Leica Absolute Tracker AT401 accuracy

All accuracies are specified with Leica Geosystems precision 1.5" Red Ring Reflectors and a measurement mode of 2 seconds per point under stable environmental conditions. Full range is specified as 1.5 to 80 meters away from the laser tracker within a vertical range of -/+ 45°.

All accuracies are stated in maximum permissible error (MPE). Typical results are half of MPE.

UXYZ - Full Range

The measurement uncertainty of a coordinate "UXYZ" is defined as the deviation between a measured coordinate and the nominal coordinate of that point. This measurement uncertainty is specified as a function of the distance between the laser tracker and the measured point.

AT401:

+-15 mm + 6 mm/m (+-0.0006" + 0.00004'/ft)

Dimensions

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor Size</td>
<td>290 x 221 x 188 mm (11.4&quot; x 8.7&quot; x 7.4&quot;)</td>
</tr>
<tr>
<td>Sensor Weight</td>
<td>7.3 kg (16 lbs)</td>
</tr>
<tr>
<td>Controller Size</td>
<td>250 x 112 x 63 mm (9.8&quot; x 4.4&quot; x 2.5&quot;)</td>
</tr>
<tr>
<td>Controller Weight</td>
<td>0.8 kg (1.75 lbs)</td>
</tr>
</tbody>
</table>

Range

Infinite Horizontal Rotation: ±360°
Infinite Vertical Rotation: ±145°

Typical working Volume: 320 m

Environmental

Dust/Water: IP54 (IEC 60529)
Operating Temperature: 0°C to +40°C
Relative Humidity: Max. 95% (non-condensing)
Altitude: -700 m to 5500 m (-2,300 to 18,000 ft)

Motorization

Acceleration: 160'/s²
Rotation Speed: 180'/s
PowerLock: 10° FOV

Absolute Angular Performance

Resolution: 0.07 arc seconds

Accuracy (MPE): ±15° + 1°/m (+/-0.0006° + 0.00004°/ft)
Repeatability (MPE): ±7.5 mm + 3 mm/m (+/-0.0003° + 0.00004°/ft)
Inclination Setting Accuracy (2°): +1-1 arc second

Absolute Distance Performance

Resolution: 0.1 um

Accuracy (MPE): ±10 µm (+/-0.00039"
Repeatability (MPE): ±5 um (+/-0.0002")

General Information

Overview Camera (OVC)

4:3 IR enhanced Image, 10° FOV

Environmental Monitor

Internal - Temperature, Pressure and Humidity
External - Air Temperature - Object Temperature

Remote Control

Integrated 4 Button IR

Infrared thermocamera

Cable - TCP/IP (Cat5)
Wireless - WLAN (IEEE 802.11g)

Power Management

Internal - Lithium-ion battery
External - AC power supply
Optional - Power Over Ethernet (PoE+)