Product Datasheet

PLX Total Station Autocollimator — ACT TSA

ACT-TSA Total Station Autocollimator.

The PLX **ACT-TSA** is a Total Station Autocollimator that combines high-precision autocollimation with long-range sighting capability in a single instrument. In addition to sub-arcsecond angular measurement, it offers telescope functionality, coarse alignment laser, and focusing from short distances to infinity. This configuration extends use beyond standard autocollimation, making the ACT-TSA suitable for optical system alignment, mechanical referencing, and large-scale production or metrology applications where flexibility and range are essential.

ACT-25B Electronic Autocollimator

ACT-25FO Autofocusing Electronic Autocollimator

ACT-25LA Laser Analyzing Electronic Autocollimator

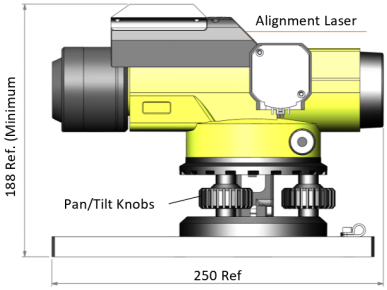
ACT-TSA Total Station Autocollimator

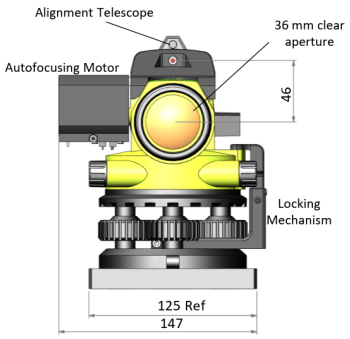
ACT-HR High-Resolution Electronic Autocollimator

ACT-HR100 High-Resolution Electronic Autocollimator

ACT-WF Wide-Field Electronic Autocollimator

ACT-25TS Total Station Autocollimator





Key Features

- Dual-mode operation: autocollimator + telescope
- Sub-arcsecond angular resolution
- Focus from short working distances to infinity
- Integrated alignment laser for coarse positioning
- Digital interface with software support
- Stable base with leveling adjustments

Applications

- Optical system alignment and calibration
- Long-range sighting and axis alignment
- Laser system integration and beam pointing
- AR/VR device calibration
- Precision metrology and production testing

Software

All PLX autocollimators come with software, and the software automatically displays angle deviation and can give the relative position of multiple targets.

Data logging is supported and can be configured to record for a predetermined time or a fixed number of data points. The recording interval can also be set. The data can be saved to a file or streamed to a remote location via RS-232 or TCP/IP. The communication setting for both RS-232 and TCP/IP is fully configurable from the software.

ACT-TSA Specifications

Autocollimation	
Specification	Value
FoV Autocollimator	±60’ (H) x ±40’ (V)
FoV Beam Profiler	±120’ (H) x ±80’ (V)
Clear Aperture	36 mm
Resolution	0.005 sec
Accuracy	1.0 sec
Light Source	- Switchable RGB - Switchable RG/IR - Special order: 1060 / 1310 nm
Line of Sight Retention as Function of Focusing	± 2.5 seconds
Focusing Distance	Calibrated from 18 cm to infinity
Built in coarse aiming Laser Pointer	650 nm power <1.0 mW Class 2 laser product, IEC60825-1
Spectral Response	350 - 1310 nm (Telescope Mode)
Resolution (H x V pixels)	8200 x 5600
Gain Control	x400
Exposure Speed	39 µsec up to 2 sec
Frame Rate	50 fps, a few hundreds on ROI mode
Pixel Size	2.3 µm x 2.3 µm (binning 1)
Pixel Bit Depth	8/16 bits
Background Subtraction	User activated
Trigger	Internal Software
Interface	USB 3.0, Windows 8/10/11 (32 &64 bit)

Beam Analysis – Collimated Laser Beams Input	
Specification	Value
Max. Laser Beam Input Orientation	±100’ (H) x ±80’ (V)
Laser Beam Divergence Measurement	Down to 0.05 mrad
Resolution of Beam Divergence	Better than ±1 µrad Position ±0.5 µrad
Multiple Beams Measurement in Parallel	Standard – up to 400.
Parallel Multi-Beam divergence & power measurement (Default – 400 max.)	

General Measurements
Straightness measurement – up to 2.5 meters
Remote Lateral Mechanical Measurements –
Testing of optical elements, including roll angle
Image Projection & Focusing
Target projection for optical systems from 2.5 meters to infinity
Motorized Focusing from 0.18 meters to infinity
Straightness Measurement

Lateral Measurement on Object Plane	With micron accuracy dependent on object distance
Virtual Object Creation*	-2.5 [m] to -Infinity
Cooperative Cross Target	Automatic display of lateral deviation along -2.5 [m] to Infinity

ACT-TSA-RGB: Autofocusing, with Red, Green, Blue - Switchable

ACT-TSA-RG-IR: Autofocusing, with Red, Green or IR – Switchable (default – Red IR 850 nm)

ACT-TSA-1060*: Autofocusing, with LED 1060 nm

ACT-TSA-1310*: Autofocusing, with LED 1310 nm