COGNEX

Advanced machine vision made easy

Cognex Machine Vision Lens Catalog



Standard, Telecentric, and Bi-Telecentric Lenses

Cognex machine vision lenses provide the image quality needed for precise inspection and measurement. Engineered to deliver high-contrast, distortion-free images, they maximize accuracy and performance across a wide range of industrial vision applications.



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Fixed Focal Length

Cognex standard machine vision lenses deliver the clarity, consistency, and optical performance required for a wide range of industrial inspection applications. Designed to integrate seamlessly with Cognex systems, they provide reliable, high-quality imaging for everyday inspection tasks.

Flexible Lens Options

Compact designs for macro- and micro-inspection applications across a wide range of industries

High-Resolution Imaging

Detailed image capture for precise inspection and measurement tasks

Optimized Optical Performance

High contrast and minimal distortion for improved image quality and inspection accuracy

Broad Camera Compatibility

Designed to integrate seamlessly with a range of machine vision cameras and imaging systems

Industrial-Grade Reliability

Engineered for long-term performance in demanding manufacturing environments

ML-U-ZR Series

High-performance lens series for large-format sensors for exceptional image quality in advanced factory automation applications. A wide focal length range and short working distances add flexibility across inspection tasks, while Vis-NIR AR coating and low distortion ensure accurate, high-contrast imaging from visible through near-infrared wavelengths.

Target Applications: Electronics parts inspection and assembly; semiconductor and PCB inspection; high-resolution measurement and gauging; automotive component inspection



ML-U-ZR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Min. Working Distance (mm)	Min. Closest Magnification	Angle of View (H x V)	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-U0828ZR-19C	8	f/2.8-f/16	1.2" (19.3 mm)	≤ 2.0 µm (250 lp/mm)	100	0.070x	79.7° x 68.9°	≤ 4.200%	M55 x 0.75	Φ58.0 x 77.0	Vis-NIR	235
ML-U1228ZR-19C	12				100	0.100x	66.0° x 51.6°	≤ -0.960%	M37 x 0.75	Φ40.0 x 77.9		259
ML-U1628ZR-19C	16				100	0.134x	51.2° x 39.2°	≤ -0.984%		Φ40.0 x 69.0		207
ML-U2528ZR-19C	25				100	0.229x	34.2° x 26.0°	≤ 0.325%		Φ40.0 x 68.7		200
ML-U3528ZR-19C	35				100	0.303x	23.8° x 18.0°	≤ -0.136%		Φ40.0 x 73.4		211
ML-U5028ZR-19C	50				200	0.259x	15.7° x 11.8°	≤ -0.015%		Φ40.0 x 68.3		180

ML-U-SR Series



Vibration-resistant lens series for high-resolution sensors, delivering strong resolving power at the longest focal lengths in a compact design. A low-CRA design delivers high brightness and uniformity, while advanced Vis-NIR AR coating ensures consistent, high-contrast imaging in demanding industrial environments.

Target Applications: Electronics parts inspection and assembly; automotive inspection and assembly; OCR and barcode reading; pick and place robotics

ML-U-SR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Min. Working Distance (mm)	Min. Closest Magnification	Angle of View (H x V)	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-U0618SR-18C	6	f/1.8-f/16	1.1" (17.6 mm)	≤ 2.7 µm (185 lp/mm)	100	0.050x	100.3° x 83.5°	≤ -2.209%	N/A	Φ66.0 x 77.2	Vis-NIR	350
ML-U0817SR-18C	8	f/1.7-f/16			100	0.067x	52.0° x 68.4°	≤ -1.880%	M55 x 0.75	Φ58.0 x 77.0		244
ML-U1217SR-18C	12	f/1.7-f/16			100	0.110x	61.6° x 47.4°	≤ -1.958%	M35.5 x 0.5	Φ39.5 x 65.5		200
ML-U1615SR-18C	16	f/1.5-f/16			100	0.142x	47.2° x 36.1°	≤ -0.857%	M35.5 x 0.5	Φ39.5 x 67.0		182
ML-U2515SR-18C	25	f/1.5-f/16			100	0.215x	31.3° x 23.8°	≤ -0.337%	M37 x 0.75	Φ42.0 x 67.0		210
ML-U3518SR-18C	35	f/1.8-f/16			200	0.190x	21.1° x 15.9°	≤ -0.085%	M35.5 x 0.5	Φ39.5 x 54.5		120
ML-U5022SR-18C	50	f/2.2-f/16	1.1" (17.6 mm)	≤ 2.7 µm (185 lp/mm)	300	0.194x	13.9° x 10.3°	≤ 0.012%	M35.5 x 0.5	Φ39.5 x 58.5	Vis-NIR	140
ML-U10028UR-18C	100	f/2.8-f/16		≤ 2.0 µm (250 lp/mm)	750	0.150x	7.1° x 5.4°	≤ 0.010%	M40.5 x 0.5	Φ42.0 x 87.5		270

ML-M-UR Series

Compact, vibration-resistant lens series delivering imaging for ultra-high-resolution sensors. Short working-distance options and high vibration resistance support reliable performance in demanding environments, backed by Vis-NIR AR coating for consistent imaging across visible and near-infrared wavelengths.



Target Applications: Automotive parts inspection; electronics parts inspection and assembly; traffic surveillance; vision-guided robotics

ML-U-UR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Min. Working Distance (mm)	Min. Closest Magnifica-tion	Angle of View (H x V)	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-M0420UR	4	f/2.0-f/16	2/3" (11.1 mm)	≤ 1.85 µm (270 lp/mm)	100	0.036x	92.3° x 75.8°	≤ -0.417%	M55 x 0.75	φ57.0 x 53.5	Vis-NIR	145
ML-M0625UR	6	f/2.5-f/16			100	0.056x	74.8° x 58.4°	≤ -2.668%	N/A	φ29.5 x 47.8		90
ML-M0822UR	8	f/2.2-f/16			100	0.071x	58.4° x 44.8°	≤ -1.802%	M25.5 x 0.5	φ29.5 x 37.8		60
ML-M1218UR	12	f/1.8-f/16			150	0.075x	40.5° x 30.8°	≤ -0.983%		φ29.5 x 40.1		60
ML-M1616UR	16	f/1.6-f/16			150	0.095x	30.4° x 22.9°	≤ -0.472%		φ29.5 x 37.0		50
ML-M2516UR	25	f/1.6-f/16			150	0.152x	19.4° x 14.6°	≤ -0.041%		φ29.5 x 38.5		50
ML-M3520UR	35	f/2.0-f/16			200	0.167x	13.7° x 10.3°	≤ -0.088%		φ29.5 x 38.2		50
ML-M5025UR	50	f/2.5-f/16			300	0.194x	9.0° x 6.7	≤ -0.010%		φ29.5 x 59.4		70
ML-M7528UR	75	f/2.8-f/16			500	0.138x	7.0° x 5.2°	≤ -0.026%	M30.5 x 0.5	φ32.0 x 73.2		130

ML-M-HR Series

Lens series delivering strong resolving power and low distortion for high-resolution sensors. Built to withstand high vibration, with Vis-NIR AR coating supporting a broad range of machine vision inspections.

Target Applications: Automotive inspection and assembly; traffic surveillance; OCR, OCV, and label inspection; vision-guided robotics



ML-M-HR Series												
Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Min. Working Distance (mm)	Min. Closest Magnifica-tion	Angle of View (H x V)	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-M0818HR	8	f/1.8-f/16	2/3" (11.1 mm)	≤ 3.45 µm (145 lp/mm)	100	0.072x	58.9° x 45.4°	≤ -1.512%	M25.5 x 0.5	φ29.5 x 36.0	Vis-NIR	50
ML-M1218HR	12	f/1.8-f/16			150	0.075x	40.5° x 30.7°	≤ -0.547%		φ29.5 x 34.0		50
ML-M1618HR	16	f/1.8-f/16			200	0.076x	30.4° x 22.9°	≤ -0.113%		φ29.5 x 33.0		50
ML-M2518HR	25	f/1.8-f/16			200	0.124x	19.2° x 14.1°	≤ 0.024%		φ29.5 x 33.0		40
ML-M3520HR	35	f/2.0-f/16			250	0.152x	13.2° x 9.7°	≤ 0.116%		φ29.5 x 35.8		40
ML-M5025HR	50	f/2.5-f/16			300	0.195x	8.8° x 6.5	≤ 0.066%		φ29.5 x 51.7		60

ML-T Series

Compact fixed-focus lens series with long working distances and precise focus adjustment, delivering strong resolving power across a wide focal length range. Vis-NIR AR coating and color correction ensure consistent, high-contrast imaging.

Target Applications: Transportation, railway monitoring, robot guidance and long stand-off automotive applications

ML-T Series												
Product ID	**Focal Length (mm)**	**F No.**	**Max. Sensor Size**	**Pixel Size / Resolving Power**	**Min. Working Distance (mm)**	**Min. Closest Magnification**	**Angle of View (H x V)**	**TV Distortion @ 500 mm**	**Filter Thread**	**Dim. OD x Lens Tube Length**	**AR Coating**	**Weight (g)**
ML-T0528-18C	5	f/2.8-f/16	1.1" (18.5 mm)	≤ 2.7 µm (185 lp/mm)	500	0.011x	110.8° x 95.0°	≤ -2.67%	N/A	φ40 x 57.3	VIS-NIR + Color Corrected	60
ML-T1628-18C	16				2,000 (1,000 with spacers)	0.016x	49.5° x 38.0°	≤ -0.312%	M30.5 x 0.5	φ32 x 55.9		113
ML-T2028-18C	20					0.010x	42.0° x 32.0°	≤ -0.158%		φ32 x 59.2		110
ML-T2528-18C	25					0.012x	34.3° x 26.0°	≤ -0.145%		φ32 x 38.6		68
ML-T3528-18C	35					0.017x	24.7° x 18.7°	≤ -0.176%		φ32 x 46.9		80
ML-T5028-18C	50					0.025x	17.3° x 13.0°	≤ -0.172%		φ32 x 58.0		80
ML-T7528-18C	75					0.039x	10.9° x 8.3°	≤ 0.178%		φ38 x 64.7		130

Macro

Cognex macro lenses are optimized for high-magnification imaging of small features and components. They deliver exceptional detail, contrast, and resolution, making them ideal for precision inspection, measurement, and defect detection at close working distances.

