

MOTOR FOCUS LENSES



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1. Excellent autofocus performance
2. Support multiple communication modes: RS232/TTL/pulse
3. Autofocus accuracy ± 0.001 degree
4. The response time is less than 1ms
5. EFL covers 8-50mm

FEATURES

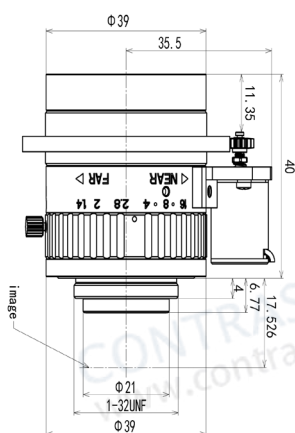
1. Car exterior blemishes
2. Industrial identification recognition

2/3" Motor Focus Lenses

- 1.Support 20MP area scan cameras
- 2.High relative illumination,with big aperture
- 3.Compatible with 2/3" sensor
- 4.Distortion < 0.1%

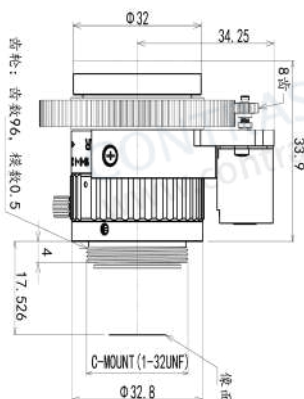


VT-LEMAF0814-MP10



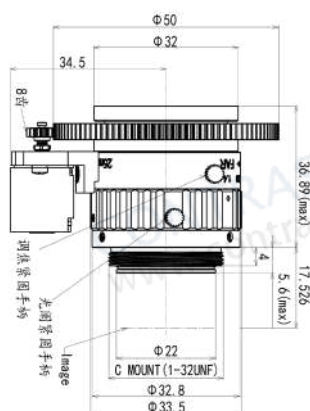
EFL (mm)	8	Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F1.4~F16	900	0.009X	976.8	731.5
M.O.D.	0.1m	850	0.010X	923.3	691.4
FBL (mm)	17.526	800	0.010X	869.8	651.3
Back Focus (mm)	10.74	750	0.011X	816.3	611.2
Filter Size	M37×0.5	700	0.012X	762.8	571.1
Front/Rear Effective Dia.	Front Ø26.2mm Rear Ø12.7mm	650	0.013X	709.3	531.0
Mount	C-Mount	600	0.014X	655.8	490.9
Temperature Range	-10~+50° C	550	0.015X	602.3	450.8
Storage Temperature Range	-20~+60° C	500	0.016X	548.8	410.7
Image Size (inch)	2/3"	1/2"	450	0.018X	495.3
	H 56.3°	42.5°	400	0.020X	441.8
Angle of View	V 43.7°	32.4°	350	0.023X	388.3
	D 67.1°	51.9°	300	0.027X	334.8
	H 123mm	88mm	250	0.032X	281.2
Object Dimension at WD.100mm	V 91mm	65.5mm	200	0.039X	227.7
	D 154.8mm	111mm	150	0.052X	174.2
Distortion(TV)	< 1%	< 0.8%	100	0.075X	120.7

VT-LEMAF1614-MP10



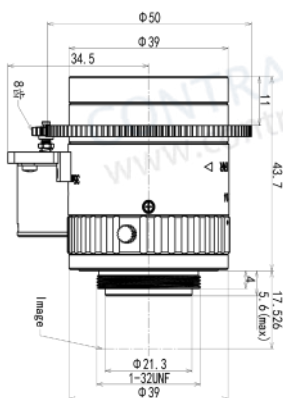
EFL (mm)	16	Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F1.4~F16	900	0.018X	503.2	376.8
M.O.D.	0.1m	850	0.019X	475.6	356.2
FBL (mm)	17.526	800	0.020X	448.0	335.5
Back Focus (mm)	12.7	750	0.021X	420.4	314.8
Filter Size	M30.5×0.5	700	0.023X	392.8	294.1
Front/Rear Effective Dia.	Front Ø19mm Rear Ø14.2mm	650	0.024X	365.2	273.4
Mount	C-Mount	600	0.026X	337.6	252.8
Temperature Range	-10~+50° C	550	0.029X	310.0	232.1
Storage Temperature Range	-20~+60° C	500	0.031X	282.5	211.4
Image Size (inch)	2/3"	1/2"	1/3"	450	0.035X
	H 30.3°	22.3°	16.8°	400	0.039X
Angle of View	V 23°	16.8°	12.6°	350	0.044X
	D 37.3°	27.8°	20.9°	300	0.052X
	H 170.4mm	123.7mm	116mm	250	0.061X
Object Dimension at WD.100mm	V 127.6mm	92.7mm	69.4mm	200	0.076X
	D 212.8mm	154.9mm	123.7mm	150	0.100X
Distortion(TV)	< 0.1%	< 0.3%	< 0.1%	100	0.145X

