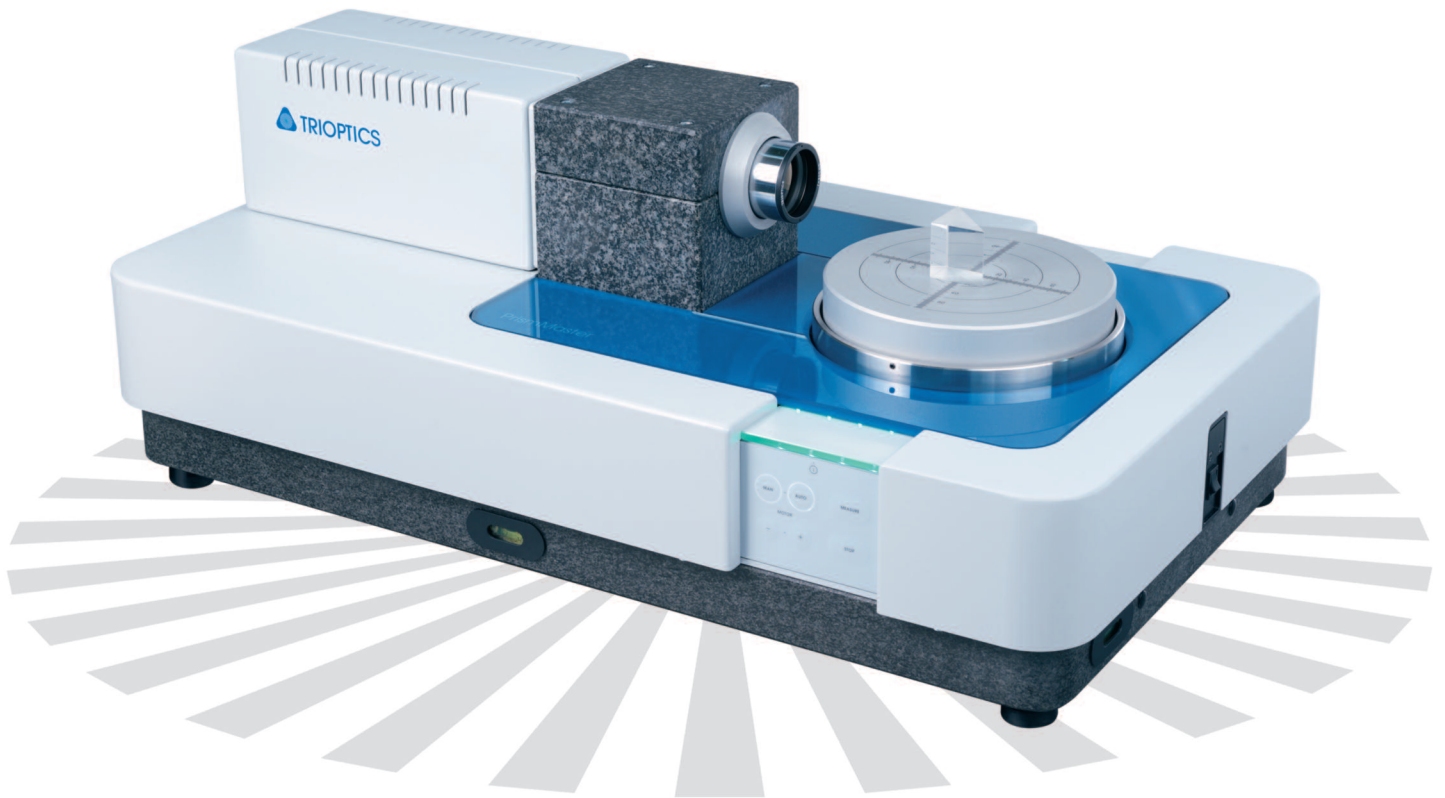


# PrismMaster® 300

**Fully Automated,  
Ultra Precision Goniometer**



### PrismMaster® 300

#### Fully Automated, Ultra Precision Goniometer

After sixteen successful years in the market, TRIOPTICS optimized PrismMaster® 300 has again managed to set new standards in the industry. When accuracy really counts, there is no alternative to PrismMaster®. With an accuracy of 0.2 arcseconds it stays the world's most accurate prism angle measurement device.

The new PrismMaster® series boasts a number of new features including a user-friendly new software packed. The overall concept of the new PrismMaster® series follows a simple philosophy: Providing an instrument with unrivalled accuracy which also is easy to use.



