



福建福特科光电股份有限公司

Foctek Photonics, Inc.

镜头参数 (Parameter of Lens)

型号 (Model) :

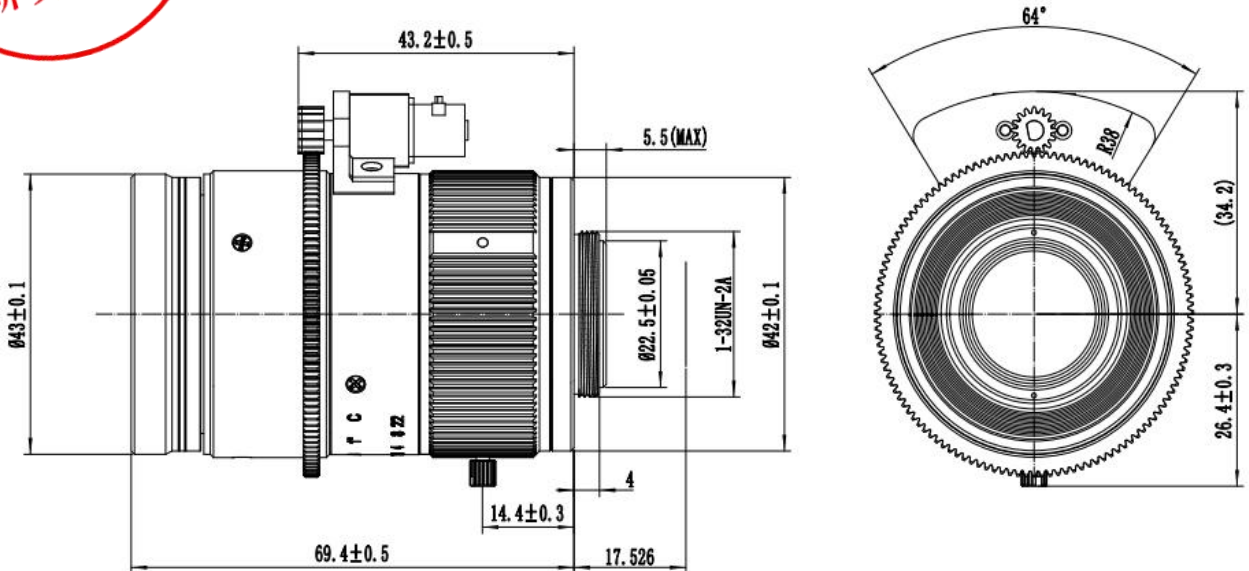
C-M16(12MP)-1F14-E



分辨率 (Resolution)	12 Megapixel				
像面尺寸 (Image format)	1.1"				
焦距 (Focal length)	16±5%mm				
通光孔径 (Aperture)	F1.6±10%				
接口 (Mount)	C				
视场角 (Field Angle) D×H×V(°) ±5%	" / °	1.1 (IMX428)	1 (IMX305)		
		1 (16*12.8*9.6)			
		D	59.2	54.1	54
		H	49.16	48.1	43
V	33.6	25.9	33		
畸变(Optical Distortion)	5.9%Φ16mm				
主光束入射角(CRA)	≤7.2°Φ16mm				
最近物距(M.O.D.)	0.5m				
外形尺寸(Dimension)	φ43×73.4mm				
重量(Weight)	263g±5g				
法兰后焦距(Flange BFL)	17.526mm (in air)				
光学后焦距(BFL)	13.863mm (in air)				
机械后焦距(MBF)	12.2mm (in air)				
日夜共焦 (IR Correction)	NO				
操作方法 (Operation)	光圈 (Iris)	手动光圈 (Manual)			
	聚焦 (Focus)	电动聚焦 (Motorized)			
	变焦 (Zoom)	/			
工作温度 (Operating temperature)	-30℃~+70℃				



尺寸 (Size)



尺寸公差Size tolerance (mm) :	0-10±0.05	10-30±0.10	30-120±0.20
角度公差Angle tolerance	±2°		

电机 (Motor)

型号 (Model) :

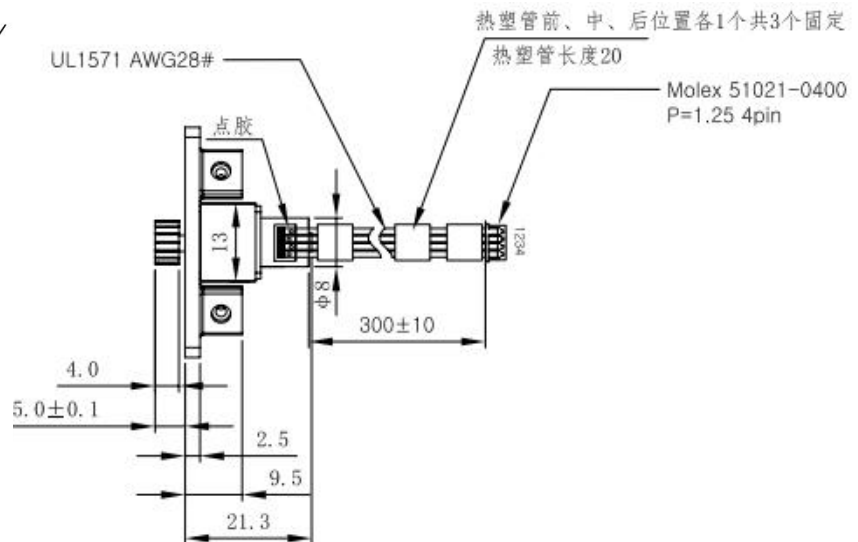
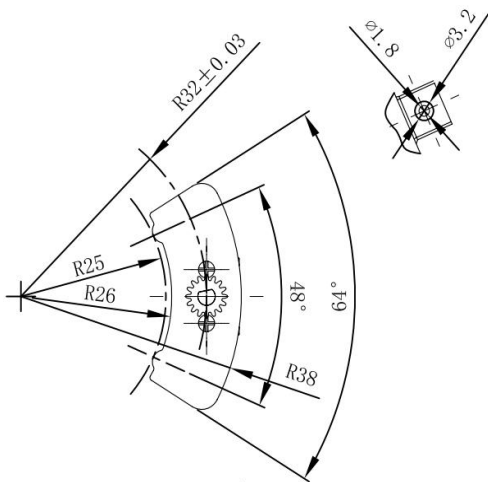
C-M16(12MP)-1F14-E

