



ZU1050
ZU850
ZU660



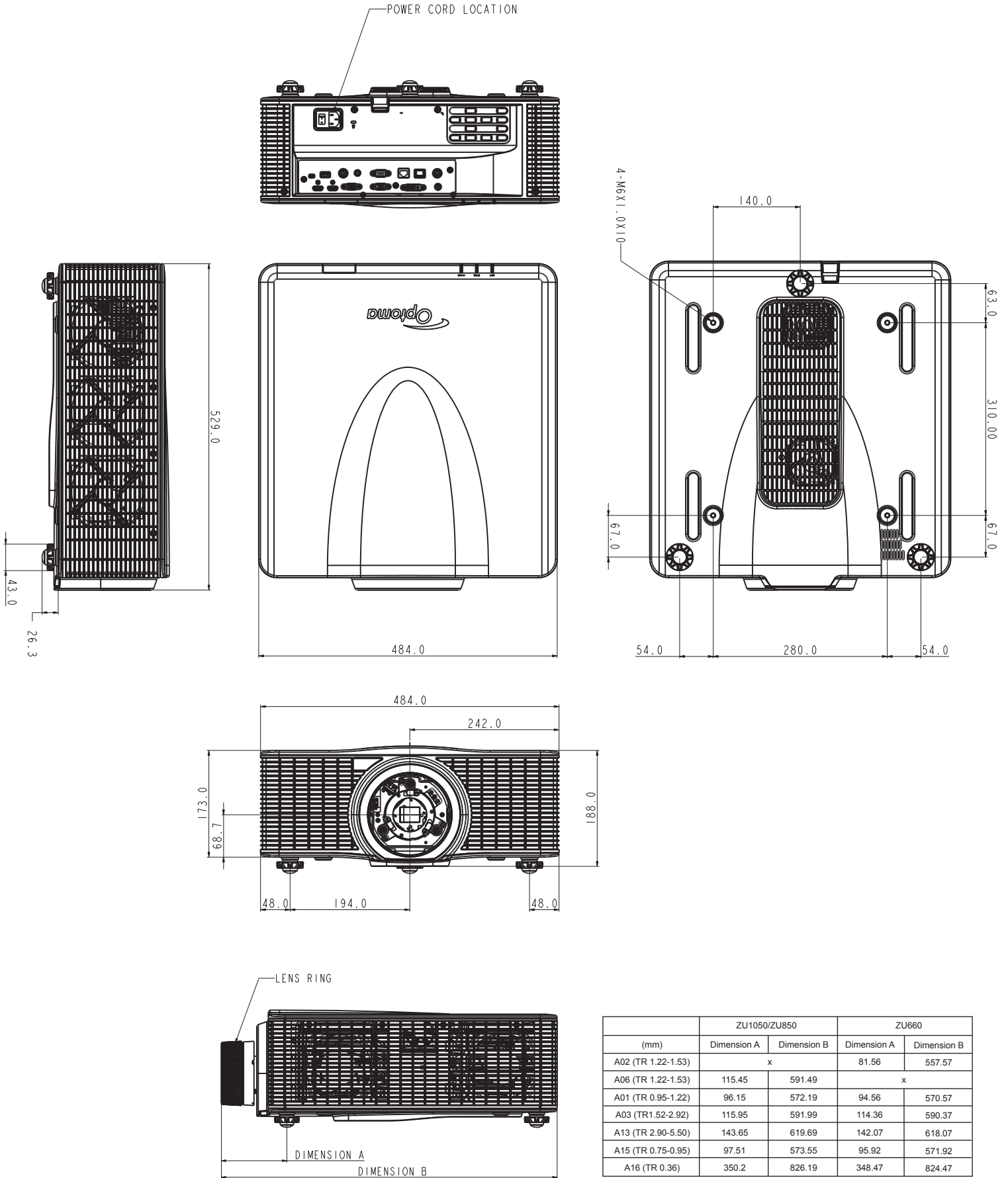
Contents

- Product Description
- Cabinet Dimensions
- Installation Requirements
- Lens Specifications
- Len Shift Range
- Lens Dimensions
- Image Size & Projection Distance
- Back & Control Panel
- PC Control Codes
- LAN Control Ports

