

## MT1055/1056 Installation Data with Optional MT13ZL Short Focus Zoom Lens

v 3.0

### Contents

Product Description, Lens Specs, Notes and Formulas	Page 1
Projection Distances and Screen Sizes	
Ceiling Mount Installation	Page 2
Desktop Setup	Page 3
Cabinet Dimensions	
Top, Front and Right Side	Page 4
Bottom, Back and Left Side	Page 5
Ceiling Mount Dimensions	Page 6
Control Codes	Page 7

### Product Description

Type:	3 panel, 1.3" p-Si TFT w/MLA LCD Projector	Dimensions:	11.1"(W) x 4.8"(H) x 16.8"(D) (w/lens installed)
Native Resolution:	1024 x 768	Weight:	17.4 lbs (w/lens installed)
Brightness:	3000 ANSI Lumens (2600 for MT1055)	Manual Focus/Manual Zoom	

### MT13ZL Lens Specifications

Throw Ratio:	1.3 – 1.6 : 1 (approx)	Focal Length:	35 – 43mm
Offset Angle:	13.9° – 14.6(Wide) / 11.4° – 11.8(Tele)	F/#:	2.3 – 2.8
Screen Sizes:	40 – 300" Diagonal		

### 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.
- The ceiling must be strong enough to support the LCD projector and the installation must be in accordance with any local building codes.
- All calculations are based on 4:3 aspect ratio.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary  $\pm 5\%$ .

### Formulas

**Units: Inches** (for millimeters multiply final number by 25.4)

#### Definitions:

**H** = Horizontal Screen Width (4:3)  
**V** = Vertical Screen Height (4:3)  
**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)  
 $\alpha$  = Throw Angle

#### Projection Formulas:

$B = 0.3193H$   
 $C \text{ (wide)} = 1.2996H - 2.325$   
 $C \text{ (tele)} = 1.5985H - 2.325$   
 $D = 0.0557H$   
 $\alpha \text{ (wide)} = \tan^{-1} (B/C \text{ (wide)})$   
 $\alpha \text{ (tele)} = \tan^{-1} (B/C \text{ (tele)})$

#### Screen Formulas (4:3):

$H = \text{Screen Diagonal} \times 4/5$   
 $V = \text{Screen Diagonal} \times 3/5$   
 $\text{Screen Diagonal} = H \times 5/4$

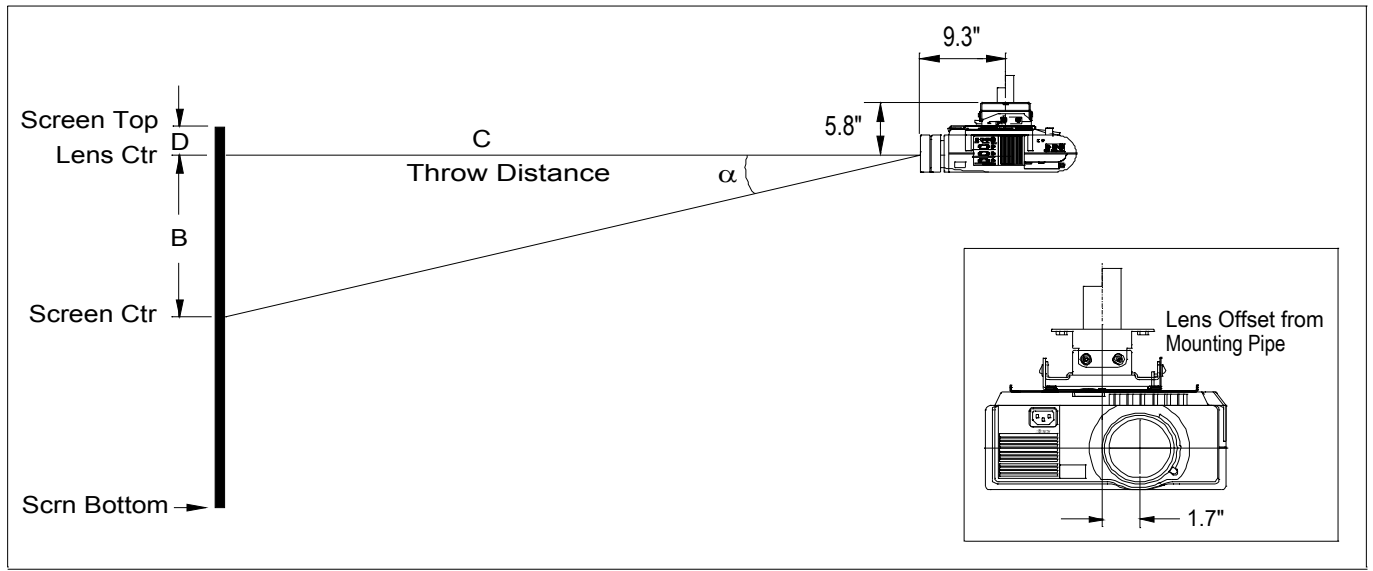
**MT1055/1056 Installation Data**  
with Optional MT13ZL Short Focus Zoom Lens

