

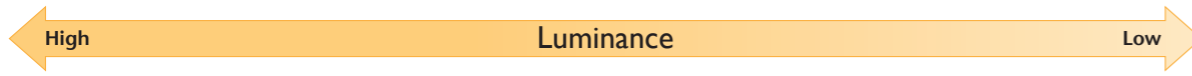
Specifications

Model name	Mag. (x)	IF (mm)	WD (mm)	Field of View												Mount																		
				2M			5M			4M~9M			6M~12M				8M~12M			12M			25M / 71M			29M								
				8mm (1/2") 6.4 x 4.8 x 8	11mm (2/3") 8.8 x 6.6 x 11	16.5mm (1") 12.8 x 9.6 x 16	18.5mm (1.1") 14.1 x 10.3 x 18.1	23mm 18.1 x 13.6 x 22.5	28.5mm 22.5 x 16.9 x 28.1	35mm*1 31 x 22 x 35	43.5mm 36 x 24 x 43.5	H	V	D	H		V	D	H	V	D	H	V	D	H	V	D	H	V	D	H	V	D	
MML1-HR110DVI-16C	1.000	16.5	110	6	5	8	9	7	11	13	10	16																						C
MML1.5-HR110DVI-16C	1.500	16.5	110	4	3	5	6	4	7	9	6	11																						C
MML037-HR220DVI-28F	0.370	28.5	220	17	13	22	24	18	30	35	26	43	38	28	49	49	37	61	61	46	76													F
MML055-HR220DVI-28F	0.550	28.5	220	12	9	15	16	12	20	23	17	29	26	19	33	33	25	41	41	31	51													F
MML1-HR130VI-35F	1.000	35	130	6	5	8	9	7	11	13	10	16	14	10	18	18	14	23	23	17	28	31	22	35										F
MML1.5-HR110VI-35F	1.500	35	110	4	3	5	6	4	7	9	6	11	9	7	12	12	9	15	15	11	19	21	15	23										F
MML2-HR110DVI-43F	2.000	43.5	110	3	2	4	4	3	6	6	5	8	7	5	9	9	7	11	11	8	14	16	11	18	18	12	22							F
MML3-HR110DVI-43F	3.000	43.5	110	2	2	3	3	2	4	4	3	5	5	3	6	6	5	8	8	6	9	10	7	12	12	8	15							F
MML0275-SR130VI-18C	0.275	18.5	130	23	17	29	32	24	40	47	35	58	51	37	66																			C
MML1-SR65DVI-18C	1.000	18.5	65	6	5	8	9	7	11	13	10	16	14	10	18																			C
MML2-HR65DVI-18C	2.000	18.5	65	3	2	4	4	3	6	6	5	8	7	5	9																			C

*1 FOV 35mm of Image format is indicated for 71M camera

High Power LED Spot Illuminators / Coaxial Illuminators

◆ These products can be adopted as coaxial illuminators of MML Series



MCEP 070-3 Series

- Multiple times of light intensity is realized by adopting the highest intensity LED and exclusively designed heat-sink
- High uniformity is realized by newly developed collimator and light guiding rod



MCEP Series

- High intensity model with high power LED installed
- High uniformity is realized by light guiding rod



MCEC Series

- High uniformity is realized by pursuing optimized matching to MML Series
- Compact and low price



MCEL Series

- Compact type coaxial illuminators for MML Series
- Optimized for inspecting the object with highly reflective surface



Lens Selector
You can find the best lens to meet your requirement!



Illumination Selector
You can find the best item to meet your requirement!

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◆◆◆ Telecentric Lenses

MML-HR / MML-SR Series

Telecentric Lenses



Telecentric Lenses

High Resolution Design

MML-HR / MML-SR Series

High
Contrast

These lenses maximize the performance of the cameras.

High
Resolution

These lenses provide beautiful high quality images suitable for a variety of solutions.

