FARO ION
Features, Benefits & Technical Specifications

Features

Dual Distancing Systems
Catch the beam in the air and set the distance instantly with Agile ADM; perform high speed dynamic measurements or high precision in-line measurements with IFM

Smart Warm-Up
Accelerates the thermal stabilization time in order to minimize the initial temperature changes' impact on measurements

SelfComp
Automatically tunes Laser Tracker parameters to maintain system 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.

Integrated Precision Level
Establishes orientation with respect to the gravity vector

Integrated Weather Station
Monitors and compensates for changes in temperature, air pressure and humidity

High Precision IFM-Based Laser Tracker

The FARO Laser Tracker ION is a high precision, portable coordinate measuring machine that enables you to build products, optimize processes, and deliver solutions by measuring more quickly, simply and precisely. Replacing conventional hand tools such as tape measures, piano wire, plumb bobs, and even theodolites - the ION is a more accurate and reliable tool that allows you to streamline your processes and gain confidence in your measurement results.

When performing applications where the highest precision is crucial, such as in-line measurements, high-speed dynamic measurements, or high-accuracy machine calibration, the ION is a state-of-the-art interferometer (IFM)-based measurement system that provides the high accuracy and range you need to complete your measurement tasks.

Benefits

- Advanced technology yet still easy for everyone to use
- Long range for easy measurement of large objects
- High accuracy gives you dependable results to remain competitive
- Solve everyday measurement challenges as well as complex problems that weren't previously possible
- Eliminate rework, which may cost more than the entire measurement system

FARO ION

www.faro.com/laser-tracker

Specifications

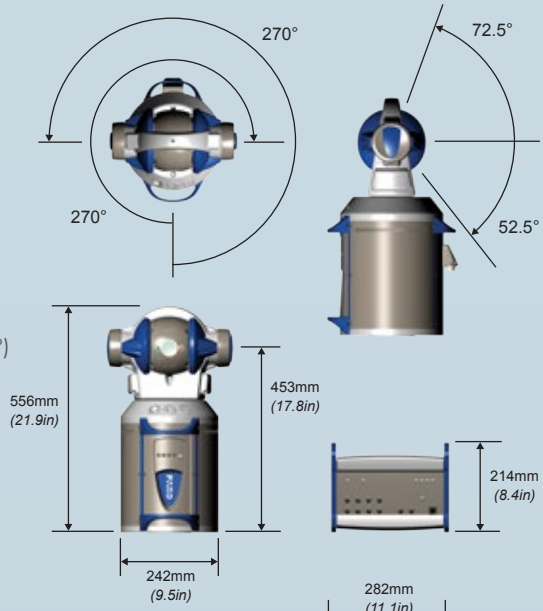
Dimensions

Head size: 311(W) x 556(H)mm *(12.2(W) x 21.9(H)in)*
Head weight: 19.5kg *(43lbs)*
Controller size: 282(L) x 158(D) x 214(H)mm *(11.1(L) x 6.2(D) x 8.4(H)in)*
Controller weight: 5.2kg *(11.5lbs)*

Range

Maximum working range:
55m *(180.4ft)* with select targets
40m *(131.2ft)* with standard 1.5in & 7/8in SMRs
30m *(98.4ft)* with standard 1/2in SMR

Minimum working range: 0m *(0ft)*
Horizontal envelope: +/- 270°
Vertical envelope: 125° (+72.5° to -52.5°)



Environmental

Altitude: -700 to 2,450m *(-2,297 to 8,038ft) with integrated weather station*
Humidity: 0 to 95% non-condensing
Operating temperature: -15°C to 50°C *(5°F to 122°F)*

Laser Emission**

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

Distance Measurement Performance***

AgileADM
Resolution: 0.5µm *(0.00002in)*
Accuracy (MPE): 16µm + 0.8µm/m
(0.00063in + 0.0000096in/ft)
Sample rate: 10,000/sec
R0 parameter (MPE): 16µm *(0.0006in)*

Interferometer
Resolution: 0.158µm *(0.000006in)*
Accuracy (MPE): 4µm + 0.8µm/m
(0.00016in + 0.0000096in/ft)
Maximum radial velocity: 4m/sec *(13.1ft/sec)*
R0 parameter (MPE): 16µm *(0.00063in)*