v 3.0

**Projection Distance and Screen Size for Ceiling Mount**

The following shows the proper relative position of the projector and screen. Refer to the table for installation data. Distances are in inches. For millimeters multiply by 25.4.

**Ceiling Mount Installation**



**Distance Chart**

Diagonal	Screen Size		B	C wide - tele	D	α wide - tele
	Width	Height				
40"	32"	24"	10.2"	39.3" - 48.8"	1.8"	14.6° - 11.8°
60"	48"	36"	15.3"	60.1" - 74.4"	2.7"	14.3° - 11.6°
67"	53.6"	40.2"	17.1"	67.3" - 83.4"	3.0"	14.3° - 11.6°
72"	57.6"	43.2"	18.4"	72.5" - 89.8"	3.2"	14.2° - 11.6°
84"	67.2"	50.4"	21.5"	85.0" - 105.1"	3.7"	14.2° - 11.5°
90"	72"	54"	23.0"	91.2" - 112.8"	4.0"	14.1° - 11.5°
100"	80"	60"	25.5"	101.6" - 125.6"	4.5"	14.1° - 11.5°
120"	96"	72"	30.6"	122.4" - 151.1"	5.4"	14.1° - 11.5°
150"	120"	90"	38.3"	153.6" - 189.5"	6.7"	14.0° - 11.4°
180"	144"	108"	46.0"	184.8" - 227.9"	8.0"	14.0° - 11.4°

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

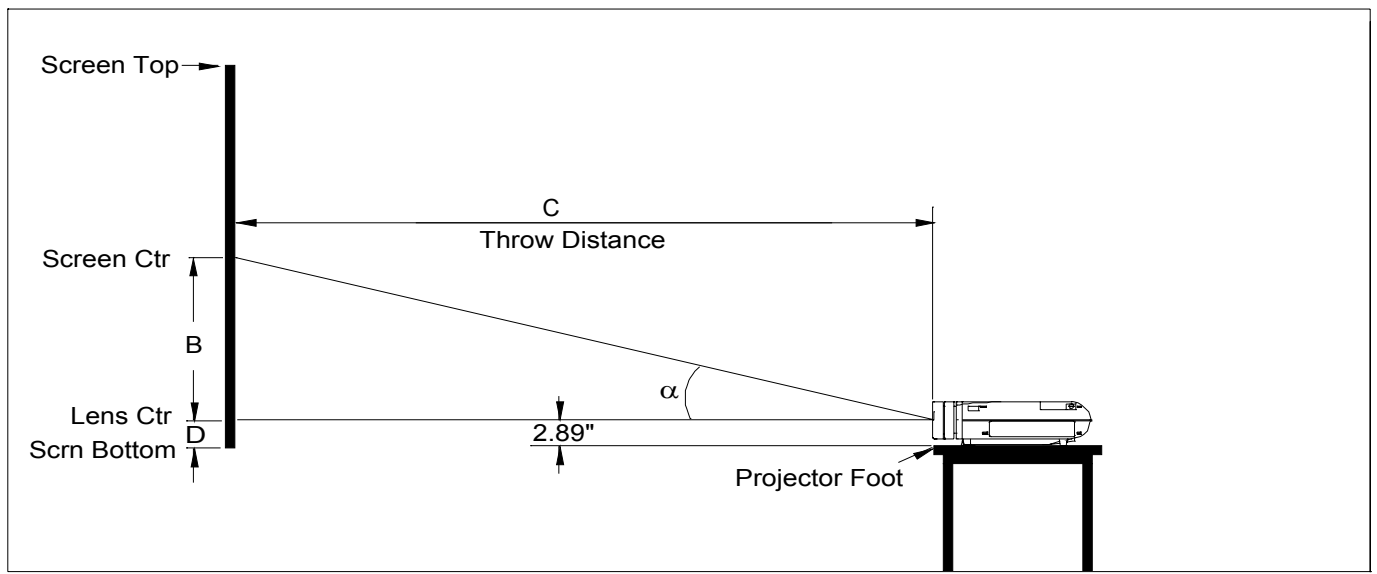
**MT1055/1056 Installation Data**  
with Optional MT13ZL Short Focus Zoom Lens