ELECTRICAL CHARACTERISTIC

1. RATED VOLTAGE: 5V DC
2. COIL RESISTANCE: $30\Omega \pm 7\%$
3. No. OF PHASES: 2PHASES
4. STEP ANGLE: 18° /STEP
5. EXCITATION METHOD: 2-2PHASE EXCITATION
6. DRIVE MODE: BI-POLAR DRIVE
7. MAX. STARTING PULSE RATE: 1200PPS Min. /5VDC
8. MAX. SLEWING PULSE RATE: 2500PPS Min. /5VDC
9. INSULATION CLASS: CLASS E FOR COILS
10. SPEED REDUCING RATION: 1:156
11. INSULATION RESISTANCE: $5M\Omega$ Min. /100 VDC
12. INSULATION STRENGTH: 3mA max. 100VAC/1 SECOND
13. OPERATING TEMPERATURE RANGE: $-20 \sim +70^\circ\text{C}$
14. OUTPUT TORQUE: 200gf-cm(min) AT 500pps 5VDC

Output Tooth Parameter

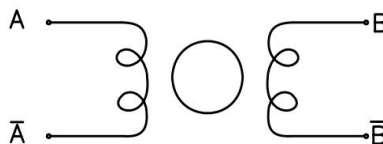
Pressure angle	20°
Modulus	0.4
Number of teeth	16
Tip diameter	$\Phi 7.2$
Pitch diameter	$\Phi 6.4$
Root diameter	$\Phi 5.4$
Precision level	JGMA-116-02 Four Glass



SEQUENCE OF EXCITATION

Step Phase	1	2	3	4
A	+	+	-	-
\bar{A}	-	-	+	+
B	-	+	+	-
\bar{B}	+	-	-	+

CONNECTION DIAGRAM



PIN NO.	COLOR	
1	RED 红	A
2	YELLOW 黄	A-
3	BROWN 棕	B
4	ORANGE 橙	B-

Output Shaft Rotation CW

检测标准 (Test Standard)

型号 (Model) :		C-M16(12MP)-1F14-E	
检测项目 Test Items		检测内容 Test Content	
1	逆投影检测 Resolution Test	Test Range	Φ16 (projector distance 1.8m, Thickness of Cover Glass 1.5±0.2mm)
		Center≥	160 lp/mm
		Φ16≥	(Φ12) 125 lp/mm (Φ16) 100 lp/mm
		Image standard	The image should be clear.
环境 Environment		25±2°C, ≤1 lux Dark room	

MTF Curve		C-M16(12MP)-1F14-E	
2			
	<p>多色的 衍射 MTF</p> <p>Z2 2019/10/15 数据 0.4350 到 0.6563 μm.</p>		



环境可靠性测试 (Reliability and Environmental Testing)

型号 (Model) :

C-M16(12MP)-1F14-E

检测项目 Test Items

检测内容 Test Content

1

温度循环试验
Temperature Cycling Test

镜头在试验温度(-30±3)°C放置1.5小时, (70±3)°C放置3小时
的条件下, 放置2个循环。试验后, 将镜头放置于室温24小时后进行
检验, 各指标均合格。

Lens is placed on two cycles in the test temperature (-30±3)°C for 1.5
hours and in (70±3)°C for 3 hours separately. Then, the indicators are
qualified after placing the lens at room temperature for 24 hours.

2

高温高湿试验
Damp heat test

镜头在试验温度(70±3)°C,湿度85%RH的条件下, 放置48小时。
试验后, 将镜头放置于室温24小时后进行检验, 各指标均合格。

Lens is placed in the test temperature (70±3)°C, humidity 85% RH for
48 hours.
Then, the indicators are qualified after placing the lens at room
temperature for 24 hours.

3

跌落试验
Drop Test

镜头在1米高(±0.1米)处, 自由跌落到混凝土地板上。
试验后, 镜头各指标均合格。

Lens drops from the height of (1±0.1m) to the concrete ground.
After the testing, the indicators are qualified.

4

振动试验
Vibration Test

镜头正弦波振动2小时,在振幅为1mm, 频率为50Hz的条件下, 试
验后, 镜头各指标均合格。

Lens vibrates 2h in sinusoidal wave under 1 mm of amplitude and 50Hz
of frequency.
After the testing, the indicators are qualified.

包装规格 (Packing Specification)

型号 (Model) :

C-M16(12MP)-1F14-E

1. Stick label on the surface of lens after capped.
2. Put the lens into the carton box with pearl wool, desiccant and instructions.
3. The unit will be packaged in a corrugated box.
4. Seal the corrugated box with tape and mark the surface.