Product Description

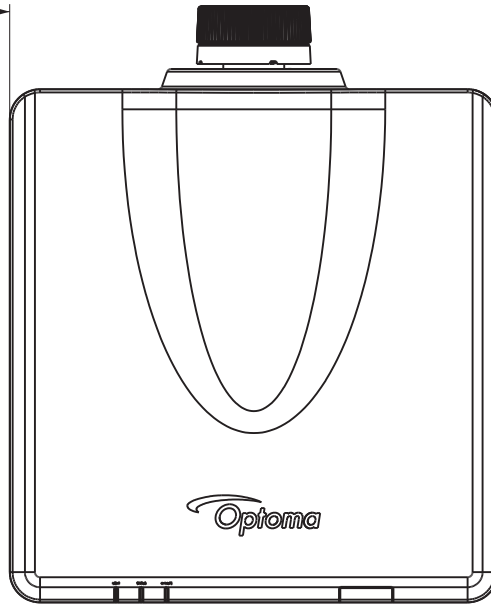
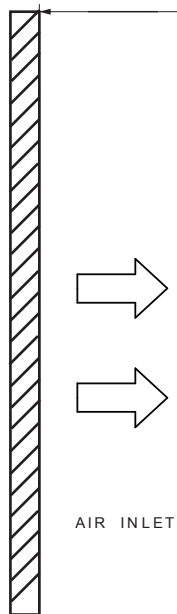
	ZU1050	ZU850	ZU660
Resolution	WUXGA 1920*1200	WUXGA 1920*1200	WUXGA 1920*1200
Brightness	10,000 lumens	8,000 ANSI lumens 8,200 center lumens	6,000 ANSI lumens 6,500 center lumens
Dimensions	484 x 509 x 185 mm (19.06" x 20.04" x 7.28") without lens/elevators		
Weight	23.4 kg (51.48 lb)	23 kg (50.6 lb)	17 kg (37.4 lb)
Noise	32 dB	32 dB	34 dB
Power consumption	945W +/- 15% @110V in Normal Mode 480W +/- 15% @110V in Eco Mode 910W +/- 15% @220V in Normal Mode 470W +/- 15% @220V in Eco Mode	770W +/- 15% @110V in Normal Mode 395W +/- 15% @110V in Eco Mode 740W +/- 15% @220V in Normal Mode 385W +/- 15% @220V in Eco Mode	650W +/- 15% @110V in Normal Mode 470W +/- 15% @110V in Eco Mode 620W +/- 15% @220V in Normal Mode 455W +/- 15% @220V in Eco Mode
BTU/hr	3,224.5 BTU/hr	2,625.7 BTU/hr	2,218 BTU/hr