v 3.0

**Projection Distance and Screen Size for Desktop**

The following diagram shows the relationship between projector position and the screen.  
Distances are in inches. For millimeters multiply by 25.4.

**Desktop Setup**



**Distance Chart**

Diagonal	Screen Size		B	C wide - tele	D	α wide - tele
	Width	Height				
40"	32"	24"	10.2"	39.3" - 48.8"	1.8"	14.6° - 11.8°
60"	48"	36"	15.3"	60.1" - 74.4"	2.7"	14.3° - 11.6°
67"	53.6"	40.2"	17.1"	67.3" - 83.4"	3.0"	14.3° - 11.6°
72"	57.6"	43.2"	18.4"	72.5" - 89.8"	3.2"	14.2° - 11.6°
84"	67.2"	50.4"	21.5"	85.0" - 105.1"	3.7"	14.2° - 11.5°
90"	72"	54"	23.0"	91.2" - 112.8"	4.0"	14.1° - 11.5°
100"	80"	60"	25.5"	101.6" - 125.6"	4.5"	14.1° - 11.5°
120"	96"	72"	30.6"	122.4" - 151.1"	5.4"	14.1° - 11.5°
150"	120"	90"	38.3"	153.6" - 189.5"	6.7"	14.0° - 11.4°
180"	144"	108"	46.0"	184.8" - 227.9"	8.0"	14.0° - 11.4°

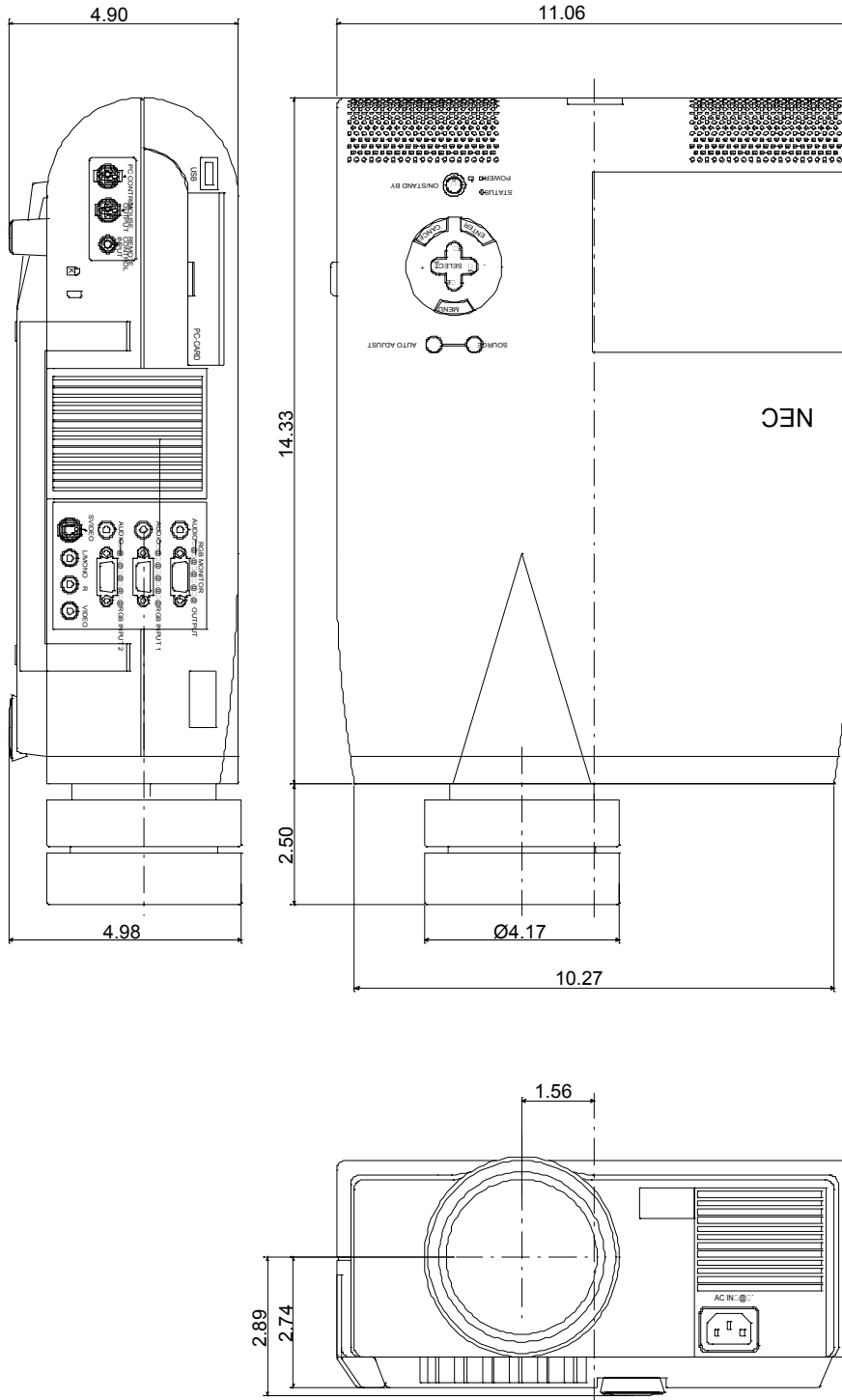
**Note:** For screen sizes not indicated on the projection tables, use the formulas on page 1.

