



深圳市创威时代光电有限公司  
Shenzhen ChuangWei Seculens CO., Ltd.

# 产品规格书

## Product Specification

型号:  
(Model Name): 30021FB. IR-JZ-5MP+H14+IR0109

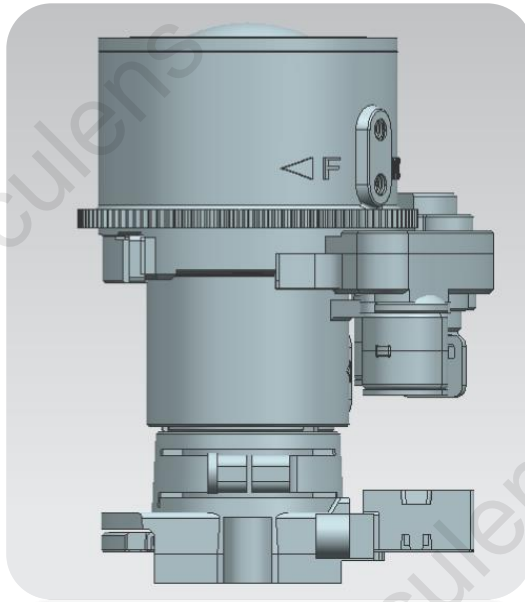
编码:  
(Part No.): 01. 30021. 010. 05

客户名称:  
(Customer Name):

客户编码:  
(Customer Part No.):

<p>客户承认 (Customer Approved)</p>

	承认 (Approved by)	检印 (Reviewed by)		作成 (Prepared by)	
			光学		
			结构		
			电子		



图片仅供参考  
(picture only for your reference)

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3 变更履历 (Revision History) 变更符号标记 (Mark revised) : ○

版本 (REV.)	变更日期 (DATE)	变更内容 (Revision content)	作成 ( Prepared by)	备注 (Remark)
1.0	20.01.10	新规作成 (New Spec Document prepared)	LQ	
1.1				
1.2				
1.3				

## 4.概要 (Outline)

### 4.1 应用范围 (Application)

适用于我司向贵司提供的镜头产品(The below datasheet is only suit to CWZK products.)

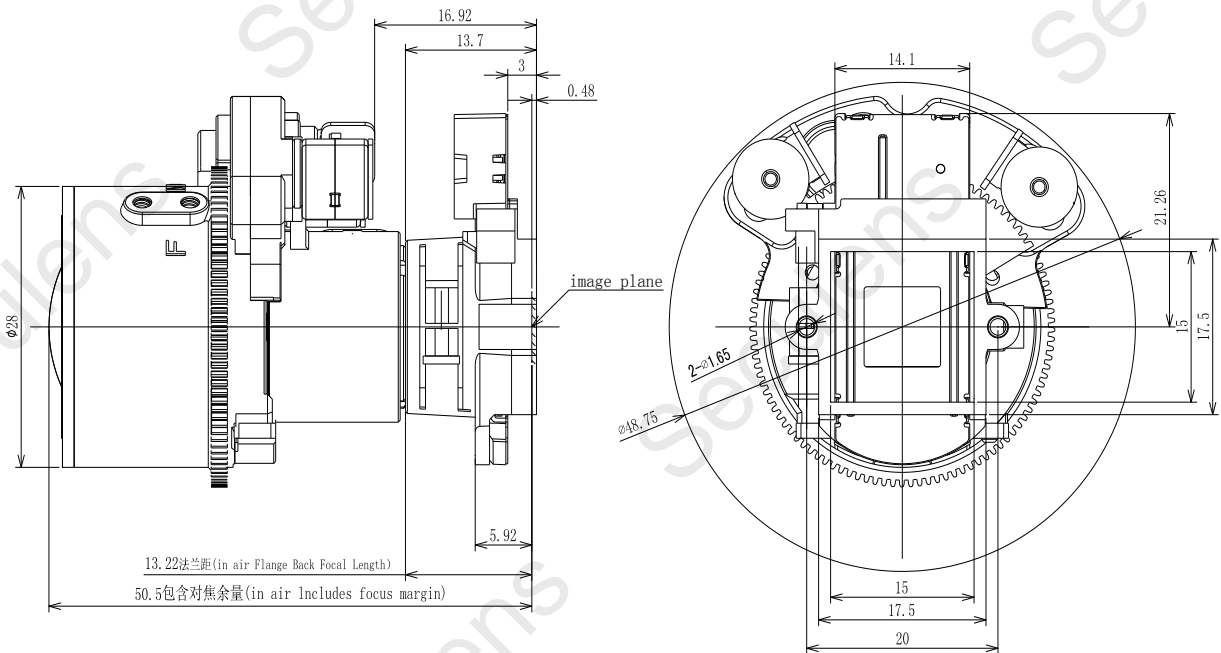
## 5 主要参数 (Main Items)