Cabinet Dimensions

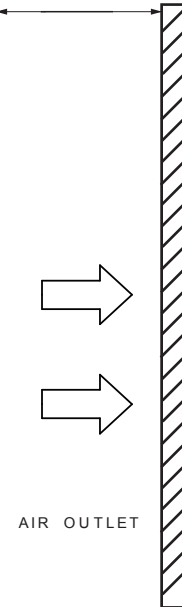


Installation Requirements

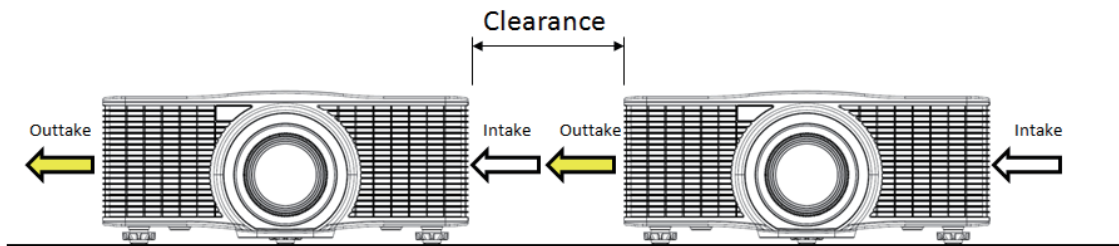
- Minimum clearance ≥ 1 meter



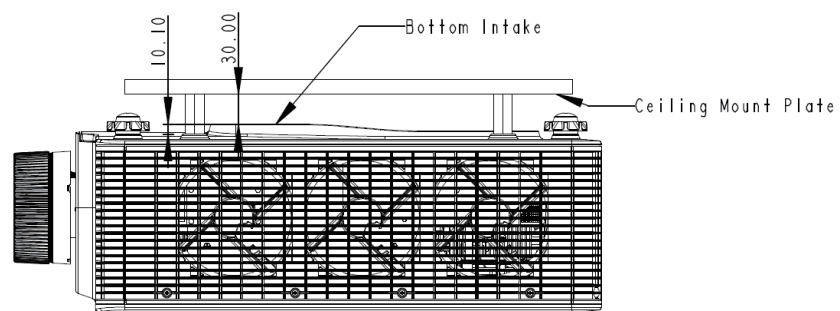
- Minimum clearance ≥ 1 meter



- Minimum clearance between 2 projectors ≥ 1 meter



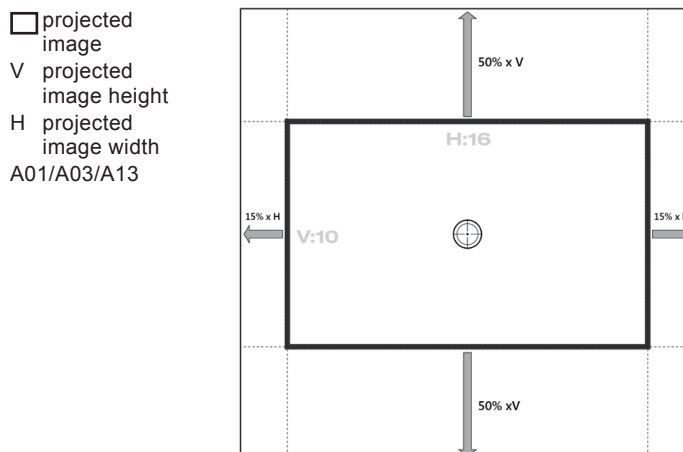
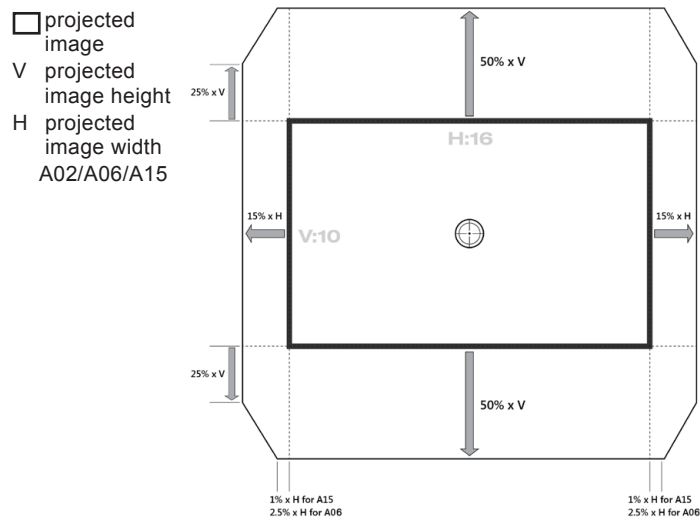
- Minimum clearance between ceiling mount plate and projector bottom intake ≥ 30 mm



Lens Specifications

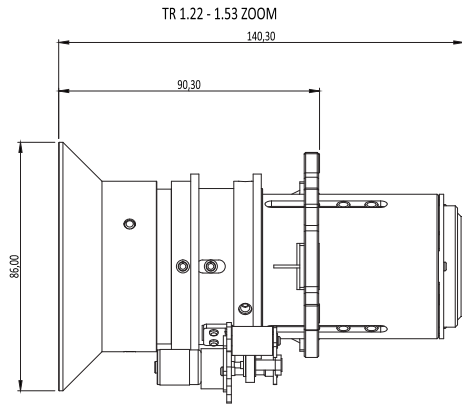
Projection Lens	A01	A02(ZU660)	A06(ZU1050 /850)	A03	A13	A15	A16
Image							
Lens Type	Wide Zoom	Standard	Standard	Long Zoom	Ultra-Long Zoom	Short Throw	Ultra Short
Throw Ratio (0.67" WUXGA)	0.95-1.22	1.22-1.53	1.22-1.53	1.52-2.92	2.90-5.50	0.75-0.95	0.36
F number	2.30-2.57	2.00~2.32	2.00~2.30	2.30-3.39	2.30-2.74	2.30-2.53	2.4
Zoom Ratio	1.28X	1.25X	1.25X	1.9X	1.9X	1.26X	n/a
Throw Distance (0.67" WUXGA)	1.02~7.88m	1.31~9.89m	1.31~9.82m	1.64~18.87m	3.12~35.54m	0.81-6.13m	0.93-2.62m
Screen Size	50" – 300"	50" – 300"	50" – 300"	50" – 300"	50" – 300"	50" – 300"	120" – 350"
Weight (Kg)	0.6	0.4	0.9	0.8	1.0	0.7	2.7

