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BOXIN



Products Manual

www.bxoptic.com www.bxopticsshop.com



BOXIN PHOTOELECTRIC CO., LTD.

Research and Development

COMPANY INTRODUCTION

Changchun Boxin Photoelectric Co., Ltd. was founded in 2001. It is a private company owned by several of the company's executives. Boxin is a manufacturing company that supplies optical products and technical services for Mechanical Vision, Modern Industry, Research and Education, Laser Applications, Medical Instruments and Automation Equipment. It is also a Strategic partner engaged in product outsourcing contracting and manufacturing High-Precision Optical components. The products are sold to many countries and regions and have gained high reputation.

Boxin has more than 300 employees, with an 11,000 square meters production area including standard optics production, and Ultra-clean rooms. It has over 500 advanced processing machines and inspection equipments. For instance: Satisloh, Optotech, Trioptics, Mahr, Leybold, Zygo, Lambda, Hitachi, Ak-100, Fujinon, LungPien etc. Our main core products are cylindrical lens, toric lens, aspherical lens, spherical lens, flat and other high precision optics, Large Size Optics, and Shaped Integral Mounted Optical components.

After years of management optimization, Boxin has established a complete team of R&D, Production, Process and equipment modification, Quality Control and Marketing Services, in order to meet various products demand by customers. The company will always wanted to "None-stop to Innovation, Honest and Trustworthy to our customers, Reach customers Demand is our priority, and supply Best Quality products is our principle." Boxin's development mission is to provide High Quality products and services to our customers!

In 2017, Boxin started to self design, develop, manufacture and assemble all types of camera lens, such as: continuous zoom camera lens, etc. As Boxin is an optical components manufacture, it has great advantage on quality control of all high precision optical lenses. Precision digital workshop provide condition for design and development of mechanical parts. Advanced ultra-clean assembling environment and experienced workman provide condition of assemble high quality camera lens. Top class inspection equipment s is assurance of high grade camera lens. We have a team with 15 years of experience in special camera lens, provide professional guidance and timely service from design to production, assembling to support.

PRODUCT INTRODUCTION

BOXIN continuous zoom lens has a wide focal range of 24~120mm, 10~150 mm, 10~300mm, 18~500mm, 40~500mm, 14~800mm, 20~1200mm, 100~1200 mm, 32~1500mm, 200~2000mm, 500~2500mm. We have the suitable products covering almost all the focal range requirements in the telephoto lens segment.

- 1.Small and light 24~120mm, 10~150mm are suitable for individual combat observation or UAV pod;
- 2.Small and medium-sized 10~300mm, 18~500mm are suitable for the vehicle, airborne, shipboard observation, etc.;
- 3.Medium size 14~800mm, 20~1200mm are suitable for observation, anti-UAV monitoring, etc;
- 4.Large size 32~1500mm, 200~2000mm, 500~2500mm are suitable for satellite launch, aerospace and other need of long-distance observation and use.
- 5.Large target surface products 40~500mm, 100 mm, 100~1200mm are suitable for cameras which equip target surface greater than 1 inch size, the imaging effect is excellent.

Boxin continuous zoom lenses not only have high resolution, high parfocality, at the same time, they have extremely high optical axis consistency and optical axis stability, the operating temperature range is wide, the temperature difference between two ends can reach more than 100°C. Boxin has a complete set of testing equipment to not only ensure the authenticity of product performance, but also measure the reliability of the product.

Fixed aperture series, two-shift zoom series, continuous zoom series, transmission series, reentrant series and athermalization infrared series, full series of lenses are waiting for your customization.