### 5.1 光学参数规格 (Optical Specifications)

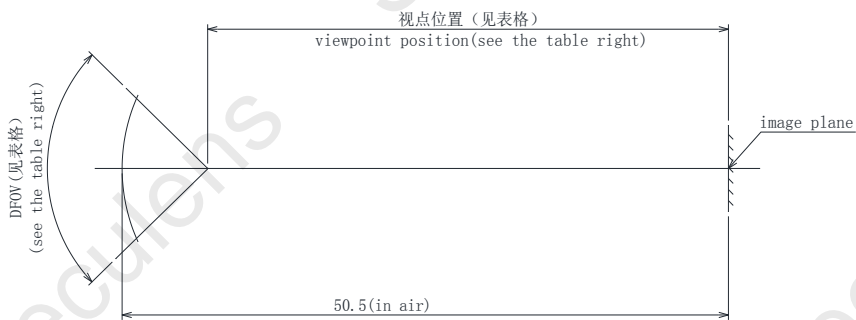
NO.	项目 (Items)	设计规格 (Specification)					
1	F No.	1.6±10%					
2	焦距(Focal-Length)	7.65~17.89±5%					
3	光学后焦 (Optical Back Focal Length)	6.45±0.2 (in air)					
4	法兰后焦 (Flange Back Focal Length)	13.22±0.2 (in air)					
5	镜头总长(TTL)	50.5±0.2 (in air) 极限位置 (limiting point)					
6	像面大小 (Image circle)	∅7.5 (MAX)					
7	镜片构成 (Lens structure)	9G+1GMP(全玻璃镜片, ALL Glasses)					
8	接口 (Mount)	∅14					
9	接口固定锁附力 (Clamp Force)	0.7-0.8kgf-cm					
10	视场角 (FOV)	sensor型号	H(水平)		V(垂直)		D(对角)
		1/2.5"	45.4° (W) - 18.24° (T)		33.4° (w) - 13.68° (T)		58° (W) - 22.4° (T)
		1/2.7"	41.4° (W) - 16.6° (T)		30.6° (W) - 12.5° (T)		52.8° (W) - 20.8° (T)
		1/3"	37.4° (W) - 15.24° (T)		27.6° (W) - 11.4° (T)		47.4° (W) - 19° (T)
11	光学畸变 (Optical Distortion)	1/2.5"	W:-13.5%~ T:-0.9%	1/2.7"	W:-11.3%~ T:-0.75%	1/3"	W:-9%~ T:-0.6%
12	相对亮度 (Relative Illumination)	1/2.5"	W:48%~ T:78%	1/2.7"	W:53%~ T:81%	1/3"	W:59%~ T:84%
13	最大主光线夹角 (CRA)	1/2.5"	13.5°	1/2.7"	12.1°	1/3"	10.9°
14	近摄距 (M.O.D)	0.5m					
15	解像标准 (Resolution)	分辨率 (Resolution):		2592×1944		(5MP)	
16	重量 (Weight)	/					
17	操作方法 (Operation)	聚焦 (Focus)	前群聚焦, 后群变倍; 自动 (Front group:Focus, Back group:Zoom; Auto)				
		光圈 (Iris)	自动 (auto)				
18	环保&安全 (HSF&Safety)	RoHS					