High-Magnification Imaging

Capture fine details and small features with enhanced clarity

Optimized for Close-Range Inspection

Designed for high-resolution imaging at short working distances

High-Contrast Imaging

Enhances visibility of subtle defects and surface features

Precision Measurement Support

Enables accurate inspection and analysis of micro-scale components

Flexible Magnification Options

Available in a range of magnifications for different applications

Target Applications: Precision measurement and metrology; connector, pin, and solder joint inspection; surface defect detection on small components; plastic and rubber component analysis; spring and small fastener inspection

ML-MC-XR Series

Lens series for large-format sensors that combine high resolving power with adjustable working distance and magnification. Low distortion and compact, anti-vibration build support flexible, high-precision close-range imaging.

Target Applications: Electronics parts inspection and assembly; semiconductor inspection; precision measurement and gauging; automotive component inspection

ML-MC-XR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-MC2518XR-18C	25	f/1.8-f/16	1.2" (19.3 mm)	≤ 2.2 µm (200 lp/mm)	500 ~ 70	0.060 ~ 0.306x	≤ -0.087	M35.5 x 0.5	φ38 x 57.2	VIS	120
ML-MC2517XR-18C-B	25	f/1.7-f/16			550 ~ 70	0.040 ~ 0.320x	≤ -0.032	M35.5 x 0.5	φ42 x 68.4		208.1
ML-MC3518XR-18C	35	f/1.8-f/16			600 ~ 150	0.058 ~ 0.236x	≤ 0.065	M30.5 x 0.5	φ35 x 49.5		80
ML-MC5020XR-18C	59	f/2.0-f/16			600 ~ 150	0.083 ~ 0.371x	≤ -0.048	M35.5 x 0.5	φ40 x 79.8		180
ML-MC7528XR-18C	75	f/2.8-f/16			500 ~ 200	0.163 ~ 0.464x	≤ 0.035	M37 x 0.75	φ40 x 104.8		241
ML-MC9028XR-18C	90	f/2.8-f/16			400 ~ 216	0.320 ~ 0.995x	≤ 0.026	M34 x 0.5	φ40 x 106.2		220

ML-MC-UR Series

Compact, vibration-resistant lens series for high-resolution sensors, delivering strong resolving power and low distortion for high-resolution close-range inspection.

Target Applications: Electronics parts inspection and assembly; semiconductor inspection; precision measurement and gauging; automotive component inspection

ML-MC-UR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	WD Range	Mag. Range	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight
ML-MC12UR-16C	12	f/2.5-f/16	1" (16.4 mm)	≤ 2.2 µm (200 lp/mm)	100 ~ 550	0.021 ~ 0.106x	≤ -0.611	M25.5 × 0.5	Φ31.5 x 44.9	VIS	87.4
ML-MC16UR-16C	16				150 ~ 550	0.095 ~ 0.029x	≤ 0.075		Φ31.5 x 43.5		73.6
ML-MC25UR-16C	25				200 ~ 700	0.122 ~ 0.035x	≤ 0.079		Φ31.5 x 36.4		55.2
ML-MC35UR-16C	35				150 ~ 550	0.274 ~ 0.063x	≤ 0.095	M27 x 0.5	Φ31.5 x 56.9		71.7
ML-MC50UR-16C	50	f/2.8-f/16			250 ~ 650	0.089 ~ 0.242x	≤ 0.032		Φ31.5 x 61.0		100

ML-MC-BR-G Series

Fixed-aperture lens series designed for stable, repeatable measurement and gauging. Compact and vibration-resistant, it delivers strong resolving power and low distortion run after run.

Target Applications: Dimensional measurement and gauging; electronics and PCB inspection; automotive parts inspection; general-purpose machine vision

ML-MC-BR-G Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-MC1240BR-16C-G	12	Fixed f/4.0	1" (16.4 mm)	≤ 2.2 µm (200 lp/mm)	100 ~ 550	0.021 ~ 0.106x	≤ -0.612	M25.5 × 0.5	Φ32.0 x 44.9	VIS	73.6
ML-MC1640BR-16C-G	16				150 ~ 550	0.095 ~ 0.029x	≤ 0.075		Φ32.0 x 42.0		63.5
ML-MC2540BR-16C-G	25				200 ~ 700	0.122 ~ 0.035x	≤ 0.079		Φ32.0 x 36.4		44.4
ML-MC3540BR-16C-G	35	Fixed f/4.0	1" (16.4 mm)	≤ 2.2 µm (200 lp/mm)	150 ~ 550	0.274 ~ 0.063x	≤ 0.093	M25.5 × 0.5	Φ32.0 x 51.0	VIS	56.6
ML-MC5040BR-16C-G	50				250 ~ 650	0.089 ~ 0.242x	≤ 0.032		Φ32.0 x 58.1		100.6

ML-MC-AR Series

Vibration-resistant lens series for compact sensors, delivering exceptional resolving power and very low distortion for fine-detail close-range inspection.

Target Applications: Electronics and semiconductor inspection; connector, pin, and solder joint inspection; precision measurement and gauging; fine defect detection

ML-MC-AR Series

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	TV Distortion @ 500 mm	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)
ML-MC16AR	16	f/2.8-f/16	1/1.7" (9.3 mm)	1.85 µm (270 lp/mm)	320 ~ 70	0.05 ~ 0.20x	≤ 0.049	M27 x 0.5	φ32 x 32.1	VIS	53
ML-MC25AR	25	f/2.7-f/16			252.9 ~ 65.2	0.10 ~ 0.40x	≤ 0.029		φ32 x 40.5		64
ML-MC35AR	35	f/2.8-f/16			124.2 ~ 59	0.30 ~ 0.67x	≤ 0.014		φ32 x 67.7		92
ML-MC50AR	50	f/2.8-f/16			148.8 ~ 111	0.50 ~ 0.80x	≤ 0.023		φ32 x 80.3		114
ML-MC75AR	75	f/3.5-1f/6	1/1.7" (9.4 mm)		500 ~ 270	0.17 ~ 0.38x	≤ 0.038		φ32 x 89.6		138
ML-MC75AR-LWD	75	f/3.6-f/16			1,000 ~ 500	0.08 ~ 0.18x	≤ 0.042		φ32 x 74.7		122

ML-MC-HR Series

Compact and anti-vibration lens series for general-purpose inspection and measurement, delivering strong resolving power and low distortion across everyday machine vision tasks.

Target Applications: Electronics and PCB inspection; precision measurement and gauging; automotive parts inspection; General-purpose machine vision

ML-MC-HR Series											
Product ID	**Focal Length (mm)**	**F No.**	**Max. Sensor Size**	**Pixel Size / Resolving Power**	**Working Distance Range (mm)**	**Magnification Range**	**TV Distortion @ 500 mm**	**Filter Thread**	**Dim. OD x Lens Tube Length**	**AR Coating**	**Weight (g)**
ML-MC12HR	12	f/2.5-f/16	2/3"+ (12.8 mm)	≤ 3.45 µm (145 lp/mm)	600 ~ 200	0.02 ~ 0.06x	≤ -0.068	M27 x 0.5	φ30 x 37.8	VIS	85
ML-MC16HR	16	f/2.5-f/16			317.5 ~ 69.8	0.05 ~ 0.20x	≤ -0.12		φ32 x 31.4		43
ML-MC25HR	25	f/2.7-f/16			255.9 ~ 64.6	0.10 ~ 0.40x	≤ 0.05		φ32 x 43.9		52
ML-MC35HR	35	f/3.6-f/16			139 ~ 51	0.25 ~ 0.70x	≤ 0.05		φ32 x 69.4		73
ML-MC50HR	50	f/3.0-f/16			149.1 ~ 111.1	0.50 ~ 0.80x	≤ 0.07		φ32 x 68.5		95
ML-MC75HR	75	f/3.8-f/16		≤ 4.0 µm (125 lp/mm)	494.3 ~ 276.4	0.18 ~ 0.38x	≤ 0.09		φ32 x 76.9		105

Line Scan/Large Format

Cognex large format lenses are designed to maximize the performance of high-resolution, large-sensor cameras. They provide sharp, uniform image quality across wide fields of view, enabling accurate inspection of large parts and expansive inspection areas.

Wide Field-of-View Coverage

Inspect larger parts and areas in a single image

High-Resolution Imaging

Maintains precise detail across the entire field of view

Low-Distortion Performance

Delivers accurate image reproduction for inspection and measurement

Edge-to-Edge Clarity

Provides consistent image quality across the full sensor area

Target Applications: Flat panel display inspection; printed circuit board (PCB) and automated optical inspection (AOI); line scan applications

ML-FF Series

Compact lens series for large-format area scan and line scan cameras, delivering strong resolving power and low optical distortion. A common lens mount paired with the ML-TUBE adapter allows flexible magnification adjustment, supporting a wide range of inspection and measurement applications requiring broad fields of view and precise image quality.