VISIBLE LIGHT - CONVENTIONAL
TARGET SURFACE LENS

BOXIN

120mm SERIES

24-120MM



Series LFL 120 Lens Parameters			
No.	Item		24-120mm
1	CCD Target Size		Diagonal 6.9mm
2	Focal Length		24mm~120mm
3	Resolution		330lp/mm
4	Mount		Customized
5	Aperture Range		F3.6~F5
6	Focusing Range		3m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/2.7"B	15.93~3.21×13.91~2.80×7.85~1.57
8	Back Focal Length (inair)		10mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		1.8% ~ 2%
11	Dimension (W×H×L)		60mm×56.5mm×100mm
12	Fog Penetration Function		Selectable
13	Weight		420g
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		110mm
16	Coherence of Optical Axis		≤3pixel

150mm Series

10-150MM



Series LFL 150 Lens Parameters			
No.	Item		10-150mm
1	CCD Target Size		Diagonal 7.8mm
2	Focal Length		10mm~150mm
3	Resolution		center FOV 250lp/mm, about 6.3MP (2μm)
4	Mount		Customized
5	Aperture Range		F3.2~F5.3
6	Focusing Range		3m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/2.3"	42.11~2.94×37.10~2.56×21.38~1.44
8	Back Focal Length (inair)		9.6mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		-1.2% ~ -2%
11	Dimension (W×H×L)		60mm×65mm×106mm
12	Fog Penetration Function		Selectable
13	Weight		520g
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		116mm
16	Coherence of Optical Axis		≤3pixel

VISIBLE LIGHT - CONVENTIONAL
TARGET SURFACE LENS

BOXIN

230mm SERIES

10-230MM



Series LFL 230 Lens Parameters			
No.	Item		10-230mm
1	CCD Target Size		Diagonal 6.9mm
2	Focal Length		10mm~230mm
3	Resolution		250lp/mm
4	Mount		Customized
5	Aperture Range		F2.7~F4.8
6	Focusing Range		5m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/2.7"B	37.13~1.67×32.64~1.46×18.70~0.82
8	Back Focal Length (inair)		11.6mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		5% ~ -4%
11	Dimension (W×H×L)		67mm×69.4mm×190.89mm
12	Fog Penetration Function		Selectable
13	Weight		1.3kg
14	Operation Temperature		-45°C~+70°C
15	Total Optical Length (TTL)		189.89mm
16	Coherence of Optical Axis		≤3pixel

300mm SERIES

10-300MM



Series LFL 300 Lens Parameters			
No.	Item		10-300mm
1	CCD Target Size		Diagonal 7.6mm
2	Focal Length		10mm~300mm
3	Resolution		250lp/mm
4	Mount		Customized
5	Aperture Range		F3.5~F6.5
6	Focusing Range		5m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/2.7"B	37.13~1.28×32.64~1.12×18.70~0.63
8	Back Focal Length (inair)		15mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		4% ~ -3.5%
11	Dimension (W×H×L)		80mm×70mm×171mm
12	Fog Penetration Function		Selectable
13	Weight		1.3kg
14	Operation Temperature		-45°C~+70°C
15	Total Optical Length (TTL)		187mm
16	Coherence of Optical Axis		≤3pixel

VISIBLE LIGHT - CONVENTIONAL
TARGET SURFACE LENS

BOXIN

500mm SERIES

18-500MM-S



Series LFL 500 Lens Parameters			
No.	Item		18-500mm-S
1	CCD Target Size		Diagonal 11mm
2	Focal Length		18mm~500mm
3	Resolution		160lp/mm
4	Mount		Customized
5	Aperture Range		F6~F10.9
6	Focusing Range		5m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/1.8"	27.87~1.02×24.40~0.89×13.87~0.50
8	Back Focal Length (in air)		15.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		1.6%~-1%
11	Dimension (W×H×L)		80mm×70mm×188mm
12	Fog Penetration Function		Selectable
13	Weight		1.5kg
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		205mm
16	Coherence of Optical Axis		≤ 3 pixel

500mm SERIES

25-500MM-M



Series LFL 500 Lens Parameters			
No.	Item		25-500mm-M
1	CCD Target Size		Diagonal 6.8mm
2	Focal Length		25mm~500mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F3.6~F7.3
6	Focusing Range		25m~∞
7	FieldAngle 16:9(FOV) (Diag.×Hori.×Vert.)	1/2.7"	15.30~0.77×13.36~0.67×7.54~0.38
8	Back Focal Length (inair)		22.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		2.2%~1.2%
11	Dimension (W×H×L)		90mm×90mm×255mm
12	Fog Penetration Function		Selectable
13	Weight		2.3kg
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		275mm
16	Coherence of Optical Axis		≤3pixel

