

## MC372X/ME402X Installation Guide

### Ceiling Mounted and Desktop

Rev 1.0

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### Product Description

<b>Type:</b>	3 panel LCD Projector 0.63" p-Si TFT w/MLA	<b>Dimensions:</b> 13.6" (W) x 4.1" (H) x 10.3" (D)
<b>Resolution:</b>	1024 x 768	<b>Weight:</b> 7.1 lbs
<b>Fan Noise:</b>	37dB / 29dB @ 1 meter	<b>Brightness:</b> MC372X: 3700 Lumens ME402X: 4000 Lumens
<b>Power Consumption:</b>	MC372X: 267W (max) ME402X: 288W (max)	<b>BTU's:</b> MC372X: TBD BTU/hour ME402X: TBD BTU/hour

### Lens Specifications

<b>Throw Ratio:</b>	MC372X: 1.5 – 1.8:1 (for 100" diagonal) ME402X: 1.3 – 2.2:1 (for 100" diagonal)	<b>Focal Length:</b>	MC372X: 19.2mm – 23.0mm ME402X: 17.4mm – 29.0mm
<b>Offset Angle:</b>	MC372X: 6.6° - 10.9° (for 100" diagonal) ME402X: 6.6° - 10.9° (for 100" diagonal)	<b>F/#:</b>	MC372X: 1.6 - 1.76 ME402X: 1.7 - 2.2
<b>Screen Sizes:</b>	30" - 300" diagonal (4:3)	<b>Manual Focus/Manual Zoom</b>	

### Notes

- For screen sizes not indicated on the projection tables, use the formulas below.  
If the figures on the tables do not match the results of formulas, use the figures in the table.
- All calculations are based on a 4:3 aspect ratio.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary ±5%.

### Formulas

The Projection Formulas use the image width for calculation. For proper projection placement, determine the image width for the desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the width for "W" in the Projection Formulas.

Refer to the diagrams and charts for popular screen sizes on page 2:

#### Definitions:

- W = Image Width
- H = Image Height (size)
- B = Vertical distance between lens center and screen center
- C = Throw distance
- D = Vertical distance between lens center and screen top  
(screen bottom for desktop application)

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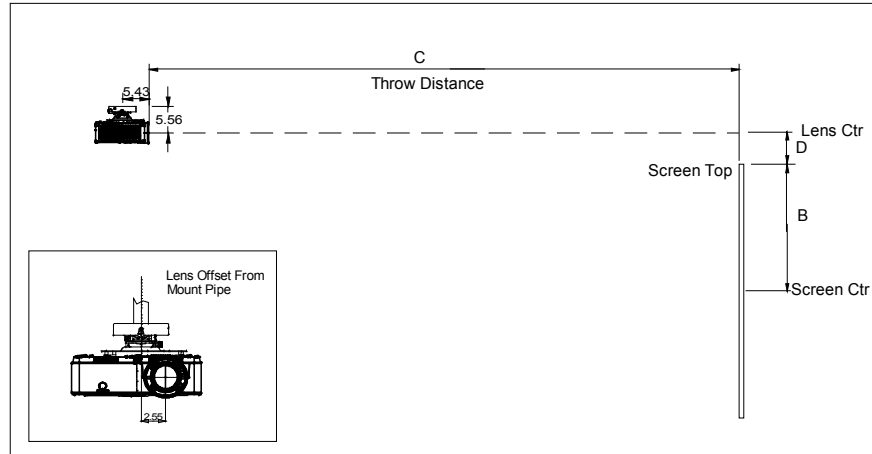
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### Diagrams and Distance Charts for MC372X