Target Applications: Automotive battery inspection; glass and solar panel inspection; PCB inspection; food inspection



ML-FF Series*

Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	Optical Distortion @ Min. WD	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)	Mount
ML-2828-35M39	28	f/2.8-f/22	φ35.0	≤ 4.0 µm (125 lp/mm)**	∞ ~ 200	∞ ~ 0.130x	≤ -1.477	M52 x 0.75	φ54.0 x 69.5	VIS-NIR	230	M39 (Configurable)
ML-3528-43M39	35	f/2.8-f/22	φ43.5		∞ ~ 1000	∞ ~ 0.035x	≤ -0.695	M43 x 0.75	φ45.0 x 73.8	VIS	200	
ML-3528-43F	35	f/2.8-f/22	φ45.0		∞ ~ 68	∞ ~ 0.50x	≤ 0.249	M58 X 0.75	φ64.0 x 81.1	VIS	410	
ML-4040-43M39	40	f/4.0-f/16	φ43.5		∞ ~ 313	∞ ~ 0.137x	≤ 0.050	M39 x 0.5	φ46.0 x 38.0	VIS	92	
ML-5540-62M39	55	f/4.0-f/16	φ62.5		∞ ~ 222	∞ ~ 0.30x	≤ 0.060		φ46.0 x 38.4	VIS	95	

* Requires an adapter for mounting to the camera, and may require extension rings to achieve the specified working distance and field of view. Refer to page 14.

** Value given for full FoV, depends on actual sensor size.

ML-FF Series*												
Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	Optical Distortion @ Min. WD	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)	Mount
ML-6040-67M39	60	f/4.0-f/22	φ67.0	≤ 4.0 µm (125 lp/mm)**	∞ ~ 274	∞ ~ 0.25x	≤ -0.369		φ45.0 x 24.0	VIS-NIR	115	M39 (Configurable)
ML-6540-62M39	65	f/4.0-f/22	φ62.5		∞ ~ 200	∞ ~ 0.40x	≤ 0.278		φ46.0 x 28.1	VIS-NIR	120	
ML-8040-62M39	80	f/4.0-f/22	φ62.5		∞ ~ 1000	∞ ~ 0.088x	≤ -0.173	M40.5 x 0.5	φ48 x 46.4	VIS-NIR	200	
ML-10040-82M39	100	f/4.0-f/22	φ82.0		∞ ~ 300	∞ ~ 0.43x	≤ -0.108	M46 x 0.75	φ50.5 x 60.0	VIS-NIR	240	

ML-LS / LU Series

Large-format line scan lens series engineered for high-resolution web and surface inspection, delivering edge-to-edge clarity and low distortion across wide fields of view and the full image circle. Available with multiple mount options for flexible camera integration.

Target Applications: Flat panel display inspection; web, film, and roll-to-roll inspection; PCB and electronics inspection; battery and solar panel inspection

ML-LS / LU Series*												
Product ID	Focal Length (mm)	F No.	Max. Sensor Size	Pixel Size / Resolving Power	Working Distance Range (mm)	Magnification Range	Optical Distortion @ Min. WD	Filter Thread	Dim. OD x Lens Tube Length	AR Coating	Weight (g)	Mount
ML-LS9040-67V70-02	91.8	f/4.0-f/22	φ67	≤3.2 µm (160 lp/mm)	656 ~ 461.3	0.15 ~ 0.22x	≤ 0.013%	M52 X 0.75	φ76 x 62.5	VIS	477	V70
ML-LS9040-67V70024	92.5				464.5 ~ 374.4	0.22 ~ 0.28x	≤ - 0.030%		φ76 x 66.9		483	
ML-LS9040-67V70-03	93.3				377 ~ 310.4	0.28 ~ 0.35x	≤ -0.068%		φ76 x 73.0		676	
ML-LS9040-67V70038	94.3				313 ~ 279.3	0.35 ~ 0.40x	≤ -0.100%		φ76 x 82.4		498	
ML-LS9040-67V70045	95.2				281.8 ~ 242.1	0.40 ~ 0.48x	≤ -0.046%		φ76 x 89.0		723	
ML-LS9530-67V74-07	97.4	f/2.8-f/22			181.3	0.70x	≤ -0.036%	N/A	φ86 x 158.1		1420	V74
ML-LS9528-67V70175	99.1				95.7	1.75x	≤ 0.064%	N/A	φ83 x 225.8		902	
ML-LU6040-58V70	60.0	f/4.0-f/22	φ58	≤2.2 µm (200 lp/mm)	∞ ~ 0.200	∞ ~ 0.287x	≤ 0.033%	M82 X 0.75	φ85 x 155.4		1629	V70

* Requires an adapter for mounting to the camera, and may require extension rings to achieve the specified working distance and field of view. Refer to page 14.

** Value given for full FoV, depends on actual sensor size.

CA Series Line Scan & Large Format Camera Mount Adapters

CA Series			
Product ID	**Compatibility**	**Description**	**Flange Back Distance**
CA-M58C	ML-F80, ML-90/110/1	Lens, Adapter M58 to C-Mount. FB17.526	17.526 mm
CA-M58M42-11.48		Lens, Adapter M58 to M42. FB11.48	11.48 mm
CA-M58M95-12.0		Lens, Adapter M58 to M95. FB12	12.0 mm
CA-V74FMT		Adapter, V74 to F-Mount	46.5 mm
CA-V74M42-12.0		Lens, Adapter V74 to M42. FB12	12.0 mm
CA-V74M42-16.0		Adapter, V74-M42 Mount, 16 mm	16.0 mm
CA-V74M58-11.48		Lens, Adapter V74 to M58. FB11.48	11.48 mm
CA-V74M72-10.1		Lens, Adapter V74 to M72. FB10.1	10.1 mm
CA-V74M72-12.0		Adapter, V74-M72 Mount, 12 mm	12.0 mm
CA-V74M72-19.55		Adapter, V74-M72 Mount, 19.55 mm	19.55 mm
CA-V74M72-31.8		Adapter, V74-M72 Mount, 31.8 mm	31.8 mm
CA-V74M72-6.56		Adapter, V74-M72 Mount, 6.56 mm	6.56 mm
CA-V74M84.5-41		Adapter, V74-M84.5 Mount, 41 mm	41.0 mm
CA-V74M90-12		Adapter, V74-M90 Mount, 12 mm	12.0 mm
CA-V74M95-9.4		Adapter, V74-M95 Mount, 9.4 mm	9.4 mm
CA-V92M84.5-41		Adapter, V92-M84 Mount, 41 mm	41.0 mm
CA-V92M90-12.0		Adapter, V92-M90 Mount, 12 mm	12.0 mm
CA-V92M95-9.4		Adapter, V92-M95 Mount, 9.4 mm	9.4 mm

Objective

Cognex ultra high-resolution and objective lenses deliver exceptional optical performance for applications requiring the highest levels of detail and precision. Designed to render the smallest features with outstanding clarity, they support advanced inspection, measurement, and imaging tasks where accuracy is critical.

Precision Optical Performance

Supports advanced inspection and measurement applications

High Numerical Aperture Options

Maximizes image quality and light collection efficiency

Accurate Feature Analysis

Enables reliable measurement of micro-scale structures and defects

Stable, Repeatable Performance

Delivers consistent results in demanding inspection environments

Target Applications: Precision measurement and guaging; surface-leve defect detection; electronics assembly; robotic guidance; microscopy-based inspection

SOD Series

Lens tube series for coupling high-resolution, large-format image sensors with MOL Objectives, featuring Moritex's coaxial illumination technology for flexible optical setups.

SOD Series								
Product ID	**Focal Length (mm)**	**Max. Sensor Size**	**Effective F No.**	**Optical Distortion (Max Sensor)**	**Mount**	**Tube Length (mm)**	**Wavelength Range**	**Weight (g)**
SOD-180-32M58	180.0	φ32.0	14.4	≤ 0.127%	M58 x 0.75	313.8	VIS	1497
SOD-180-32M58-AFP	180.0	φ32.0	15.0	≤ 0.127%	M58 x 0.75	313.8		1487
SOD-180-27M42-DIC	180.0	φ26.5	15.9	≤ 0.075%	M42 x 1	309.3		1560
SOD-200-22C	200.0	φ22.0	14.0	≤ 0.068%	C	162.9		436.1
SOD-200-22C-NCL	200.0	φ22.0	14.0	≤ 0.068%	C	162.9		258.6
SOD-200-22C-NSWIR	201.7	φ22.5	14.1	≤ 0.102%	C	164.1	900 ~ 1,700	446.6
SOD-200-40M58	200.0	φ40.0	13.9	≤ -0.197%	M58 x 0.75 *	278.6	VIS	1,350

* Adapter for F-Mount

MOL Series

High numerical-aperture objective lens series delivering very high MTF and contrast across the full field, with broad camera compatibility and a long parfocal length for consistent focus across magnifications.

Target Applications: Semiconductor wafer precise alignment and stacking, wafer integrity and feature inspection & gauging, micro-electronic and other fine feature inspection applications.

MOL Series

Product ID	Focal Length (mm)	Numerical Aperture	Working Distance (mm)	Parfocal Length	Resolution (µm)	Field Number	Mount	Dim. OD x Lens Tube Length (mm)	AR Coating	Weight (g)
MOL5-01525HR-38MA	40.0	0.150	11.5	120.0	1.1	38	W26	φ44.0 x 91.0	VIS	539
MOL10-03012HR-38MA	20.0	0.300	29.0	120.0	2.2	38	W26	φ47.0 x 108.5		719
MOL20-04710HR-38MA	10.0	0.468	10.0	120.0	0.7	38	W26	φ56.5 x 110.0		1,029

Telecentric

Cognex telecentric and bi-telecentric lenses provide distortion-free imaging and consistent magnification for highly accurate measurement and inspection. By eliminating perspective errors, they enable precise dimensional analysis and reliable defect detection in demanding machine vision applications.