VISIBLE LIGHT - CONVENTIONAL TARGET SURFACE LENS

BOXIN

750mm SERIES

12.5-750MM



Series LFL 750 Lens Parameters			
No.	Item		12.5-750mm
1	CCD Target Size		Diagonal 8.9mm
2	Focal Length		12.5mm~750mm
3	Resolution		250lp/mm
4	Mount		C-mount / Customized
5	Aperture Range		F4~F7.5
6	Focusing Range		25m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1/1.8"	39.32~0.68×34.59~0.60×19.87~0.34
8	Back Focal Length (in air)		17.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		1%~-3.5%
11	Dimension (W×H×L)		160mm×168mm×387mm
12	Fog Penetration Function		Selectable
13	Weight		5.5kg
14	Operation Temperature		-40℃~+70℃
15	Total Optical Length (TTL)		392.88mm
16	Coherence of Optical Axis		Customized

800mm SERIES

14-800MM

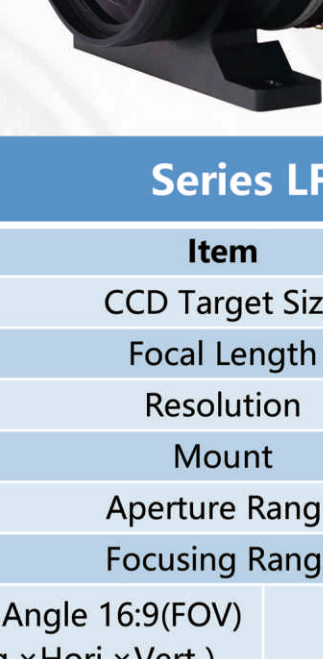


Series LFL 800 Lens Parameters			
No.	Item		14-800mm
1	CCD Target Size		Diagonal 11mm
2	Focal Length		14mm~800mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F5.8~F11.8
6	Focusing Range		25m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	2/3"	42.8~0.78×34.8~0.63×26.5~0.47
8	Back Focal Length (in air)		17.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed Aperture
		Auto Focusing	Selectable
10	Distortion		-5%~2%
11	Dimension (W×H×L)		110mm×110mm×282mm
12	Fog Penetration Function		Selectable
13	Weight		3kg
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		298mm
16	Coherence of Optical Axis		Customized

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14-850MM

20-1200MM-F12



Series LF	
Item	
CCD Target Size	
Focal Length	
Resolution	
Mount	
Aperture Range	
Focusing Range	
Angle 16:9(FOV)	
Angle (Hori × Vert)	



Series LF	
Item	
CCD Target Size	
Focal Length	
Resolution	
Mount	
Aperture Range	
Focusing Range	
Angle 16:9(FOV)	
Angle (Hori × Vert)	

VISIBLE LIGHT -
LARGE FORMAT LENS

BOXIN

1200mm SERIES

25-1200MM-F10



Series LFL 1200 Lens Parameters			
No.	Item		25-1200mm-F10
1	CCD Target Size		Diagonal 12.116mm
2	Focal Length		25mm~1200mm
3	Resolution		200lp/mm
4	Mount		C-mount / Customized
5	Aperture Range		F4.8~F10
6	Focusing Range		25m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	2/3"	24.82~0.53×21.71~0.46×12.31~0.26
8	Back Focal Length (in air)		17.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		4%~2%
11	Dimension (W×H×L)		140mm×160mm×454mm
12	Fog Penetration Function		Selectable
13	Weight		< 7.5kg
14	Operation Temperature		-40℃~+70℃
15	Total Optical Length (TTL)		471.70mm
16	Coherence of Optical Axis		Customized