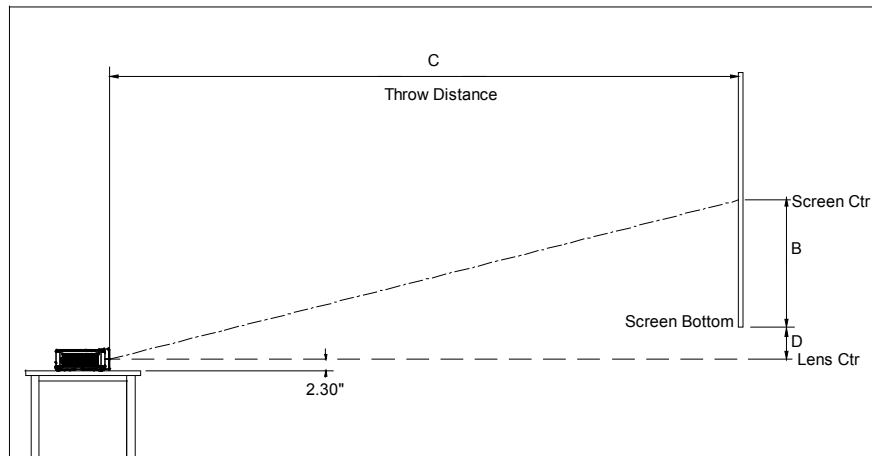
The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.

Distances are in inches. For millimeters multiply by 25.4.

#### Ceiling Mounted



#### Desktop



#### Distance Chart for popular 4:3 screens

##### 4:3 Screen Formulas:

$W = \text{Image Width} = H \times 4/3$

$H = \text{Image Height} = W \times 3/4$

$\text{Screen Diagonal} = W \times 5/4$

##### Projection Formulas:

$B = 0.268W$

$C (\text{wide}) = 1.47W - 0.08$

$C (\text{tele}) = 1.798W - 0.1$

$D = -0.11W$

$\alpha (\text{wide}) = \tan^{-1} (B/C(\text{wide}))$

$\alpha (\text{tele}) = \tan^{-1} (B/C(\text{tele}))$

**Note:** For screen sizes not indicated on the projection tables, use the formulas on page 1.

Screen Size (4:3)			B	C		D	$\alpha$	
Diagonal	Width (W)	Height (H)	inches	wide - tele		inches	wide - tele	
inches	inches	inches	inches	inches	inches	inches	degrees	degrees
57	46	34	12	68	- 82	-5	10.2	- 8.5
66	53	40	14	79	- 95	-6	10.2	- 8.5
68	54	41	15	81	- 98	-6	10.2	- 8.5
75	60	45	16	90	- 108	-7	10.2	- 8.5
79	63	47	17	95	- 114	-7	10.2	- 8.5
85	68	51	18	102	- 122	-7	10.2	- 8.5
92	74	55	20	110	- 132	-8	10.2	- 8.5
98	78	59	21	117	- 141	-9	10.2	- 8.5
102	82	61	22	122	- 147	-9	10.2	- 8.5
111	89	67	24	133	- 160	-10	10.2	- 8.5
113	90	68	24	135	- 162	-10	10.2	- 8.5
123	98	74	26	147	- 177	-11	10.2	- 8.5
125	100	75	27	150	- 180	-11	10.2	- 8.5
147	118	88	32	176	- 211	-13	10.2	- 8.5
149	119	89	32	178	- 214	-13	10.2	- 8.5
213	170	128	46	255	- 306	-19	10.2	- 8.5
255	204	153	55	305	- 367	-22	10.2	- 8.5

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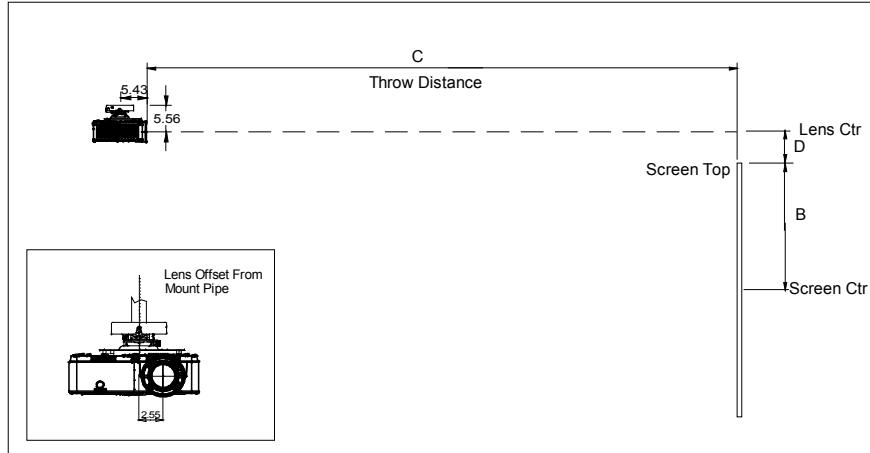
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#### Diagrams and Distance Charts for ME402X