#### Measurement Tasks

- Angle measurement of prisms, polygons and other plano-optics
- Surface tilt errors of prisms and polygons
- Wedge errors, parallelism of optical windows
- Deflection angle measured in reflection /transmission
- Index of refraction of optical glasses
- Pyramidal errors
- Angular gauge blocks

### The Main Product Features

- Outstanding absolute accuracy achieved in a single measurement

#### **Benefit: Saves time as no multiple measurements required**

- High precision electronic autocollimators with large measuring range and optimized light intensity combined with a high resolution CCD camera

#### **Benefit: Facilitates operation and allows the measurement of a large variety of samples including microprisms with a minimum sample size of 1.5mm<sup>2</sup>**

- Software automated sample tilt compensation (emulated tilt table)

#### **Benefit: Quick and precise measurement of prism angles and pyramidal errors without laborious adjustments**

- Stable granite frame for all measuring parts

#### **Benefit: Utmost mechanical and thermal stability guarantee highest measurement accuracy and repeatability**

- Transmission measurements and refractive index calculations by software

#### **Benefit: No additional equipment - thus easy to operate and time saving as no modification required**

- Ultra-stable and accurate rotary air bearing with axial/radial run out less 50 nm and high performance angular encoder

#### **Benefit: highest measurement accuracy**

- Compact design with full system integration and single-cable connection

#### **Benefit: easy to install and to transport**

- Measurement table in three different heights

#### **Benefit: easy to adapt to different sample diameters and heights**

## Measuring Process of a Standard Sample

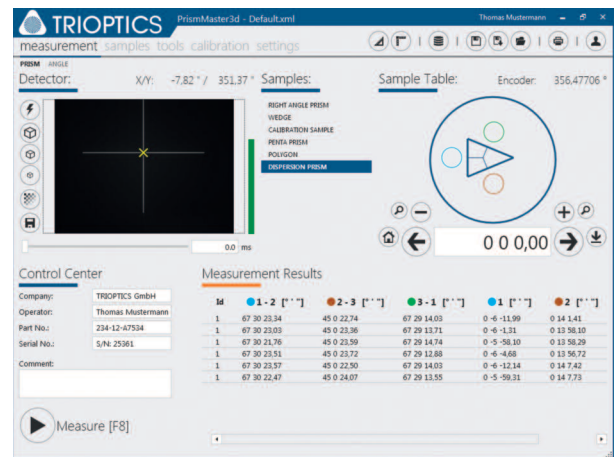
There is no easier way of achieving immediate and ultra-accurate angle value of plano optic components. The new software provides fully automated measurement of standard prisms and polygons:

1. SELECT a standard measurement program
2. PLACE the sample on the measurement table
3. Press MEASURE and the fully automatic measurement process begins. Without any operator intervention the PrismMaster® 300 will deliver the precise angle values of the sample.



## Software PrismMaster 3D

- Prism Configurator for the easy definition of non-standard and compound prisms
- Three different user levels incl. workshop mode for simple routine measurements



- Automated ray tracing, for:
  - reconstruction of the sample geometry
  - classification and selection of the detected images, incl automatic detection of internal reflections, e.g. in 90° prisms
  - refractive index calculation
  - virtual transmission measurement of deflection angles
- Input of tolerance ranges and pass/fail classifications
- Evaluation, display and recording of the measurement results according to ISO 10110

## Specifications

|  |                                    |                                  |
|--|------------------------------------|----------------------------------|
| Overall System accuracy (single Measurement) | ± 0.2 arcsec (PrismMaster® 300 HR) | +/-0.5 arcsec (PrismMaster® 300) |
| Pyramidal angle measurement*                 | ± 1.0 arcsec                       |                                  |
| Resolution of the electronic autocollimator  | 0.01 arcsec                        |                                  |
| Measuring aperture of the autocollimator     | dia. 45 mm                         |                                  |
| Autocollimator field of view                 | 3000 x 2200 arcsec                 |                                  |
| Diameter of sample table                     | 200 mm                             |                                  |
| Maximum sample size                          | dia. 225 mm                        |                                  |
| Minimum sample size                          | 1.5 mm <sup>2</sup>                |                                  |
| Maximum payload                              | 12 kg                              |                                  |
| Dimensions                                   | 790 x 460 x 306 mm                 |                                  |

\*according to DIN 10110



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