## 5.2 机构参数规格 (Mechanical Specifications)

### 5.2.1 外形尺寸图 (Dimension Figure)



### 5.2.2 视点图 (Viewpoint Figure)



像面大小 (image plane)	Dfov	视点位置 (mm) (viewpoint position)
∅4.3	33.36	30.95
∅4.41	34.24	31.18
∅5.6	44.04	33.23
∅5.7	44.88	33.37
∅6.0	47.44	33.79
∅6.17	48.9	34.02
∅6.39	50.82	34.31
∅6.61	52.76	34.59
∅7.0	56.28	35.07
∅7.1	57.19	35.19
∅7.5	60.94	35.67

本规格书未注单位 (Unit is not indicated in the document.): mm  
未注公差 (Unmarked Tolerance):  $\Phi \pm 0.1$ ,  $L \pm 0.15$

## 5.3 步进电机参数 (ELE-6002) (Stepper motors Specifications)

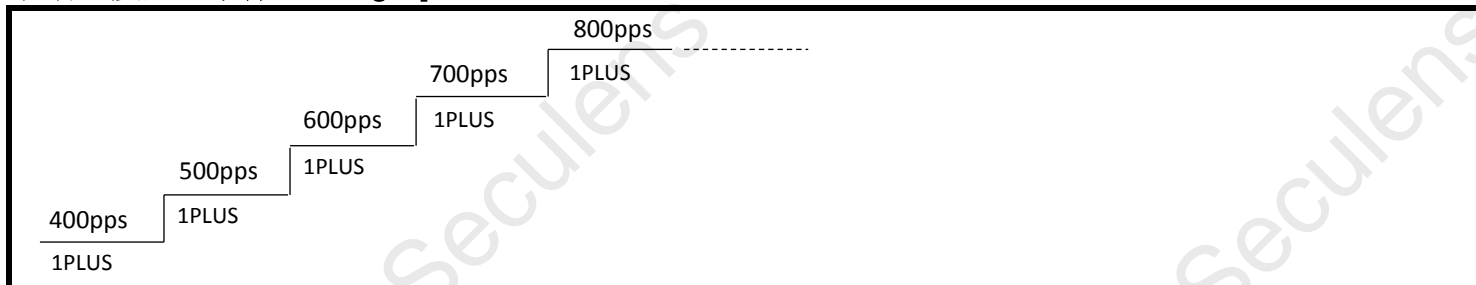
NO	项目ITEM	标准standard
1	马达外径尺寸 (Outside diameter)	Φ8mm
2	相数 (NO. of phases)	2相 phase(Bipolar)
3	线圈阻抗 (Coil resistance)	40 Ω /phase ±7%
4	电压使用范围 (Voltage range)	3.3-5V
5	线圈最大电流 (Coil max Current)	125mA/Phase
6	推荐驱动条件 (Recommended conditions)	4.2V 2-2相 300-800PPS(加速accelerating)
7	步进角 (Step angle)	0.224度/Step
8	激磁方式 (Excitation)	2-2bipolar
9	环境温度 (Environment temp)	参照环境参数规格Refer to the environmental parameter specifications
10	变倍行程 Zoom range(wide=>Tele)	2342步 (Steps) 0.002882mm/Step
11	聚焦行程 Focus range(Near=>Far)	2343步 (Steps) 0.004867mm/Step

※驱动电流要求: 82.5~125mA/phase (参考电压3.3-5V, 2-2相驱动, 建议正弦波形输出, AB相电流相位差90°)。

Drive current: 82.5~125mA /phase (Reference Voltage 3.3-5v, 2-2 phase, recommend sinusoidal waveform output, AB line current phase difference 90°)