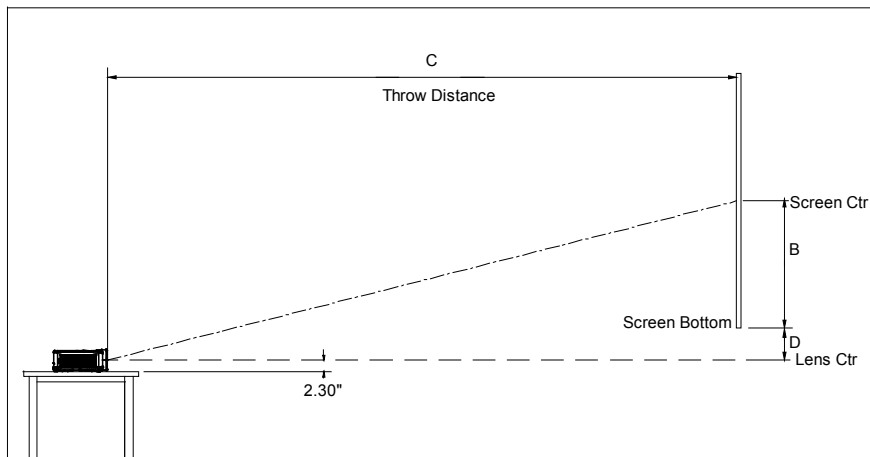
The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.

Distances are in inches. For millimeters multiply by 25.4.

#### Ceiling Mounted



#### Desktop



#### Distance Chart for popular 4:3 screens

##### 4:3 Screen Formulas:

$W = \text{Image Width} = H \times 4/3$

$H = \text{Image Height} = W \times 3/4$

$\text{Screen Diagonal} = W \times 5/4$

##### Projection Formulas:

$B = 0.258W$

$C (\text{wide}) = 1.368W - 1.82$

$C (\text{tele}) = 2.269W - 1.82$

$D = -0.10W$

$\alpha (\text{wide}) = \tan^{-1} (B/C(\text{wide}))$

$\alpha (\text{tele}) = \tan^{-1} (B/C(\text{tele}))$

**Note:** For screen sizes not indicated on the projection tables, use the formulas on page 1.

Screen Size (4:3)			B	C		D	$\alpha$	
Diagonal	Width(W)	Height(H)		wide - tele	tele		wide - tele	tele
inches	inches	inches	inches	inches	inches	inches	degrees	degrees
57	46	34	12	61	102	-5	11.0	6.6
66	53	40	14	70	118	-5	10.9	6.6
68	54	41	14	73	122	-5	10.9	6.6
75	60	45	15	80	134	-6	10.9	6.6
79	63	47	16	85	142	-6	10.9	6.6
85	68	51	18	91	152	-7	10.9	6.6
92	74	55	19	99	165	-7	10.9	6.6
98	78	59	20	105	176	-8	10.9	6.6
102	82	61	21	110	183	-8	10.9	6.6
111	89	67	23	120	200	-9	10.8	6.5
113	90	68	23	122	203	-9	10.8	6.5
123	98	74	25	133	221	-10	10.8	6.5
125	100	75	26	135	225	-10	10.8	6.5
147	118	88	30	159	265	-12	10.8	6.5
149	119	89	31	161	269	-12	10.8	6.5
213	170	128	44	231	385	-17	10.8	6.5
255	204	153	53	277	461	-20	10.7	6.5

