

# 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*



### 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

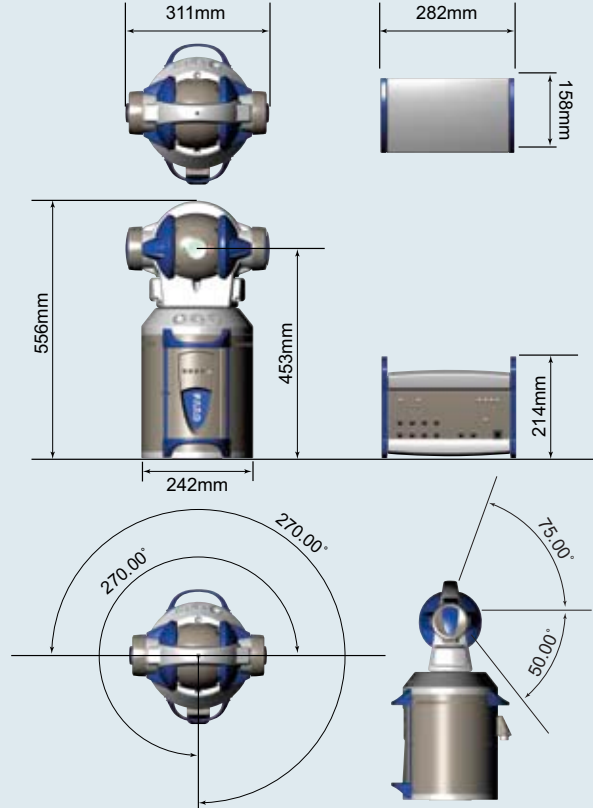
Resolution: 0.5µm  
Sample rate: 10,000/sec  
Accuracy: 8µm + 0.4µm/m  
R0 Parameter: 8µm

#### Optional Interferometer

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

### Angle Measurement Performance\*\*\*

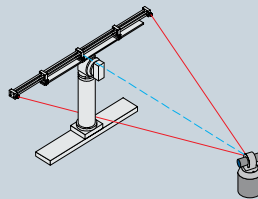
Angular accuracy: 10µm + 2.5µm/m  
Maximum angular velocity: 180°/sec  
Precision Level Accuracy: +/- 2 arcseconds



## Point-to-Point Typical Accuracy\*\*\*

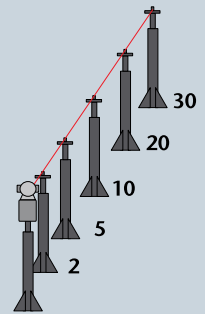
### Horizontal Scale Bar Measurement (2.3 m)

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 international 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

ISO 9001

BUREAU VERITAS  
Certification



Contract Holder



LABORATORY  
ACCREDITATION  
BUREAU

ISO-17025 : 2005

ACCREDITED  
Certificate # L1147