
**Approved as an American National Standard**
**ANSI Approval Date: August 20, 2008**

# NEMA Standards Publication ANSI/NEMA WD 6-2002 (R2008)

*Wiring Devices—Dimensional Specifications*

## Excerpt: Dimensions for Wiring Devices

*Published by*

**National Electrical Manufacturers Association**
1300 North 17th Street
Suite 1752
Rosslyn, Virginia 22209

www.nema.org

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# Foreword

The purpose of these Standards is to present the dimensional requirements of wiring devices in order to assist the user in selecting and obtaining the proper product for a particular need and to minimize the possibility of unsafe interchangeability between configurations.

In the preparation of this Standards Publication, input of users and other interested parties has been sought and evaluated. User input will be formally sought by the canvas procedures of the American National Standards Institute.

The Communications Department has worked closely with the Engineering Department and with individual NEMA Subdivisions in the drafting of this manual and acknowledges the need for periodic review and updating. Proposed or recommended revisions should be submitted to:

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Publication ANSI/NEMA WD 6-2002 revises and supersedes NEMA Standards Publication WD 6-1997.

## Scope

These Standards cover dimensional requirements for plugs and receptacles rated up to 60 Ampere and 600 Volts. They also include dimensions for wall plates.

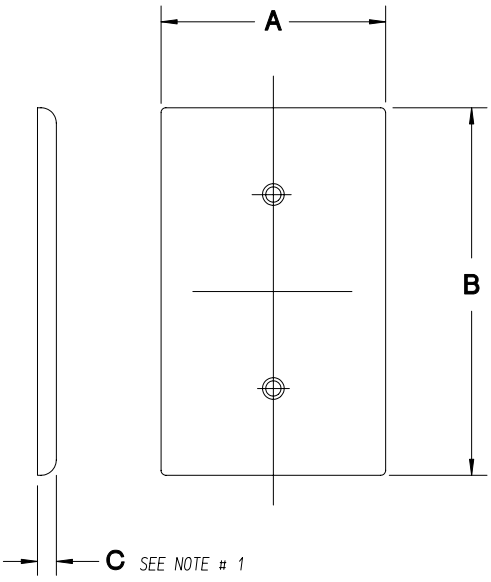
These Standards do not cover performance or other requirements since these are included in NEMA Standards Publication WD 1, *General Requirements for Wiring Devices*.

# Introduction

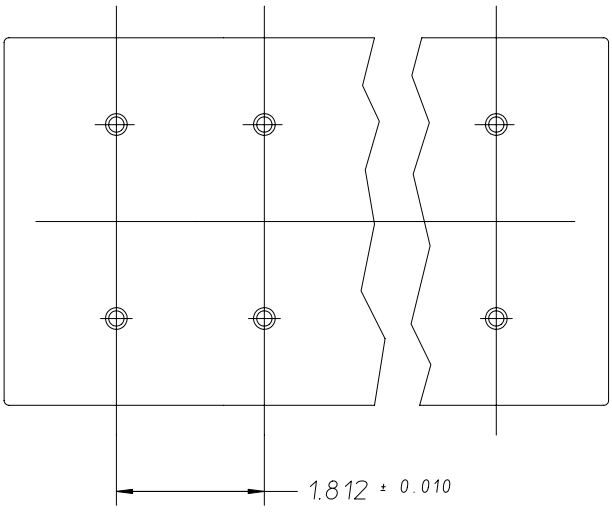
Throughout this publication the following shall apply:

1. All dimensions are in inches, unless otherwise specified.
2. Decimal dimensions without tolerances shall be subject to a plus or minus 0.005-inch tolerance.
3. Angular dimensions without tolerances shall be subject to a plus or minus 1 degree tolerance.
4. “G” denotes equipment ground.
5. “W” denotes system ground.
6. Leading edges of plug blades shall be free of burrs and sharp edges.
7. All slots and slot tolerances are symmetrically located about centerlines.
8. Female contacts associated with plug blades that are 0.125 minimum longer than other blades are engaged prior to the other female contacts.
9. Configurations utilized on alternating current systems are limited to 50 or 60 Hertz, unless otherwise specified.
10. Dimensions shown in these standards are for the purpose of interchangeability, and do not preclude other designs.
11. The electrical ratings of the configurations in these standards are AC and DC, unless specifically stated ‘AC’ or ‘DC.

# DIMENSIONAL SPECIFICATIONS FOR WALLPLATES




SINGLE–GANG WALLPLATE
OVERALL DIMENSIONS




MULTIGANG WALLPLATE HORIZONTAL HOLE SPACING.
FOR VERTICAL HOLE SPACING SEE PAGE 3.

| REFERENCE | MATERIAL | STANDARD DIMENSIONS | |
|---|---|---|---|
| | | MIN | MAX |
| A | ALL | 2.740 | — |
| B | ALL | 4.490 | — |

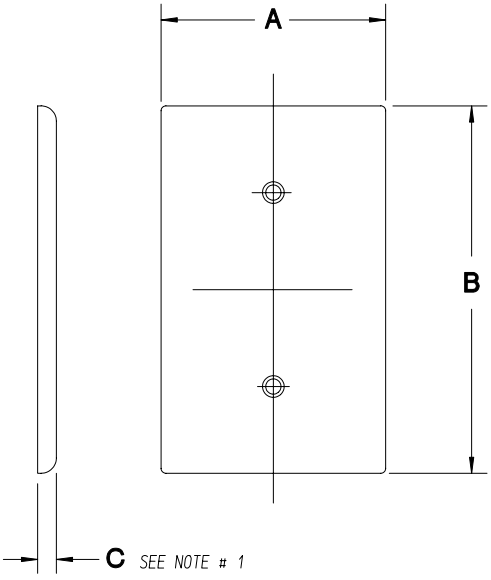
## NOTES:

1– THE DEPTH IS DEFINED IN ACCORDANCE TO THE APPLICABLE INSTALLATION CODE BY THE AUTHORITY HAVING JURISDICTION. DECORATIVE CONTOURS SHOULD NOT PRECLUDE THE FLUSH SEATING OF A PLUG INTO A RECEPTACLE.

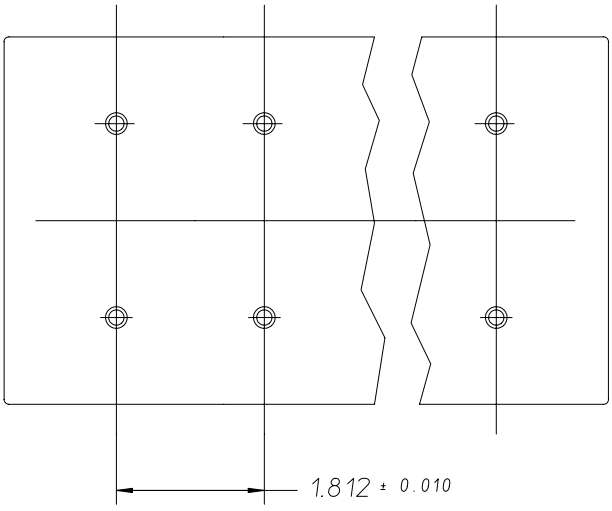
2– PLATE MOUNTING HOLES TO BE COUNTER–SUNK FOR # 6–32 UNC, OVAL HEAD MACHINE SCREW.

