

advanced. accurate. versatile.



Laser Tracker ION

features, benefits & technical specifications

innovation to simplify



the 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).

Replacing conventional hand tools such as tape measures, piano wire, plumb bobs, and even theodolites - the FARO Laser Tracker is a more accurate and reliable tool that allows you to streamline your processes and gain confidence in your measurement results. Laser trackers are used in a wide variety of applications, from alignment to installation to large part inspection.

The operation of the Laser Tracker is easy to understand - it measures two angles and a distance. First, the Tracker sends a laser beam to a retroreflective target held against the object to be measured. Light is then reflected off the target and retraces its path, re-entering the Tracker at the same position it left. As light re-enters the Tracker, two angle encoders measure the elevation and rotational angles while a highly accurate distance meter is used to determine the 3D position of the retroreflector.

learn more:

www.faro.com/lasertracker



features

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 use of 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

benefits

benefits to end user

- Advanced technology yet still easy for anyone to use
- Long range for easy measurement of large objects
- Lightweight, easy to handle and transport

benefits to company

- High accuracy gives you dependable results to remain competitive
- Eliminate rework, which may cost more than the entire measurement system
- Agile ADM is the only system fast enough for high density scanning without IFM



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: +72.5° to -52.5°
 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

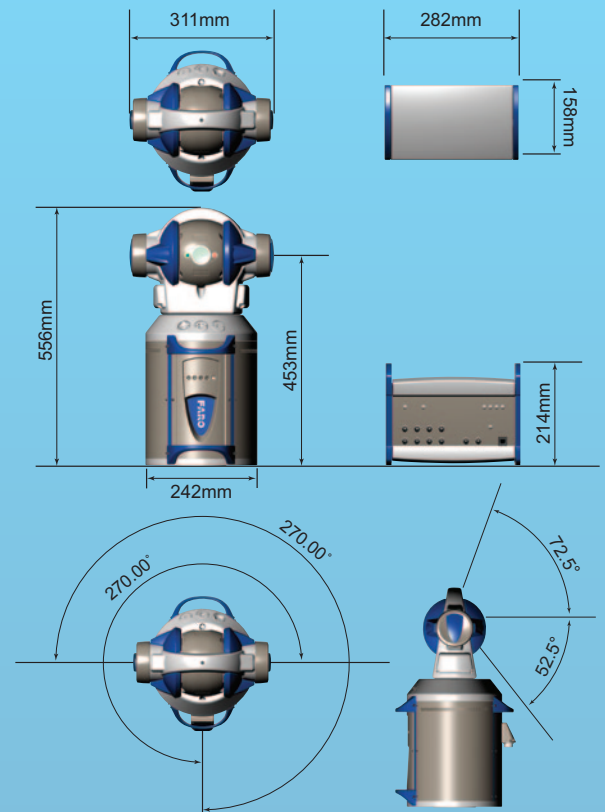
Resolution: 0.5µm
 Sample rate: 10,000/sec
 Accuracy (MPE): 16µm + 0.8µm/m
 R0 parameter (MPE): 16µm

Optional Interferometer

Resolution: 0.158µm
 Accuracy (MPE): 4µm + 0.8µm/m
 Maxim. radial velocity: 4m/sec
 R0 parameter (MPE): 16µm

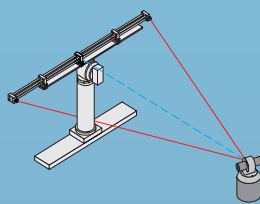
Angle Measurement Performance***

Angular accuracy (MPE): 20 µm + 5 µm/m
 Maximum angular velocity: 180°/sec
 Precision Level Accuracy: +/- 2 arcseconds

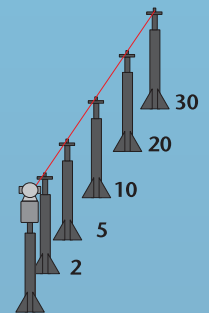


point-to-point typical accuracy***

| 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

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

contact us for more information: www.faro.com or 800.736.0234



Learn more:
www.faro.com/lasertracker

