

Polaris Vicra[®]

Real-time Tool Navigation for Small Tracking Volumes



Bring the power of optical tracking technology to small measurement spaces. The Polaris Vicra[®] uses near-infrared (IR) light to track the 3D positions of retro-reflective markers attached to tools. This tracking capability can be integrated into the workflow of OEM surgical navigation systems, enabling tools to be instantly localized and visualized in a wide range of image-guided applications.

Exceptional Measurement Accuracy

Track tool position and orientation with sub-millimetre measurement accuracy and repeatability. The Polaris Vicra has a volumetric accuracy of 0.25 mm, and 95% confidence interval of 0.5 mm, ensuring the most subtle tool movements are precisely tracked and localized.

Optimized Tracking Volume

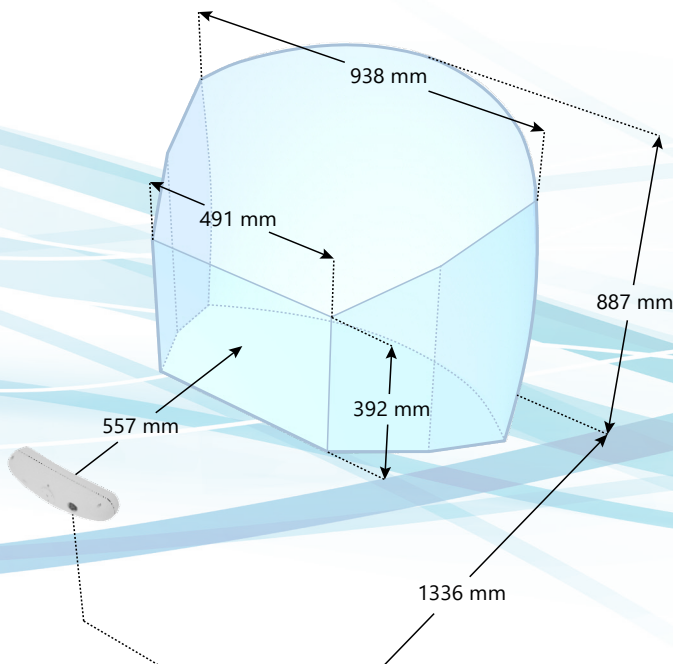
Concentrate tool tracking to localized areas. The Polaris Vicra has a measurement volume that is optimized for targeted tool tracking within confined areas. To complement this smaller measurement volume, Polaris Vicra tool geometries are reduced, and the tools themselves are lightweight.

Compact Hardware Design

Benefit from flexible and convenient tracking. The Polaris Vicra features a compact form factor and weighs just 0.8 kg, which allows it to be mounted or transported almost anywhere. A pre-calibrated measurement volume and quick system start-up add to its portability.

Customizable System Implementation

Integrate optical tracking technology into diverse OEM tool navigation applications. The Polaris Vicra comes with a built-in API that speeds development and integration of application-specific software. The available NDI software suite also provides numerous tools for customizing system use.



Polaris Vicra® Technical Specifications

ACCURACY	
Volumetric ^{1,2} RMS	0.25 mm
95% Confidence Interval ^{1,2}	0.50 mm
PERFORMANCE	
Frame Rate	20 Hz
Measurement Volume	Vicra Volume
DATA COMMUNICATION	
Interface	USB
MECHANICAL	
Dimensions (LxWxH)	273 mm x 69 mm x 69 mm
Weight	0.80 kg
Mounting	¼" thread tripod mount or secured via three M3 x 0.5 mm pitch x 9.0 mm deep threaded holes, rear mount
TOOLS	
Tool Types	Passive, active wireless
Maximum Number of Tools	Load 15, simultaneously track up to 6 passive and 1 active wireless
Maximum Number of Markers Per Tool	6 single-face/20 multi-face for passive or active wireless tools
POWER REQUIREMENTS	
Host USB Converter	24 V DC, 15 W
TEMPERATURE	
Operating Temperature	10°C – 30°C
Storage Temperature	-10°C – 50°C
APPROVALS	
Electrical Safety	EN 60601-1:2012 reprint +AC:2010 / IEC 60601-1:2005 +C1:2006 + C2:2007+AM1:2012 ANSI/AAMI ES60601-1:2005/(R)2012 CANS/CSA-C22.2 No.60601-1:14
Electromagnetic Compatibility	EN 55011:2009 +A1:2010 / CISPR 11:2009 +A1:2010 FCC15 Class B, ICES-003, EN 60601-1-2:2014 (4th ed.) JIS T 06010-1-2:2002

¹ Based on a single marker stepped through more than 900 positions throughout the measurement volume using the mean of 30 samples at each position at 20°C

² Accuracy stated based on overall volume.



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Printed in Canada - June 2018. NDI P/N 10001248 (Rev 001)