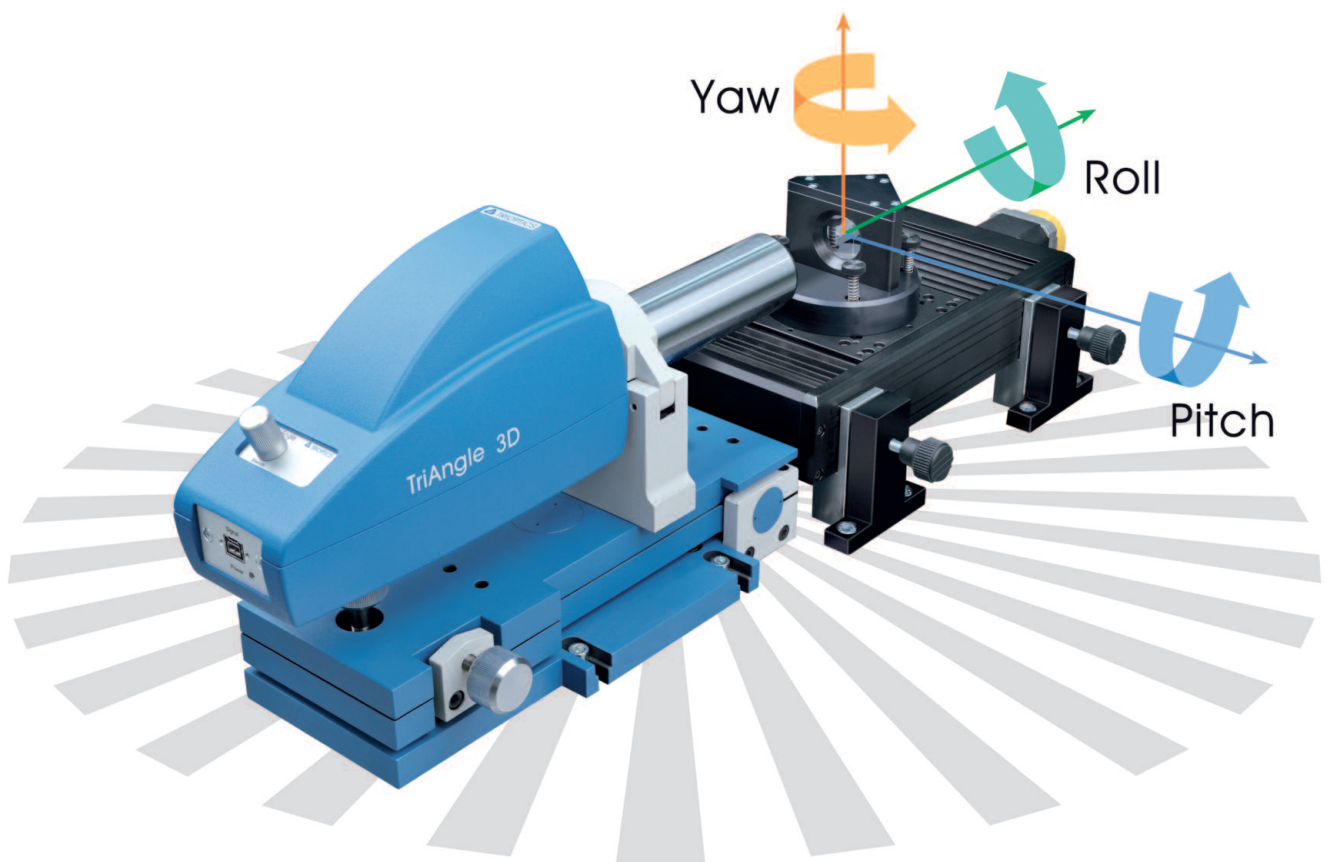


## TriAngle® 3D

**First Electronic Autocollimator  
Measuring Angles in all Three  
Dimensions Simultaneously:  
PITCH, YAW and ROLL ANGLE**



The TriAngle® electronic autocollimators represent high-precision angle measurement systems for high demands on angle resolution and measuring accuracy. The new TriAngle® 3D series combines a proprietary reticle and reflector design with a sophisticated software and enables not only the measurement of the two classical tilt angles square to the beam of light (pitch and yaw) but of the roll angle around the beam as well.