Len Shift Range

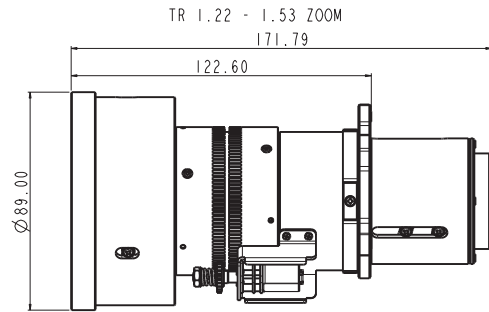


Lens Dimensions

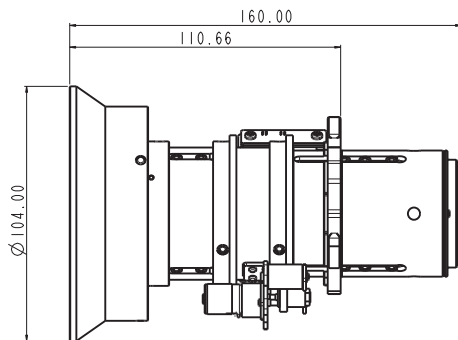
A02



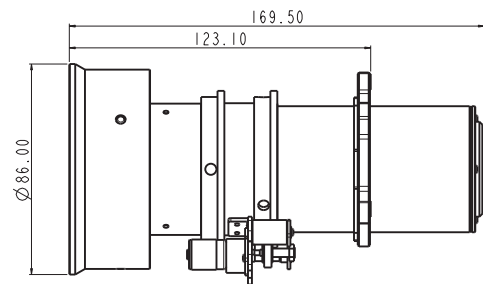
A06



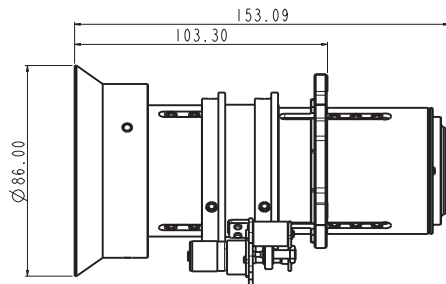
TR 0.75 - 0.95 WIDE ZOOM



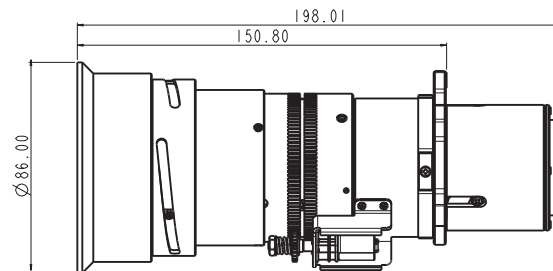
TR 1.52 - 2.92 LONG ZOOM



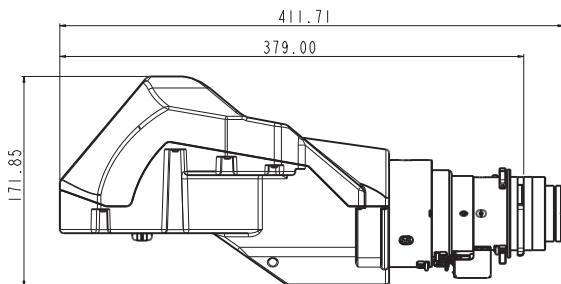
TR 0.95 - 1.22 WIDE ZOOM



TR 2.90 - 5.50 LONG ZOOM



TR 0.36 WIDE ZOOM



SCALE 0.500

Image Size & Projection Distance

(ZU1050 / ZU850)

Platform			WUXGA (16:10)										
DMD			0.67"										
Projection Lens			A16	A01		A06		A03		A13		A15	
			Ultra Short Throw	Wide Zoom		Standard		Long Zoom		Ultra-Long Zoom		Short Throw	
Throw Ratio			0.361 (120")	0.95-1.22		1.22-1.52		1.52-2.92		2.90-5.50		0.75-0.95	
Zoom Ratio			N/A	1.28X		1.25X		1.9X		1.9X		1.26X	
Throw Distance			0.93~2.62m	1.02~7.88m		1.32~9.82m		1.64~18.87m		3.12~35.54m		0.81-6.13m	
Projection screen size			Projection distance (m)										
Throw Ratio			0.361 (120")	0.95	1.22	1.22	1.52	1.52	2.92	2.9	5.5	0.75	0.95
Diagonal (inch)	Height (m)	Width (m)		Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
50	0.67	1.08	NA	1.02	1.32	1.32	1.64	1.64	3.14	3.12	5.94	0.81	1.03
60	0.81	1.29	NA	1.23	1.57	1.57	1.96	1.96	3.77	3.74	7.1	0.97	1.23
70	0.94	1.51	NA	1.43	1.84	1.84	2.30	2.30	4.4	4.38	8.31	1.13	1.43
80	1.08	1.72	NA	1.64	2.1	2.10	2.61	2.61	5.03	4.99	9.46	1.29	1.63
90	1.21	1.94	NA	1.84	2.36	2.37	2.95	2.95	5.66	5.63	10.67	1.46	1.84
100	1.35	2.15	NA	2.05	2.63	2.62	3.27	3.27	6.29	6.24	11.83	1.61	2.04
110	1.48	2.37	NA	2.25	2.89	2.89	3.60	3.60	6.92	6.87	13.04	1.78	2.25
120	1.62	2.58	0.96	2.46	3.15	3.15	3.92	3.92	7.55	7.48	14.19	1.94	2.45
130	1.75	2.8	1.04	2.66	3.42	3.42	4.26	4.26	8.18	8.12	15.4	2.1	2.66
140	1.88	3.02	1.11	2.86	3.68	3.68	4.59	4.59	8.8	8.76	16.61	2.27	2.87
150	2.02	3.23	1.18	3.07	3.94	3.94	4.91	4.91	9.43	9.37	17.77	2.42	3.07
160	2.15	3.45	1.26	3.27	4.2	4.21	5.24	5.24	10.06	10.01	18.98	2.59	3.28
170	2.29	3.66	1.33	3.48	4.47	4.47	5.56	5.56	10.69	10.61	20.13	2.75	3.48
180	2.42	3.88	1.40	3.68	4.73	4.73	5.90	5.90	11.32	11.25	21.34	2.91	3.69
190	2.56	4.09	1.47	3.89	4.99	4.99	6.22	6.22	11.95	11.86	22.5	3.07	3.89
200	2.69	4.31	1.55	4.09	5.25	5.26	6.55	6.55	12.58	12.5	23.71	3.23	4.09
250	3.37	5.38	1.91	5.11	6.57	6.56	8.18	8.18	15.72	15.6	29.59	4.04	5.11
300	4.04	6.46	2.28	6.14	7.88	7.88	9.82	9.82	18.87	18.73	35.54	4.85	6.13
350	4.71	7.53	2.65	N/A									