Zero Perspective Error

Consistent magnification across the field of view for accurate measurements

Low-Distortion Imaging

True-to-scale image reproduction minimizes measurement errors

Extended Depth of Field

Maintains focus across objects with varying heights and contours

High-Accuracy Metrology

Enables precise dimensional measurement and inspection of critical features

Broad Camera Compatibility

Supports a wide range of sensor formats and machine vision platforms

Industrial-Grade Reliability

Built for long-term operation in demanding manufacturing environments

Target Applications: Precision dimensional measurement and gauging; semiconductor and electronics inspection; automotive and EV component measurement; pharmaceutical and medical device inspection; alignment and defect detection

MML-ZR Series

Variable-magnification lens series combining telecentric accuracy with an adjustable zoom range for flexible measurement setups. Delivers near-zero optical distortion and high-contrast, high-resolution imaging with consistent magnification across working distance. All models include coaxial illumination and a variable iris.

Target Applications: Precision measurement and gauging; electronic component inspection; semiconductor alignment; multi-part dimensional inspection

Pixel Size / Resolving Power: ≤2.0 µm (250 lp/mm)

MML-ZR Series

Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Front Lens OD x Lens Length	Weight (g)	Mount	AR Coating
MML05-ZR150DVI-20C	0.500x	150	20	1.664 ~ 5.12	7.0~21.5	0.048~0.016	5.2~16	≤ 0.004	449.97	φ68.0 x 282.5	1,484	C-Mount	VIS-NIR (850 nm)
MML05-ZR150DVI-20P	0.500x	150	20	1.664 ~ 5.12	7.0~21.5	0.048~0.016	5.2~16	≤ 0.004	449.97	φ68.0 x 284.0	1,485	P-Mount / M42	
MML05-ZR150DVI-20TFL	0.500x	150	20	1.664 ~ 5.12	7.0~21.5	0.048~0.016	5.2~16	≤ 0.004	449.97	φ68.0 x 282.5	1,484	TFL Mount / M35	

MML-ZR Series													
Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Front Lens OD x Lens Length	Weight (g)	Mount	AR Coating
MML0685-ZR150DVI-20C	0.685x	150	20	0.904 ~ 2.728	5.2~15.7	0.064~0.021	5.3~16	≤ 0.001	449.95	φ62.0 x 282.5	1,393	C-Mount	VIS-NIR (850 nm)
MML0685-ZR150DVI-20P	0.685x	150	20	0.904 ~ 2.728	5.2~15.7	0.064~0.021	5.3~16	≤ 0.002	449.95	φ62.0 x 282.5	1,394	P-Mount / M42	
MML0685-ZR150DVI-20TFL	0.685x	150	20	0.904 ~ 2.728	5.2~15.7	0.064~0.021	5.3~16	≤ 0.002	449.95	φ62.0 x 282.5	1,393	TFL Mount / M35	
MML1-ZR150DVI-20C	1.00x	150	20	0.431 ~ 1.278	3.6~10.7	0.092~0.031	5.4~16	≤ -0.006	449.30	φ68.0 x 281.9	1,393	C-Mount	
MML1-ZR150DVI-20P	1.00x	150	20	0.431 ~ 1.278	3.6~10.7	0.092~0.031	5.4~16	≤ 0.002	449.30	φ68.0 x 281.9	1,393	P-Mount / M42	
MML1-ZR150DVI-20TFL	1.00x	150	20	0.431 ~ 1.278	3.6~10.7	0.092~0.031	5.4~16	≤ 0.002	449.30	φ68.0 x 283.4	1,393	TFL Mount / M35	

MML-SR Series

Compact, high-performance lens series for high-resolution sensors, covering a range of magnifications with near-zero distortion and high numerical aperture for fine resolution. An optional integrated coaxial illumination improves performance in challenging inspection conditions.

Target Applications: Electronic component inspection; semiconductor inspection and alignment

Pixel Size / Resolving Power: ≤2.7 µm (185 lp/mm)



MML-SR Series											
Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)
MML0275-SR130VI-18C	0.28x	130	18	8.46~25.16	19.7~55.9	0.017~0.006	8~22	≤ 0.010	349.9	202.4	520
MML033-SR130DVI-18C	0.33x	130	18	4.11~16.16	11.57~44.73	0.029~0.007	5.6~22	≤ 0.033	309.3	161.8	509.6
MML033-SR130VI-18C	0.33x	130	18	4.11~16.16	11.57~44.73	0.029~0.007	5.6~22	≤ 0.033	298.7	151.2	427.6
MML044-SR130DVI-18C	0.44x	130	18	2.31~6.59	8.5~24.4	0.039~0.014	5.6~16	≤ 0.004	319.1	171.6	404.2
MML044-SR130VI-18C	0.44x	130	18	2.31~6.59	8.5~24.4	0.039~0.014	5.6~16	≤ 0.004	311.4	163.9	344.5
MML06-SR110DVI-18C	0.60x	110	18	1.24~4.89	6.21~23.96	0.053~0.013	5.6~22	≤ 0.005	256.5	129.0	331.4
MML06-SR110VI-18C	0.60x	110	18	1.24~4.89	6.21~23.96	0.053~0.013	5.6~22	≤ 0.005	256.5	129.0	334
MML075-SR110DVI-18C	0.75x	110	18	0.796~3.129	5.08~19.7	0.066~0.017	5.6~22	≤ 0.018	269.9	142.4	389.1
MML075-SR110VI-18C	0.75x	110	18	0.796~3.129	5.08~19.7	0.066~0.017	5.6~22	≤ 0.018	269.9	142.4	391.1
MML08-SR110DVI-18C	0.80x	110	18	0.7~2.75	4.72~18.64	0.071~0.018	5.6~22	≤ 0.005	274.8	147.3	392
MML08-SR110VI-18C	0.80x	110	18	0.7~2.75	4.72~18.64	0.071~0.018	5.6~22	≤ 0.005	274.8	147.3	395.7
MML1-SR65DVI-18C	1.00x	65	18	0.56~1.76	4.7~14.8	0.071~0.023	7~22	≤ 0.003	204.2	121.7	240

MML-SR Series											
Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)
MML1-SR65VI-18C	1.00x	65	18	0.56~1.76	4.7~14.8	0.071~0.023	7~22	≤ 0.003	204.2	121.7	-
MML2-SR65DVI-18C	2.00x	65	18	0.16~0.44	2.7~7.4	0.125~0.045	8~22	≤ 0.005	213.3	130.8	300
MML2-SR65VI-18C	2.00x	65	18	0.16~0.44	2.7~7.4	0.125~0.045	8~22	≤ 0.005	213.3	130.8	-
MML3-SR65DVI-18C	3.00x	65	18	0.084~0.196	2.11~4.93	0.159~0.068	9.43~22	≤ 0.015	235.7	153.2	336.9
MML3-SR65VI-18C	3.00x	65	18	0.084~0.196	2.11~4.93	0.159~0.068	9.43~22	≤ 0.015	235.7	153.2	330.8
MML4-SR65DVI-18C	4.00x	65	18	0.059~0.11	1.99~3.73	0.169~0.09	11.83~22	≤ 0.006	270.6	188.1	351.6
MML4-SR65VI-18C	4.00x	65	18	0.059~0.11	1.99~3.73	0.169~0.09	11.83~22	≤ 0.006	270.6	188.1	345.4

MML-HR-28/35/43 Series

High-end, compact, fixed-magnification lens series with large-format coverage, supporting a range of sensor resolutions. Long working distances and ultra-low distortion deliver high-contrast, high-resolution imaging. An optional integrated coaxial illumination enhances performance in reflective and low-contrast applications.

Target Applications: Semiconductor wafer inspection; flat panel display inspection; large-part dimensional measurement; PCB and electronics inspection

Pixel Size / Resolving Power: ≤4.0 µm (125 lp/mm)

MML-HR-28/35/43 Series											
Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)
MML03-HR220DVI-30M58	0.30x	218.0	30	6.22~12.45	15.7-31.3	0.021~0.011	7~14	≤ 0.010	523.6	288.1	2876
MML037-HR220DVI-28F	0.37x	220.0	28	4.51~12.86	14~41.93	0.024~0.008	7.6~22	≤ 0.006	450.1	212.6	1390
MML037-HR220VI-28P	0.37x	220.0	28	4.51~12.86	14~41.93	0.024~0.008	7.6~22	≤ 0.006	450.1	212.6	1502
MML0550-HR220DVI-28F	0.55x	220.0	28	2.12~5.82	9.77~25.81	0.034~0.013	7.98~22	≤ 0.005	450.2	212.7	1112
MML0550-HR220VI-28P	0.55x	220.0	28	2.12~5.82	9.77~25.81	0.034~0.013	7.98~22	≤ 0.005	450.2	212.7	1099
MML068-HR220VI-28P	0.68x	220.0	28	1.31~3.81	7.51~22.37	0.045~0.015	7.6~22	≤ 0.021	420	182.5	1282
MML1-HR130DVI-35F	1.00x	130.0	35	0.52~1.76	4.4~14.6	0.077~0.023	6.5~22	≤ 0.006	338.7	191.2	1021.1
MML1-HR130VI-35F	1.00x	130.0	35	0.518~1.76	4.4~14.6	0.077~0.023	6.47~22	≤ 0.017	328.3	180.8	770
MML1.5-HR110VI-35F	1.50x	110.0	35	0.23~0.78	2.9~9.9	0.114~0.034	6.4~22	≤ 0.012	340.1	212.6	-
MML2-HR110DVI-43F	2.00x	110.0	43	0.16~0.44	2.68~7.46	0.125~0.045	7.99~22	≤ 0.017	387.64	260.1	993
MML2-HR110VI-43F	2.00x	110.0	43	0.16~0.44	2.68~7.46	0.125~0.045	7.99~22	≤ 0.017	387.64	260.1	868