500mm SERIES

25-500MM-B



Series LTS-LFL 500 Lens Parameters			
No.	Item		25-500mm-B
1	CCD Target Size		Diagonal 16mm
2	Focal Length		25mm~500mm
3	Resolution		250lp/mm
4	Mount		Customized
5	Aperture Range		F2.8~F5
6	Focusing Range		25m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1"	43.60~1.83×38.44~1.60×22.19~0.90
8	Back Focal Length (in air)		37.8mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		4%~1.8%
11	Dimension (W×H×L)		150mm×150mm×357mm
12	Fog Penetration Function		Selectable
13	Weight		< 6KG
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		394.8mm
16	Coherence of Optical Axis		Customized

VISIBLE LIGHT - LARGE FORMAT LENS

BOXIN

500mm SERIES

40-500MM-FF



Series LTS-LFL 500 Lens Parameters

No.	Item		40-500mm-FF
1	CCD Target Size		Diagonal 42.6mm
2	Focal Length		40mm~500mm
3	Resolution		250lp/mm
4	Mount		Customized
5	Aperture Range		F3.6~F5
6	Focusing Range		100m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	Full Frame	56.81~4.96×50.48~4.32×29.7~2.43
8	Back Focal Length (in air)		67.8mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		2%~-5%
11	Dimension (W×H×L)		110mm×130mm×300mm
12	Fog Penetration Function		Selectable
13	Weight		< 5KG
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		367.8mm
16	Coherence of Optical Axis		Customized

1000mm SERIES

500-1000MM-TG



Series LTS-LFL 1000 Lens Parameters

No.	Item		500-1000mm-TG
1	CCD Target Size		Diagonal 22mm
2	Focal Length		500mm~1000mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F3.1~F5
6	Focusing Range		50m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	4/3" Classic	2.58~1.29×2.25~1.12×1.26~0.63
8	Back Focal Length (in air)		173mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric two-shift zoom
		Aperture	Fixed Aperture
		Auto Focusing	Equiped
10	Distortion		< 0.2%
11	Dimension (W×H×L)		260mm×245mm×323mm
12	Fog Penetration Function		Selectable
13	Weight		15kg
14	Operation Temperature		-40℃~+70℃
15	Total Optical Length (TTL)		496mm
16	Coherence of Optical Axis		Customized

VISIBLE LIGHT -
LARGE FORMAT LENS

BOXIN

1200mm SERIES

120-1200MM-B

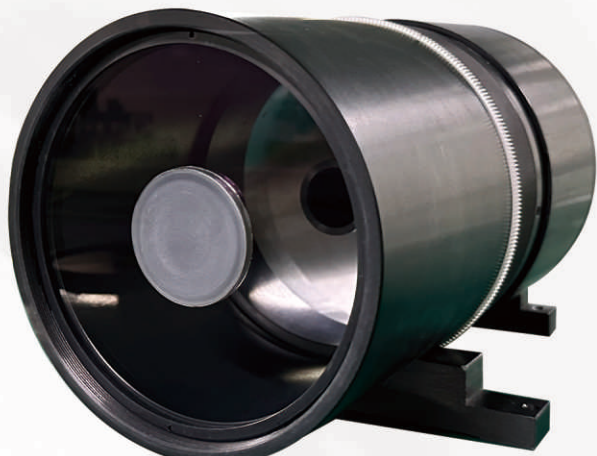


Series LTS-LFL 1200 Lens Parameters

No.	Item		120-1200mm-B
1	CCD Target Size		Diagonal 30.2mm
2	Focal Length		120mm~1200mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F3.7~F6
6	Focusing Range		50m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1.8" Film	14.32~1.44×12.50~1.26×7.05~0.71
8	Back Focal Length (in air)		115.4mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		1.9%~-2%
11	Dimension (W×H×L)		240mm×280mm×770mm
12	Fog Penetration Function		Selectable
13	Weight		< 13KG
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		885.4mm
16	Coherence of Optical Axis		Customized