High resolution design corresponding to 5.5 μ m/pixel (HR) and 3.5 μ m/pixel (SR)

Large format camera friendly design

16.5mm (1"), 18.5mm (1.1"), 28.5mm, 35mm, 43.5mm sensor size



High Resolution Design

MML-HR / MML-SR Series



NEW

Telecentric Lenses

MML-HR-16 / 28 Series

- The most appropriate optical design for 5.5μm/pix for camera pixel size
- High resolution design to 9M / 12M sensor
- Image format 16.5mm (1" sensor) / 28.5mm
- Adjustable the best depth of field corresponding variable iris

■ Corresponding sensors

Camera	1M	2M	5M	4M~9M	6M~12M	8M~12M	12M	25M / 71M	29M
Pixel size	6mm (1/3")	8mm (1/2")	11mm (2/3")	16.5mm (1")	18.5mm (1.1")	23mm	28.5mm	35mm	43.5mm
3.5μm/pix	MML-5M		MML-SR						
5.5μm/pix	MML-HR		MML-HR-16				MML-HR-28	MML-HR-35 / 43	
7μm/pix	MML-ST								

■ Specifications

Model name	Mag. (x)	WD (mm)	F No	IF (mm)	Mount	Coaxial port	Variable iris
MML1-HR110DVI-16C	1	110	10.5 ~ 22	16.5 (1")	C	○	○
MML1.5-HR110DVI-16C	1.5	110	10 ~ 22	16.5 (1")	C	○	○
MML037-HR220DVI-28F	0.37	220	7.6 ~ 22	28.5	F	○	○
MML055-HR220DVI-28F	0.55	220	8 ~ 22	28.5	F	○	○



NEW

Telecentric Lenses

MML-HR-35 / 43 Series

- The most appropriate optical design for 5.5μm/pix for camera pixel size
- High resolution design to 29M sensor
- Image format 35mm / 43.5mm
- Adjustable the best depth of field corresponding variable iris

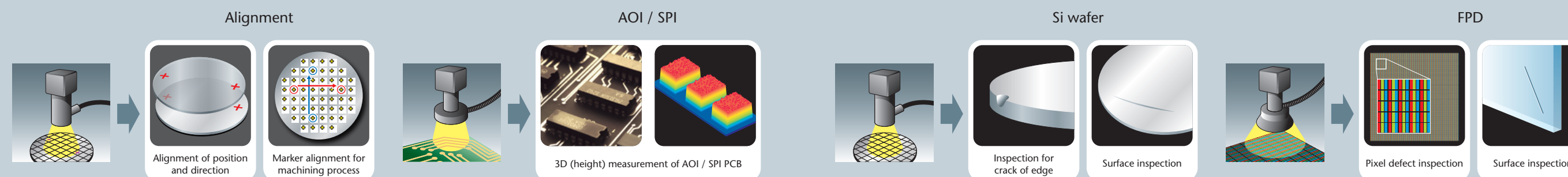
■ Corresponding sensors

Camera	1M	2M	5M	4M~9M	6M~12M	8M~12M	12M	25M / 71M	29M
Pixel size	6mm (1/3")	8mm (1/2")	11mm (2/3")	16.5mm (1")	18.5mm (1.1")	23mm	28.5mm	35mm	43.5mm
3.5μm/pix	MML-5M		MML-SR						
5.5μm/pix	MML-HR		MML-HR-16				MML-HR-28	MML-HR-35 / 43	
7μm/pix	MML-ST								

■ Specifications

Model name	Mag. (x)	WD (mm)	F No	IF (mm)	Mount	Coaxial port	Variable iris
MML1-HR130VI-35F	1	132	6.5 ~ 22	35	F		○
MML1.5-HR110VI-35F	1.5	110	6.4 ~ 22	35	F		○
MML2-HR110DVI-43F	2	110	8 ~ 22	43.5	F	○	○
MML3-HR110DVI-43F	3	110	15 ~ 22	43.5	F	○	○

Applications



NEW

Telecentric Lenses

MML-SR-18 Series



- The most appropriate optical design for camera pixel size for 3.5μm
- High resolution design to 12M sensor
- Image format 18.5mm (1.1" sensor)
- Adjustable the best depth of field corresponding variable iris

■ Corresponding sensors

Camera	1M	2M	5M	4M~9M	6M~12M	8M~12M	12M	25M / 71M	29M
Pixel size	6mm (1/3")	8mm (1/2")	11mm (2/3")	16.5mm (1")	18.5mm (1.1")	23mm	28.5mm	35mm	43.5mm
3.5μm/pix	MML-5M		MML-SR						
5.5μm/pix	MML-HR		MML-HR-16			MML-HR-28	MML-HR-35 / 43		
7μm/pix	MML-ST								