MML-HR-28/35/43 Series											
Product ID	**Magnification**	**WD (mm)**	**Max Sensor Size (mm)**	**DOF (mm)**	**Resolution (µm)**	**Numerical Aperture**	**Effective F No.**	**Optical Distortion @ Max FOV (%)**	**O/I (mm)**	**Tube Length (mm)**	**Weight (g)**
MML3-HR80DVI-43F	3.00x	80.0	43.5	0.1~0.2	2.6~5.1	0.13~0.066	11.5~22.6	≤ -0.006	373	275.5	991.6
MML3-HR80DVI-43M58	3.00x	80.0	43.5	0.1~0.2	2.6~5.1	0.13~0.066	11.5~22.6	≤ -0.006	373	275.5	1020.6
MML3-HR110VI-43F	3.00x	110.0	43	0.13~0.19	3.3~4.9	0.1~0.06	15~22	≤ 0.009	397.8	270.3	785
MML5-HR80DVI-43F	5.00x	80.0	43.5	0.05~0.07	1.99~2.94	0.17~0.114	14.7~22	≤ 0.011	400	302.5	1105.3
MML5-HR80DVI-43M58	5.00x	80.0	43.5	0.05~0.07	1.99~2.94	0.17~0.114	14.7~22	≤ 0.011	400	302.5	1139
MML10-HR80DVI-43F	10.00x	79.0	43.5	0.021~0.036	1.8~3	0.185~0.111	26.8~45	≤ 0.004	594	497.5	1534

MML-HR-16/18 Series

High-resolution lens series for compact sensors, delivering low distortion and high-contrast imaging at long working distances. High numerical aperture supports fine resolution, with an optional coaxial illumination for precise measurement and inspection.

Target Applications: Precision measurement and gauging; electronics and semiconductor inspection; automotive component measurement; alignment applications

Pixel Size / Resolving Power: ≤4.0 µm (125 lp/mm)

MML-HR-16/18 Series											
Product ID	**Magnification**	**WD (mm)**	**Max Sensor Size (mm)**	**DOF (mm)**	**Resolution (µm)**	**Numerical Aperture**	**Effective F No.**	**Optical Distortion @ Max FOV (%)**	**O/I (mm)**	**Tube Length (mm)**	**Weight (g)**
MML035-HR255VI-18C	0.35x	255.0	1.1" (17.6 mm)	5.12 ~ 14.8	14.8~41.9	0.023~0.008	7.61~22	≤ 0.014	417	144.5	-
MML1-HR110DVI-16C	1.00x	110.0	1" (16.5 mm)	0.84 ~ 1.76	7.07~14.81	0.047~0.032	10.5~22	≤ 0.013	254	126.5	221
MML1.5-HR110DVI-16C	1.50x	110.0		0.36 ~ 0.8	4.5~9.86	0 .075~0.034	10~22	≤ 0.013	275	147.5	240
MML2-HR110DVI-16C	2.00x	110.0		0.2 ~0.44	3.35~7.46	0.1~0.045	10~22	≤ 0.020	294	166.5	202.5

SOD / MML High Mag Series

High-magnification lens series delivering microscope-class resolution at long working distances, without the constraints of a microscope. Offers high magnification, with rear converters available for even greater reach, a highly telecentric design, variable iris, and long working distance for thermal and particle tolerance.

Target Applications: Semiconductor and wafer inspection and alignment; flat panel and micro-LED inspection; electronic component measurement; fine defect detection

Pixel Size / Resolving Power: ≤7 µm (75 lp/mm)

SOD / MML High Mag Series

Product ID	Magnification	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)
SOD-10X	10.0x	55.2	11.1	0.017	1.5	0.23	22	≤ 0.03	253.7	181.0	500
SOD-20X-VI	20.0x	37.5	11.1	0.0057 ~ 0.026	1~3	0.35 ~ 0.113	28.3-88	≤ 0.04	300.0	245.0	930

MML-HR-5M Series

Lens series built for metrology and measurement with high-resolution cameras, covering a range of magnifications with very low distortion, high numerical aperture, and high contrast. Coaxial illumination is available on select models.

Target Applications: Precision dimensional measurement and metrology; electronics and semiconductor inspection; automotive and EV parts measurement; quality control and gauging

Pixel Size / Resolving Power: ≤2.7 µm (185 lp/mm)

MML-HR-5M Series

Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML014-HR110D-5M	0.14x	110	11.1	16.4	19.3	0.018	4	≤ 0.01	300	172.5	730	YES	NO
MML014-HR110D-5M	0.14x	110	11.1	16.4	19.3	0.018	4	≤ 0.01	300	172.5	720	NO	NO
MML03-HR110D-5M	0.3x	110	11.1	6.2	15.7	0.021	7	≤ 0.02	269.9	142.4	212	YES	NO
MML03-HR110-5M	0.3x	110	11.1	6.2	15.7	0.021	7	≤ 0.02	269.9	142.4	209	NO	NO
MML03-HR65D-5M	0.3x	65.1	11.1	6.2	15.7	0.021	7	≤ 0.01	219.7	137.1	200	YES	NO
MML03-HR65-5M	0.3x	65.1	11.1	6.2	15.7	0.021	7	≤ 0.01	219.7	137.1	190	NO	NO
MML04-HR65-5M	0.4x	65.1	11.1	3.75	12.6	0.027	7.5	≤ -0.01	210.7	128.1	176	NO	NO
MML05-HR65DVI-5M	0.5x	65.3	11.1	2.2~9.8	9.3~41	0.036~0.008	7~30.6	≤ 0.01	219.8	137.0	210	YES	YES

MML-HR-5M Series													
Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML05-HR65VI-5M	0.5x	65.3	11.1	2.2~9.8	9.3~41	0.036~0.008	7~30.6	≤ 0.01	219.8	137.0	-	NO	YES
MML1-HR65DVI-5M	1.0x	65	11.1	0.56~2.2	4.7-19	0.071~0.018	7~28	≤ 0.02	167.5	85.0	140	YES	YES
MML1-HR65VI-5M	1.0x	65	11.1	0.56~2.2	4.7-19	0.071~0.018	7~28	≤ 0.02	167.5	85.0	135	NO	YES
MML2-HR65DVI-5M	2.0x	65	11.1	0.15~0.9	2.4-15.3	0.14~0.022	7.3~44.9	≤ 0.04	185	102.5	200	YES	YES
MML2-HR65VI-5M	2.0x	65	11.1	0.15~0.9	2.4-15.3	0.14~0.022	7.3~44.9	≤ 0.04	185	102.5	190	NO	YES
MML3-HR65DVI-5M	3.0x	65	11.1	0.085~0.42	2.1-10.5	0.157~0.032	9.6~47.5	≤ 0.01	209.5	127.0	202	YES	YES
MML3-HR65VI-5M	3.0x	65	11.1	0.085~0.42	2.1-10.5	0.157~0.032	9.6~47.5	≤ 0.01	209.5	127.0	198	NO	YES
MML4-HR65DVI-5M	4.0x	65	11.1	0.06~0.24	2-8.2	0.167~0.041	12.1~48.6	≤ 0.01	225.1	142.6	290	YES	YES
MML4-HR65VI-5M	4.0x	65	11.1	0.06~0.24	2-8.2	0.167~0.041	12.1~48.6	≤ 0.01	225.1	142.6	285	NO	YES

MML-HR Plus Series

Enhanced high-resolution lens series with a variable iris for exposure and depth-of-field control, delivering high-contrast, low-distortion imaging across a broad magnification and working-distance range for demanding measurement tasks.

Target Applications: Precision measurement and gauging; semiconductor and electronics inspection; automotive component measurement; alignment and defect detection

Pixel Size / Resolving Power: ≤3.45 µm (145 lp/mm)

MML-HR Plus Series													
Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML015-HR130VI	0.15x	130	11.1	56.91	25.1~71.6	0.013~0.005	5.60~16.00	-0.031	349.9	202.36	762.5	NO	YES
MML016-HR180VI	0.16x	180	11.1	17.51	23.5~67.1	0.014~0.005	5.60~16.00	0.004	412.9	215.38	774.4	NO	YES
MML019-HR125VI	0.19x	125	11.1	35.45	19.8~56.5	0.017~0.006	5.60~16.00	-0.016	319.3	176.72	525	NO	YES
MML02-HR130VI	0.2x	130	11.1	11.20	18.8~53.7	0.018~0.006	5.60~16.00	-0.033	325.1	177.53	530	NO	YES
MML022-HR110VI	0.22x	110	11.1	9.26	17.1~48.8	0.020~0.007	5.60~16.00	-0.033	307.0	179.44	530	NO	YES
MML022-HR300VI	0.22x	300	11.1	9.26	17.1~48.8	0.020~0.007	5.60~16.00	-0.028	548.8	231.31	760	NO	YES
MML023-HR200VI	0.23x	200	11.1	8.47	16.3~46.7	0.021~0.007	5.60~16.00	-0.017	430.0	212.50	740	NO	YES
MML0238-HR130VI	0.238x	130	11.1	7.91	15.8~45.1	0.021~0.007	5.60~16.00	-0.032	333.2	185.66	530	NO	YES