1500mm SERIES

REFLECTIVE 1500MM PRIME LENS



Series LTS-LFL 1500 Lens Parameters

No.	Item		Reflective 1500mm prime lens
1	CCD Target Size		Diagonal 22mm
2	Focal Length		1500mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F12.5
6	Aperture Range		44mm
7	Focusing Range		150m~∞
8	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	4/3"	0.826×0.72×0.405
9	Back Focal Length (in air)		110mm
10	Operating Mode	Focus	Electric-drive
11	Distortion		0.50%
12	Dimension (W×H×L)		169mm×155mm×239mm
13	Fog Penetration Function		Selectable
14	Weight		8kg
15	Operation Temperature		-40℃~+70℃
16	Total Optical Length (TTL)		344mm
17	Coherence of Optical Axis		Customized

VISIBLE LIGHT -
LARGE FORMAT LENS

BOXIN

1500mm SERIES

32-1500MM

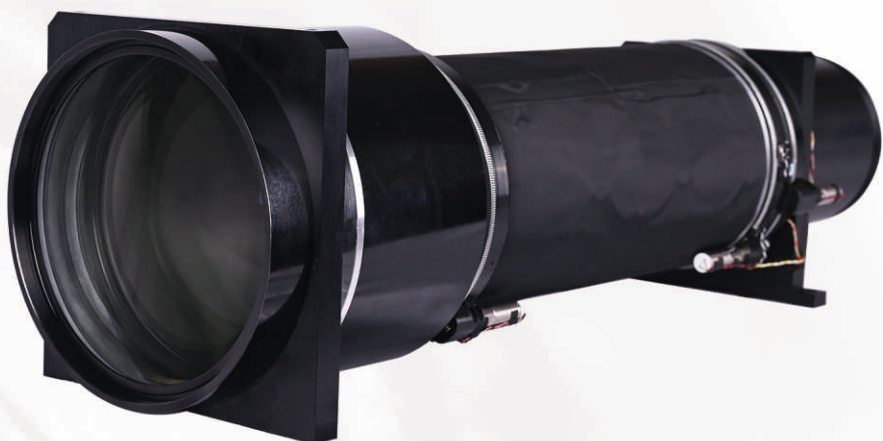


Series LTS-LFL 1500 Lens Parameters

No.	Item		32-1500mm
1	CCD Target Size		Diagonal 16.9mm
2	Focal Length		32mm~1500mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F5.2~F10
6	Focusing Range		50m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	1"	28.07~0.61×24.59~0.53×13.98~0.3
8	Back Focal Length (in air)		17.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		1%~5%
11	Dimension (W×H×L)		176mm×178mm×600mm
12	Fog Penetration Function		Selectable
13	Weight		13kg
14	Operation Temperature		-40℃~+70℃
15	Total Optical Length (TTL)		615mm
16	Coherence of Optical Axis		Customized

2000mm SERIES

200-2000MM



Series LTS-LFL 2000 Lens Parameters

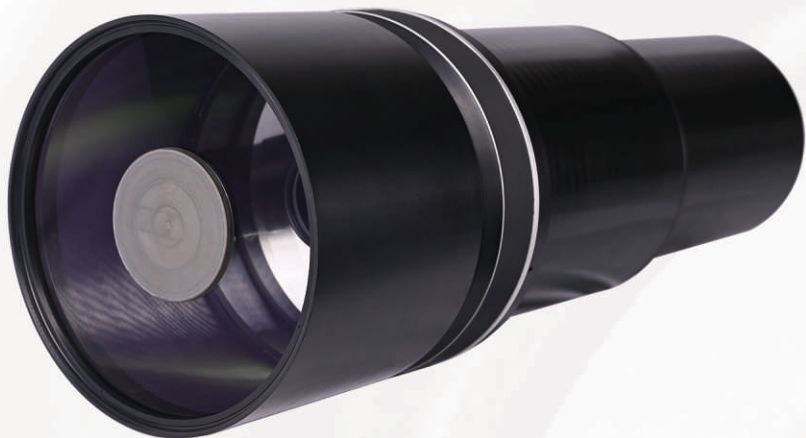
No.	Item		200-2000mm
1	CCD Target Size		Diagonal 43.2mm
2	Focal Length		200mm~2000mm
3	Resolution		250lp/mm
4	Mount		Customized
5	Aperture Range		F6.2~F10
6	Focusing Range		300m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	Full Frame	12.35~1.24×10.77~1.08×6.07~0.61
8	Back Focal Length (in air)		152mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		0.5%~0.5%
11	Dimension (W×H×L)		240mm×240mm×855mm
12	Fog Penetration Function		Selectable
13	Weight		33kg
14	Operation Temperature		-45℃~+70℃
15	Total Optical Length (TTL)		985mm
16	Coherence of Optical Axis		Customized