VT-LEMAF2514-MP10



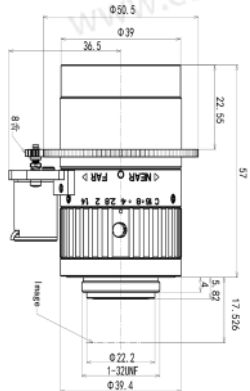
EFL (mm)	25			Working distance(mm)	Optical Magnification	Field of View(H/V)		
Aperture, F/#	F1.4~F16			900	0.028X	317.5	237.7	
M.O.D.	0.1m			850	0.029X	299.9	224.5	
FBL (mm)	17.526			800	0.031X	282.3	211.3	
Back Focus (mm)	12.25			750	0.033X	264.6	198.1	
Filter Size	M30.5×0.5			700	0.036X	247.0	184.9	
Front/Rear Effective Dia.	Front Ø22.7mm Rear Ø12.6mm			650	0.039X	229.4	171.6	
Mount	C-Mount			600	0.042X	211.8	158.4	
Temperature Range	-10~+50° C			550	0.046X	194.1	145.2	
Storage Temperature Range	-20~+60° C			500	0.050X	176.5	132.0	
Image Size (inch)		2/3"	1/2"	1/3"	450	0.056X	158.9	118.8
Angle of View	H	20°	14.6°	11°	400	0.063X	141.2	105.6
	V	15°	11°	8.2°	350	0.072X	123.6	92.4
	D	24.6°	18.2°	13.7°	300	0.084X	108.0	82.0
Object Dimension at WD.100mm	H	108mm	79.4mm	59.4mm	250	0.100X	88.3	66.0
	V	82mm	59.4mm	44.4mm	200	0.126X	70.7	52.7
	D	136mm	99.4mm	74.4mm	150	0.168X	53.0	39.5
Distortion(TV)		< 0.2%	< 0.05%	< 0.05%	100	0.253X	35.3	26.3

VT-LEMAF3514-MP10



EFL (mm)	35		Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F1.4~F16		900	0.037X	236.2	176.9
M.O.D.	0.15m		850	0.040X	223.2	167.2
FBL (mm)	17.526		800	0.042X	210.3	157.5
Back Focus (mm)	8.7		750	0.045X	197.3	147.8
Filter Size	M37×0.5		700	0.048X	184.3	138.1
Front/Rear Effective Dia.	Front Ø24.8mm	Rear Ø13.6mm	650	0.052X	171.4	128.4
Mount	C-Mount		600	0.056X	158.4	118.6
Temperature Range	-10~+50° C		550	0.061X	145.5	108.9
Storage Temperature Range	-20~+60° C		500	0.067X	132.5	99.2
Image Size (inch)	2/3"	1/2"	450	0.074X	119.6	89.5
Angle of View	H	13.9°	400	0.083X	106.6	79.8
	V	10.4°	350	0.094X	93.7	70.1
	D	17.3°	300	0.110X	80.7	60.4
Object Dimension at WD.100mm	81mm		250	0.131X	67.7	50.6
	60mm		200	0.162X	54.7	40.9
	100mm		150	0.213X	41.8	31.2
Distortion(TV)	-0.8%	-0.4%	-	-	-	-