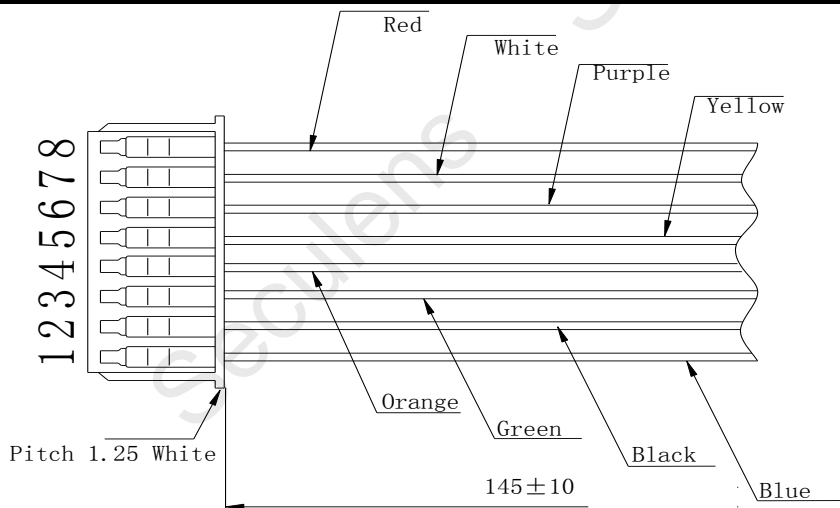
※建议使用频率: 300-800PPS。(Frequency Recommended:300-800PPS)

驱动速度加速条件Driving speed acceleration conditions:



马达端子定义Motor terminal:

PIN	颜色Color	定义Definition
1	蓝线 (Blue)	FOCUS A-
2	黑线 (Black)	FOCUS A+
3	绿线 (Green)	ZOOM A-
4	橙线 (Orange)	ZOOM A+
5	黄线 (Yellow)	ZOOM B+
6	紫线 (Purple)	ZOOM B-
7	白线 (White)	FOCUS B-
8	红线 (Red)	FOCUS B+



**注意事项 (NOTE):**

不可用手强用力转动前/后调圈, 以免破坏齿轮箱, 一切操作需用镜头驱动治具作动! Do not turn the front/back adjusting ring by hand forcefully so as not to damage the gearbox. All operation shall be driven by lens driving fixture!

## 5.4 IR-CUT参数规格 (IR0109) (IRCUT Specification)

NO	项目 ITEM	条件 Condition	单位 Unit	标准 Standard
1	产品外形尺寸 (Product size)	装配外形 (Assembly exterior)	mm	35*14.1*1.9
2	开口口径 (Opening Aperture)	-	mm	7*7
3	线长 (Wire Length)	-	mm	70±5
4	线圈阻抗 (Coil Resistance)	20°C	Ω	20±5 Ω
5	通电电压 (Electric voltage)	参照环境参数规格 Refer to the environmental parameter specifications	V	3.5~6.0
6	通电时间 (Electric time)	参照环境参数规格 Refer to the environmental parameter specifications	ms	100~200
7	推荐驱动条件 (Recommend Driving Condition)	参照环境参数规格 Refer to the environmental parameter specifications	-	端口电压 Port voltage: 3.5V 驱动秒时 Driving time: 100ms

备注：产品通正反向电压，通断电时间为：通电100ms~200ms，断电30s~60s，不通电时滤光片保持不动。

Note: Positive and negative voltage. Time: power on 100ms ~200ms, power off 30s~60s.

