

# 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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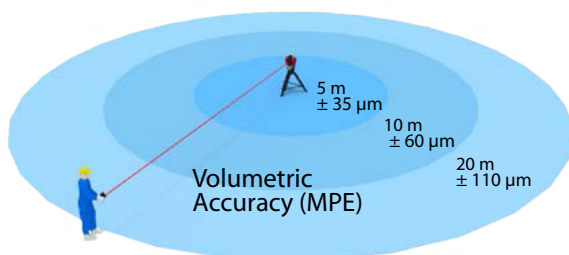
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PRODUCT SPECIFICATIONS  
[Metric Units]



\*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° / sec<sup>2</sup>  
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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**3D TARGET**

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