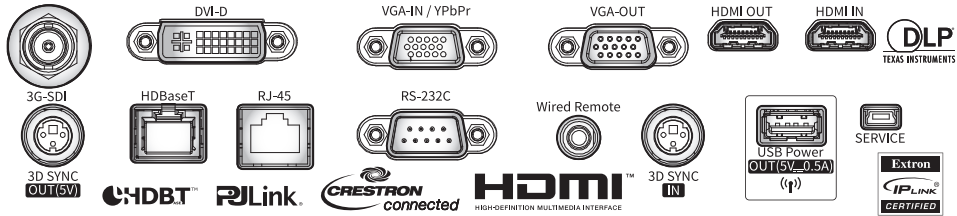
Image Size & Projection Distance

(ZU660)

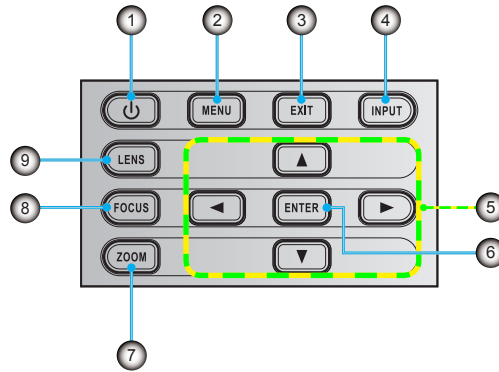
Platform			WUXGA (16:10)												
DMD			0.67"												
Projection Lens			A16	A01		A02		A05		A03		A13		A15	
			Ultra Short Throw	Wide Zoom		Standard		Standard		Long Zoom		Ultra-Long Zoom		Short Throw	
Throw Ratio			0.361 (120°)	0.95-1.22		1.22-1.53		1.22-1.53		1.52-2.92		2.90-5.50		0.75-0.95	
Zoom Ratio			N/A	1.28X		1.25X		1.25X		1.9X		1.9X		1.26X	
Throw Distance			0.93~2.65m	1.02~7.88m		1.31~9.89m		1.31~9.89m		1.64~18.87m		3.12~35.54m		0.81-6.14m	
Projection screen size			Projection distance (m)												
Throw Ratio			0.361 (120°)	0.95	1.22	1.22	1.53	1.22	1.53	1.52	2.92	2.9	5.5	0.75	0.95
Diagonal (inch)	Height (m)	Width (m)		Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
50	0.67	1.08	NA	1.02	1.31	1.31	1.65	1.31	1.65	1.64	3.14	3.12	5.92	0.81	1.02
60	0.81	1.29	NA	1.23	1.58	1.58	1.98	1.58	1.98	1.96	3.77	3.75	7.11	0.97	1.23
70	0.94	1.51	NA	1.43	1.84	1.84	2.31	1.84	2.31	2.29	4.40	4.37	8.29	1.13	1.43
80	1.08	1.72	NA	1.64	2.10	2.10	2.64	2.10	2.64	2.62	5.03	5.00	9.48	1.29	1.64
90	1.21	1.94	NA	1.84	2.36	2.36	2.97	2.36	2.97	2.95	5.66	5.62	10.66	1.45	1.84
100	1.35	2.15	NA	2.05	2.63	2.63	3.30	2.63	3.30	3.27	6.29	6.25	11.85	1.62	2.05
110	1.48	2.37	NA	2.25	2.89	2.89	3.63	2.89	3.63	3.60	6.92	6.87	13.03	1.78	2.25
120	1.62	2.58	0.96	2.46	3.15	3.15	3.95	3.15	3.95	3.93	7.55	7.50	14.22	1.94	2.46
130	1.75	2.80	1.04	2.66	3.42	3.42	4.28	3.42	4.28	4.26	8.18	8.12	15.40	2.10	2.66
140	1.88	3.02	1.11	2.86	3.68	3.68	4.61	3.68	4.61	4.58	8.81	8.74	16.59	2.26	2.86
150	2.02	3.23	1.18	3.07	3.94	3.94	4.94	3.94	4.94	4.91	9.43	9.37	17.77	2.42	3.07
160	2.15	3.45	1.26	3.27	4.20	4.20	5.27	4.20	5.27	5.24	10.06	9.99	18.95	2.58	3.27
170	2.29	3.66	1.33	3.48	4.47	4.47	5.60	4.47	5.60	5.57	10.69	10.62	20.14	2.75	3.48
180	2.42	3.88	1.40	3.68	4.73	4.73	5.93	4.73	5.93	5.89	11.32	11.24	21.32	2.91	3.68
190	2.56	4.09	1.48	3.89	4.99	4.99	6.26	4.99	6.26	6.22	11.95	11.87	22.51	3.07	3.89
200	2.69	4.31	1.55	4.09	5.26	5.26	6.59	5.26	6.59	6.55	12.58	12.49	23.69	3.23	4.09
250	3.37	5.38	1.91	5.12	6.57	6.57	8.24	6.57	8.24	8.18	15.72	15.62	29.62	4.04	5.12
300	4.04	6.46	2.28	6.14	7.88	7.88	9.89	7.88	9.89	9.82	18.87	18.74	35.54	4.85	6.14
350	4.71	7.54	2.65	N/A											