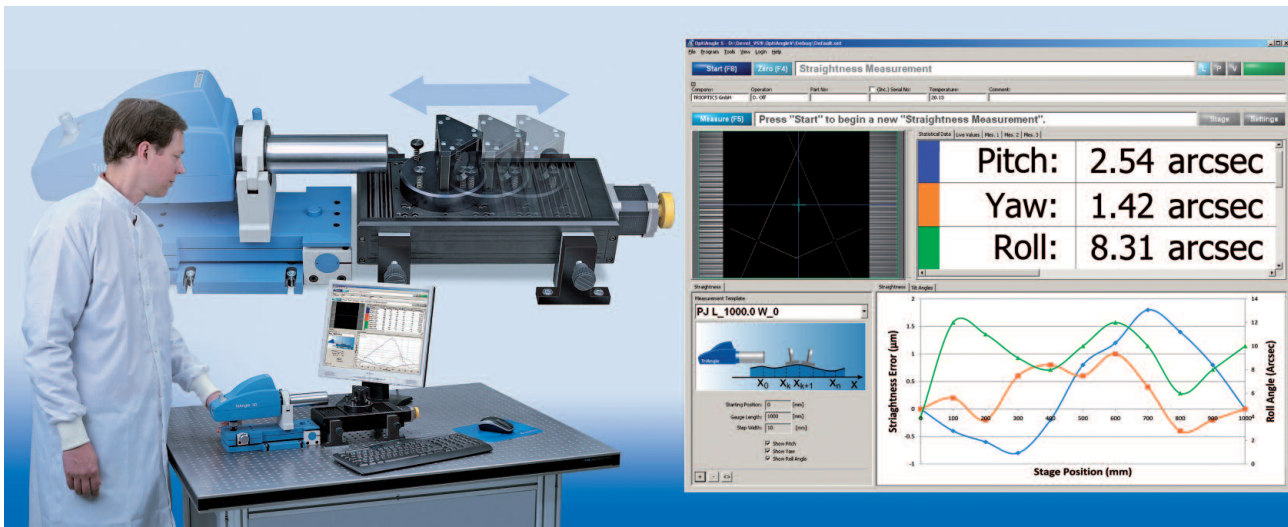
TriAngle® 3D autocollimators are used for high-end measuring, testing and adjustment

processes where high reliability in angle determination are required, for example:

- Adjustment and verification of the straightness of linear stages including the roll angle
- Run-out measurement of rotary tables
- Measurement of large-area surface flatness
- Alignment of optics, machines and equipment
- Stability studies

The optical system of the TriAngle® 3D auto-collimators comprises an objective lens with minimum distortion and a high-resolution digital CCD camera of low sensor noise. TriAngle® 3D autocollimators are available with objective lenses of focal lengths 150, 200 and 300 mm, offering different angle resolutions and

field of view. The mechanically and thermally optimized design permits precise and reliable measurements. The integrated light source employs a stabilized high-power LED illumination for enhanced angle resolution at low reflectivity.



TriAngle® 3D Software showing the measurement results

### Preliminary Specification

Description	Specification
Focal Length	150, 200, 300
Measuring range (h × v) (arcsec)	2200 × 3200, 1600 × 2400, 1100 × 1600
Resolution	Roll up to 1 arcsec
Clear aperture	30 mm, 30 mm, 50 mm
Measuring accuracy (arcsec)	1.7, 1.3, 0.75 (h × v)
LED wavelength	530 nm, spectral half-width: 35 nm
Measuring rate	> 5 measurements / sec
Order Code	
TriAngle® 3D 150-38	3-111-062
TriAngle® 3D 200-38	3-111-063
TriAngle® 3D 300-57	3-111-065