



**OEG**

Optik  
Elektronik  
Gerätetechnik

# GONIOMATIC

# The Automatic Prism Measuring Instrument

**GONIOMATIC is an automated Goniometer with motorized drive and electronic image evaluation.**

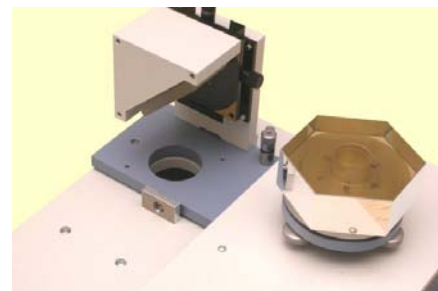
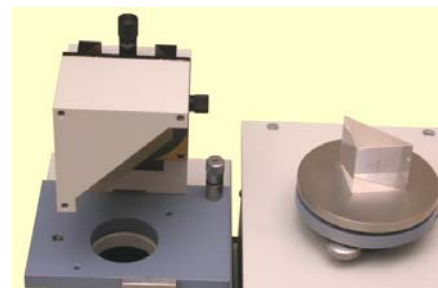
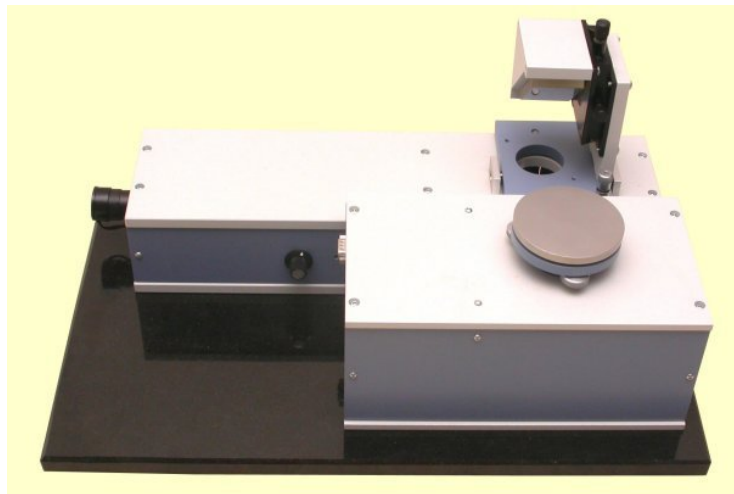
**GONIOMATIC serves for the accurate absolute angle measurement of all kind of prisms.**

**GONIOMATIC** corresponds to a classical goniometer from the structure and fulfills its measuring functions, but it is much more easier in operation.

The **GONIOMATIC** is a really automatic goniometer featuring accurate measurements of prism angles from  $0^\circ$  to  $360^\circ$  in reflection. It incorporates most modern technologies like a highly resolution image processing system, a precision turntable, a stepping motor controller with micro step-by-step operation and with the appropriate equipment degree an incremental rotation transducer with high angle resolution.

Since the **GONIOMATIC** is using electronic autocollimator no precise, difficult and time consuming alignment procedures are necessary. The tilt table is simply rotated until the autocollimator is approximately square to the first surface of the prism or polygon. To achieve this, the operator is rotating the table until the reflected image of the autocollimator appears on the PC-monitor within a defined range area. The same procedure is repeated to obtain a reading from the second surface of the prism. The tiresome and difficult visual alignment becomes obsolete.

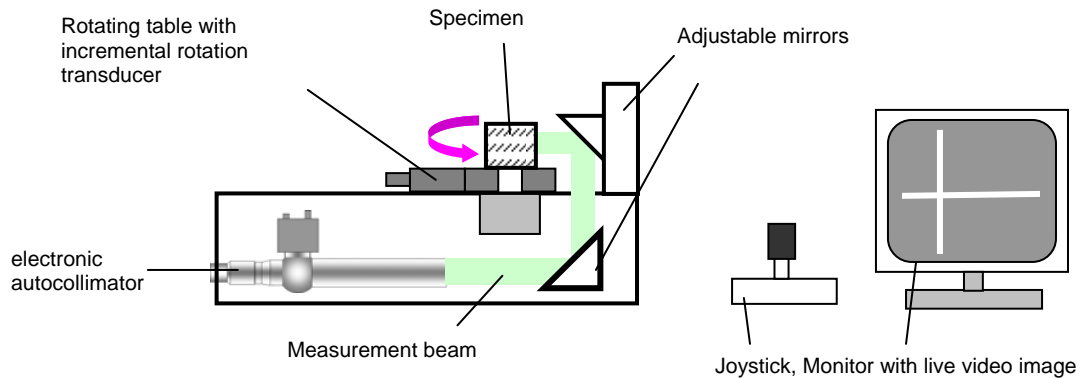
This is not only incomparably easier and comfortable for the operator, but very important for the overall accuracy of the instrument. In other goniometers the overall accuracy - even when using an accurate encoder - is decisively limited by the ability of the operator to visually and repeatedly align the autocollimator perfectly square to the sample surface. This ability is normally limited at  $\pm$  one crossline thickness. Taking for example an autocollimator with focal length of 300 mm and





a crossline thickness of  $10\mu\text{m}$ , the angular error corresponding to  $10\mu\text{m}$  is  $3.5$  arcsec. Certainly this error can be reduced repeating the measurement several times and calculating the main value, however, this is inefficient and dependent on the ability and the degree of tiredness of the operator.

## Setup



**GONIOMATIC** consists of a stable stand with an electronic autocollimator and 2 adjustment units. The specimen holder is mounted on a precision rotary table, which can be controlled optional by joystick or by software. In the standard version **GONIOMATIC** is equipped with an incremental rotation encoder with high angle resolution. The live video image of the autocollimator crosshair can be seen at the PC screen.

## Technical Parameters

GONIOMATIC Type	Parameter
<b>GONIOMATIC without incremental rotation encoder</b>	
Measuring range	$0^\circ \dots 360^\circ$
resolution	$0,5''$
accuracy	$\pm 2,5$ arcsec
measuring mode	in reflection
Master	not necessary