6 m – 10 m	Up/Down 140° min, Left/Right 140° min

Note: Typical articulation exceeds minimum specifications.

Mentor Visual iQ 4.0mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
T4080FF*	None	80	35-inf	(1.38-inf)
T40115FN	Black	115	4-inf	(.16-inf)
Side View				
T40115SN	Red	115	1-30	(.04-1.18)
T40120SF	Blue	120	6-inf	(.24-inf)
Stereo Measurement				
TM405555FG	Black	55/55-FWD	5-inf	(.20-inf)
TM405555SG	Blue	55/55-SIDE	4-inf	(.16-inf)

*Indicates tip with maximum brightness

Mentor Visual iQ 6.1mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
T6150FF	None	50	50-inf	(2.36-inf)
XLG3T6150FG	White	50	12-200	(.47-7.87)
XLG3T61120FG	Black	120	5-120	(.20-4.72)
XLG3T6180FN	Orange	80	3-20	(.12-.79)
XLG3T6190FF	Yellow	90	20-inf	(.79-inf)
XLG3T6150FB	Purple	50 (45 DOV)	12-80	(.47-3.15)
T6165FF*	Orange & Blue	65	65-inf	(2.56-inf)
Side View				
XLG3T6150SF	Brown	50	45-inf	(1.77-inf)
XLG3T6150SG	Green	50	9-160	(.35-6.30)
XLG3T61120SG	Blue	120	4-100	(.16-3.94)
XLG3T6180SN	Red	80	1-20	(.04-.79)
3D Phase Measurement				
XL4TM61105FG (forward version)	Black	105	8-250	(.31-9.84)
XL4TM61105SG (side version)	Blue	105	7-250	(.27-9.84)
XL4TM61105FN-8651	Orange	105	3-120	(.12-4.72)
Stereo Measurement				
XLG3TM616060FG	Black	60/60-FWD	4-80	(.16-3.15)
XLG3TM615050SG	Blue	50/50-SIDE	2-50	(0.8-1.97)

Mentor Visual iQ 8.4mm tips

Part No.	Color	FOV (deg)	DOF mm	(in)
Forward View				
XLG3T84120FN	Black	120	5-200	(.20-7.87)
XLG3T8440FF*	None	40	250-inf	(9.84-inf)
XLG3T8440FG	White	40	80-500	(3.15-19.68)
XLG3T8480FG	Yellow	80	25-500	(.98-19.68)
Side View				
XLG3T8440FF*	Brown	40	250-inf	(9.84-inf)
XLG3T8480SG	Green	80	25-500	(.98-19.68)
XLG3T84120SN	Blue	120	4-200	(.16-7.87)
Stereo Measurement				
XLG3TM846060FG	Black	60/60-FWD	4-50	(.16-1.97)
XLG3TM846060SG	Blue	60/60-SIDE	4-50	(.16-1.97)

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technologia badań wizualnych

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