

Cheetah Series Telecentric Lenses



Product Features

- Large aperture high-resolution design, compatible with 5-megapixel cameras with 2/3" chip size
- Whole series has a wide amplification range, from 0.3X to 2.0X
- High telecentricity, high contrast, optional built-in coaxial light illumination specifications

Selection Guide

OPT-CH05-110C-F6.5

- F#: 6.5
- C: Built-in coaxial light illumination
- Working distance(WD): 110 mm
- Magnification: 0.5X
- Cheetah Series Telecentric Lenses
- Brand name

Resolution Comparison



Image taken by Cheetah



Image taken by other lens

Application Cases



Glass screen Mark positioning



Glass scratch detection



PCB board character recognition



Measurement of conductive base

Model Table

No.	Model	WD (mm) ^[1]	Mag.	Image circle Ø (mm)	Aperture (F#) ^{[2][4]}	Distortion (Max.)	DOF (mm) ^[3]	MTF30 (lp/mm)	Telecentricity (Max.)	O/I (mm)	Weight (kg)	FOV, Ø (mm)
1	OPT-CH03-110-F6.5	110±2	0.3X	11.0(2/3")	F6.5	<0.1%	5.96	145	0.10°	260.8	0.26	36.67
2	OPT-CH05-110-F6.5	110±2	0.5X	11.0(2/3")	F6.5	<0.1%	2.15	145	0.10°	264.7	0.23	22.00
3	OPT-CH08-110-F6.5	110±2	0.8X	11.0(2/3")	F6.5	<0.1%	0.84	145	0.10°	234.9	0.19	13.75
4	OPT-CH10-110-F6.5	110±2	1.0X	11.0(2/3")	F6.5	<0.1%	0.54	145	0.10°	237.4	0.20	11.00
5	OPT-CH15-110-F7.5	110±2	1.5X	11.0(2/3")	F7.5	<0.1%	0.28	130	0.10°	273.6	0.29	7.33
6	OPT-CH20-65-F7	65±2	2.0X	11.0(2/3")	F7.0	<0.1%	0.14	140	0.10°	199.6	0.28	5.50

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7	OPT-CH03-110C-F6.5*	110±2	0.3X	11.0(2/3")	F6.5	<0.1%	5.96	145	0.10°	260.8	0.31	36.67
8	OPT-CH05-110C-F6.5*	110±2	0.5X	11.0(2/3")	F6.5	<0.1%	2.15	145	0.10°	264.7	0.28	22.00
9	OPT-CH08-110C-F6.5*	110±2	0.8X	11.0(2/3")	F6.5	<0.1%	0.84	145	0.10°	234.9	0.24	13.75
10	OPT-CH10-110C-F6.5*	110±2	1.0X	11.0(2/3")	F6.5	<0.1%	0.54	145	0.10°	237.4	0.25	11.00
11	OPT-CH15-110C-F7.5	110±2	1.5X	11.0(2/3")	F7.5	<0.1%	0.28	130	0.10°	273.6	0.31	7.33
12	OPT-CH20-65C-F7	65±2	2.0X	11.0(2/3")	F7.0	<0.1%	0.14	140	0.10°	199.6	0.29	5.50

Note:

- WD: The distance between the front end of the mechanism and the object.
- F/#: The real F-number of a lens when used.
- DOF evaluation formula for telecentric lenses: $DoF(mm)=F/\#*P*k/\beta^2$;
P: Sensor pixel size(5.5 μm used here)
β: Lens magnification
k: The paramater based on application (measurement, k=0.015; defect detection,k=0.008; 0.015 used here)
- there are a variety of aperture specifications optional, 0.3X~1.0X has small aperture F8 and F11 optional;
1.5X~2.0X has small aperture F11 and F16 optional.
- With * lens supports standard point light source and special surface light source;
both light sources support shooting highly reflective objects, if you want to shoot low reflective objects, it is recommended to use special surface light source to obtain better lighting effect.
If a dedicated area light source is available, an OPT-FL3118-CH-X light source is required.X is the color of light source, with red, green, blue, and white light.

No.	Model	*Power consumption○	*Power consumption●	*Power consumption●	*Power consumption●	Size(mm)	Supporting Controller
1	OPT-FL3118-CH-X					31×18×15.5	OPT-AP1024-4

* Note: The data is for reference only.

Dimensions (mm)

