

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.

XYZ - 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:

$\pm 15 \mu\text{m} + 6 \mu\text{m}/\text{m} (\pm 0.0006" + 0.00007"/\text{ft})$

Specifications

Dimensions

Sensor Size 290 x 221 x 188-mm (11.4" x 8.7" x 7.4")

Sensor Weight: 7.3 kg (16 lbs)

Controller Size: 250 x 112 x 63 mm (9.8" x 4.4" x 2.5")

Controller Weight: 0.8 kg (1.75 lbs)

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 to 5500 m (-2,300 to 18,000 ft)

Motorization

Acceleration: 360°/s²

Rotation Speed: 180°/s

PowerLock: 10° FOV

Absolute Angular Performance

Resolution: 0.07 arc seconds

Accuracy (MPE): $\pm 15 \mu\text{m} + 6 \mu\text{m}/\text{m} (\pm 0.0006" + 0.00007"/\text{ft})$

Repeatability (MPE): $\pm 7.5 \mu\text{m} + 3 \mu\text{m}/\text{m} (\pm 0.0003" + 0.00004"/\text{ft})$

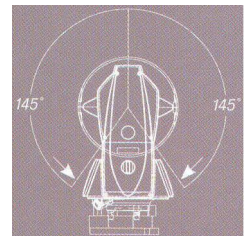
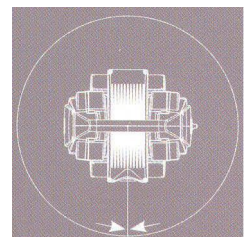
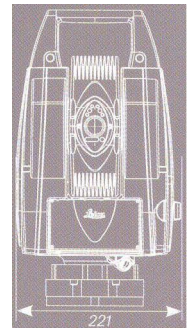
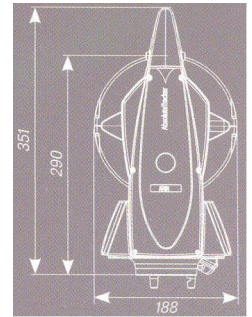
Inclination Setting Accuracy (20): +/- 1 arc second

Absolute Distance Performance

Resolution: 0.1 μm

Accuracy (MPE): $\pm 10 \mu\text{m} (\pm 0.00039")$

Repeatability (MPE): $\pm 5 \mu\text{m} (\pm 0.0002")$



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

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

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