3– RIBS ARE OPTIONAL ON NON–METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

# DIMENSIONAL SPECIFICATIONS FOR WALLPLATES USED ON 347 V SWITCH DEVICES




SINGLE-GANG WALLPLATE
OVERALL DIMENSIONS




MULTIGANG WALLPLATE HORIZONTAL HOLE SPACING.
FOR VERTICAL HOLE SPACING SEE PAGE 3.

| REFERENCE | MATERIAL | STANDARD DIMENSIONS | |
|---|---|---|---|
| | | MIN | MAX |
| A | ALL | 3.120 | — |
| B | ALL | 4.870 | — |

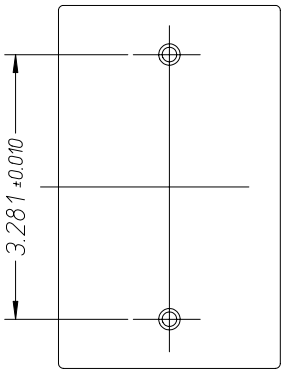
## NOTES:

1- THE DEPTH IS DEFINED IN ACCORDANCE TO THE APPLICABLE INSTALLATION CODE BY THE AUTHORITY HAVING JURISDICTION. DECORATIVE CONTOURS SHOULD NOT PRECLUDE THE FLUSH SEATING OF A PLUG INTO A RECEPTACLE.

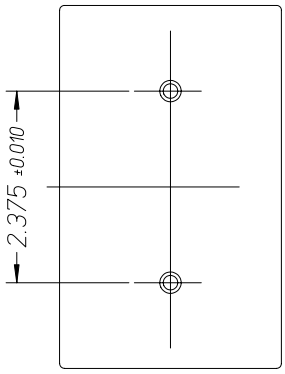
2- PLATE MOUNTING HOLES TO BE COUNTER-SUNK FOR # 6-32 UNC, OVAL HEAD MACHINE SCREW.

3- RIBS ARE OPTIONAL ON NON-METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

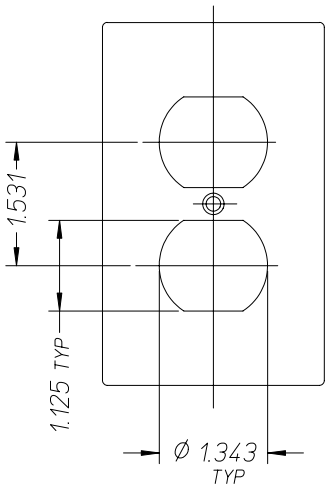
# MOUNTING AND CUT–OUT DIMENSIONS



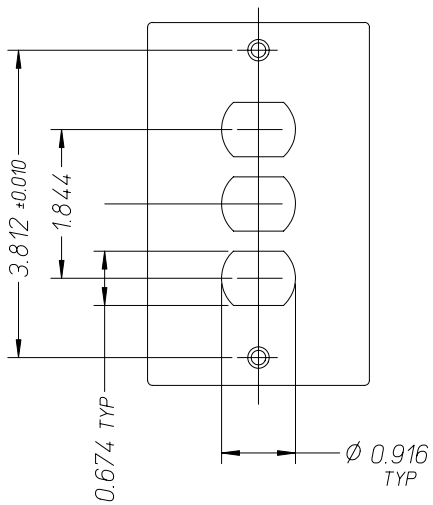

BOX MOUNT BLANK PLATE
(SEE NOTE # 3 )



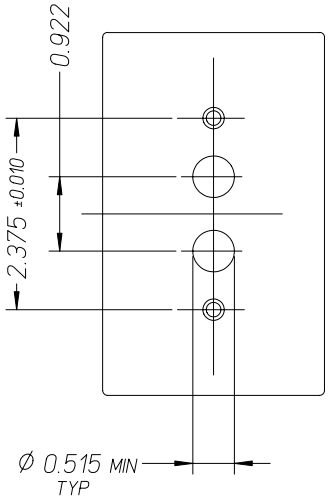

YOKE MOUNT BLANK PLATE
(SEE NOTE # 3 )




DUPLEX DEVICE




INTERCHANGEABLE
DEVICE




TWO BUTTON
PUSH SWITCH

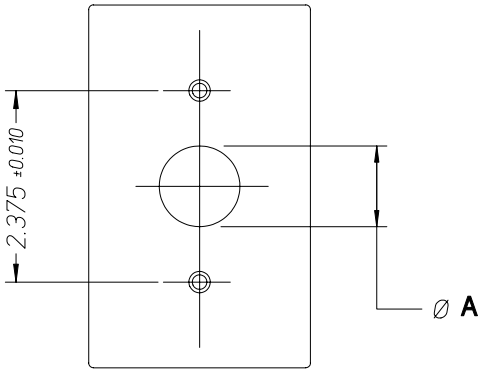
## NOTES:

1– PLATE MOUNTING HOLES TO BE COUNTER–SUNK FOR # 6–32 UNC, OVAL HEAD MACHINE SCREW.

2– RIBS ARE OPTIONAL ON NON–METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

3– BLANK PLATES MAY BE PROVIDED WITH KNOCK–OUTS.

# WALLPLATE DIMENSIONS FOR ROUND FACE DEVICES




| NOMINAL DIAMETER | DEVICE FACE DIAMETER | | WALLPLATE OPENING ( Ø A) | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| 1 | 0.968 | 1.000 | 1.009 | 1.025 |
| 1 1/8 | 1.093 | 1.125 | 1.134 | 1.150 |
| 1 1/4 | 1.205 | 1.235 | 1.245 | 1.263 |
| 1 3/8 | 1.360 | 1.390 | 1.396 | 1.414 |
| 1 9/16 | 1.550 | 1.580 | 1.586 | 1.604 |
| 1 5/8 | 1.610 | 1.640 | 1.646 | 1.664 |
| 1 11/16 | 1.675 | 1.705 | 1.711 | 1.729 |
| 2 1/8 | 2.093 | 2.125 | 2.140 | 2.156 |
| 2 1/4 | 2.218 | 2.250 | 2.265 * | 2.281 * |
| 2 7/16 | 2.405 | 2.437 | 2.452 * | 2.468 * |

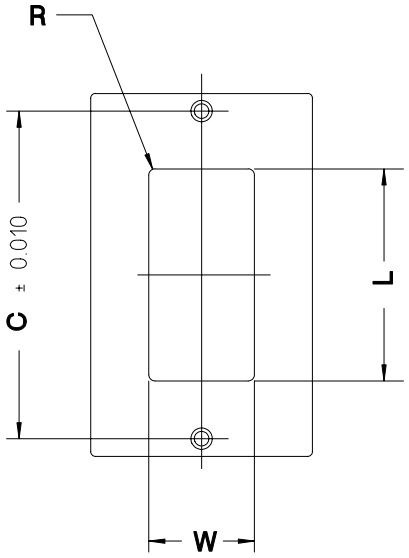
## NOTES:

1- PLATE MOUNTING HOLES TO BE COUNTER-SUNK FOR # 6-32 UNC, OVAL HEAD MACHINE SCREW.

2- RIBS ARE OPTIONAL ON NON-METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

3- DIMENSIONS WITH ASTERISK (*) APPLY TO MULTIGANG PLATES ONLY.

