



Polaris Lyra[®]

Explore new navigation possibilities in OEM applications within confined spaces with NDI's compact optical tracker.

NDI's compact optical tracker, the Polaris Lyra, is equipped with a small footprint, short stand-off, and a wide measurement volume, making it the ideal solution for applications focused on an individual body segment. Low data latency, a high measurement rate, and high accuracy add to the trusted reliability offered by the Polaris[®] suite of products.



Exceptional Accuracy and Performance

The Polaris Lyra tracks 6D tool positions with sub-millimetre measurement accuracy and repeatability. OEM surgical tool movements are precisely tracked and localized in real-time, with a measurement rate up to 125 Hz, volumetric accuracy of up to 0.20 mm.

Technical Specifications

PERFORMANCE	
Volumetric Accuracy ^{1,2} RMS	0.20 mm Pyramid Volume 0.25 mm Extended Pyramid Volume
95% Confidence Interval ^{1,2}	0.40 mm Pyramid Volume 0.50 mm Extended Pyramid Volume
Maximum Frame Rate	125 Hz
Measurement Volumes	Pyramid Volume Extended Pyramid Volume
HARDWARE	
Dimensions (L x W x H)	276 mm x 78 mm x 70 mm
Weight	0.8 kg +/- 0.05 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
TOOL TRACKING	
Tool Types	Passive, Active Wireless, Active Wired
Maximum Number of Tools	Load up to 25 tools total – a mix of active wired, active wireless, and passive tools. Simultaneously track up to 6 passive tools, 6 active wireless tools, and 3 active wired tools.
Maximum Number of Markers per Tool	6 single-face / 20 multi-face
DATA COMMUNICATION & CONNECTIVITY	
Data Communication	Gigabit Ethernet
Communication Protocol	TCP, UDP
Data/Power Interface	Ethernet, RJ45 PoE+ (IEEE802.3 at Type 2)
Synchronization Interface	General Purpose Input/Output (GPIO) Hardware Port

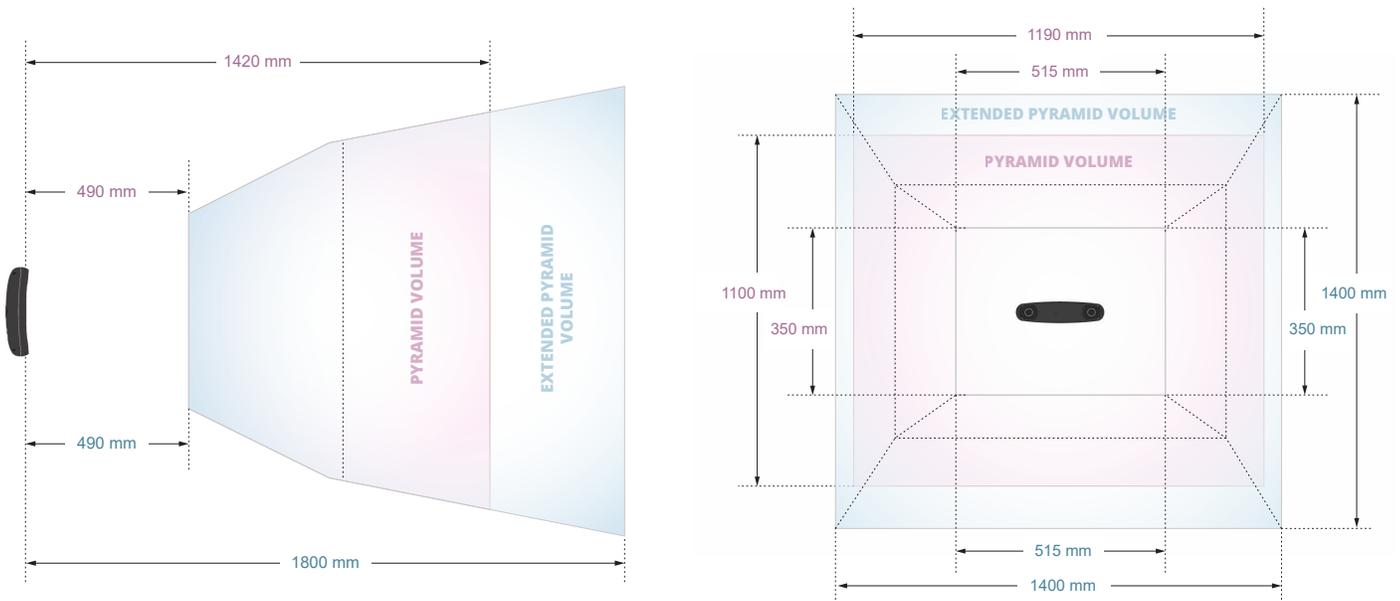
¹ Based on a single marker stepped through more than 900 positions throughout the measurement volume using the mean of 30 samples at each position at 20°C.

² Accuracy is stated based on overall volume.

Large Measurement Volumes

The Polaris Lyra has a measurement volume that is optimized for tool tracking within a confined and localized area. The Lyra can track compact tool geometries allowing for small, more ergonomic instruments that support precise movements.

Measurement Volumes



Head Office

Waterloo, ON Canada

☎ +1 (877) 634-6340
✉ info@ndigital.com
🌐 www.ndigital.com

Shelburne, VT USA

☎ +1 (802) 985-1114
✉ info@ndigital.com
🌐 www.ndigital.com

Radolfzell, Germany

☎ +49 7732 8234 0
✉ info@ndieurope.com
🌐 www.ndieurope.com

Hong Kong, China

☎ + (852) 2802-2205
✉ apinfo@ndigital.com
🌐 www.ndigital.cn

©2022 Northern Digital Inc. All rights reserved. NDI, Polaris, are registered trademarks of Northern Digital Inc. Manufacture, use, and/or sale covered by one or more US and other registered patents. Our patented technological innovations can be found at www.ndigital.com/about/patents. The Polaris is a general-purpose metrology instrument and is not approved, cleared or developed for medical use. Suitability of the Polaris and its tools in a particular application must be determined by the OEM customer or end user. Testing, certification, and validation are the responsibility of the original equipment manufacturer or the end user and should be completed prior to use in any medical application, or any other application involving living humans. Due to continuous product improvement specifications are subject to change without notice.

Printed in Canada JAN 2023 – P/N DOC10006585 Rev003