## MT1055/1056 Installation Data with Optional MT13ZL Short Focus Zoom Lens

v 3.0

### Cabinet Dimensions

The following diagrams show the cabinet dimensions for the MT1055/1056 with optional MT13ZL lens. Dimensions are in inches. For millimeters multiply by 25.4.

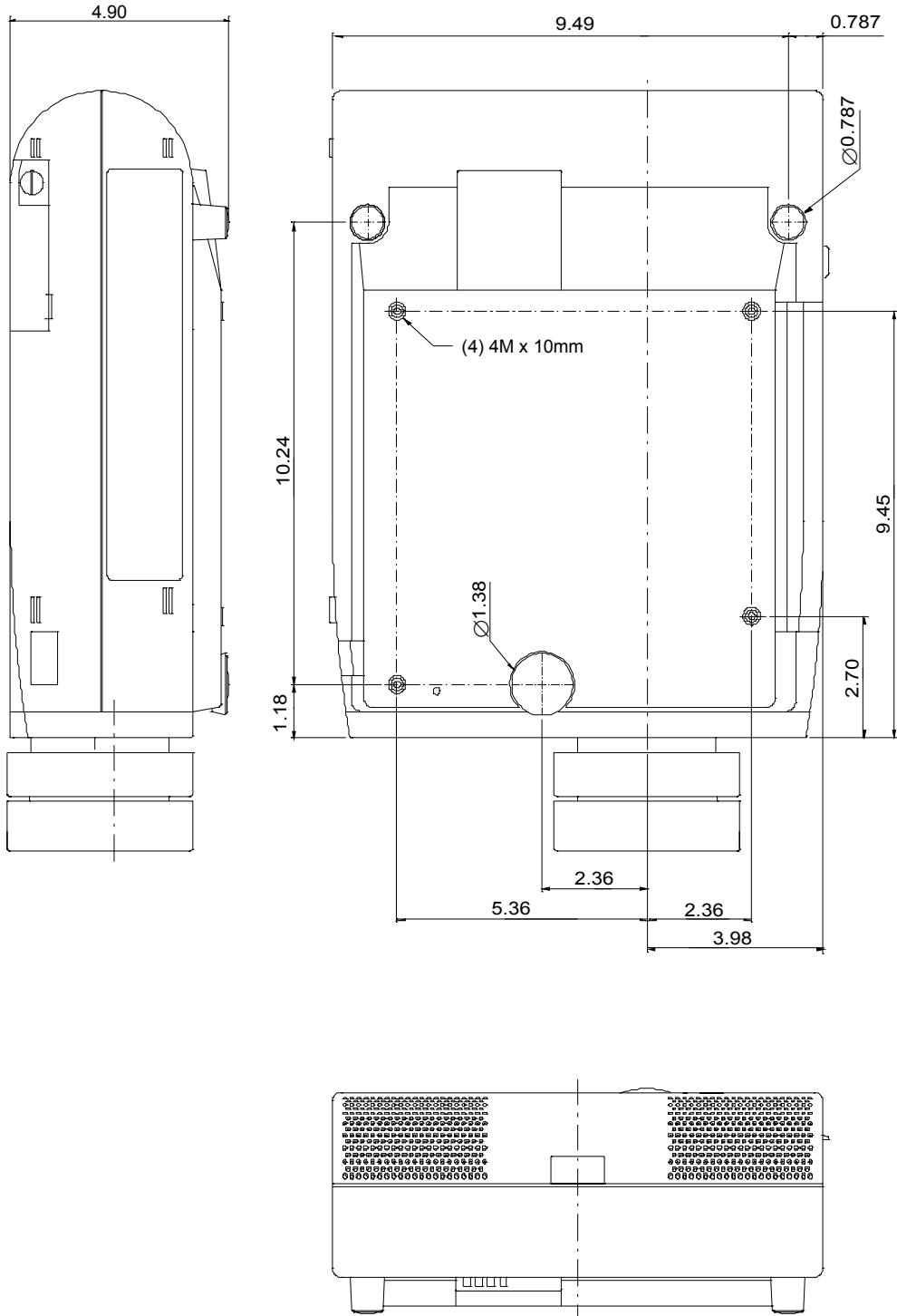


## MT1055/1056 Installation Data with Optional MT13ZL Short Focus Zoom Lens

v 3.0

### Cabinet Dimensions (continued)

The following diagrams show the cabinet dimensions for the MT1055/1056 with optional MT13ZL lens. Dimensions are in inches. For millimeters multiply by 25.4.