# *WALLPLATE DIMENSIONS FOR RECTANGULAR FACE DEVICES*



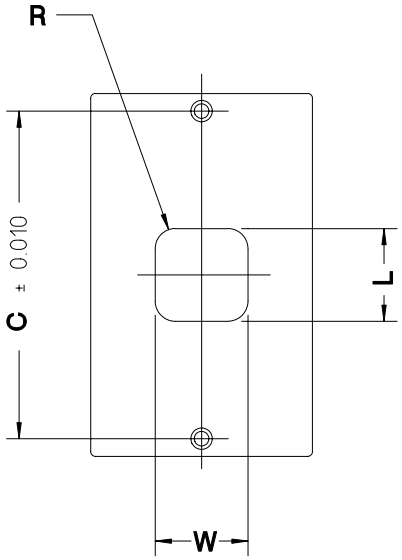

| *W MIN* | *L MIN* | *R* | *C* | *APPLICATION* ( DEVICE FACE ) |
|---|---|---|---|---|
| 1.310 | 2.630 | 0.079 | 4.062 | 1.300 MAX W x 2.620 MAX L (347 V SWITCH) |
| 1.310 | 2.630 | 0.094 | 3.812 | 1.300 MAX W x 2.620 MAX L |

*NOTES:*

*1– PLATE MOUNTING HOLES TO BE COUNTER–SUNK FOR # 6–32 UNC, OVAL HEAD MACHINE SCREW.*

*2– RIBS ARE OPTIONAL ON NON–METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.*

# WALLPLATE DIMENSIONS FOR TELEPHONE DEVICES



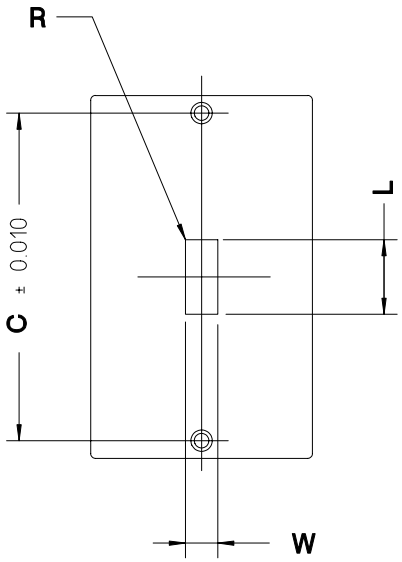

| W MIN | L MIN | R | C | APPLICATION ( DEVICE FACE ) |
|---|---|---|---|---|
| 1.150 | 1.150 | 0.250 | 2.375 | 1.140 MAX W x 1.140 MAX L |
| | | | | |

## NOTES:

1- PLATE MOUNTING HOLES TO BE COUNTER-SUNK FOR # 6-32 UNC, OVAL HEAD MACHINE SCREW.

2- RIBS ARE OPTIONAL ON NON-METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

# WALLPLATE DIMENSIONS FOR TOGGLE SWITCH DEVICES



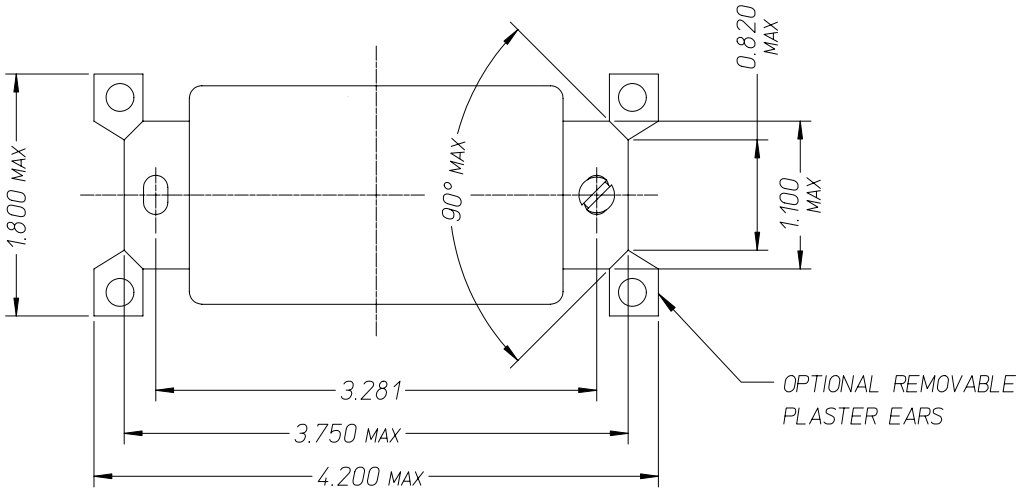

| W MIN | L MIN | R | C | APPLICATION |
|---|---|---|---|---|
| 0.401 | 0.925 | 0.000 | 2.375 | 120 V TO 600 V |
| | | | | |

NOTES:

1- PLATE MOUNTING HOLES TO BE COUNTER-SUNK FOR # 6-32 UNC, OVAL HEAD MACHINE SCREW.

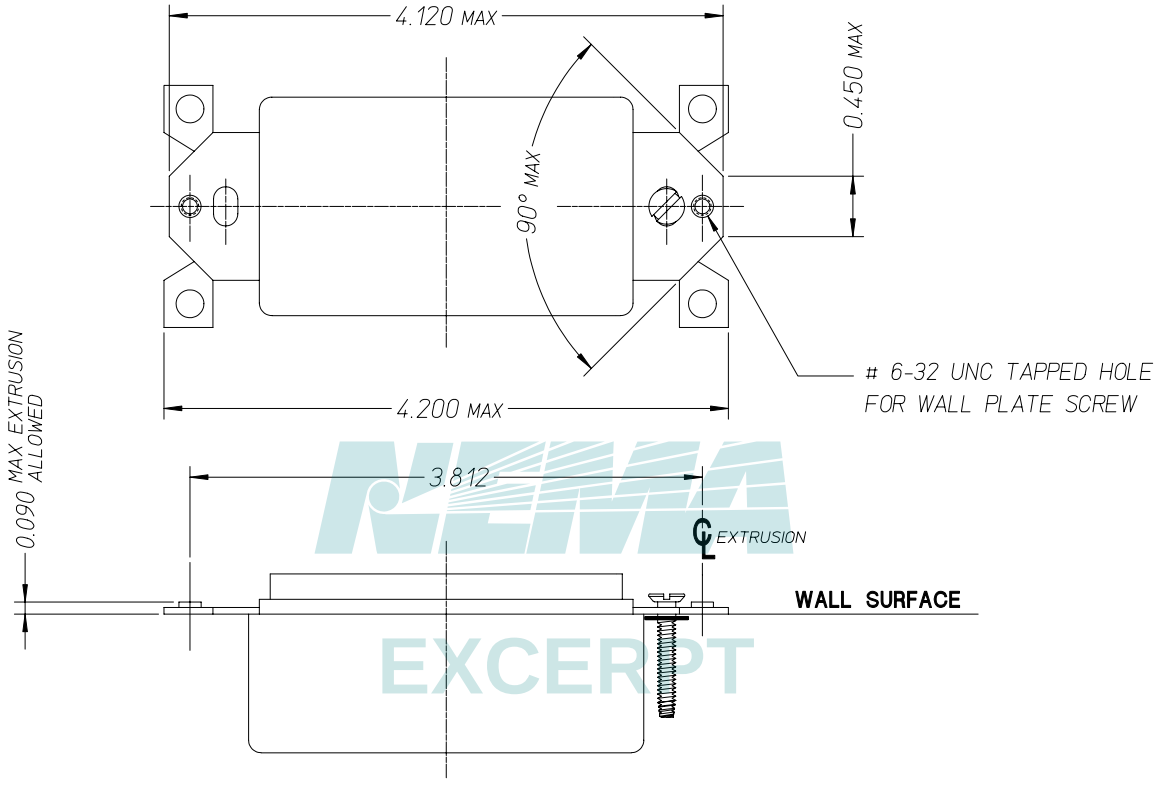
2- RIBS ARE OPTIONAL ON NON-METALLIC PLATES. HEIGHT, WIDTH, AND LOCATION OF RIBS SHALL CLEAR DEVICE FOR WHICH THE PLATE IS DESIGNED OR INTENDED FOR USE.