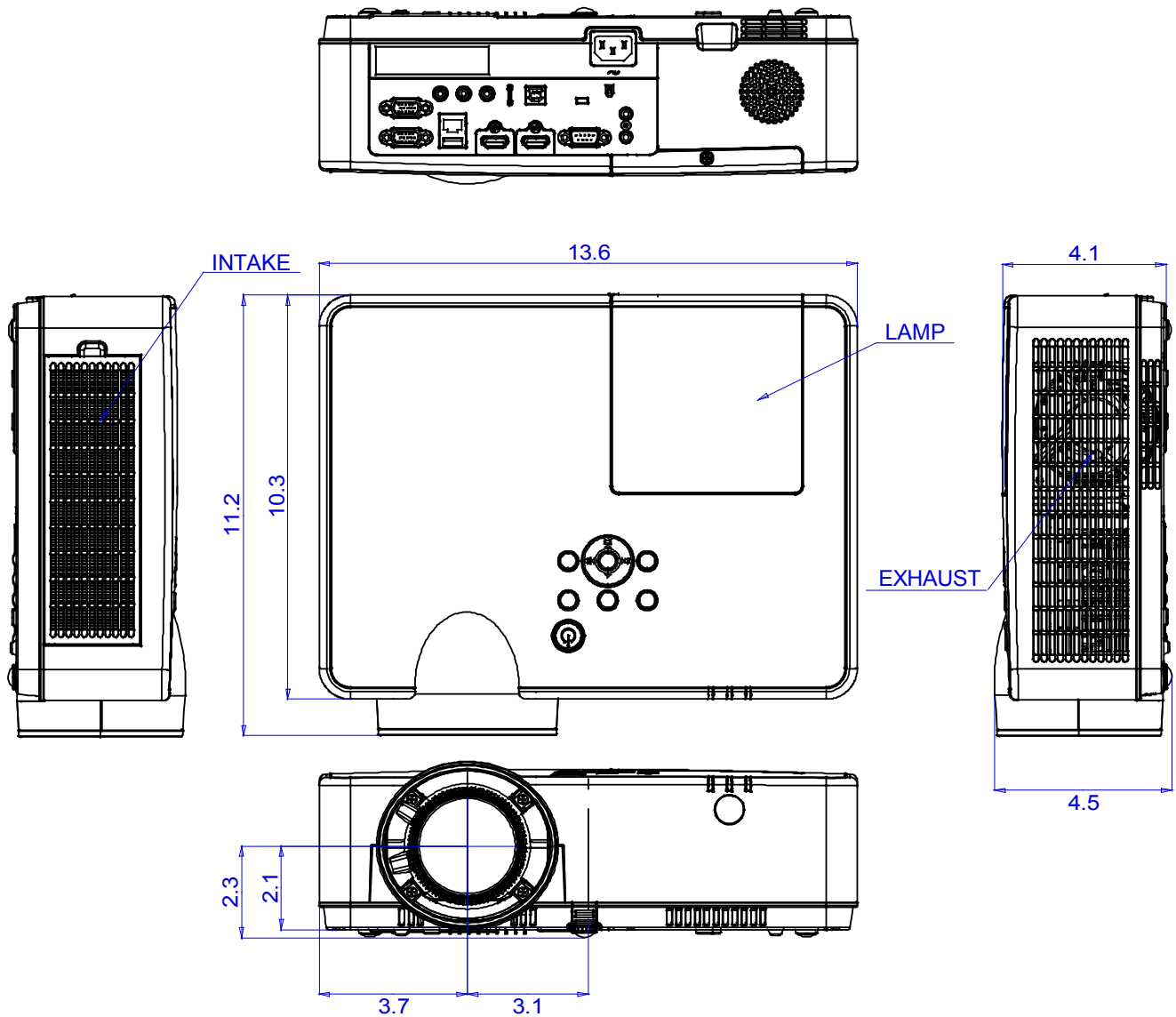
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### Cabinet Dimensions

The following drawings show the cabinet dimensions.  
Dimensions are in inches. For millimeters multiply by 25.4.