Filter does not move when power is off

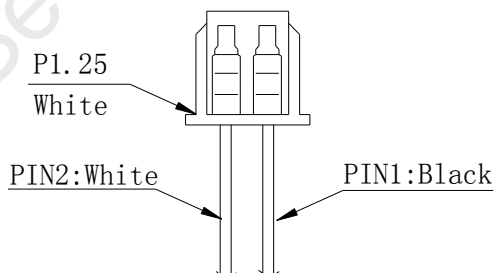
### 滤光片规格 (IR Filter Specifications)

红外波光片 (IR Filter)	尺寸 (Size)	8.4mm*8.1mm*0.21mm
	镀膜规格 (Coating Spec)	400nm~420nm Tave>88%, T>85%
		420nm~620nm T≥95%, Tave>96%
		642nm~653nm T=50% 斜率 80%~20%<20nm
		680nm T<2%
		700nm~1000nm T<1%
1000nm~1100nm Tave<2%, T<4%		
白片波光片 (Dummy Glass)	尺寸 (Size)	8.4mm*7.7mm*0.21mm
	镀膜规格 (Coating Spec)	420nm~1100nm T>92%, Tave>96%

### 切换模式 (Switch type)

区分 Distinction	白线 White line	黑线 Black line	状态 State
极性 Polarity	(+)	(-)	白玻璃片工作 (夜晚) Dummy glass work
	(-)	(+)	红外滤光片工作 (白天) IR Filters work

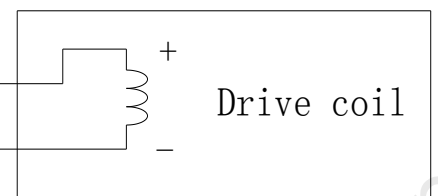
端子定义 terminal:



接线示意图 wiring diagram:

PIN NO.

2	White
1	Black



## 5.5 光学检测标准 (Optical Performance)

No.	检测项目 (Items)	描述 (Description)
1	解像力 (Resolution)	<p>1.1: 逆投影解像条件 (Condition)                      A: Chart:1/2.5" VCL-4 (N)                      B: 投影距离(Distance): 2m</p> <p>1.2: 解像标准(Criteria)                      5MP 逆投影: 中心: 250lp/mm 0.7Y: 180lp/mm                      The inverse projection:(center:250lp/mm 0.7Y:180lp/mm )</p>
2	外观标准 (Appearance Standards)	<p>2.1 镜头内污 (LENS DUST)                      A:规格 60-20                      伤痕: 宽度 &lt;60um, 长度和 &lt;D/2, ≤15um 不计;                      脏污: 单点直径 &lt;200um, 100~200um 点 ≤3个。</p> <p>2.2 其他外观(Other appearance)                      外表面颜色均匀, 无明显缺陷、污渍、异物伸出、明显划伤和收缩; 脏水不得溢入有效通光内。</p> <p>2.1 LENS DUST                      A: Specification 60-20                      Scratch: width&lt;60um, total length&lt;D/2, ≤15um ignored;                      Smudge: Single dot diameter &lt;200um, 100~200um dot ≤3 pcs</p> <p>2.2 Other appearance                      Outside surface uniform color; no visible flaws, stains, foreign bodies extended, obvious scratch or contraction; no glue spill into the effective aperture.</p>

## 5.6 环境参数规格 (Environment Specifications)

No.	环境描述 (Items)	条件(Description)
1	存放环境 (Storage condition)	-30℃~+80℃; 10-90%RH (No condensing)
2	工作环境 (Operation condition)	-20℃~+60℃; 10-90%RH (No condensing)

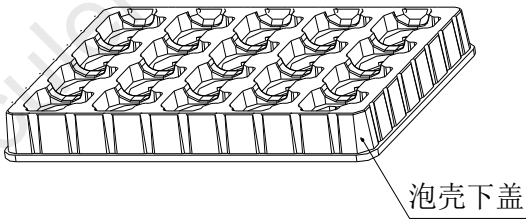
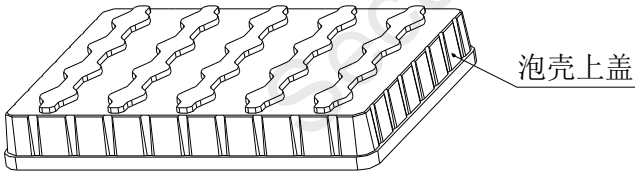


