

RADIAN

Smallest IFM+ADM Laser Tracker



Smart 3D/6D measurement

Combining on-board intelligence with durability and accuracy the **Radian** excels at delivering the most accurate and reliable measurements possible in advanced applications.

FEATURES & BENEFITS



Portability and Flexibility

At less than 9 kg, the Radian sensor can be mounted in any orientation and weighs less than 21 kg fully packed.



Interferometer (IFM) Technology

Built-in Interferometer (IFM) provides unparalleled distance measurement precision as an on-board dimensional reference.



Absolute Distance Measurement (ADM)

High-speed ADM laser supplements the IFM for rapid beam reacquisition with no minimum measurement distance.



6DoF and Target Solutions

Radian interfaces with a range of targeting options including 6 Degree of Freedom (6DoF) Active Target, touch probes, and volumetric scanners.



iVision Video Detection

The iVision camera features video streaming and capture for remote monitoring of measurements and documenting the inspection process.



iVision Autolock Capability

iVision offers Manual, Single, or Multi-Selection target lock-on modes for automated measurement processes.



Virtual Level

The high-accuracy internal level establishes a gravity coordinate frame with just one click.



Environmental Compensation

The Radian's onboard high-accuracy weather station ensures accuracy in different operating conditions from -10° C to 45° C.



Service and Support

The Automated Precision global team provides consistent support anywhere in the world.



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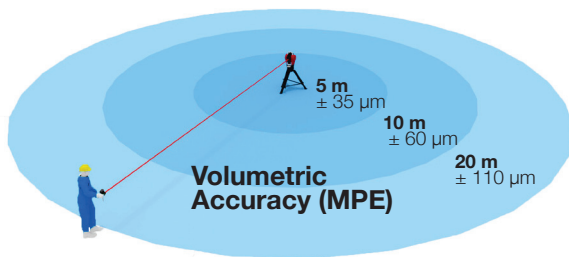
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PRODUCT SPECIFICATIONS

[Metric Units]



*Measurement of a ScaleBar per ASME B89.4.19-2006

**Specifications are listed in MPE

Laser Safety: Class II (IEC60825-1)

Range of Measurements

Linear Range (Diameter) 50 m (100 m)
80 m (160 m) *optional*
20 m (40 m) *optional*

Minimum Measurement Distance 0 m
Azimuth Range ± 320° (640° end to end)
Elevation Range -59° to 79°
Internal Level Range ± 2°

3D Measurement Performance

Volumetric Accuracy (IFM) ± 10 µm + 5 µm/m*

Angular Performance

Axial Angular Accuracy 3.5 µm/m**
Maximum Angular Speed 180° / sec
Maximum Angular Acceleration 180° / sec²
Internal Level Accuracy ± 2 arcseconds

Linear Performance

IFM Accuracy ± 0.5 µm/m**
ADM (Lock-on) Accuracy ± 10 µm **or** 0.7 µm/m**
(whichever is greater)

I-Vision Performance

Field of View 30° (diagonal)
Acquisition Range 2 m up to 40 m

Environmental

Operating Temperature -10° C to 45° C
Relative Humidity 10-95% non-condensing
Altitude -700 m to 3000 m

Dimensions

Tracker Weight 9 kg
Tracker Size 177 x 177 x 355 mm
Controller Weight 3.2 kg
Controller Size 110 x 160 x 310 mm

Controller

Communication Protocol Ethernet

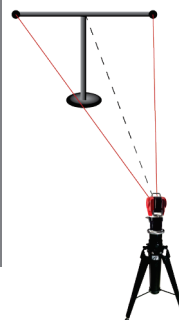
In-Line Distance Measurement

Range	MPE
2 to 5 m	0.002 mm
2 to 10 m	0.004 mm
2 to 20 m	0.009 mm
2 to 50 m	0.024 mm
2 to 80 m	0.039 mm



Scale Bar Measurement

Range	MPE
2 m	0.028 mm
5 m	0.049 mm
10 m	0.085 mm
20 m	0.156 mm
50 m	0.368 mm
80 m	0.580 mm



The **ASME B89.4.19-2006 standard** prescribes a series of tests for evaluating the performance of spherical measurement systems. These values represent the Maximum Permissible Error (MPE) between a verified Scale Bar and the expected performance of the instrument.

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