Back & Control Panel

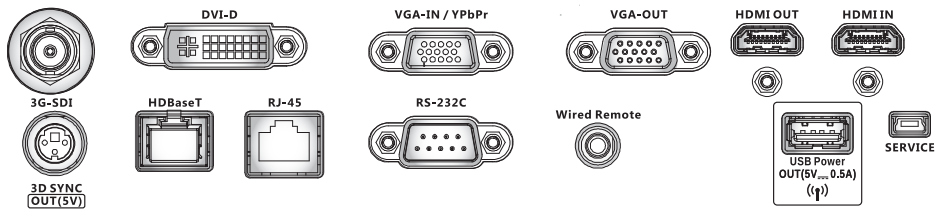
ZU1050



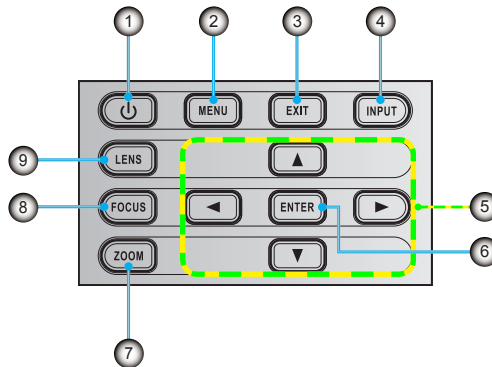
1. Power
2. Menu
3. Exit
4. Input
5. Four Directional Select Keys
6. Enter
7. Zoom
8. Focus
9. Lens



