## - LWIR Continuous zoom - commercial off the shelf lens

## **KEW-HD**

LWIR 24 – 225 mm F/1.5 Continuous zoom Lens with DSP controller for 25/17µ detectors

## FEATURES / APPLICATIONS / CAPABILITIES

- The ultimate lens for medium to long range surveillance systems in various applications
- Excellent MTF performance, optimized to **HD** resolution
- Optimized for relatively short total track and low weight
- Supports multiple detector types: 640 x480 x 25 $\mu$  & 1024 x 768 x 17 $\mu$  pitch



Main   Sub	PARAMETER		VALUE	NOTES	
Pocal Length / F#   24-225 mm / F1.5   Nominal values. F# constant for all zoom range	Main	Sub			
Detector (FPA) type / size  640 x 480 pixels x 17 microns  1024 x 768 pixles x 17 microns  Wide FOV: 37°(H) x 28° (V) Narrow FOV: 4° (H) x 3° (V) Wide FOV: 38.1°(H) x 29° (V) Narrow FOV: 4.4° (H) x 3.3° (V)  Optical Coatings  All internal surfaces Front surface High durability AR coating DLC is available upon request  Optical Total lens track 220 mm Nominal, From last lens vertex to FPA  Optical Back Focal Length  →20 mm Nominal, From last lens vertex to FPA  WECHANICAL  Mechanical Back Focal Length Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight  External Dimensions Max Diameter: 179 mm; Length: 210 mm  P ELECTRICAL  Power Input 12VDC, 1.0A Nominal Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	OPTICAL				
Total Personal Protocol   RS-422/232 Full Duplex   Baud rate 19,200, n, 8, 1	Focal Length / F#		24-225 mm / F1.5	Nominal values. F# constant for all zoom range	
FOV (degrees)  Wide FOV: 37°(H) x 28° (V) Narrow FOV: 4° (H) x 3° (V)  Wide FOV: 38.1°(H) x 29° (V) Narrow FOV: 4.4° (H) x 3.3° (V)  For detector size of 16 x 12mm (640 x 480 x 25μ)  Wide FOV: 38.1°(H) x 29° (V) Narrow FOV: 4.4° (H) x 3.3° (V)  For detector size of 17.4 x 13.06mm (1024 x 768 x 17μ)  Optical Coatings  All Internal surfaces  High efficiency AR coating  Average transmission: 77%  Front surface  High durability AR coating  DLC is available upon request  Optical Total lens track  220 mm  Nominal, From 1st lens vertex to FPA  Optical Back Focal Length  ~20 mm  Nominal, From last lens vertex to FPA  WECHANICAL  Mechanical Back Focal Length  Focus / Zoom mechanism  Motorized  Focus range: 5m - infinity  Total Weight  ~3500 grams  Nominal (Front element is sealed)  External Dimensions  Max Diameter: 179 mm; Length: 210 mm  PLECTRICAL  Power Input  12VDC, 1.0A  Nominal  Communication Protocol  RS-422/232 Full Duplex  Baud rate 19,200, n, 8, 1	Detector (FPA) type / size		640 x 480 pixels x 17 microns		
Narrow FOV: 4° (H) x 3° (V)  Wide FOV: 38.1°(H) x 29° (V)  Narrow FOV: 4.4° (H) x 3.3° (V)  For detector size of 17.4 x 13.06mm  (1024 x 768 x 17μ)  Optical Coatings  All internal surfaces High efficiency AR coating Average transmission: 77%  Front surface High durability AR coating DLC is available upon request  Optical Total lens track 220 mm Nominal, From 1st lens vertex to FPA  Optical Back Focal Length ~20 mm Nominal, From last lens vertex to FPA  WECHANICAL  Mechanical Back Focal Length 17.6 mm Nominal  Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  P ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1			1024 x 768 pixles x 17 microns		
Narrow FOV: 4.4° (H) x 3.3° (V) (1024 x 768 x 17μ)  Optical Coatings  All internal surfaces High efficiency AR coating Average transmission: 77%  Front surface High durability AR coating DLC is available upon request  Optical Total lens track 220 mm Nominal, From 1st lens vertex to FPA  Optical Back Focal Length ~20 mm Nominal, From last lens vertex to FPA  MECHANICAL  Mechanical Back Focal Length 17.6 mm Nominal  Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  P ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	FOV (degrees)		` , , , ,		
All internal surfaces High efficiency AR coating Average transmission: 77%  Front surface High durability AR coating DLC is available upon request  Optical Total lens track 220 mm Nominal, From 1st lens vertex to FPA  Optical Back Focal Length ~20 mm Nominal, From last lens vertex to FPA  MECHANICAL  Mechanical Back Focal Length 17.6 mm Nominal  Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  PELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1			` , , , ,		