## 6 信赖性测试( Reliability Test)

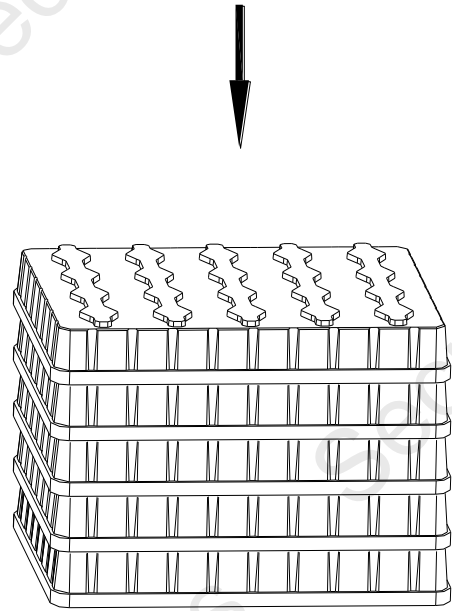
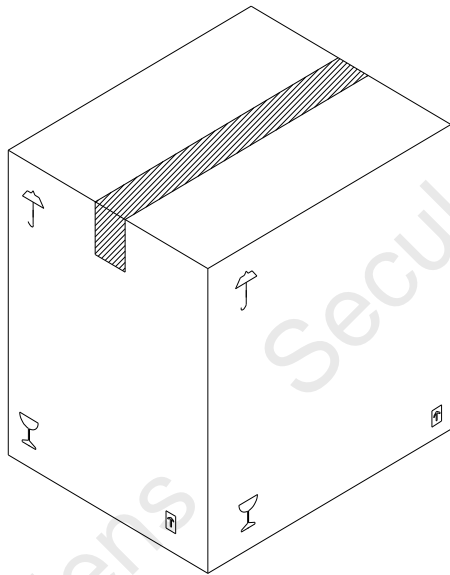
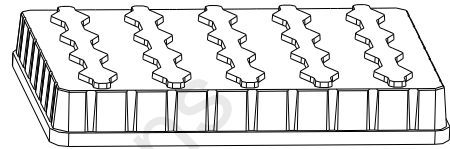
No.	项目 (ITEM)	测试条件 (CONDITION)
1	高温存放试验 Storage Test At High Temperature	镜头在80℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to 80℃ for 48 hours and then to normal temperature/humidity for 6 hours
2	低温存放试验 Storage Test At Low Temperature	镜头在-30℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 48 hours and then to normal temperature/humidity for 6 hours
3	冷热冲击试验 Temperature Cycle Test	镜头在-30℃条件下保持30分钟，然后升温至+80℃，稳定后保持30分钟作为一个周期，共10个周期。之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 30min, Tank temperature change +80℃ for 30min as one cycle, 10 cycle shall be performed. And then to normal temperature/humidity for 6 hours
4	振动试验 Vibration Test	镜头在振幅为1.5mm、频率为10-55Hz的正弦波参数下，在三个互相垂直的轴线上依次振动25分钟后，镜头无松动并满足所有规格要求 All specification are to be satisfied after lens is subjected to the sine wave of 1.5mm amplitude and 10-55Hz directions for 25 minutes each

## 7 包装规格 (Package)

1. 镜头盖上镜头盖后，放入泡壳



2. 盖上泡壳上盖，泡壳上贴标示票。



3. 装满镜头的泡壳抽真空后重叠放入纸箱。

4. 密封胶带，箱子外面贴标示票。

注：包装纸箱可根据客户订单灵活选用，  
以上包装以纸箱（320\*240\*490）包装示  
例

数量：

20 PCS/盒

10 盒/箱

200 PCS/箱