ZU850

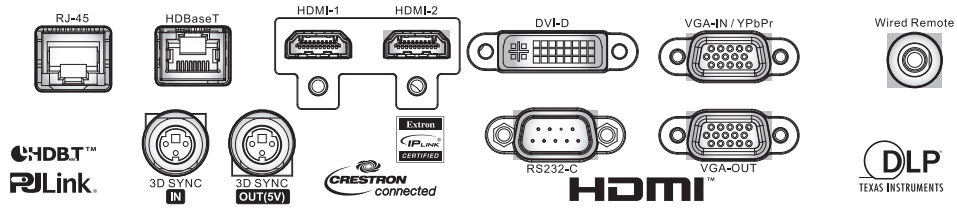


1. Power
2. Menu
3. Exit
4. Input
5. Four Directional Select Keys
6. Enter
7. Zoom
8. Focus
9. Lens

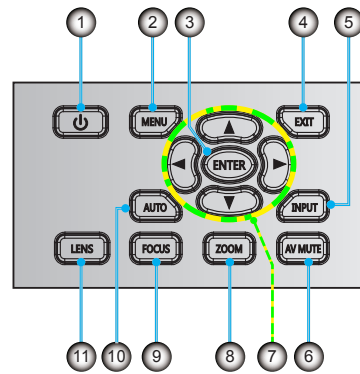


Back & Control Panel

ZU660



1. Power
2. Menu
3. Enter
4. Exit
5. Input
6. AV Mute
7. Four Directional Select Keys
8. Zoom
9. Focus
10. Auto
11. Lens



PC Control Codes

Baud Rate : 19200
 Data Bits: 8
 Parity: None
 Stop Bits: 1
 Flow Control : None
 UART16550 FIFO: Disable

Note: It supports data rates from 9600 to 115200 bps. The default is 19200 bps. Depending on the equipment, a lower baud rate may be recommended for long cable runs.

Write Command

~	X	X	X	X	X		n	CR
Lead Code	Projector ID		Command			space	variable	carriage return
Prefix	00~99 (00: All projectors)		000~999				0~9999	suffix

Response Format

Pass: Fail:

Read Command

~	X	X	X	X	X		n	CR
Lead Code	Projector ID		Command			space	variable	carriage return
Prefix	00~99 (00: All projectors)		000~999				0~9999	suffix

Response Format

Pass:
 Fail:

System Automatically Send

I	N	F	O	n
				variable

Note: There is a <CR> after all ASCII commands. 0D is the HEX code for <CR> in ASCII code.

Character to HEX table

Character	HEX
~	7E
0	30
1	31
2	32
3	33
4	34
5	35
6	36
7	37
8	38
9	39
Space	20
CR (Enter)	0D

e.g.
 ASCII to HEX

RS232 Command	~	0	0	1	9	5		1	CR
HEX	7E	30	30	31	39	35	20	31	0D

ZU1050

Level 1	Level 2	Level 3	Level 4	Level 5	Optoma Write CMD	Set Parameter	Optoma Read CMD	Read Parameter	Reply Parameter	
Display	Display Mode	Presentation				1			1	
		Movie				3			3	
		Bright				2			2	
		REC709				4			4	
		DICOM SIM			~ X X 2 0	13	~ X X 1 2 3	1	O k	10
		2D High Speed				18			18	
		3D				9			9	
		Blending				19			19	
		User				5			5	
		Save to User								
Output	PIP/PBP Settings	Main Source	VGA			5			2	
			HDMI			1			7	
			DVI-D			2			1	
			HDBaseT		~ X X 1 2	21	~ X X 1 2 1	1	O k	16
			Network Display			18			13	
			3GSDI			22			18	
OPTION	Information	Model Name					~ X X 1 5 1	1	O k	#
		Serial Number					~ X X 3 5 3	1	O k	#
		Native Resolution					~ X X 1 5 0	2	O k	#
		Firmware					~ X X 1 2 2	1	O k	#
		Main Source						3	O k	#
		- Resolution						4	O k	#
		- Signal Format						5	O k	#
		- Pixel Clock						6	O k	#
		- Horz Refresh						7	O k	#
		- Vert Refresh						8	O k	#
		Sub Source					~ X X 1 5 0	9	O k	#
		- Resolution						10	O k	#
		- Signal Format						11	O k	#
		- Pixel Clock						12	O k	#
		- Horz Refresh						13	O k	#
		- Vert Refresh						14	O k	#
		Light Source Mode						15	O k	#
		Total Projector Hours					~ X X 1 0 8	1	O k	#
		Standby Power Mode					~ X X 1 5 0	16	O k	#
		IP Address					~ X X 8 7	3	O k	*** ** - - - **
DHCP					~ X X 1 5 0	17	O k	#		

