



IRCOL series

High accuracy collimator with target wheel

INTRODUCTION

The IRCOL projector is an off-axis collimator equipped with a target wheel. It has been especially designed for visible and IR sensor testing. Its specification makes it compatible with every requested test such as : NETD, LSF/MTF and MRTD, distortion, temporal noise, fixed pattern noise, FOV, boresighting between visible axis or infrared axis and mechanical axis, etc.

CONFIGURATION

The collimator consists of an off-axis parabolic mirror and a plane mirror. These components are coated with a hard metallic coating to ensure a good visible to far IR transmission.

A robust mechanical structure with cover protects the optical components against shocks and dust. Two knurled wheels ensure a precise azimuth and elevation adjustment of the optical axis.

A 6-position manual or motorised wheel enables accurate setting of the targets at collimator focus. Any infrared or visible light source can be used with this Target Projector. A wide range of options include a sensor boresight control device.

SPECIFICATION

- 100 mm to 600 mm clear aperture off-axis collimator
- Visible to far IR operating spectral bandwidth
- Exclusive azimuth and elevation adjustment of the optical axis
- Wheel with interchangeable targets
- High repeatability of target wheel positioning
- DCN1000 infrared source compatible
- Exhaustive range of options for infrared sensor testing

Standard targets dimensions :

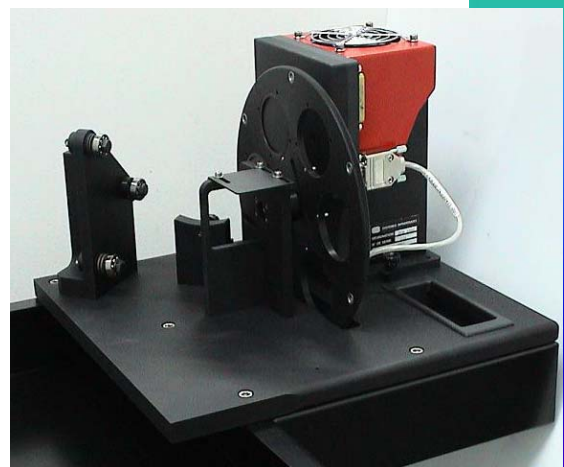
- Half moon targets for LSF/MTF
- Square targets for NETD, FOV
- 4-bar targets for MRTD
- Distortion targets
- Reflective targets



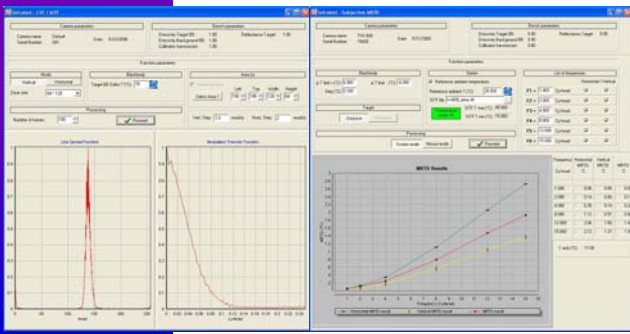
Collimator assembly with blackbody controller



Portable collimator, low temperature application



Blackbody and target wheel



MRTD/MTF software display

SOFTWARE

- Temporal noise
- fixed pattern noise,
- FOV
- MRTD objective/
subjective
- Distortion
- SiTF, SiΔTF
- NETD
- LSF / MTF
- Detection/recognition/
identification ranges
- Optical / mechanical boresight

TECHNICAL DATA

	180/750	150/1000	300/1500	350/2500	400/2500
Focal length (mm) :	762	1023	1541	2552	2552
F-number :	4.3	6.8	5.4	7.6	6.7
Field of view (°) :	± 0.55	± 1.26	± 0.84	± 0.73	± 0.51
Optical adjustment range :					
. Azimuth (°) :	> ± 1.3	> ± 1	> ± 1.3	> ± 0.8	> ± 0.8
. Elevation (°) :	> ± 1.3	> ± 1	> ± 1.3	> ± 0.8	> ± 0.8
Target wheel positioning repeatability (µrad) :	< 40	< 30	< 15	< 15	< 15
Dimensions W x H x D (mm) :	485x328x691	530x410x1200	829x661x1730	968x718x2826	934x743x2822
Weight (kg) :	20	50	160	185	185
Collimator type :	off-axis configuration				
Wavefront accuracy :	$\lambda/2$ ($\lambda = 633$ nm)				
Collimator transmission :	0.94 over visible bandwidth >0.96 over 1.5 - 2.5 µm bandwidth >0.98 over 2.5 - 14 µm bandwidth				
Target wheel :	6 to 10 positions				
Target temperature measurement sensor :	calibrated Pt sensor				

Above information is subject to changes without notice



SYSTÈMES INFRAROUGES

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