Angle Measurement Performance***

Angular accuracy (MPE): 20µm + 5µm/m *(0.00079in + 0.00006in/ft)*
Precision level accuracy: +/- 2 arcseconds
Maximum angular velocity: 180°/sec

ISO 9001 BUREAU VERITAS Certification

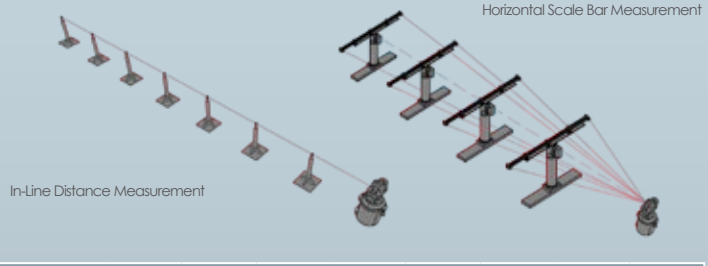
GSA Contract Holder

Point to Point Accuracy***

In-Line Distance Measurement

		Length	2-5m (6.6-16.4ft)	2-10m (6.6-32.8ft)	2-20m (6.6-65.6ft)	2-30m (6.6-98.4ft)	2-40m (6.6-131.2ft)	2-50*m (6.6-164ft)	2-55*m (6.6-180.4ft)
		Distance	3m (9.8ft)	8m (26.2ft)	18m (59ft)	28m (91.9ft)	38m (124.7ft)	48m (157.5ft)	53m (173.9ft)
ADM	MPE		0.018mm (0.0007")	0.022mm (0.0009")	0.030mm (0.0012")	0.038mm (0.0015")	0.046mm (0.0018")	0.062mm (0.0025")	0.078mm (0.0031")
ADM	Typical		0.009mm (0.0004")	0.011mm (0.0004")	0.015mm (0.0006")	0.019mm (0.0008")	0.023mm (0.0009")	0.031mm (0.0012")	0.039mm (0.0015")
IFM	MPE		0.006mm (0.0003")	0.010mm (0.0004")	0.018mm (0.0007")	0.026mm (0.0010")	0.034mm (0.0014")	0.042mm (0.0017")	0.046mm (0.0018")
IFM	Typical		0.003mm (0.0001")	0.005mm (0.0002")	0.009mm (0.0004")	0.013mm (0.0005")	0.017mm (0.0007")	0.021mm (0.0008")	0.023mm (0.0009")

*With selected targets. **Product complies with radiation performance standards under the food, drug, and cosmetics act and international standard IEC 60825-1 2001-08.
***MPE and all accuracy specifications are calculated per ASME B89.4.19 - 2006. Typical Accuracy shown is half the Maximum Permissible Error (MPE). Variation in air temperature is not included.
Specifications, descriptions, and technical data may be subject to change.
Protected by U.S. patents: 7,327,446 7,352,446 7,466,401 7,701,559 8,040,525 8,120,780



Horizontal Scale Bar Measurement (2.3m, 7.55ft)

		Range	2m (6.6ft)	5m (16.4ft)	10m (32.8ft)	20m (65.6ft)	30m (98.4ft)	40m (131.2ft)	50*m (164ft)	55*m (180.4ft)
ADM	MPE		0.044mm (0.0017")	0.064mm (0.0025")	0.099mm (0.0039")	0.170mm (0.0067")	0.240mm (0.0095")	0.311mm (0.0122")	0.382mm (0.0150")	0.417mm (0.0164")
ADM	Typical		0.022mm (0.0009")	0.032mm (0.0013")	0.049mm (0.0019")	0.085mm (0.0033")	0.120mm (0.0047")	0.156mm (0.0061")	0.191mm (0.0075")	0.209mm (0.0082")
IFM	MPE		0.042mm (0.0017")	0.063mm (0.0025")	0.099mm (0.0039")	0.170mm (0.0067")	0.240mm (0.0095")	0.311mm (0.0122")	0.382mm (0.0150")	0.417mm (0.0164")
IFM	Typical		0.021mm (0.0008")	0.032mm (0.0012")	0.049mm (0.0019")	0.085mm (0.0033")	0.120mm (0.0047")	0.156mm (0.0061")	0.191mm (0.0075")	0.209mm (0.0082")

For more information call 800.736.0234
or visit www.faro.com/laser-tracker