VT-LEMAF5014-MP10



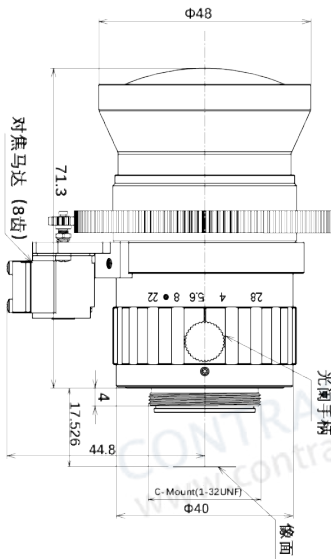
EFL (mm)	50			Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F1.4~Close			2000	0.025X	352.0	264.0
M.O.D.	0.3m			1000	0.051X	172.5	129.4
FBL (mm)	17.526			900	0.057X	154.4	115.8
Back Focus (mm)	12.4			850	0.06X	146.7	110.0
Filter Size	M37×0.5			800	0.064X	137.5	103.1
Front/Rear Effective Dia.	Front Ø24mm RearØ11.78mm			750	0.068X	129.4	97.1
Mount	C-Mount			700	0.073X	120.5	90.4
Temperature Range	-10~+50° C			650	0.079X	111.4	83.5
Storage Temperature Range	-20~+60° C			600	0.0858X	102.6	76.9
Image Siz)		2/3"	1/2"	550	0.094X	93.6	70.2
Angle of View	H	10.46°	7.6°	500	0.104X	84.6	63.5
	V	7.86°	5.27°	450	0.116X	75.9	56.9
	D	13.04°	9.52°	400	0.131X	67.2	50.4
Object Dimension at WD.100mm	H	46.8mm		350	0.15X	58.7	44.0
	V	35.08mm		300	0.177X	49.7	37.3
	D	58.54mm		-	-	-	-
Distortion(TV)	-0.8%		-0.4%	-	-	-	-

1.1" Motor Focus Lenses

- 1.Ultra-high imaging quality
- 2.Focus range from 0.1m to infinity
- 3.Compatible with 1" sensor
- 4.Distortion < 0.1%

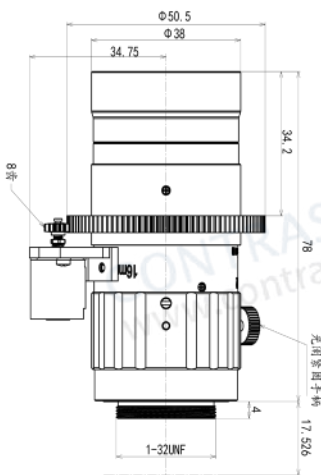


VT-LEMAF1228-MP20-H1.1



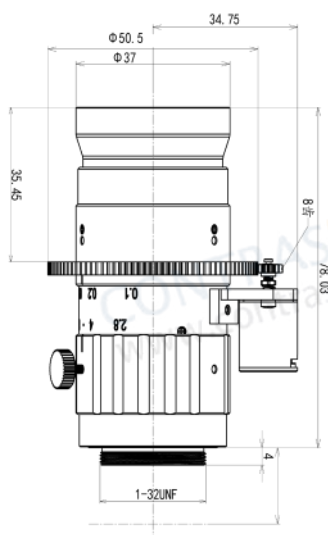
EFL (mm)	12.0	Working distance(mm)	5000	Optical Magnification	0.002X	Field of View(H/V)	5727 4295.3
Aperture, F/#	F2.8~F22		2000		0.006X	2307	1730.2
M.O.D.	0.1m		1000		0.012X	1166.9	875.2
FBL (mm)	17.526				0.013X	1052.9	789.7
Back Focus (mm)	10.6		800		0.015X	938.9	704.2
Filter Size	-		700		0.017X	824.9	618.5
Front/Rear Effective Dia.	Front Ø42.9mm Rear Ø20.5mm						
Mount	C-Mount		600		0.02X	710.9	533.2
Temperature Range	-10~+50° C		550		0.022X	653.9	490.4
Storage Temperature Range	-20~+60° C		500		0.024X	596.9	447.7
Image Size (inch)	1.1"	1"	2/3"	450	0.026X	539.9	405
Angle of View	H 57°	54.8°	38.9°	400	0.029X	482.9	362.2
	V 45°	42.3°	29.6°	350	0.033X	425.9	319.4
	D 66.7°	66.1°	47.9°	300	0.038X	368.9	276.6
Object Dimension at WD.100mm	H 254.9mm	240.0mm	109.3mm	250	0.045X	312	233.9
	V 191.1mm	179.2mm	119.5mm	200	0.056X	254.9	191.1
	D 318.6mm	298.7mm	119.2mm	150	0.072X	197.2	148.4
Distortion(TV)	< 1.5%	< 1.5%	< 1%	100	0.103X	141	105