MML-HR Plus Series													
Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML0275-HR220VI	0.275x	220	11.1	5.92	13.7~39.0	0.025~0.009	5.60~16.00	-0.014	463.6	226.05	750	NO	YES
MML03-HR80	0.3x	80	11.1	6.21	15.6	0.021	7.00	0.002	236.4	138.90	230	NO	NO
MML03-HR175VI	0.3x	175	11.1	4.96	12.5~35.7	0.027~0.009	5.60~16.00	-0.019	365.2	172.66	429.5	NO	YES
MML03-HR200VI	0.32x	200	11.1	4.97	12.5~35.7	0.027~0.009	5.60~16.00	-0.036	396.7	179.13	432	NO	YES
MML032-HR115	0.35x	115	11.1	5.46	14.7	0.023	7.00	0.048	279.5	146.92	220	NO	NO
MML035-HR265VI	0.367x	265	11.1	3.66	10.7~30.7	0.031~0.011	5.60~16.00	-0.029	537.8	255.24	579.8	NO	YES
MML0367-HR200VI	0.367x	200	11.1	3.33	10.2~29.3	0.033~0.011	5.60~16.00	-0.029	475.0	257.42	567.2	NO	YES
MML04-HR150VI	0.4x	150	11.1	2.79	9.4~26.8	0.036~0.013	5.60~16.00	0.041	305.2	137.63	284.7	NO	YES
MML04-HR300VI	0.4x	300	11.1	-	9.4~26.8	0.036~0.013	5.60~16.00	0.032	575.0	257.45	570.6	NO	YES
MML045-HR160VI	0.45x	160	11.1	6.31	8.4~23.8	0.040~0.014	5.60~16.00	0.021	320.9	143.35	292.1	NO	YES
MML05-HR150VI	0.5x	150	11.1	1.79	7.5~21.5	0.044~0.016	5.60~16.00	0.029	315.7	148.20	295.7	NO	YES
MML06-HR180VI	0.6x	180	11.1	3.56	6.3~17.9	0.053~0.019	5.60~16.00	-0.029	357.3	159.81	306.2	NO	YES
MML07-HR110	0.7x	110	11.1	1.80	10.6	0.032	11.00	0.044	238.9	111.35	116	NO	NO
MML07-HR150VI	0.7x	150	11.1	0.91	5.4~15.3	0.062~0.022	5.60~16.00	-0.019	329.4	161.90	302.8	NO	YES
MML08-HR130VI	0.8x	130	11.1	0.70	4.7~13.4	0.071~0.025	5.60~16.00	-0.016	313.2	165.62	302.7	NO	YES

MML-HR Series (65mm/110mm)



High-resolution lens series covering commonly used magnifications at compact working distances, providing high-contrast, low-distortion imaging with high numerical aperture for precision measurement. Coaxial illumination is available on select models.

Target Applications: Dimensional measurement and gauging; electronics and PCB inspection; automotive parts inspection; general precision inspection

Pixel Size / Resolving Power: ≤4.0 µm (125 lp/mm)

HR65mm Series

Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML05-HR65D	0.5x	65.3	11.1	3	12.8	0.026	9.5	≤ -0.01	172.8	90.0	75	YES	NO
MML05-HR65	0.5x	65.3	11.1	3	12.8	0.026	9.5	≤ -0.01	172.8	90.0	70	NO	NO
MML08-HR65D	0.8x	65	11.1	1.2	8.4	0.04	9.9	≤ 0.02	172.3	89.8	64	YES	NO
MML08-HR65	0.8x	65	11.1	1.2	8.4	0.04	9.9	≤ 0.02	172.3	89.8	60	NO	NO
MML1-HR65D	1x	65	11.1	0.88	7.5	0.045	11	≤ -0.02	162.5	80.0	58	YES	NO
MML1-HR65	1x	65	11.1	0.88	7.5	0.045	11	≤ -0.02	162.5	80.0	50	NO	NO
MML1.5-HR65D	1.5x	65	8.0	0.42	5.4	0.063	12	≤ -0.04	157.2	74.7	53	YES	NO
MML1.5-HR65	1.5x	65	8.0	0.42	5.4	0.063	12	≤ -0.04	157.2	74.7	46	NO	NO
MML2-HR65D	2x	65	11.1	0.27	4.5	0.074	13.5	≤ 0.02	162.6	80.1	52	YES	NO
MML2-HR65	2x	65	11.1	0.27	4.5	0.074	13.5	≤ 0.02	162.6	80.1	46	NO	NO
MML4-HR65D-VI	4x	65	11.1	0.09~0.53	3~13.3	0.112~0.025	17.9~79.2	≤ 0.02	187.2	104.7	95	YES	YES
MML4-HR65D	4x	65		0.09	3	0.112	17.9	≤ 0.02	187.2	104.7	94	YES	NO
MML4-HR65	4x	65	11.1	0.09	3	0.112	17.9	≤ 0.02	187.2	104.7	86	NO	NO
MML6-HR65D-VI	6x	65	11.1	0.06~0.58	3~13.3	0.112~0.025	26.7~124	≤ 0.01	202.1	119.6	102	YES	YES
MML6-HR65D	6x	65	11.1	0.06	3	0.112	26.7	≤ 0.01	202.1	119.6	102	YES	NO
MML6-HR65	6x	65	11.1	0.06	3	0.112	26.7	≤ 0.01	202.1	119.6	94	NO	NO

HR110mm Series

Product ID	Magni-fication	WD (mm)	Max Sensor Size (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Weight (g)	Coaxial Illumination	Variable Iris
MML03-HR130VI-11C	0.3x	130	11.1	3.68~19.56	9.15	0.037~0.0068	4.08~22	≤ -0.084	308.7	161.2	279	NO	YES
MML05-HR110D	0.5x	110	11.0	3	12.8	0.026	9.5	≤ 0.02	262.6	135.1	142	YES	NO
MML05-HR110	0.5x	110	11.0	3	12.8	0.026	9.5	≤ 0.02	262.6	135.1	137	NO	NO
MML08-HR110D	0.8x	110	11.0	1.4	9.3	0.036	11	≤ 0.01	257	129.5	-	YES	NO
MML08-HR110	0.8x	110	11.0	1.4	9.3	0.036	11	≤ 0.01	257	129.5	-	NO	NO
MML1-HR110D	1x	110	11.0	0.88	7.4	0.045	11	≤ 0.01	257.6	130.1	120	YES	NO
MML1-HR110	1x	110	11.0	0.88	7.4	0.045	11	≤ 0.01	257.6	130.1	116	NO	NO
MML1.5-HR110D	1.5x	111	11.0	0.42	5.4	0.063	12	≤ 0.03	258	129.5	110	YES	NO
MML1.5-HR110	1.5x	111	11.0	0.42	5.4	0.063	12	≤ 0.03	258	129.5	98	NO	NO
MML2-HR110D	2x	110	11.0	0.27	4.5	0.074	13.5	≤ 0.02	257.9	130.4	110	YES	NO
MML2-HR110	2x	110	11.0	0.27	4.5	0.074	13.5	≤ 0.02	257.9	130.4	100	NO	NO
MML4-HR110D	4x	110	11.0	0.11	3.7	0.09	22.2	≤ -0.01	260.2	132.7	125	YES	NO
MML6-HR110D	6x	110	11.0	0.09	4.5	0.075	39.9	≤ 0.03	288.1	160.6	140	YES	NO
MML04-HR120D	0.4x	120	11.0	5.3	17.72	0.019	10.6	≤ -0.03	311.6	174.1	232	YES	NO
MML04-HR120	0.4x	120	11.0	5.3	17.72	0.019	10.6	≤ -0.03	311.6	174.1	228	NO	NO
MML015-HR150	0.15x	150	9.0	28.22	35.65	0.009	7.96	≤ -0.042	300	132.5	398	NO	NO
MML015-HR165VI-9C	0.15x	165	9.0	14.39~39.11	18.11	0.019~0.0068	4.05~11	≤ -0.081	355.5	173.0	438	NO	YES
MML045-HR160C	0.45x	160	11.0	5.9	22.4	0.015	15	≤ -0.05	333.4	155.9	292.1	NO	NO
MML02-220D	0.2x	222	11.0	10	16.7	0.02	5	≤ 0.01	360.9	121.4	450	YES	NO
MML2-HR220D	2x	220.6	11.0	0.5	8.4	0.04	25	≤ 0.03	407.2	169.1	175	YES	NO
MML4-HR220D	4x	221.4	11.0	0.12	4	0.08	24.3	≤ 0.04	419.5	180.6	490	YES	NO
MML6-HR220D	6x	220.2	11.0	0.08	4	0.08	36.2	≤ 0.02	446.5	208.8	510	YES	NO
MML8-HR220D	8x	219.6	11.0	0.06	4	0.08	48	≤ 0.01	474.1	237.0	530	YES	NO

IR & SWIR MMLs

Lens series that use coatings that pass the longer wavelengths needed to penetrate specific materials with InGaAs or CMOS sensors, including ~1100 nm for bonded silicon wafers and longer wavelengths for film-coated wafers.