## *YOKE DIMENSIONS OF RECEPTACLES AND SWITCHES FOR BOX MOUNTING*

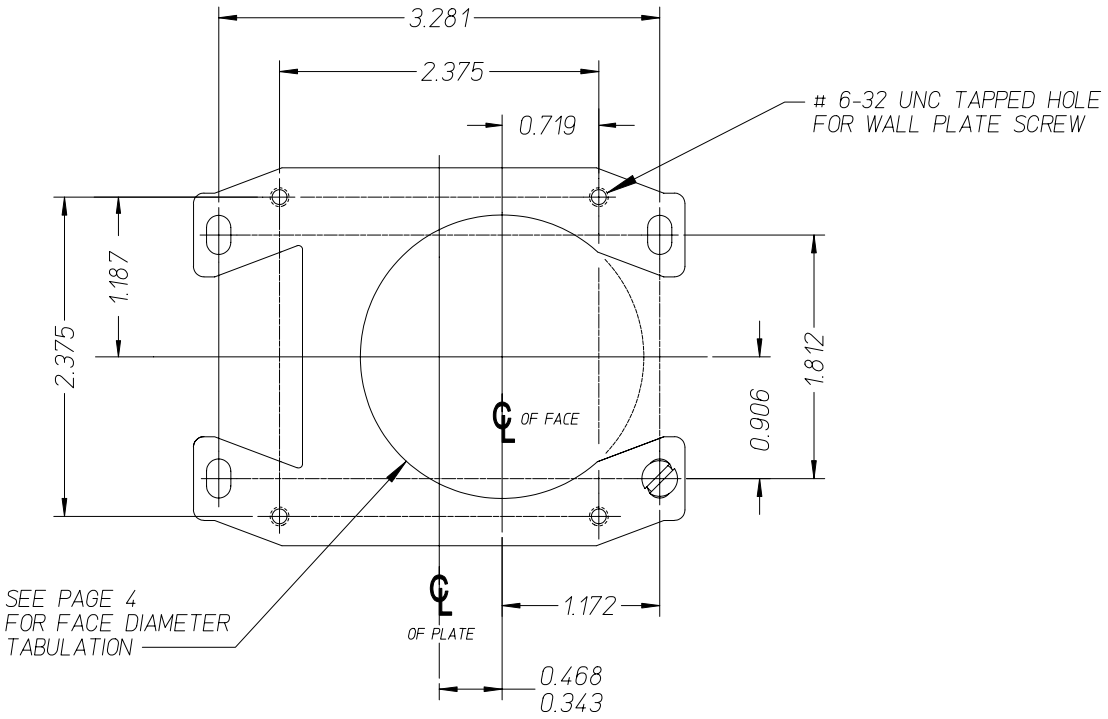



## *ALTERNATE YOKE CONSTRUCTION*

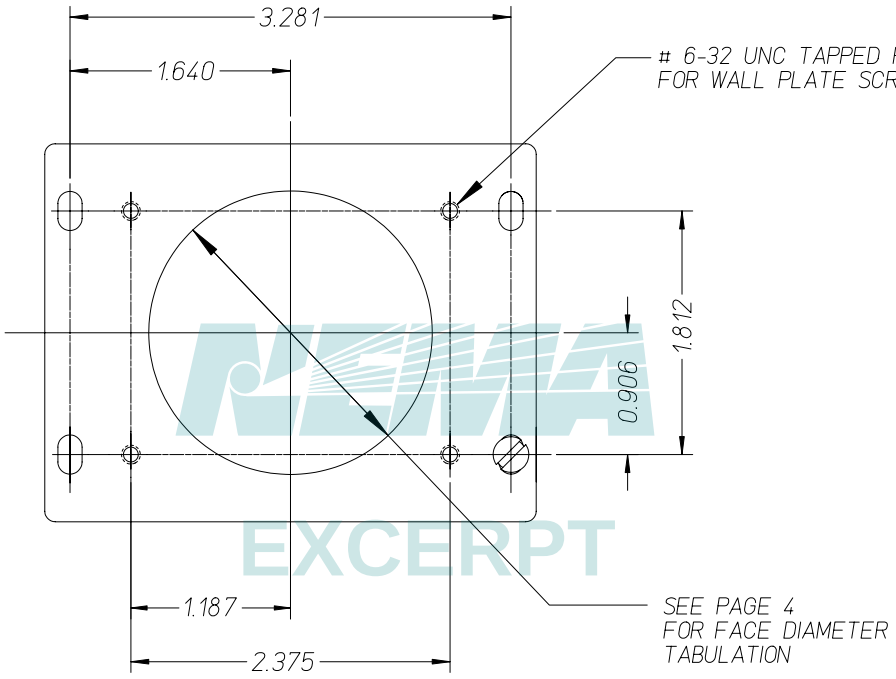
OTHER DIMENSIONS SAME AS ABOVE



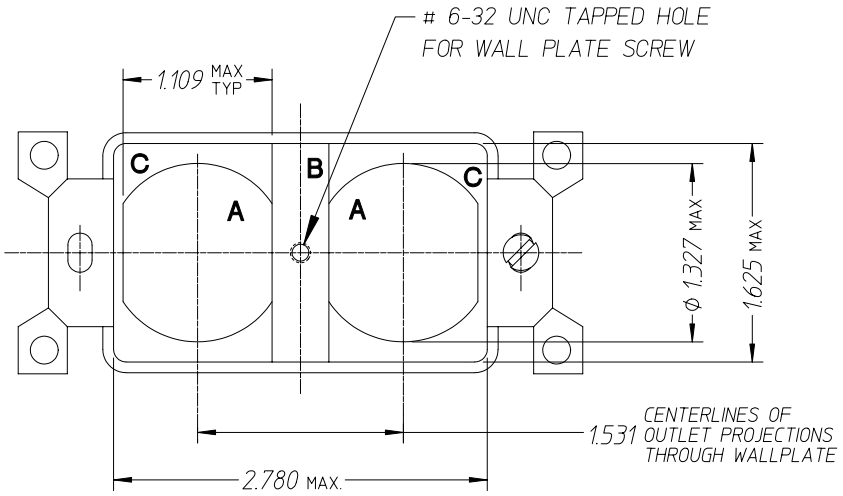
## YOKE DIMENSIONS FOR 2 GANG RECEPTACLE MOUNTING "OFF–CENTER FACE" TYPE

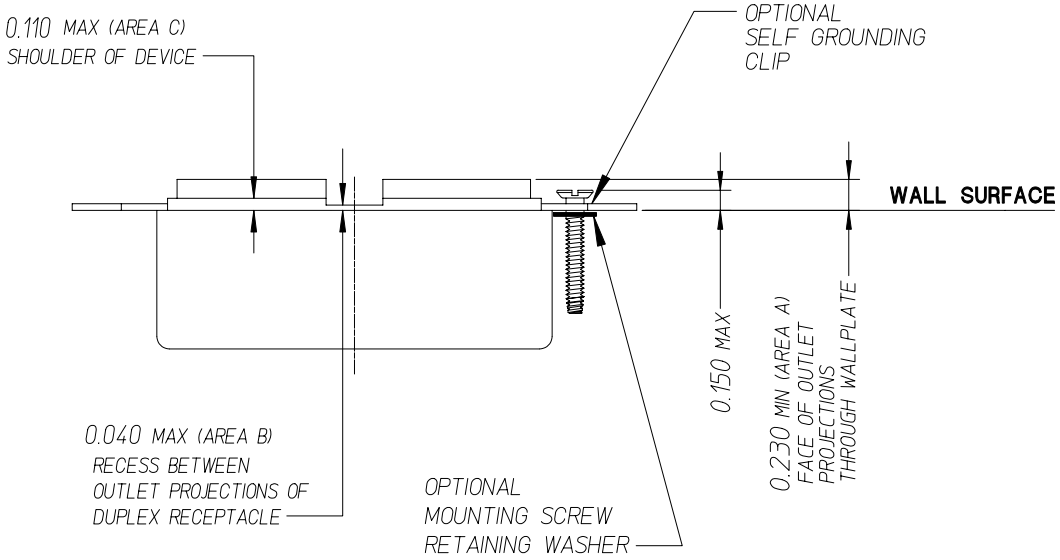



## YOKE DIMENSIONS FOR 2 GANG RECEPTACLE MOUNTING "ON–CENTER FACE" TYPE



# *DIMENSIONS FOR FLUSH MOUNT DUPLEX DEVICES RECEPTACLES, COMBINATION SWITCHES, ETC...*



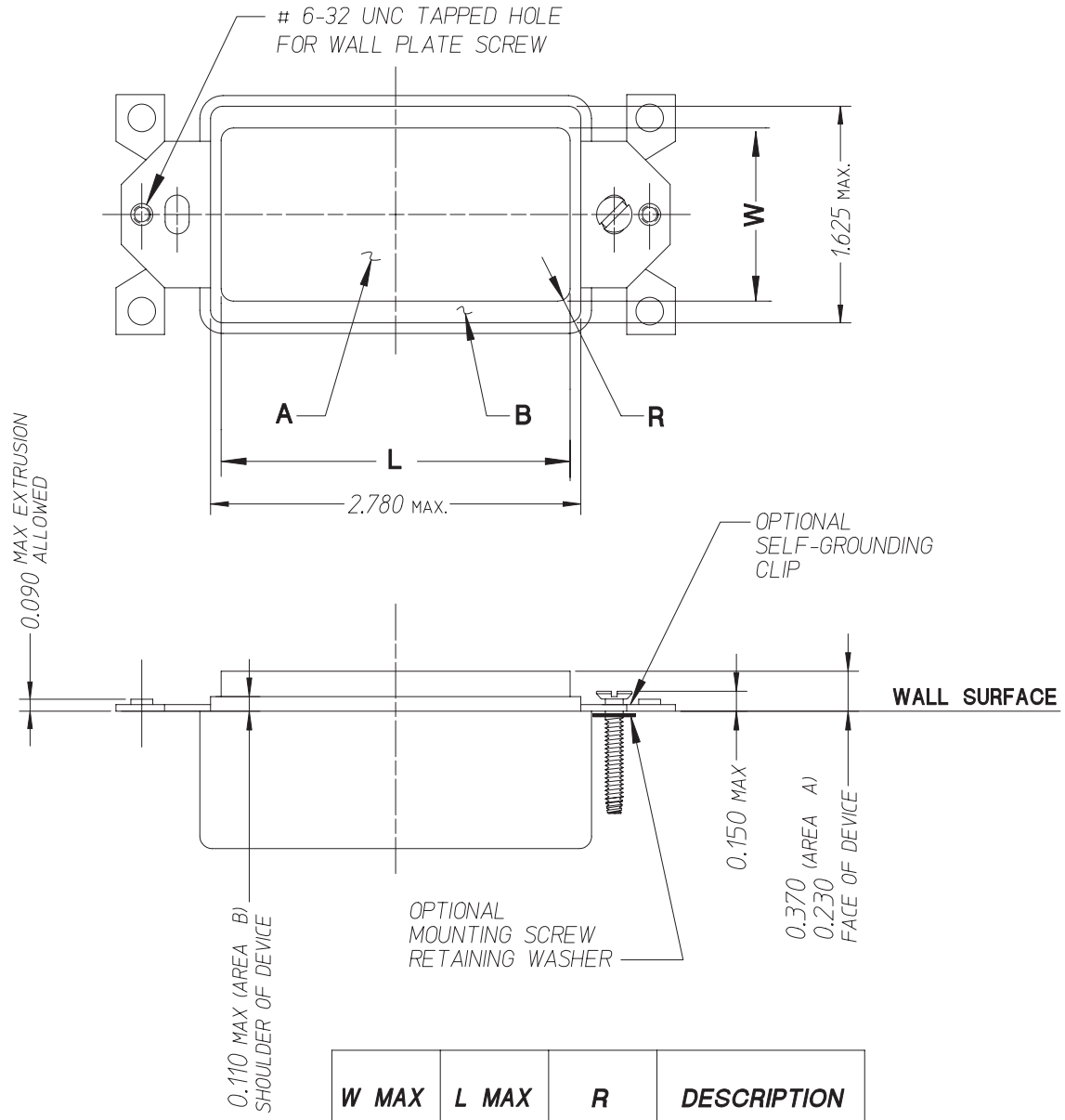




## *NOTES:*

1. *SEE PAGE 8 FOR YOKE DIMENSIONS.*
2. *CENTER LINE SPACING OF DUPLEX OUTLET FACE CONFIGURATIONS LISTED IN NOTE # 3 TO BE 1.531 MIN.*
3. *TYPICAL DUPLEX RECTANGULAR STYLE CONFIGURATIONS ARE:*

   *1–15, 5–15, 5–20, 6–15, 6–20, 7–15 , L1–15, L2–20, L5–15, L6–15, L7–15, L11–15*

# *DIMENSIONS FOR FLUSH MOUNT RECTANGULAR FACE DEVICES RECEPTACLES, SWITCHES, EXCLUDING GFCI'S, DIMMERS, MOTION SENSORS, ETC...*




| *W MAX* | *L MAX* | *R* | *DESCRIPTION* |
|---|---|---|---|
| 1.300 | 2.620 | 0.094 | DUPLEX DEVICE |
| 1.060 | 2.880 | 0.062 | TRIPLEX DEVICE |