NON-THERMAL REFRIGERATION INFRARED LENS

BOXIN

2500mm SERIES

500-2500MM



Series LTS-LFL 2500 Lens Parameters

No.	Item		500-2500mm
1	CCD Target Size		Diagonal 20mm
2	Focal Length		500mm~2500mm
3	Resolution		200lp/mm
4	Mount		Customized
5	Aperture Range		F2.8~F10
6	Focusing Range		300m~∞
7	Field Angle 16:9(FOV) (Diag.×Hori.×Vert.)	4/3" olympus	2.48~0.50×2.16~0.43×1.22~0.24
8	Back Focal Length (in air)		56mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Electric-drive
		Auto Focusing	Selectable
10	Distortion		< 0.3%
11	Dimension (W×H×L)		300mm×300mm×824mm
12	Fog Penetration Function		Selectable
13	Weight		< 30kg
14	Operation Temperature		-45°C~+70°C
15	Total Optical Length (TTL)		874mm
16	Coherence of Optical Axis		Customized

600mm SERIES

30-600MM INFRARED



LFL 600 Infrared Lens Parameters

No.	Item		30-600mm Series
1	CCD Target Size		12.5mm
2	Focal Length		30mm~600mm
3	Resolution		640×512 15um
4	Mount		Customized
5	Aperture Range		F4
6	Focusing Range		25m~∞
7	Field Angle (FOV) (D×H×V)	2/3"	23.15~1.17×18.18~0.92×14.59~0.73
8	BFL (in air)		30.5mm
9	Operating Mode	Focus	Electric-drive
		Zoom	Electric-drive
		Aperture	Fixed aperture
		Auto Focusing	Selectable
10	Distortion	2/3"	< 2%
11	Dimension (W×H×L)		180mm×180mm×325mm
12	Response Wave Band		3um-5um
13	Weight		6.1kg
14	Operation Temperature		-40°C~+60°C
15	Total Optical Length (TTL)		355mm
16	Coherence of Optical Axis		Customized

ACTUAL SHOOTING AND APPLICATION

BOXIN

ACTUAL SHOOTING RESULTS

750MM SERIES

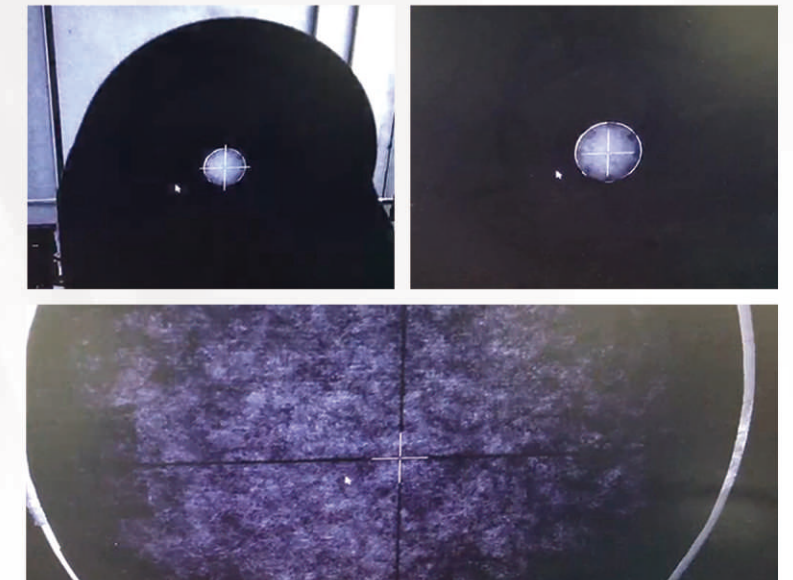
Actual shooting pictures show the contrast effects of optical dehaze mode and color mode of BOXIN lenses, as well as their long-range target capture capabilities.



