

FARO Laser Tracker ION™



Agile ADM

Acquire targets even if they are moving; no need to switch between ADM and IFM systems

SelfComp

Automatically tunes Laser Tracker parameters to ensure high accuracy

Versatile Mounting Options

Mounts vertically, horizontally or upside down*, providing versatility in tight or congested areas

*Inverted mounting requires the use of the integrated threaded ring.

Instant-On Laser

No warm-up of the laser tube is required

Smart Warm-Up

Accelerates the stabilization time in order to minimize the initial temperature changes' impact on measurements

Integrated Weather Station

Monitors and compensates for changes in temperature, air pressure and humidity

Integrated Precision Level

Establishes level to gravity within the measurement job

World's Most Accurate Large Volume Laser Tracker

The FARO Laser Tracker ION is an extremely accurate, portable coordinate measuring machine that enables you to build products, optimize processes, and deliver solutions by measuring more quickly, simply and precisely than previously possible. The ION is the most accurate laser tracker available based on the most common types of measurement applications. It also features a longer measurement range, lighter weight, and contains the fastest, most sophisticated distance measuring system: Agile Absolute Distance Meter (aADM).

Common Applications

Alignment: Real-time feedback of object positioning

Installation: Lay out / level machine foundation

Part Inspection: Digital record of actual vs nominal data

Tool Building: Set up and inspect tools with only one person

Reverse Engineering: Acquire high accuracy digital scan data

Features

- ▶ 0.049mm volumetric accuracy at 10m
- ▶ 110m* diameter range
- ▶ Agile ADM instant beam acquisition
- ▶ As light as 17.7kg
- ▶ High performance, real-time dynamic measurements

*with selected targets

System Specifications

Dimensions

Head size: 311(W) x 556(H) mm
 Head weight: 17.7kg (19.5kg w/IFM option)
 Controller size: 282(L) x 158(D) x 214(H) mm
 Controller weight: 5.2kg

Range

Horizontal envelope: +/- 270°
 Vertical envelope: +75° to -50°
 Minimum working range: 0 meters
 Maximum working range: 55m with select targets
 40m with standard 1.5" & 7/8" SMRs
 30m with standard 1/2" SMR

Environmental

Altitude: -700 to 2,450 meters
 Humidity: 0 to 95% non-condensing
 Operating Temperature: -15°C to 50°C

Laser Emission**

633-635 nm Laser, 1 milliwatt max/cw.
 Class II Laser Product

Distance Measurement Performance***

Agile ADM

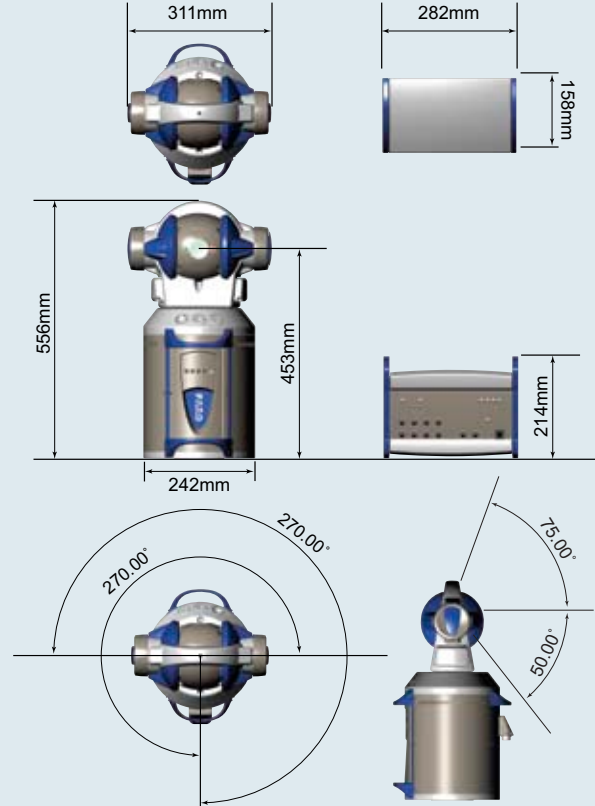
Resolution: 0.5µm
 Sample rate: 10,000/sec
 Accuracy: 8µm + 0.4µm/m
 R0 Parameter: 8µm

Optional Interferometer

Resolution: 0.158µm
 Accuracy: 2µm + 0.4µm/m
 Maxim. radial velocity: 4m/sec
 R0 Parameter: 8µm

Angle Measurement Performance***

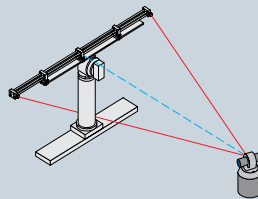
Angular accuracy: 10µm + 2.5µm/m
 Maximum angular velocity: 180°/sec
 Optional Precision Level Accuracy: +/- 2 arcseconds



Point-to-Point Typical Accuracy***

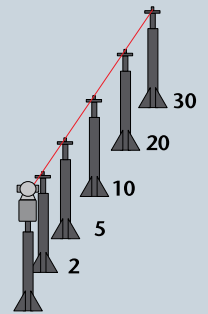
Horizontal Scale Bar Measurement (2.3 m)

Range (m)	ADM (mm)	IFM (mm)
2	0.022	0.021
5	0.032	0.032
10	0.049	0.049
20	0.085	0.085
30	0.120	0.120
40	0.156	0.156
50*	0.191	0.191
55*	0.209	0.209



In-Line Distance Measurement

Length (m)	Distance (m)	ADM (mm)	IFM (mm)
2 - 5	3	0.009	0.003
2 - 10	8	0.011	0.005
2 - 20	18	0.015	0.009
2 - 30	28	0.019	0.013
2 - 40	38	0.023	0.017
2 - 50*	48	0.027	0.021
2 - 55*	53	0.029	0.023



* With selected targets.

** Product complies with radiation performance standards under the food, drug, and cosmetics act and internal standard IEC 60825-1 2001-08.

*** Typical Accuracy shown is half the Maximum Permissible Error (MPE) and variation in air temperature is not included. MPE and all accuracy specifications are calculated per ASME B89.4.19 - 2006 Standard.

Specifications, descriptions, and technical data may be subject to change. **Protected by U.S. patents:** 7327446, 7352446, 7466401