VT-LEMAF1628-MP20-H1.1



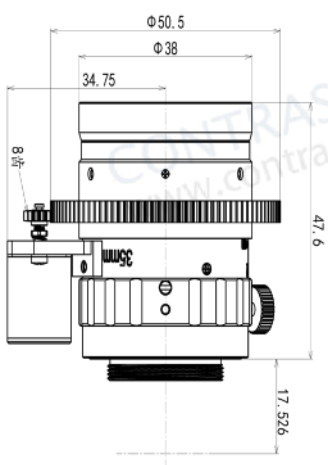
EFL (mm)	16.0	Working distance(mm)	5000	Optical Magnification	0.0032X	Field of View(H/V)	4473.2 3361
Aperture, F/#	F2.8~F22		2000		0.0079X	1793.5	1347.4
M.O.D.	0.1m		1000		0.0158X	900.6	676.4
FBL (mm)	17.526				0.0176X	811.3	609.4
Back Focus (mm)	22.4		800		0.0197X	722.4	542.6
Filter Size	M35.5×0.5		700		0.0225X	632.9	475.4
Front/Rear Effective Dia.	Front Ø26.7mm Rear Ø19.2mm						
Mount	C-Mount		600		0.0262X	543.6	408.3
Temperature Range	-10~+50° C		550		0.0286X	498.7	374.6
Storage Temperature Range	-20~+60° C		500		0.0314X	454.2	341
Image Size (inch)	1.1"	1"	2/3"	450	0.0348X	409.5	307.6
Angle of View	H 46.3°	43.6°	30.8°	400	0.0391X	364.9	274
	V 36°	33.4°	23.3°	350	0.0445X	320.2	240.3
	D 55.4°	53.1°	37.9°	300	0.0518X	275.4	206.8
Object Dimension at WD.100mm	H 186mm	168.4mm	115.3mm	250	0.0618X	230.8	173.2
	V 139.6mm	125.9mm	86.3mm	200	0.0767X	186	139.6
	D 232.1mm	210.9mm	144.5mm	150	0.101X	141.3	106
Distortion(TV)	< 0.5%	< 0.5%	< 0.3%	100	0.148X	96.5	72.4

VT-LEMAF2528-MP20-H1.1



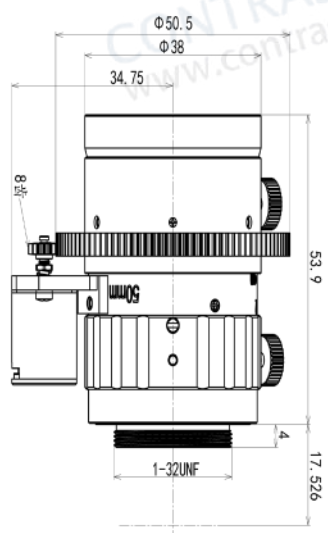
EFL (mm)	25.0			Working distance(mm)	Optical Magnification	Field of View(H/V)		
Aperture, F/#	F2.8~F22			5000	0.005X	2820	2120	
M.O.D.	0.1m			2000	0.013X	1084.6	815.4	
FBL (mm)	17.526			1000	0.025X	564	424	
Back Focus (mm)	29.6			900	0.028X	503.6	378.6	
Filter Size	M35.5×0.5			800	0.031X	454.8	341.9	
Front/Rear Effective Dia.	Front Ø20mm Rear Ø19.2mm			700	0.036X	391.7	294.4	
Mount	C-Mount			600	0.042X	335.7	252.4	
Temperature Range	-10~+50° C			550	0.045X	313.3	235.5	
Storage Temperature Range	-20~+60° C			500	0.050X	282	212	
Image Size (inch)		1.1"	1"	2/3"	450	0.055X	256.4	192.7
Angle of View	H	30.4°	27.6°	19.2°	400	0.061X	231.1	173.8
	V	23°	20.9°	14.5°	350	0.070X	207.4	151.4
	D	37.6°	34.2°	23.9°	300	0.081X	174.1	130.9
Object Dimension at WD.100mm	H	119.4mm	108.5mm	74.6mm	250	0.096X	146.9	110.4
	V	89.5mm	81.4mm	74.6mm	200	0.118X	119.4	89.5
	D	186.5mm	135.6mm	93.2mm	150	0.154X	91.6	68.8
Distortion(TV)		< 0.1%	< 0.1%	< 0.03%	100	0.221X	63.8	48