■ Specifications

Model name	Mag. (x)	WD (mm)	F No	IF (mm)	Mount	Coaxial port	Variable iris
MML0275-SR130VI-18C	0.275	130	8 ~ 22	18.5 (1.1")	C		○
MML1-SR65DVI-18C	1	65	7 ~ 22	18.5 (1.1")	C	○	○
MML2-SR65DVI-18C	2	65	8 ~ 22	18.5 (1.1")	C	○	○

Telecentric Lenses
MML-HR-5M Series

- Camera pixel size for 3.5μm
- High resolution design to 5M sensor
- Image format 11mm (2/3" sensor)

Model name	Mag. (x)	WD (mm)	F No	IF (mm)	Mount	Coaxial port	Variable iris
MML03-HR65D-5M	0.3	65.1	7.0	11 (2/3")	C	○	
MML03-HR65-5M							
MML05-HR65DVI-5M	0.5	65.3	7.0~30.6	11 (2/3")	C	○	○
MML05-HR65VI-5M							
MML1-HR65DVI-5M	1.0	65.0	7.0~28.0	11 (2/3")	C	○	○
MML1-HR65VI-5M							
MML2-HR65DVI-5M	2.0	65.0	7.3~44.9	11 (2/3")	C	○	○
MML2-HR65VI-5M							
MML3-HR65DVI-5M	3.0	65.0	9.6~47.5	11 (2/3")	C	○	○
MML3-HR65VI-5M							
MML4-HR65DVI-5M	4.0	65.0	12.1~48.6	11 (2/3")	C	○	○
MML4-HR65VI-5M							
MML014-HR110D-5M	0.14	110.0	4.0	11 (2/3")	C	○	
MML03-HR110D-5M	0.3	110.0	7.0	11 (2/3")	C	○	
MML03-HR110-5M							

Telecentric Lenses
MML-HR Series

- Camera pixel size for 5.5μm
- High resolution design to 1M sensor
- Image format 11mm (2/3" sensor) / 8mm (1/2" sensor)

Model name	Mag. (x)	WD (mm)	F No	IF (mm)	Mount	Coaxial port	Variable iris
MML05-HR65D	0.5	65.3	9.5	11 (2/3")	C	○	
MML05-HR65							
MML08-HR65D	0.8	65.0	9.9	11 (2/3")	C	○	
MML08-HR65							
MML1-HR65D	1.0	65.0	11.0	11 (2/3")	C	○	
MML1-HR65							
MML1.5-HR65D	1.5	65.0	12.0	8 (1/2")	C	○	
MML1.5-HR65							
MML2-HR65D	2.0	65.0	13.5	11 (2/3")	C	○	
MML2-HR65							
MML4-HR65D	4.0	65.0	17.9	11 (2/3")	C	○	
MML4-HR65							
MML4-HR65D-VI			17.9~79.2				○
MML6-HR65D	6.0	65.0	26.7	11 (2/3")	C	○	
MML6-HR65							
MML6-HR65D-VI			26.7~124				○
MML05-HR110D	0.5	110.0	9.5	11 (2/3")	C	○	
MML05-HR110							
MML08-HR110D	0.8	110.0	11.0	11 (2/3")	C	○	
MML08-HR110							
MML1-HR110D	1.0	110.0	11.0	11 (2/3")	C	○	
MML1-HR110							
MML1.5-HR110D	1.5	111.0	11.0	11 (2/3")	C	○	
MML1.5-HR110							
MML2-HR110D	2.0	110.0	13.5	11 (2/3")	C	○	
MML2-HR110							
MML4-HR110D	4.0	110.0	22.2	11 (2/3")	C	○	
MML6-HR110D	6.0	110.0	39.9	11 (2/3")	C	○	
MML08-HR255D	0.8	255.7	10.1	11 (2/3")	C	○	
MML08-HR255							
MML1-HR244D	1.0	244.0	12.6	11 (2/3")	C	○	
MML1-HR244							
MML2-HR220D	2.0	220.6	25.0	11 (2/3")	C	○	
MML4-HR220D	4.0	221.4	24.3	11 (2/3")	C	○	
MML6-HR220D	6.0	220.2	36.2	11 (2/3")	C	○	
MML8-HR220D	8.0	219.6	48.0	11 (2/3")	C	○	