ZU1050

Item	Command	Range or Explanation	Note	Optoma Write CMD	Write Parameter	Optoma Read CMD	Read Parameter	Reply Parameter
Power On	Power On			~ X X 0 0	1	~ X X 1 2 4	1	Ok 1
Power Off	Power Off				0&2			0
AV Mute Enable	AV Mute Enable			~ X X 0 2	1	~ X X 3 5 5	1	Ok 0
AV Mute Disable	AV Mute Disable				0&2			1
Freeze Screen	Freeze Screen			~ X X 0 4	1			
Unfreeze Screen	Unfreeze Screen				0&2			
Power On	Power On				1			
Power Off	Power Off				50			
1	1				51			
2	2				52			
3	3				53			
4	4				54			
5	5				55			
6	6				56			
7	7				57			
8	8				58			
9	9				59			
Info	Info				40			
0	0		Simulate key input	~ X X 1 4 0	60			
Mode	Mode				36			
Auto	Auto				41			
Input	Input				46			
Up	Up				10			
Left	Left				11			
Enter	Enter				12			
Right	Right				13			
Down	Down				14			
Menu	Menu				20			
Exit	Exit				72			
Gamma	Gamma				61			
Bright	Bright				19			
Cont.	Cont.				62			
PIP	PIP				63			
Lens H(Left)	Lens H(Left)				64			
Lens H(Right)	Lens H(Right)				65			
Focus(Up)	Focus(Up)				34			
Lens V(Up)	Lens V(Up)				66			
Lens V(Down)	Lens V(Down)				67			
Focus(Down)	Focus(Down)				35			
Keystone H(Left)	Keystone H(Left)		Simulate key input	~ X X 1 4 0	68			
Keystone H(Right)	Keystone H(Right)				69			
Zoom(Up)	Zoom(Up)				32			
Keystone V(Up)	Keystone V(Up)				15			
Keystone V(Down)	Keystone V(Down)				16			
Zoom(Down)	Zoom(Down)				33			
Shutter(AV Mute)	Shutter(AV Mute)				24			
Hot Key	Hot Key				70			
Pattern	Pattern				71			
Note 1								
PIN Protect	[PINP"12345"]	"12345" is current PIN code. When PIN protect is off, input this command will turn PIN protect on, and vice versa.	Note 1					
Note 2								
Change PIN	[PINC"12345,67890"]	The former 5 digits "12345" is old PIN code, and the later 5 digits "67890" is new PIN code you want to set.	Note 2					

ZU660 / ZU655

Main Menu Tree 1st level	2nd level	3rd level	4th level	Optoma Write CMD	Set Parameter	Optoma Read CMD	Read Parameter	Reply Parameter
	Display Mode	Bright Presentation Movie sRGB Blending DICOM SIM.		~ X X 2 0	2 1 3 4 19 13 5	~ X X 1 2 3	1	O k 2 1 3 4 19 13 5
Picture	PIP-PBP	Main Source	VGA HDMI-1 HDMI-2 DVI HDBaseT	~ X X 1 2	5 1 3 2 21	X X 1 2 1	1	O k 2 7 3 1 12
	Source key	Change Sources List all Sources Auto Source		~ X X 1 0 0	0 1 2			
Options	Information	Model Name Serial Number Native Resolution MCU FW DDP FW M9813 FW Motor FW ext flash FW				~ X X 1 5 1 ~ X X 3 5 3 ~ X X 1 5 0	2 1 2 3 4 5	
		Main Input Main Signal Format Main Pixel Clock Main Sync Type Main Horz Refresh Main Vert Refresh PIP/PBP Input PIP/PBP Signal Format (note 9) PIP/PBP Pixel Clock (note 9) PIP/PBP Sync Type (note 9) PIP/PBP Horz Refresh (note 9) PIP/PBP Vert Refresh (note 9) Light Source Power				X X 1 5 0	3 4 5 6 7 8 9 10 11 12 13 14 18	
		Total Projector Hours Light Source Hours Standby Mode Lens Lock Settings IP Address DHCP System Temperature				~ X X 1 0 8 ~ X X 1 5 0 ~ X X 1 5 0 ~ X X 1 5 0 ~ X X 8 7 ~ X X 1 5 0 ~ X X 1 5 0	19 16 20 17 21	

ZU660 / ZU655

Command																			
Other Uart Command	Power On	~	X	X	0	0													
	Power Off																		
	AV Mute Enable	~	X	X	3	2	5												
	AV Mute Disable																		
	Freeze Screen	~	X	X	0	4													
	Unfreeze Screen																		
	Power Off																		
	1																		
	2																		
	3																		
	4																		
	5																		
	6																		
	7																		
	8																		
	9																		
	Info																		
	0																		
	Mode																		
	Auto																		
	Input																		
	Up																		
	Left																		
	Enter																		
	Right																		
	Down																		
	Menu																		
	0																		
	Exit																		
	Gamma																		
	Bright																		
Cont.																			
PIP																			
Lens H(Left)																			
Lens H(Right)																			
Focus(Up)																			
Lens V(Up)																			
Lens V(Down)																			
Focus(Down)																			
Keystone H(Left)																			
Keystone H(Right)																			
Zoom(Up)																			
Keystone V(Up)																			
Keystone V(Down)																			
Zoom(Down)																			
Shutter(AV Mute)																			
Hot Key																			
Pattern																			

LAN Control Ports

Protocols	Port #
Crestron	41794
PJ-Link	4352
AMX Device Discovery	9131
Telnet	23
Http	80