VT-LEMAF3528-MP20-H1.1



EFL (mm)	35.0				Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F2.8~F22				5000	0.0069X	2029	1528.2
M.O.D.	0.2m				2000	0.0174X	809.4	609.6
FBL (mm)	17.526				1000	0.0349X	503	303.5
Back Focus (mm)	22.9				900	00388X	362.6	273
Filter Size	M35.5×0.5				800	0.0437X	322	242.4
Front/Rear Effective Dia.	Front Ø23mm Rear Ø19.1mm				700	0.05X	281.4	211.8
Mount	C-Mount				600	0.0585X	240.8	181.2
Temperature Range	-10~+50° C				550	0.0639X	220.5	165.9
Storage Temperature Range	-20~+60° C				500	0.0703X	200.3	187.6
Image Size (inch)		1.1"	1"	2/3"	450	0.0783X	180	135.5
Angle of View	H	22.6°	20.6°	14.3°	400	0.0882X	199.5	120.2
	V	17°	15.45°	10.7°	350	0.101X	174.5	140
	D	28.3°	25.75°	17.86°	300	0.1181X	115.9	89.9
Object Dimension at WD.100mm	H	78.2mm	71mm	48.8mm	250	0.1421X	99.4	74.7
	V	58.7mm	53.3mm	36.6mm	200	0.1805X	78.2	58.7
	D	97.68mm	88.8mm	61mm	-	-	-	-
Distortion(TV)		< 0.02%	< 0.02%	< 0.01%	-	-	-	-

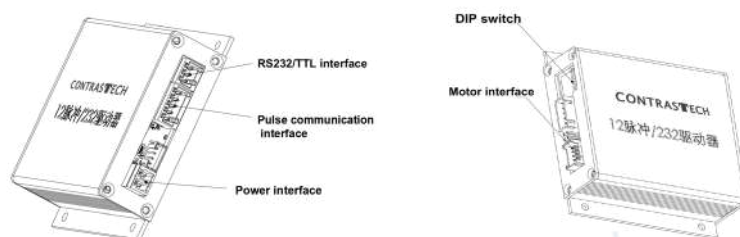
VT-LEMAF5028-MP20-H1.1



EFL (mm)	50.0				Working distance(mm)	Optical Magnification	Field of View(H/V)	
Aperture, F/#	F2.8~F22				5000	0.01X	1379	1035.5
M.O.D.	0.3m				2000	0.026X	547.1	410.7
FBL (mm)	17.526				1000	0.052X	273.5	205.3
Back Focus (mm)	21.1				900	0.057X	245.6	184.3
Filter Size	M35.5×0.5				800	0.065X	218.3	163.8
Front/Rear Effective Dia.	Front Ø24mm Rear Ø21.7mm				750	0.069X	204.5	153.4
Mount	C-Mount				700	0.074X	190.6	143
Temperature Range	-10~+50° C				600	0.08X	176.7	132.5
Storage Temperature Range	-20~+60° C				650	0.087X	162.8	122.1
Image Size (inch)		1.1"	1"	2/3"	550	0.095X	148.9	111.7
Angle of View	H	15.9°	14.6°	10.1°	500	0.105X	134.9	99
	V	11.9°	10.9°	7.5°	450	0.117X	121	90.7
	D	19.9°	18.2°	12.6°	400	0.132X	107	80.2
Object Dimension at WD.100mm	H	79mm	71.6mm	49.3mm	350	0.152X	92.9	69.7
	V	59.3mm	53.8mm	37mm	300	0.179X	79	59.3
	D	98.9mm	89.7mm	61.6mm	-	-	-	-
Distortion(TV)		< 0.04%	< 0.04%	< 0.02%	-	-	-	-

Motor Parameters

Voltage (v)	24v
Power (w)	5w
Range of speed (RPM)	0-400RPM
Rated speed (RPM)	150RPM
Response time	<1ms
Maximum output torque	0.08N-M
Self-locking torque	0.12N-M
Motion precision/accuracy	±0.001°
Operating temperature/humidity	-40°C - 105°C, RH0%-90%
Rotate direction	CW, CCW



Drive Interface Definition

Communication mode	Interface definition	
Pulse communication interface	COM+	open collector(NPN (OC-NPN)), voltage range 5v-24v
	Dir	Motor rotation direction during pulse signal
	Step	Pulse signal
	Ready	Response signal (low level means the motor is running, high level means the motor is stopped)
	COM-	grounding
RS232/TTL Communication Interface	0V	grounding
	RX	data reception
	TX	data transmission