## *NOTES:*

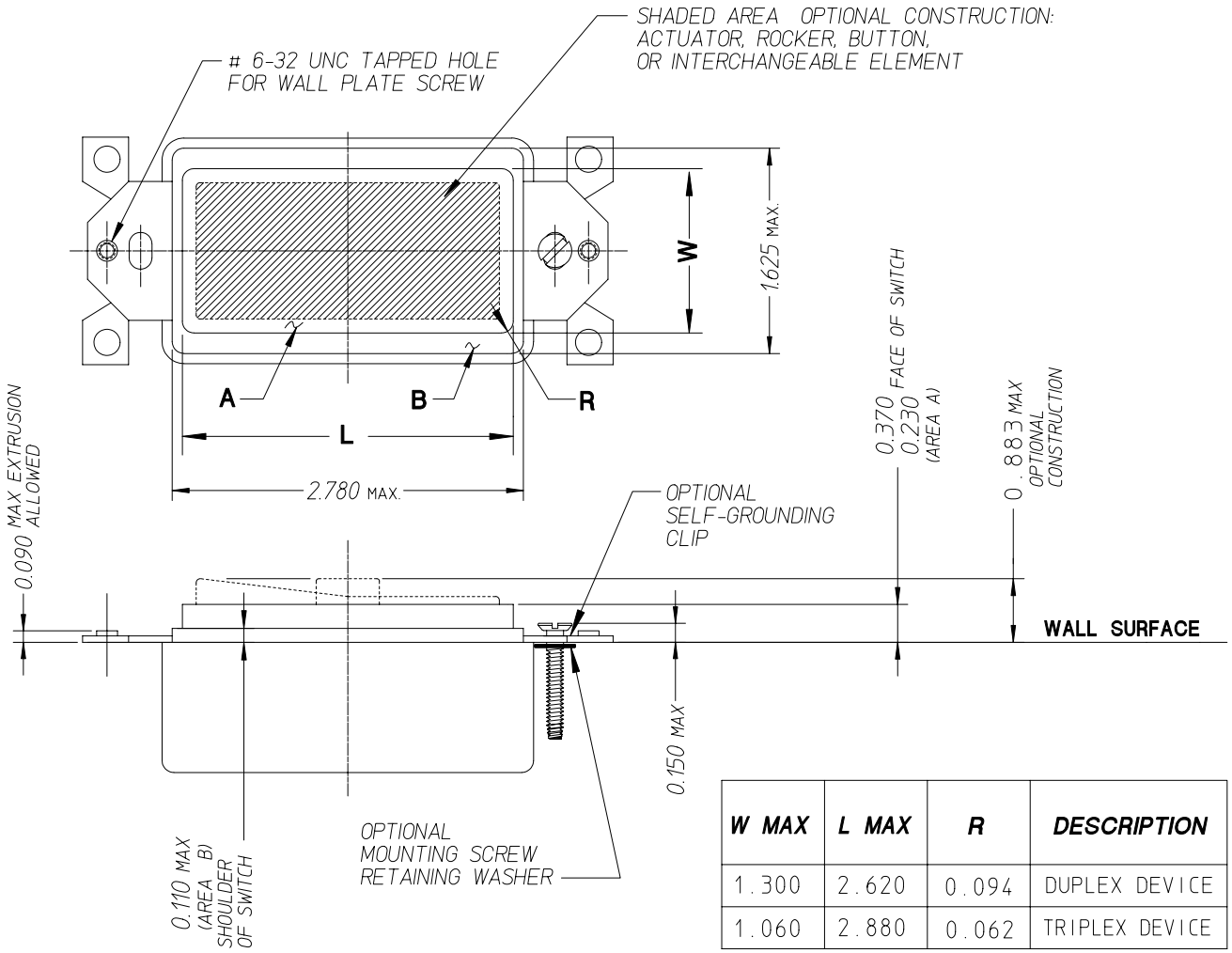
*1. SEE PAGE 8 FOR YOKE DIMENSIONS.*

*2. CENTER LINE SPACING OF DUPLEX OUTLET FACE CONFIGURATIONS LISTED IN NOTE # 3 TO BE 1.531 MIN.*

*3. TYPICAL DUPLEX RECTANGULAR STYLE CONFIGURATIONS ARE:*

*1–15, 5–15, 5–20, 6–15, 6–20, 7–15 , L1–15, L2–20, L5–15, L6–15, L7–15, L11–15*

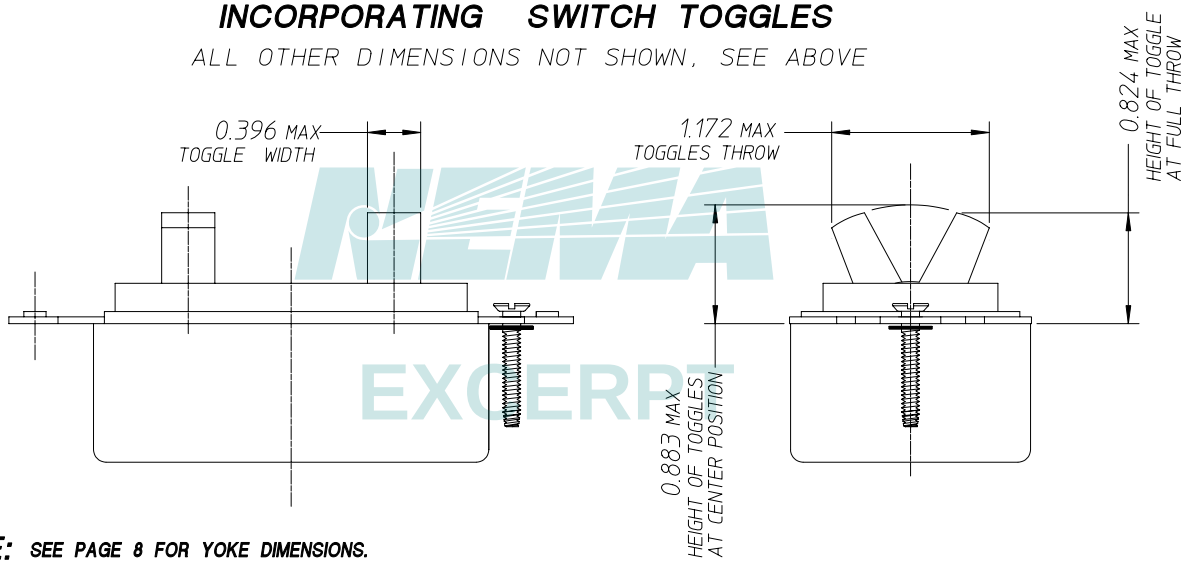
# DIMENSIONS FOR RECTANGULAR FACE DEVICES INCORPORATING PROTRUDING ACTUATORS




| W MAX | L MAX | R | DESCRIPTION |
|---|---|---|---|
| 1.300 | 2.620 | 0.094 | DUPLEX DEVICE |
| 1.060 | 2.880 | 0.062 | TRIPLEX DEVICE |