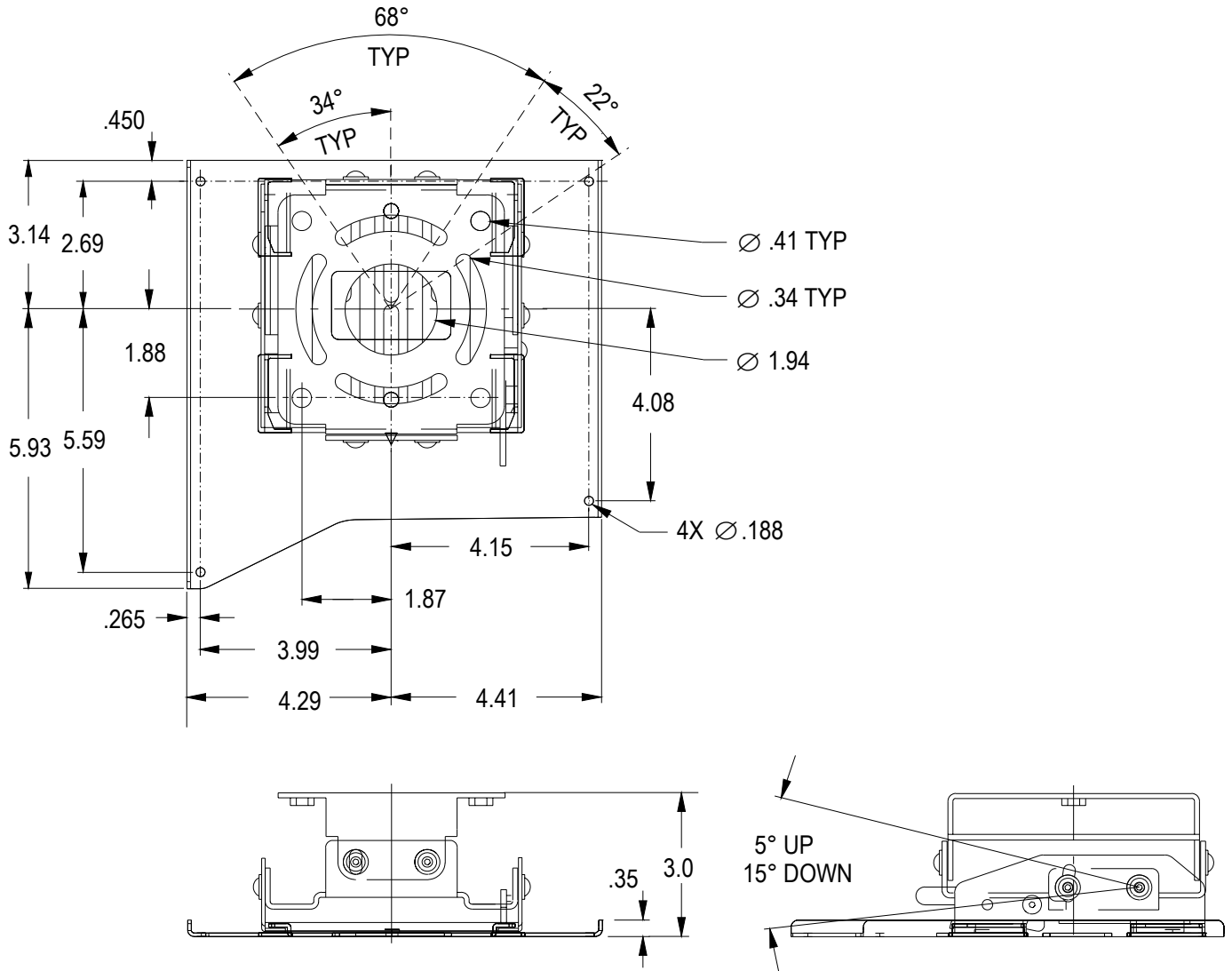


**MT1055/1056 Installation Data**  
with Optional MT13ZL Short Focus Zoom Lens

v 3.0

**Ceiling Mount Dimensions (Model #: MTCM)**

The following diagrams show ceiling mount dimensions for the MT850/1050/1055/1056. Dimensions are in inches. For millimeters multiply by 25.4.



## MT1055/1056 Installation Data with Optional MT13ZL Short Focus Zoom Lens

v 3.0

### Control Codes

Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT RGB1	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT RGB2	02H 03H 00H 00H 02H 01H 02H 0AH
