

FARO® Vantage^{S6} Max and Vantage^{E6} Max Laser Trackers with 6DoF Probe

Optimize Throughput While Maintaining High-Inspection Accuracy

The FARO® Vantage^{S6} Max and Vantage^{E6} Max Laser Trackers offer comprehensive, large-volume 3D measurement up to 80 meters, significantly streamlining your organization's processes and reducing inspection cycle times — all while ensuring complete confidence in the results.

Vantage Max laser trackers maximize 6 degrees of freedom (6DoF) measurement capabilities via the optional 6Probe, enabling precise measurement of hidden areas and small features.

The 6Probe is a 6DoF solution that meets the dynamic measurement, speed, and accuracy requirements of the most challenging industrial applications. With kinematic self-identifying styli, you can change probing tips quickly and measure without any recalibration, plus measure hidden areas outside of the tracker's line of sight with wide acceptance angles.

The typical user of the Vantage Max can save up to 60 minutes of time on any given workday — with a total productivity improvement of 20% compared to lower accuracy probes.

The Vantage Max enables organizations to build, inspect and measure products and parts quickly, simply and precisely with exceptional portability, increasing throughput while maintaining high inspection accuracy.



Key Features and Benefits

- Eliminate SMR nests
- Measure hidden areas outside of the tracker's line of sight, while limiting device movements
- Change probing tips on the fly with kinematic self-identifying styli
- Enable CMM-style probing in small, tight and hard-to-reach spaces
- Quickly scan surfaces with high-density using a 1,000 Hz measurement rate of single beam iADM
- Locate targets quickly in a wide area with 50 degree FOV cameras and ActiveSeek™
- Supports the patented Super 6DoF TrackArm solution, which allows the Vantage Max and one or more FARO ScanArms to work together to create an integrated contact and noncontact 3D measurement system. Probe and scan up to 60 meters away without line of sight by measuring with Super 6DoF TrackArm
- Easy to transport with no external control unit
- Measure far from stable power with hot-swappable batteries
- Bring the software to where you measure with Integrated WLAN
- Place the tracker where you need it with support for horizontal, upside down, or angled mounting
- Eye-safe Class 1 laser can be used in more facilities without additional PPE
- Control the tracker and see live video feed from a mobile phone or tablet with RemoteControls™
- Reliably measure in challenging environments with IP52 rating and rigorous tests for shock, vibration, temperature, and humidity

Specifications

| | Vantage ^{S6} Max | Vantage ^{E6} Max |
|---|---|---------------------------|
| Select SMR Range | 0 – 80m ^a | 0 – 35m |
| 7/8" and 1.5" SMR Range | 0 – 60m | 0 – 35m |
| .5" SMR Range | 0 – 30m | 0 – 30m |
| Minimum 6DoF Range | 2.5m | |
| Maximum 6DoF Range | 15m | |
| Angular Accuracy ^b | 20µm + 5µm/m | |
| Distance Accuracy ^b | 16µm + 0.8µm/m | |
| Distance Resolution | 0.5µm | |
| Probing Accuracy ^c | 50µm + 5µm/m | |
| 6DoF Maximum Roll | 360 degrees | |
| 6DoF Maximum Pitch and Yaw ^d | 25 degrees (compounded) | |
| Level Accuracy | +/- 2 arcseconds | |
| Data Rate | 1000 points per second | |
| Camera Field of View | 50 degrees | |
| Laser Emission ^e | Class 1 laser product: 630-640nm laser, 0.39 milliwatt max/cw | |

| | Vantage ^{E6/S6} Max | 6Probe |
|---------------------------------|--|--|
| Temperature | 0 to 40°C | 0 to 40°C |
| Humidity | 0 to 95% non-condensing | 0 to 95% non-condensing |
| Altitude | -700 to 9000m | -700 to 9000m |
| Ingress Protection ^f | IP52 | IP 52 |
| Size (W x H x D) | 240 x 416 x 240mm | 112 x 285 x 140mm (with 50mm tip) |
| Weight | 13.4kg (29.5lbs) | 886 grams (with battery & 50mm tip) |
| AC Power | 100-240V, 75W | N/A |
| Battery Power | 8 hours continuous operation (2 batteries) | 2-4 hours continuous use, 8+ hrs typical |
| Data Rate | 1000 Hz | 1000 Hz |
| Connectivity | Ethernet RJ45 supporting gigE or WLAN (802.11n or earlier) | FHSS RF Module (ISM band) |

Point to Point Accuracy^b

| In-Line Distance Measurement ^g | | | | |
|---|-------------------|--------------------|---------------------|----------------------------------|
| Length | 2-5m (6.6-16.4ft) | 2-10m (6.6-32.8ft) | 2-35m (6.6-114.8ft) | 2-80m ^a (6.6-262.5ft) |
| Distance | 3m (9.8ft) | 8m (26.2ft) | 33m (108ft) | 78m (255.9ft) |
| ADM | MPE ^b | 0.018mm (0.0007in) | 0.022mm (0.0009in) | 0.042mm (0.0017in) |
| | Typical | 0.009mm (0.0004in) | 0.011mm (0.0004in) | 0.021mm (0.0008in) |



| Horizontal Scale Bar Measurement 2.3m (7.55ft) ^g | | | | | | | | | |
|---|------------------|--------------------|--------------------|--------------------|----------------------------|---------------------|--------------|--------------------|--------------------|
| Range | 2m (6.6ft) | 5m (16.4ft) | 10m (32.8ft) | 35m (144.8ft) | 80m ^a (262.5ft) | Range | 2.5m (8.2ft) | 10m (32.8ft) | |
| SMR | MPE ^b | 0.044mm (0.0017in) | 0.064mm (0.0025in) | 0.099mm (0.0039in) | 0.276mm (0.0109in) | 6Probe ^h | 2σ | 0.046mm (0.0018in) | 0.073mm (0.0029in) |
| | Typical | 0.022mm (0.0009in) | 0.032mm (0.0013in) | 0.049mm (0.0019in) | 0.138mm (0.0054in) | | | | |

^a 80m only possible on Vantage ^{S6} Max with select targets at 10-35°C (50-95°F)

^b MPE (Maximum Permissible Error) and all accuracy specs based on ISO 10360-10:2016 verified to 75m

^c MPE based on ISO 10360-10:2016 reported as radius of the minimum circumscribing sphere with 50mm tip

^d With latest 6Probe

^e Product complies with radiation performance standards under the Food, Drug, and Cosmetics Act, International standard IEC 60825-1 2001-8, and IEC 62471

^f Per IEC 60529

^g With integrated weather station

^h Measuring with 6Probe in the same orientation on both ends of the scale bar



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