# DIMENSIONS FOR RECTANGULAR FACE DEVICES INCORPORATING SWITCH TOGGLES

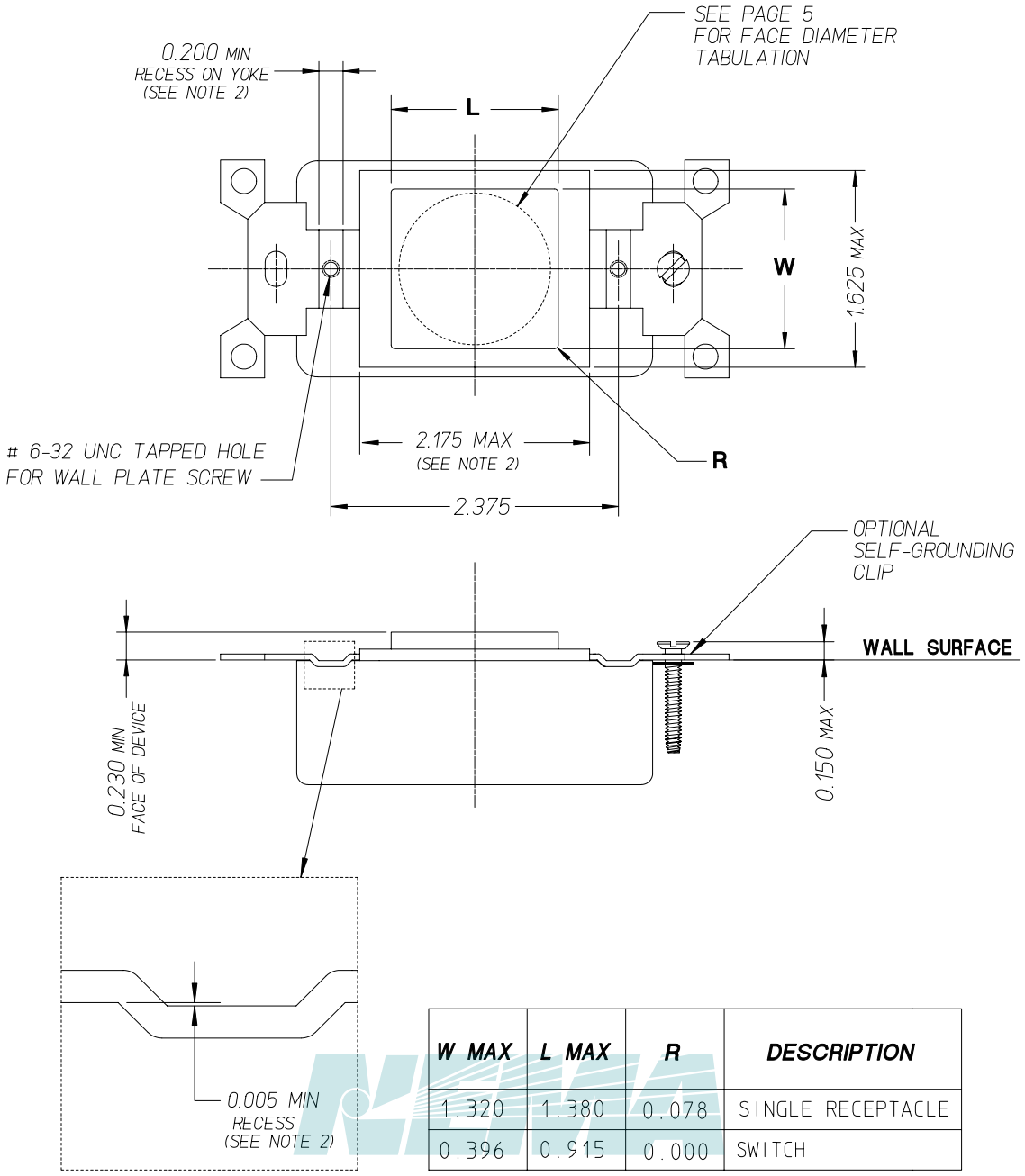
ALL OTHER DIMENSIONS NOT SHOWN, SEE ABOVE






**NOTE:** SEE PAGE 8 FOR YOKE DIMENSIONS.

# DIMENSIONS FOR ROUND AND RECTANGULAR FACE SINGLE DEVICES

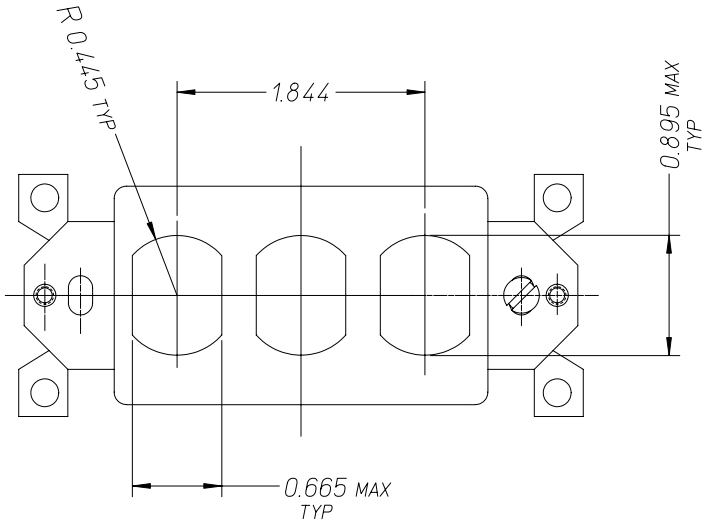



| W MAX | L MAX | R | DESCRIPTION |
|---|---|---|---|
| 1.320 | 1.380 | 0.078 | SINGLE RECEPTACLE |
| 0.396 | 0.915 | 0.000 | SWITCH |

## NOTES:

1. SEE PAGE 8 FOR YOKE DIMENSIONS.
2. THIS DIMENSION IS INTENDED FOR STRAIGHT BLADE SINGLE RECEPTACLES AND SWITCHES TO CLEAR THE REINFORCING RIBS IN PLASTIC PLATES