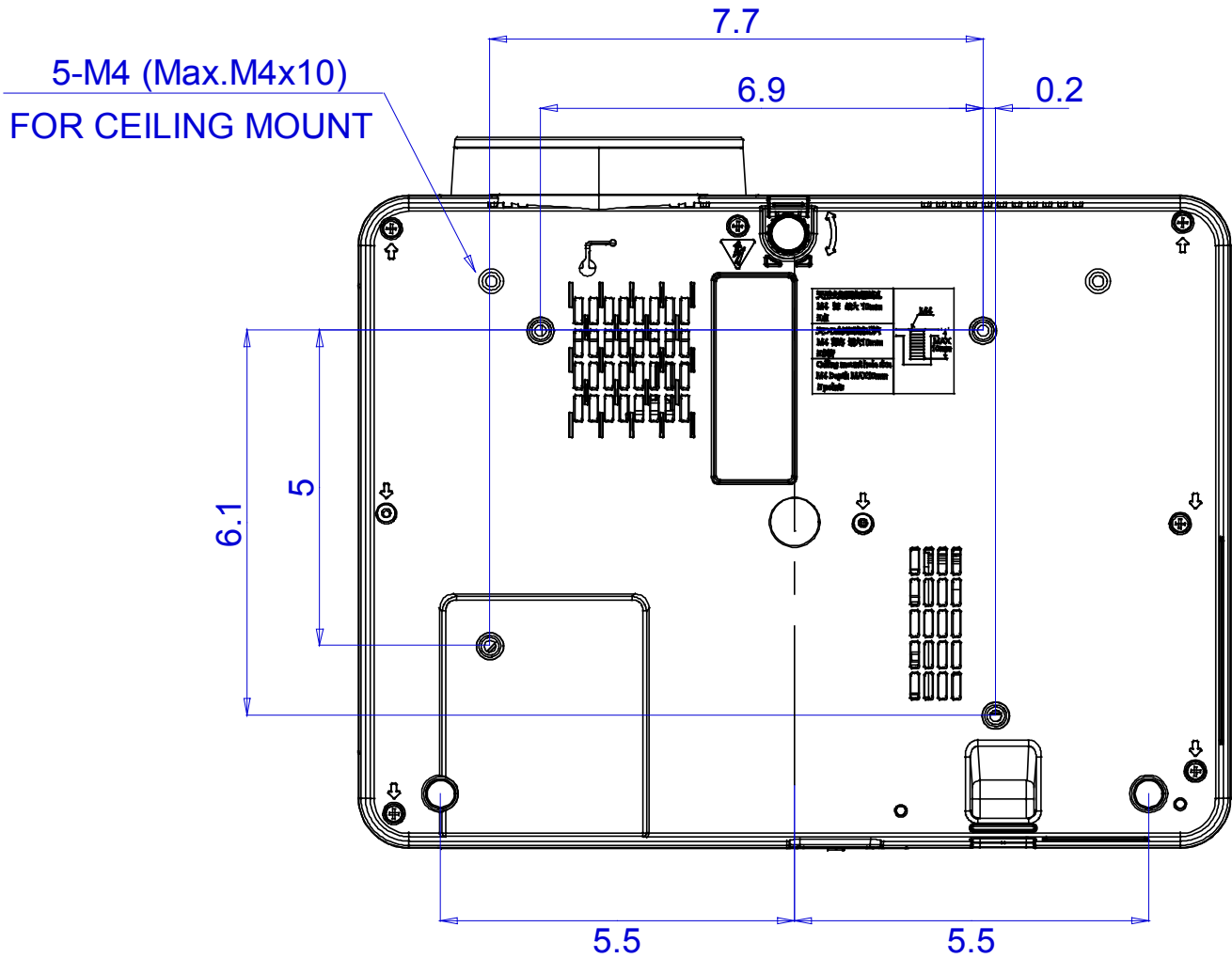
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### Cabinet Dimensions (continued)

The following drawings show the cabinet dimensions.  
Dimensions are in inches. For millimeters multiply by 25.4.