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT SELECT S-VIDEO	02H 03H 00H 00H 02H 01H 0BH 13H
INPUT SELECT PC CARD VIEWER	02H 03H 00H 00H 02H 01H 1FH 27H
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
ON SCREEN MUTE ON	02H 14H 00H 00H 00H 16H
ON SCREEN MUTE OFF	02H 15H 00H 00H 00H 17H

### Cable Connection

Communication Protocol:

Baud Rate: 38400 bps

Data Length: 8 bits

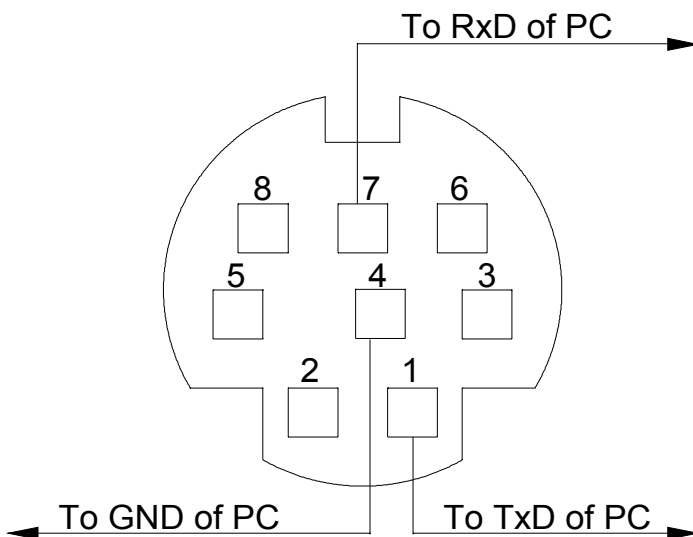
Parity: No Parity

Stop Bit: One bit

X on/off: None

Communications: Full duplex

### PC Control Connector (DIN-8P)



**NOTE 1:** Pins 2, 3, 5, 6 and 8 are used inside the projector.

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