

Customized Services

Imaging Lens Technical Specification Requirements Form



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NO.	Parameter Name	Value	Notes
Basic System Parameters			
1	Working Distance (mm)		Distance from the front end of the lens to the object being imaged
2	Back Focal Length - Mechanical (mm)		Distance from the last mechanical end of the lens to the sensor
3	Total Object to Image Distance (mm)		Distance from the object to the sensor. This parameter determines the space required for the lens to function properly.
4	Focal Length (mm)		
5	Entrance Pupil Diameter (mm)		Effective aperture for imaging
6	Working Wavelength Range (nm)		Optical spectrum range in which the lens operates
7*1	Full Field of View Angle (°)		The total observable angular extent of the object under inspection
8*2	Full Field of View (mm)		The total observable area of the object under inspection
9	Sensor Size (mm x mm)		Size of the detector's target surface
10	Primary Magnification		Ratio between the sensor size and the field of view
11	Zoom Ratio		Ratio of sensor size to field of view at different focal lengths for a zoom lens

Optical Performance		
12	Transmittance (%)	The attenuation rate of the imaging beam intensity by the lens
13	Relative Illumination (%)	Ratio of the illumination at the periphery to the illumination at the center
14	Modulation Transfer Function (%@lp/mm)	Contrast at a specified spatial frequency, e.g., lines per mm
15	Distortion (%)	Ratio of the difference between the actual and ideal image point heights for off-axis beams to the ideal image height
Detector Parameters		
16	Target Surface Size (mm x mm)	Size of the detector's target surface
17	Horizontal/Vertical Resolution (px x px)	Number of horizontal and vertical pixels of the detector
18	Horizontal/Vertical Pixel Size (um x um)	
Interface Requirements		
19	Total Lens Length (mm)	
20	Entrance Pupil Position (mm)	Distance from the entrance pupil to the mechanical front of the lens
21	Entrance Pupil Size (mm)	Diameter of the lens's entrance pupil
22	Maximum Diameter (mm)	
23	Weight (kg)	

Illumination*3		
24	Object Luminous Intensity Function	Function describing the variation of the object's luminous intensity with emission angle
25	Illumination Characteristics Function	Function describing the variation of the light source's luminous intensity with emission angle
26	Object Reflection Characteristics	Function describing the reflective properties of the object under illumination
Environmental Requirements		
27	Operating Temperature Requirement (°C)	Ambient temperature range within which the lens can operate normally
28	Storage Temperature Requirement (°C)	Ambient temperature range for storing the lens
29	Vibration (g)	Maximum vibration acceleration the lens must withstand during normal operation
30	Shock (g)	Maximum shock acceleration the lens must withstand
31	Other Environmental Requirements	Humidity, acidity/alkalinity, sealing, etc.