Front surface High durability AR coating DLC is available upon request  Optical Total lens track 220 mm Nominal, From 1st lens vertex to FPA  Optical Back Focal Length ~20 mm Nominal, From last lens vertex to FPA  MECHANICAL  Mechanical Back Focal Length 17.6 mm Nominal  Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  P ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	Optical Coatings				
Optical Total lens track  220 mm  Nominal, From 1st lens vertex to FPA  Optical Back Focal Length  Communication Protocol  Potical Back Focal Length  Communication Protocol  Nominal, From 1st lens vertex to FPA  Nominal, From last lens vertex to FPA  Nominal, From 1st lens vertex to FPA  Nominal  Focus / Zoom mechanism  Nominal  Nominal (Front element is sealed)  Nominal  Power Input  12VDC, 1.0A  Nominal  RS-422/232 Full Duplex  Baud rate 19,200, n, 8, 1		All internal surfaces	High efficiency AR coating	Average transmission: 77%	
Optical Back Focal Length ~20 mm Nominal, From last lens vertex to FPA  MECHANICAL  Mechanical Back Focal Length 17.6 mm Nominal  Focus / Zoom mechanism Motorized Focus range: 5m - infinity  Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  P ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1		Front surface	High durability AR coating	DLC is available upon request	
Mechanical Back Focal Length  Focus / Zoom mechanism  Motorized  Focus range: 5m - infinity  Total Weight  Carrier Substitution  Nominal (Front element is sealed)  Max Diameter: 179 mm; Length: 210 mm  ■ ELECTRICAL  Power Input  12VDC, 1.0A  Nominal  Communication Protocol  RS-422/232 Full Duplex  Baud rate 19,200, n, 8, 1	Optical Total lens track		220 mm	Nominal, From 1 <sup>st</sup> lens vertex to FPA	
Mechanical Back Focal Length17.6 mmNominalFocus / Zoom mechanismMotorizedFocus range: 5m - infinityTotal Weight~3500 gramsNominal (Front element is sealed)External DimensionsMax Diameter: 179 mm; Length: 210 mm♥ ELECTRICALPower Input12VDC, 1.0ANominalCommunication ProtocolRS-422/232 Full DuplexBaud rate 19,200, n, 8, 1	Optical Back Focal Length		~20 mm	Nominal, From last lens vertex to FPA	
Focus / Zoom mechanism       Motorized       Focus range: 5m - infinity         Total Weight       ~3500 grams       Nominal (Front element is sealed)         External Dimensions       Max Diameter: 179 mm; Length: 210 mm         ♥ ELECTRICAL         Power Input       12VDC, 1.0A       Nominal         Communication Protocol       RS-422/232 Full Duplex       Baud rate 19,200, n, 8, 1					
Total Weight ~3500 grams Nominal (Front element is sealed)  External Dimensions Max Diameter: 179 mm; Length: 210 mm  Public ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	Mechanical Back Focal Length		17.6 mm	Nominal	
External Dimensions Max Diameter: 179 mm; Length: 210 mm  Public ELECTRICAL  Power Input 12VDC, 1.0A Nominal  Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	Focus / Zoom mechanism		Motorized	Focus range: 5m - infinity	
Power Input       12VDC, 1.0A       Nominal         Communication Protocol       RS-422/232 Full Duplex       Baud rate 19,200, n, 8, 1	Total Weight		~3500 grams	Nominal (Front element is sealed)	
Power Input12VDC, 1.0ANominalCommunication ProtocolRS-422/232 Full DuplexBaud rate 19,200, n, 8, 1	External Dimensions		Max Diameter: 179 mm; Length: 210 mm		
Communication Protocol RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	▼ ELECTRICAL				
	Power Input		12VDC, 1.0A	Nominal	
♠ ENVIRONMENTAL			RS-422/232 Full Duplex	Baud rate 19,200, n, 8, 1	
Operating/Storage Temperature -32°C to +55°C / -40°C to +70°C	Operating/Storage Temperature		-32°C to +55°C / -40°C to +70°C		
Shock and Vibrations Per applicable standard	Shock and Vibrations		Per applicable standard		
Front lens sealing IP67 By request	Front lens sealing		IP67	By request	

