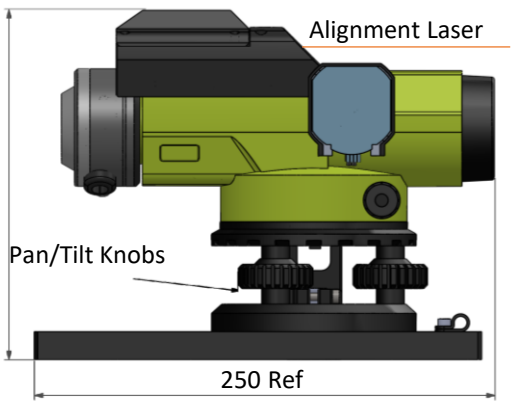
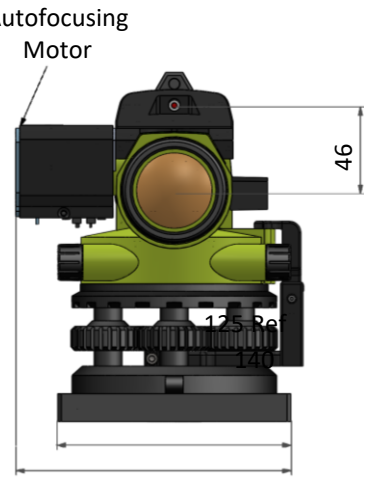
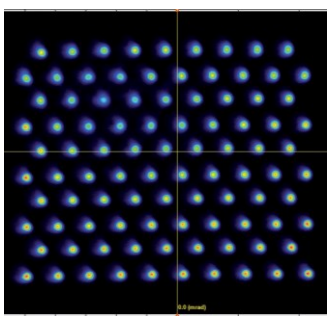
Total Station Autocollimator

- An upgraded device based on our already mature technology for testing and adjusting fully integrated systems including mechanics, optics, and lasers.
- Emerging optomechatronics AR/VR industry has introduced special applications requirement:
  - Interalignment and testing of lasers, optics, mechanics and electronic sensors
  - Angular accurate optical measurements with resolution of 0.01 arc sec or better.
  - Implementing fusion of several wavelengths including NIR into one system.
  - Measurements from remote mechanical dimensions.
  - Centering & Alignment
  - Measurements of multi laser array such as VCSEL in respect with other optical sensors
- Our Total Station Autocollimator does it all and much more, including full GUI and friendly integration via software with your other systems.





VCSEL Beam Profiler & Interalignment



DUMA OPTRONICS LTD.

Website: http://www.dumaoptronics.com
E-mail: sales@duma.co.il
November 2021

Total Station Autocollimator

Specifications

Autocollimation	
FoV Autocollimator	±25' (H) x ± 20' (V)
FoV of Beam Profiler	±50' (H) x ± 40' (V)
Clear Aperture	36 mm
Autocollimator's Resolution	0.01 sec
Autocollimator's Accuracy	1.0 sec
Light Source	Switchable RG/IR Switchable RGB Special order: 1060, 1310 nm
Line of Sight Retention as Function of Focusing	±2.5 seconds
Focusing Distance	Calibrated from 17.5 cm to infinity
Built in coarse aiming Laser Pointer	670 nm power <1.0 mW Class 2 laser product, IEC60825-1
Beam Analysis	
Parallel Multi-Beam divergence & power measurement (Default – 400 max.)	
Angular laser beam Interalignment with optomechatronics parts	
General Measurements	
Straightness measurement – up to 2.5 meters	
Lateral measurements of parts – microns accuracy	
Testing of optical elements including roll angle	
Image Projection & Focusing	
Target projection for optical systems from 2.5 meters to infinity	
Motorized Focusing from 0.17 meters to infinity	
Special Version for Extra long distances measurements	

Spectral Response	350 – 1310* nm
Resolution (H x V pixels)	1280 x 1024
Gain Control	4x
Exposure Speed	9 µsec to 1 sec
Frame Rate	50 fps, a few hundreds on ROI mode
Pixel Size	5.3 µm x 5.3 µm
Pixel Bit Depth	8/10 bits
Background Subtraction	User activated
Trigger	• Internal Software • Hardware Falling or Rising Edge • Trigger Delay 0.015ms - 4.0 sec
Beam Analysis	
Laser beam orientation	±50' (H) x ± 40' (V) ±14 mrad (H) x ± 11 mrad (V)
Laser beam divergence measurement	Down to 0.1 mrad
Resolution of beam divergence	Better than ±5 µrad
Multiple beams measurement in parallel	Standard – up to 400.
Fast Mode Measurement	Up to 1,000 fps for partial ROI
Straightness Measurement	
Lateral Measurement on Object Plane	With micron accuracy dependent on object distance
Virtual Image Creation*	-2.5 [m] to -Infinity
Cooperative Cross Target	Automatic display of lateral deviation along -2.5 [m] to -Infinity

Ordering Information

EAC-1012-19-FO: Complete system including a collimator unit with USB3.0 camera, focusing mechanism, software on Flash Drive and a retro-reflector for infinity adjustment. See available models.

EAC-1012-19-FO/T (G): Autofocusing EAC complete system, with Green LED 530 nm

EAC-1012-19-FO/T (R): Autofocusing EAC complete system, with Red LED 670 nm

EAC-1012-19-FO/T (IR): Autofocusing EAC complete system, with IR LED 850 nm

EAC-1012-19-FO/T (1060): Autofocusing EAC complete system, with LED 1060 nm

EAC-1012-19-FO/T (1310)*: Autofocusing EAC complete system, with LED 1310 nm

*Special Order Version

DUMA OPTRONICS LTD.

Website: http://www.dumaoptronics.com

E-mail: sales@duma.co.il

November 2021