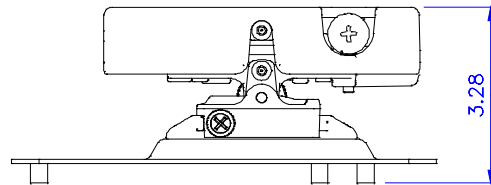
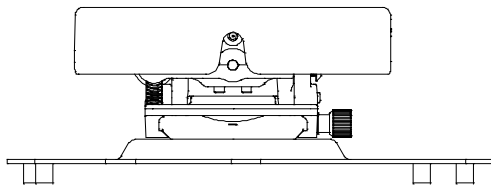
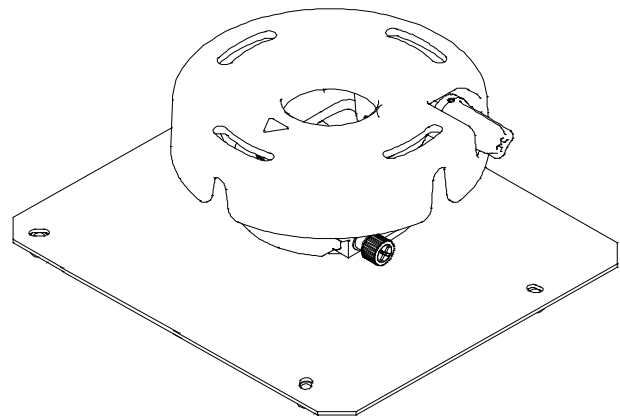
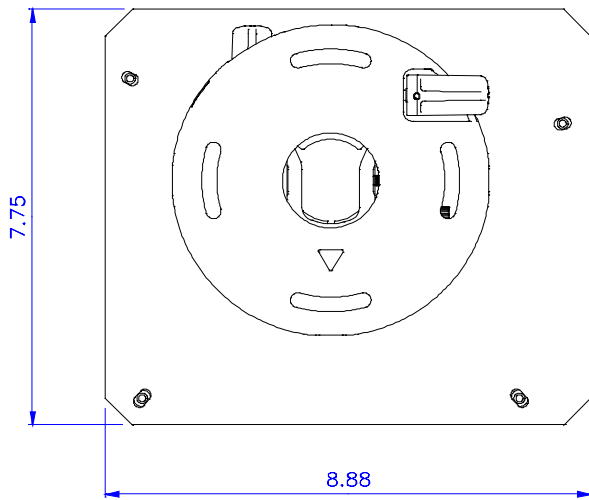
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### Optional Ceiling Mount Dimensions (Model #: MP300CM)

The following drawings show the ceiling mount dimensions.  
Dimensions are in inches. For millimeters multiply by 25.4.



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### Input / Output Panel



### PC Control Codes

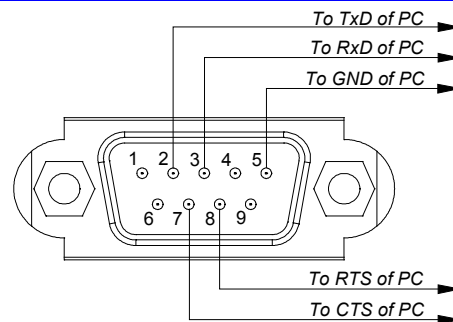
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER1	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT HDMI 1	02H 03H 00H 00H 02H 01H 1AH 22H
INPUT SELECT HDMI 2	02H 03H 00H 00H 02H 01H 1BH 23H
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT SELECT VIEWER (USB-A)	02H 03H 00H 00H 02H 01H 1FH 27H
INPUT SELECT NETWORK	02H 03H 00H 00H 02H 01H 20H 28H
INPUT SELECT USB DISPLAY (USB-B)	02H 03H 00H 00H 02H 01H 22H 2AH
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H
SOUND MUTE ON	02H 12H 00H 00H 00H 14H
SOUND MUTE OFF	02H 13H 00H 00H 00H 15H
PROJECTOR INFORMATION REQUEST	00H BFH 00H 00H 01H 02H C2H
ERROR STATUS REQUEST	00H 88H 00H 00H 00H 88H
INFORMATION REQUEST	03H 8AH 00H 00H 00H 8DH

**Note:** Contact your NEC rep for codes not listed.

### Cable Connection

#### Communication Protocol:

Baud Rate: 38400 bps  
 Data Length: 8 bits  
 Parity: No Parity  
 Stop Bit: One Bit  
 X on/off: None  
 Communications: Full duplex



#### PC Control Connector (D-Sub 9P)

**NOTE 1:** Pins 1, 4, 6, and 9 are used inside the projector.

**NOTE 2:** For long cable runs it is recommended to set communication speed within the projector to 9600 bps.

**NOTE 3:** Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.