ACTUAL SHOOTING RESULTS

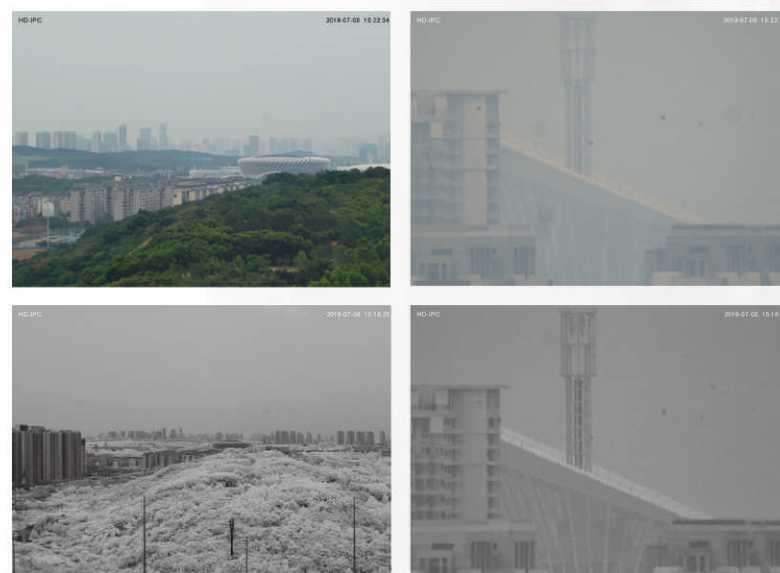
300MM SERIES

BOXIN lenses are able to maintain excellent optical axis consistency and focus stability during the process of switching between long and short focal lengths.



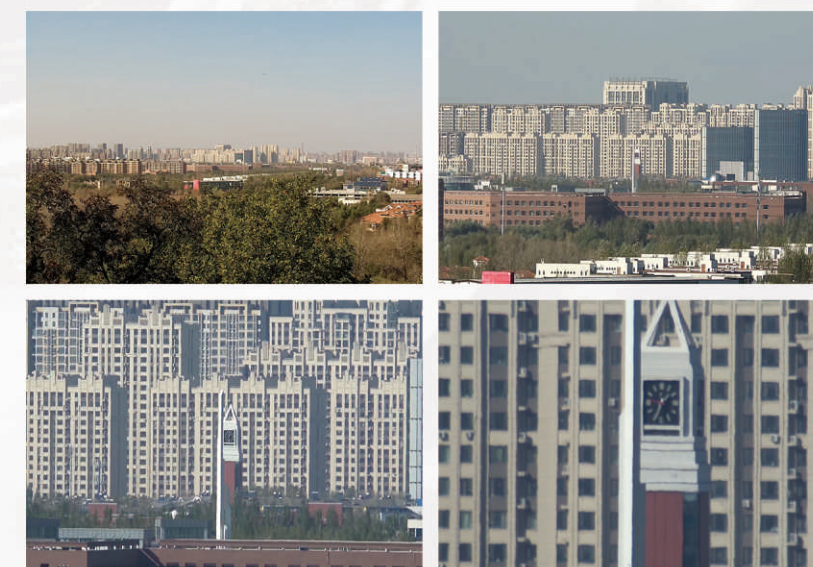
ACTUAL SHOOTING RESULTS

850MM SERIES



ACTUAL SHOOTING RESULTS

1200MM SERIES



SOME PATENTS REWARDS AND QUALIFICATIONS

BOXIN

PRODUCT APPLICATION



Border lookout



Security lookout



Maritime channel lookout



City lookout



Forest fire lookout

REWARD & CERTIFICATION



Obtained a number of independent R&D patent



Certificate of High Technology Business



Environmental Management
System EN/CH



SPIE optics Expo
Honor Reward



ISO EN/CH