Target Applications: Alignment and inspection for bonded semiconductors, wafer packaging

IR & SWIR MMLs

Product ID	Magni-fication	WD (mm)	Max IF (mm)	DOF (mm)	Resolution (µm)	Numerical Aperture	Effective F No.	Optical Distortion @ Max FOV (%)	O/I (mm)	Tube Length (mm)	Operating Range (mm)	Weight (g)	Mount
MML4-HR80D-NSW	4.0x	82.4	11.1	0.066	4.0	0.15	13.3	≤ -0.020	228.5	128.6	850~1700	233	C
MML6-HR80D-NSW	6.0x	81.5	11.1	0.044	4.0	0.15	20	≤ -0.017	249.4	150.4	850~1700	250	C
MML8-HR80D-NSW	8.0x	81	11.1	0.033	4.0	0.15	26.8	≤ -0.013	271	172.1	850~1700	265	C
MML1.5-HR65D-SWIR	1.5x	65.8	8.0	0.448	14.2	0.06	12.2	≤ -0.077	158.24	74.9	900~1700	50.2	C
MML2-SR65DVI-18C-SWIR	2.0x	65.2	18.5	0.16~0.44	6.4~17.5	0.124~0.045	8~22	≤ 0.045	213.45	130.7	900~1700	297	C
MML4-HR65DVI-5M-SW	4.0x	65.0	11.1	0.061~0.246	4.8~19.4	0.167~0.041	12.03~48.6	≤ 0.037	225.11	142.6	900~1500	292.2	C
MML2-HR110DVI-43F-SWIR	2.0x	110	43.0	0.16~0.40	7.63~19.0	0.124~0.05	8~20.2	≤ 0.09	387.7	260.2	900~1700	993	F
MML2.5-HR110DVI-43F-SWIR	2.5x	115	43.0	0.16~0.41	9.46~24.2	0.1~0.039	12.5~31.92	≤ 0.70	359	226.5	900~1700	718	F

MTL Series

Bi-telecentric lens series for high-precision measurement and inspection, providing object- and image-side telecentricity with ultra-low distortion and extended depth of field. Compatible with a range of sensor sizes, mount options, fields of view, and working distances.



Target Applications: Automotive parts inspection; electronics components measurement

Pixel Size / Resolving Power: ≤ 3.45 µm (145 lp/mm), various models are compatible with ≤2.7 µm (185 lp/mm)

MTL Series

Product ID	FoV (mm)	Magnifi-cation	WD (mm)	Effective F No.	Resolution (µm)	Distortion (%)	Telecentricity Degree	Mount	DOF (mm)	Front Outer Dia. (mm)	Barrel Length (mm)	Weight (kg)
MTL-3518C-053	35 mm	0.527x	95	8.0	9.6	-0.03	0.05	C	2.3	60	138.3	0.51
MTL-3523P-066	35 mm	0.655x	95	8.0	7.7	-0.03	0.05	P	1.5	60	164.3	0.55
MTL-3535P-100	35 mm	0.999x	95	9.2	5.8	-0.04	0.05	P	0.7	60	222.1	0.86
MTL-3543M58-124	35 mm	1.24x	95	13.7	7.0	0.03	0.05	M58	0.7	60	253.6	0.78
MTL-3557V74-164	35 mm	1.636x	95	15.0	5.8	0.03	0.05	V74	0.4	60	295.1	1.26

MTL Series												
Product ID	FoV (mm)	Magnifi-cation	WD (mm)	Effective F No.	Resolution (µm)	Distortion (%)	Telecentricity Degree	Mount	DOF (mm)	Front Outer Dia. (mm)	Barrel Length (mm)	Weight (kg)
MTL-4518C-041	45 mm	0.41x	110	8.0	12.4	-0.04	0.05	C	3.8	71	163.2	0.69
MTL-4523P-051	45 mm	0.509x	110	8	10.0	-0.04	0.05	P	2.5	71	189.2	0.73
MTL-4535P-078	45 mm	0.776x	110	9.2	7.5	-0.04	0.05	P	1.2	71	247	1.04
MTL-4543M58-096	45 mm	0.964x	110	13.7	9.0	0.03	0.05	M58	1.2	71	278.6	0.96
MTL-4557V74-127	45 mm	1.272x	110	15	7.5	0.03	0.05	V74	0.7	7.1	320.1	1.44
MTL-5518C-034	55 mm	0.335x	135	8	15.2	-0.03	0.04	C	5.7	78	198.1	0.79
MTL-5535P-064	55 mm	0.635x	135	9.2	9.2	-0.04	0.04	P	1.8	78	281.9	1.14
MTL-6518C-029	65 mm	0.285x	135	8	17.8	-0.04	0.04	C	7.9	86	223.1	0.85
MTL-6535P-054	65 mm	0.54x	135	9.2	10.8	-0.04	0.04	P	2.5	86	306.8	1.2
MTL-8018C-023	80 mm	0.228x	165	8	22.2	-0.03	0.03	C	12.3	104	272	1.33
MTL-8035P-044	80 mm	0.433x	165	9.2	13.5	-0.03	0.03	P	3.9	104	355.8	1.68
MTL-8043M58-054	80 mm	0.537x	165	13.7	16.2	0.03	0.03	M58	3.8	104	387.4	1.6
MTL-8057V74-072	80 mm	0.709x	165	15	13.5	0.03	0.03	V74	2.4	104	428.9	2.08
MTL-9011C-012	90 mm	0.122x	120.2	8	41.8	-0.02	0.03	C	43.1	125	301	1.85
MTL-9018C-021	90 mm	0.206x	120	8	24.7	0.02	0.03	C	15.2	125	331.5	2.07
MTL-9035P-039	90 mm	0.39x	120	9.2	14.9	0.02	0.03	P	4.8	125	415.3	2.35
MTL-10011C-011	100 mm	0.11x	220	8	46.4	0.01	0.03	C	53.2	125	297	1.89
MTL-10018C-019	100 mm	0.185x	220	8	27.5	0.02	0.03	C	18.7	125	327.3	2.11
MTL-10023P-023	100 mm	0.23x	220	8	22.1	0.02	0.03	P	12.1	125	353.3	2.18
MTL-10035P-035	100 mm	0.351x	220	9.2	16.6	0.02	0.03	P	6	125	411.1	2.39
MTL-10043M58-044	100 mm	0.435x	220	13.7	20.0	0.03	0.03	M58	5.8	125	442.7	2.54
MTL-12011C-009	120 mm	0.092x	255	8	55.7	-0.03	0.04	C	76.7	160	316.7	3.2
MTL-12018C-015	120 mm	0.154x	255	8	33.0	0.03	0.04	C	27	160	347.6	3.42
MTL-12023P-019	120 mm	0.192x	255	8	26.5	0.03	0.04	P	17.4	160	373.3	3.49
MTL-12035P-029	120 mm	0.292x	255	9.2	19.9	0.03	0.04	P	8.6	140	431.5	3.7
MTL-12043M58-036	120 mm	0.362x	255	13.7	24.0	0.03	0.04	M58	8.3	160	463.2	3.85
MTL-19582M95-042	195 mm	0.426x	365	18	26.8	0.04	0.04	M95	7.9	230	884.6	9.4
MTL-13511C-008	135 mm	0.081x	260	8	62.6	-0.02	0.05	C	96.9	160	378.4	3.55
MTL-13518C-014	135 mm	0.137x	260	8	37.1	0.03	0.05	C	34.1	160	409.2	3.77
MTL-13535P-026	135 mm	0.26x	260	9.2	22.4	0.03	0.05	P	10.9	160	493	4.05
MTL-13543M58-032	135 mm	0.322x	260	13.7	26.9	0.04	0.05	M58	10.5	160	524.6	4.2

MTL Series

Product ID	FoV (mm)	Magnifi-cation	WD (mm)	Effective F No.	Resolution (µm)	Distortion (%)	Telecentricity Degree	Mount	DOF (mm)	Front Outer Dia. (mm)	Barrel Length (mm)	Weight (kg)
MTL-15011C-007	150 mm	0.073x	300	8	69.7	-0.01	0.04	C	120	180	408.9	4.45
MTL-15018C-012	150 mm	0.123x	300	8	41.2	0.02	0.04	C	42.2	180	439.7	4.67
MTL-15035P-023	150 mm	0.233x	300	9.2	24.9	0.02	0.04	P	13.5	180	523.4	4.95
MTL-15043M58-029	150 mm	0.29x	300	13.7	30.0	0.02	0.04	M58	13	180	555	5.1
MTL-18011C-006	180 mm	0.061x	350	8	83.5	0.02	0.05	C	172.1	210	461.8	7.09
MTL-18018C-010	180 mm	0.103x	350	8	49.4	0.03	0.05	C	60.6	210	492.7	7.31
MTL-18035P-019	180 mm	0.195x	350	9.2	29.8	0.03	0.05	P	19.3	210	576.4	7.59
MTL-18043M58-024	180 mm	0.242x	350	13.7	35.9	0.03	0.05	M58	18.7	210	608	7.74
MTL-19511C-006	195 mm	0.056x	365	8	90.6	-0.05	0.04	C	202.6	230	505.8	7.95
MTL-19518C-009	195 mm	0.095x	365	8	53.6	-0.04	0.04	C	71.3	230	536.6	8.17
MTL-19535P-018	195 mm	0.18x	365	9.2	32.4	0.04	0.04	P	22.7	230	620.3	8.45
MTL-19543M58-022	195 mm	0.223x	365	13.7	39.0	0.03	0.04	M58	22	230	652	8.6
MTL-24011C-005	240 mm	0.046x	375	8	111.3	0.04	0.05	C	305.9	300	654.6	15.2
MTL-24018C-008	240 mm	0.077x	375	8	65.8	0.05	0.05	C	107.6	300	685.4	15.5
MTL-24035P-015	240 mm	0.146x	375	9.2	39.8	0.05	0.05	P	34.3	300	769.2	15.7
MTL-24043M58-018	240 mm	0.182x	375	13.7	47.9	0.05	0.05	M58	33.2	300	800.8	15.8
MTL-24057V74-024	240 mm	0.24x	375	15	39.8	0.05	0.05	V74	20.9	300	842.2	16.3
MTL-26511C-004	265 mm	0.041x	540	8	123.3	0.03	0.05	C	375.5	300	689.9	15.2
MTL-26518C-007	265 mm	0.07x	540	8	72.9	0.03	0.05	C	132.1	300	720.6	15.5
MTL-26543M58-016	265 mm	0.164x	540	13.7	53.0	0.03	0.05	M58	40.8	300	836	15.8
MTL-26557V74-022	265 mm	0.216x	540	15	44.1	0.03	0.05	V74	25.7	300	877.4	16.3
MTL-31018C-006	310 mm	0.06x	470	8	85.2	0.04	0.05	C	180.2	350	764.5	25.6
MTL-31043M58-014	310 mm	0.14x	470	13.7	61.9	0.05	0.05	M58	55.7	350	879.8	26.5
MTL-31057V74-019	310 mm	0.185x	470	15	51.5	0.05	0.05	V74	35.1	350	921.2	26.5

MTL-MT Series

Camera mount adapter series for the MTL Series, covering a range of sensor sizes with broad mount compatibility.

Key Features: Covers sensor sizes to 82 mm and mounts to M90

MTL-MT Series		
Product ID	**Compatibility**	**Description**
MTL-MT1823C-LM	Converts 23P to C-Mount	Lens BiTele Cmnt Adapter
MTL-MT35C-LM	Converts 35P to C-Mount	Lens, Adapter for BiTele CMnt for RL35
MTL-MT35F-LM	Converts 35P to F-Mount	OEM, Lens, MTL-MT35F-LM, ENOVIX
MTL-MT35M58-LM	Converts 35P to M58 Mount	Lens, Adapter for BiTele M58 for RL35
MTL-MT43F-LOW	Converts M58 to F-Mount for MTL-35 to 80mm	Lens, Adapter for BiTele FMnt for RL43
MTL-MT43F-MID	Converts M58 to F-Mount for MTL-90 to 310mm	Lens, Adapter for BiTele FMnt for RL43
MTL-MT43M58	Adjusts Flange Back Distance for M58 Mount	Lens, Adapter for BiTele M58 for RL43
MTL-MT43V74-LOW	Converts M58 to V74 Mount for MTL-35 to 80mm*	Lens, Adapter for BiTele V74 for RL43
MTL-MT82M90-LM	Converts M95 to M90 Mount	Lens, Adapter for BiTele M90 for RL82
MTL-MT82V74-LM	Converts M95 to V74*	Lens, Adapter for BiTele V74 for RL82

* Requires an adapter for mounting to the camera, and may require extension rings to achieve the specified working distance and field of view. Refer to **page 14**.

MTI Series

Compact illuminator series that projects collimated, uniform, shadow-free light along the optical axis, pairing with telecentric lenses to deliver crisp, high-contrast edges for precise measurement of transparent and reflective parts. Available in multiple colors, matched to telecentric lens working distances.

Target Applications: Dimensional measurement and gauging; transparent and glass part inspection; edge and outline inspection; semiconductor and electronics measurement

MTI Series

Product ID	Color	Lighting Area (Φmm)	Working Distance (mm)	Length (mm)	Outer Dia. (Φmm)	Weight (kg)
MTI-45-CG-070	Green	45	110	140	71	0.58
MTI-45-CG-070-L	Green	45	110	128.4	90x65	0.7
MTI-65-CG-070	Green	60	140	183	86	0.76
MTI-65-CG-070-L	Green	60	140	141	107x86	1.1
MTI-100-CG-070	Green	100	220	279	125	1.7
MTI-100-CW-070	White	100	220	287	125	1.7
MTI-100-CG-070-L	Green	100	59.5	228	160x129	2.6
MTI-120-CG-070	Green	120	175	292.9	160	3.6
MTI-120-CW-070	White	120	175	300.9	160	3.6
MTI-120-CG-070-L	Green	120	175	261.4	166.6x170	6.1
MTI-135-CG-070	Green	135	260	367	160	3.5
MTI-150-CG-070	Green	150	300	392	180	4.5
MTI-180-CG-070	Green	180	350	445	210	7.1
MTI-195-CG-070	Green	195	365	489	230	7.9
MTI-265-CG-070	Green	265	540	673	300	15.1

Accessories

Magnifiers and Prisms

Rear magnifiers and prism accessories that extend the magnification of Cognex lenses or fold the optical path, adding flexibility to existing lens setups without changing the base optics.

Magnifiers and Prisms

Product ID	Compatibility	Magnification	Dim. OD x Lens Tube Length (mm)
ML-RM1.5X	C-Mount Lenses, 2/3" Sensors	1.5x	φ30 x 12.8
ML-5M2X	C-Mount Lenses, 2/3" Sensors	2.0x	φ30 x 17.2
ML-RM1.5X-16C	C-Mount Lenses, 1" Sensors	1.5x	φ30 x 8.8
ML-RM2X-16C	C-Mount Lenses, 1" Sensors	2.0x	φ30 x 16.6

Adapters and Spacers

The ML-FF Series lenses are equipped with a configurable M39 mount and need a lens tube for focus and mounting, and possibly additional extension tubes / spacers to achieve the required image size and WD.

Camera Mount Adaptors and Extension Ring Spacers

Product ID	Compatibility	Description
ML-TUBE-F	ML-FF Series	F-Mount Adapter with Focus Adjustment
ML-TUBE-M42	ML-FF Series	Adapter, M42 Mnt w/ Focus Adjust.
ML-TUBE-M58	ML-FF Series	Adapter, M58 Mnt w/ Focus Adjust.
ML-TUBE-M72	ML-FF Series	Adapter, M72 Mnt w/ Focus Adjust.
ML-TUBE-M95	ML-FF Series	Adpater, M95 Mnt w/ Focus Adjust.
EXR-M39-L15	ML-FF ->65MP!	Ext Tube, M39 Mnt, 15mm
EXR-M42-C-L15	ML-FF Series	Ext Tube, M42 Mnt, 15mm
EXR-M42-L10	ML-FF Series	Ext Tube, M42 Mnt, 10mm
EXR-M42-L20	ML-FF Series	Ext Tube, M42 Mnt, 20mm
EXR-M42-L5	ML-FF Series	Ext Tube, M42 Mnt, 5mm
EXR-M58-FB11.48	ML-FF Series	Lens, Extension Tube, Length 41mm, M58
EXR-M58-L10	ML-FF Series	Ext Tube, M58 Mnt, 10mm
EXR-M58-L12.58	ML-FF Series	Ext Tube, M58 Mnt, 12.58mm
EXR-M58-L20	ML-FF Series	Ext Tube, M58 Mnt, 20mm
EXR-M58-L5	ML-FF Series	Ext Tube, M58 Mnt, 5mm
EXR-M72-L10	ML-FF Series	Ext Tube, M72 Mnt, 10mm
EXR-M72-L20	ML-FF Series	Ext Tube, M72 Mnt, 20mm
EXR-M72-L5	ML-FF Series	Ext Tube, M72 Mnt, 5mm
EXR-M95-L10	ML-FF Series	Ext Tube, M95 Mnt, 10mm
EXR-M95-L20	ML-FF Series	Ext Tube, M95 Mnt, 20mm

Adapters and Spacers

Extension rings (spacers) can be used to change the magnification and working distances of a wide variety of lenses. These are most commonly used with fixed focal length lenses but can also be added to macro and some telecentric lenses (MML-HR) to adjust the FOV vs WD.

Extension Rings/Spacers	
Product ID	**Compatibility**
ML-EXR	Close-Up Ring Set
ML-EXR05	Close-Up Ring 0.5mm
ML-EXR1	Close-Up Ring 1mm
ML-EXR10	Close-Up Ring 10mm
ML-EXR15	Close-Up Ring 15mm
ML-EXR2	Close-Up Ring 2mm
ML-EXR20	Close-Up Ring 20mm
ML-EXR25	Close-Up Ring 25mm
ML-EXR30	Close-Up Ring 30mm
ML-EXR40	Close-Up Ring 40mm
ML-EXR5	Close-Up Ring 5mm
ML-EXR50	Close-Up Ring 50mm

Filters

Filters can help vision systems achieve the highest level of contrast over their FOV.

Filters					
Product ID	**Type**	**Size**	**Color**	**Wavelength**	**Compatibility**
ICRF-6425	Longpass	M25.5	660 nm — DARK RED	640–680 nm	UR, HR
IMIF-83025.5	Longpass		INFRARED	845–1100 nm	
IMPF-LP415-25.5	Transparent		415–1100 nm	415–1100 nm	
IMPF-PL032-25.5/RS	Polarized with spacer		Polarized	400–700 nm	
IMBF-BP470-xx.x	Bandpass	M25.5, M35.5, M37	470 nm — BLUE	425–495 nm	UR (25.5), HR (25.5), SR (35.5, 37)
IMCF-BP550-xx.x	Bandpass		405–690 nm — VISIBLE	405–690 nm	
IMGF-BP525-xx.x	Bandpass		525 nm — LIGHT GREEN	500–555 nm	
IMIF-BP850-xx.x	Bandpass		850 nm — INFRARED	820–910 nm	
IMIF-BP880-xx.x	Bandpass		880 nm — INFRARED	845–930 nm	
IMRF-BP635-xx.x	Bandpass		635 nm — RED	615–645 nm	
IMRF-BP660-xx.x	Bandpass		660 nm — DARK RED	640–680 nm	
IMPF-PR032-xx.x	Polarized		Linear Polarization	400–700 nm	
IMBF-BP940-xx.x	Bandpass		940 nm — INFRARED	928–955 nm	
IMBF-BP940-xx.x	Bandpass		940 nm — INFRARED	928–955 nm	

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