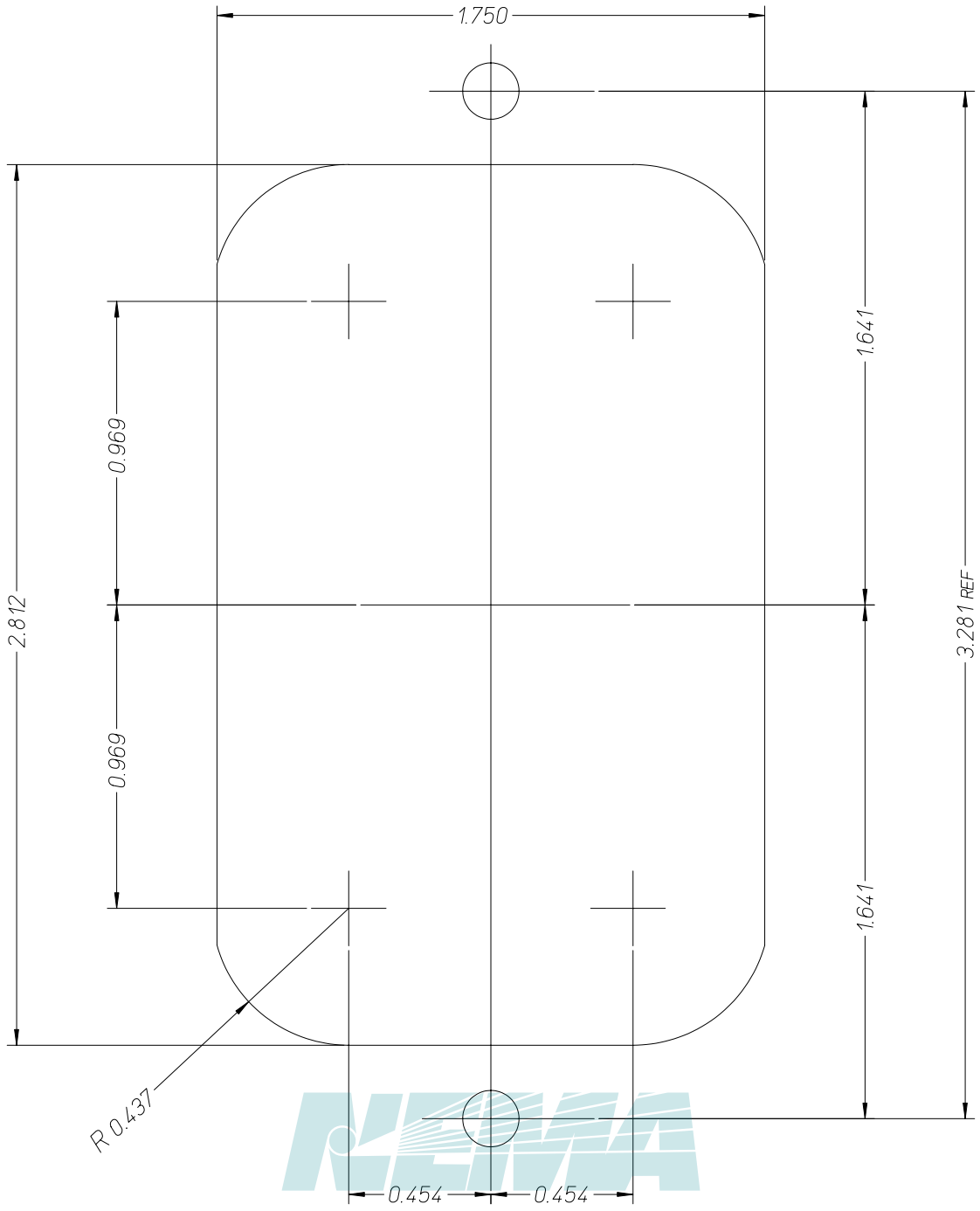
# DIMENSIONS FOR INTERCHANGEABLE TYPE SINGLE, DUPLEX, AND TRIPLEX DEVICES




## NOTES:

1– SEE PAGE 8 FOR YOKE DIMENSIONS

# WIRING DEVICE MAXIMUM ENVELOPE DIMENSION



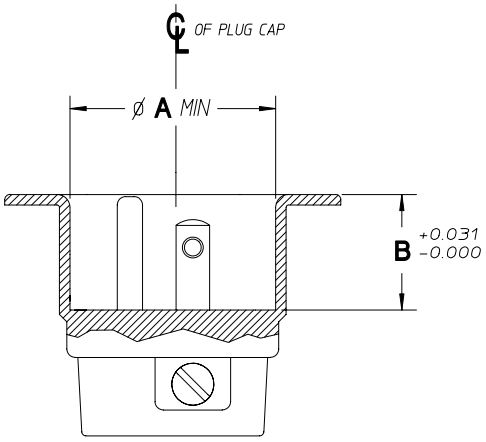

## NOTES:

1– THIS STANDARD CORRESPONDS TO NEMA STANDARDS PUBLICATION OS-1 SHEET-STEEL OUTLET BOXES, DEVICE BOXES, COVERS AND BOX SUPPORTS, STANDARD FOR MINIMUM BOX/COVER FACE OPENING, AND DOES NOT ADDRESS ELECTRICAL CLEARANCES. AVAILABLE SPACE AT DEPTHS WITHIN THE BOX MAY BE FURTHER REDUCED BY ACCESSORY HARDWARE SUCH AS MACHINE SCREWS, NAILS, CABLE CLAMPS, FIXTURE STUDS, ETC.

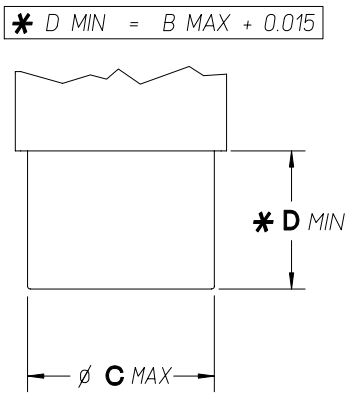
## *DIMENSIONS FOR FLANGED INLETS AND CONNECTOR BODIES.*

BLADE DIMENSIONS SHALL CONFORM WITH THE DIMENSIONS FOR PLUG BLADES OF THE SAME RATING AS SHOWN IN INDIVIDUAL CONFIGURATION RATING. THE MALE BASE SHALL ACCEPT A CYLINDER OF DIAMETER 'C' DESCRIBED ABOUT THE CENTER OF THE PLUG CAP CONFIGURATION OF THE SAME RATING FOR A DEPTH NOT LESS THAN DIMENSION 'B'.

THE CONNECTOR BODY SHALL FIT WITHIN A CIRCLE OF DIAMETER 'C' DESCRIBED ABOUT THE CENTER OF THE RECEPTACLE CONFIGURATION OF THE SAME RATING FOR A LENGTH 'D' NOT LESS THAN 0.015 INCH PLUS THE MAXIMUM LENGTH OF DIMENSION 'B'.



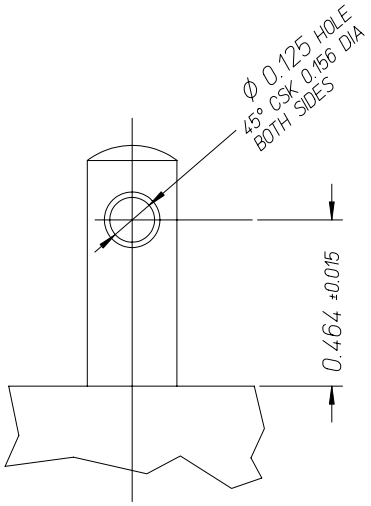

*FLANGED INLET*




*CONNECTOR BODY*

| *CONFIGURATION NUMBER* | *DIMENSIONS* | | |
|---|---|---|---|
| | ø A | ø C | B |
| ML-1 | 0.990 | 0.970 | 0.468 |
| ML-2, ML-3 | 1.150 | 1.130 | 0.468 |
| 1-15, 2-15, 5-15, 5-20, 6-15, 6-20, 7-15, 11-15, 11-20, 14-15, 15-15, 18-15, 24-15, 24-20, L1-15, L2-20, L5-15, L6-15, L7-15, L11-15 | 1.550 | 1.531 | 0.843 |
| 2-20, 7-20, 10-20, 14-20, 15-20, 18-20 | 2.030 | 2.010 | 0.875 |
| 2-30, 5-30, 5-50, 6-30, 6-50, 7-30, 7-50, 10-30, 10-50, 11-30, 11-50, 14-30, 14-50, 14-60, 15-30, 15-50, 15-60, 18-30, 18-50, 18-60, 24-30, 24-50 | 2.620 | 2.600 | 1.406 |
| L5-20, L6-20, L7-20, L8-20, L9-20, L10-20, L11-20, L12-20 | 1.880 | 1.860 | 0.921 |
| L5-30, L6-30, L7-30, L8-30, L9-30, L10-30, L11-30, L12-3, L13-30 | 1.880 | 1.860 | 1.000 |
| L14-20, L15-20, L16-20, L18-20, L19-20, L20-20, L21-20, L22-20, L23-20, L24-20 | 2.000 | 1.980 | 0.921 |
| L14-30, L15-30, L16-30, L17-30, L18-30, L19-30, L20-30, L21-30, L22-30, L23-30 | 2.000 | 1.980 | 1.000 |

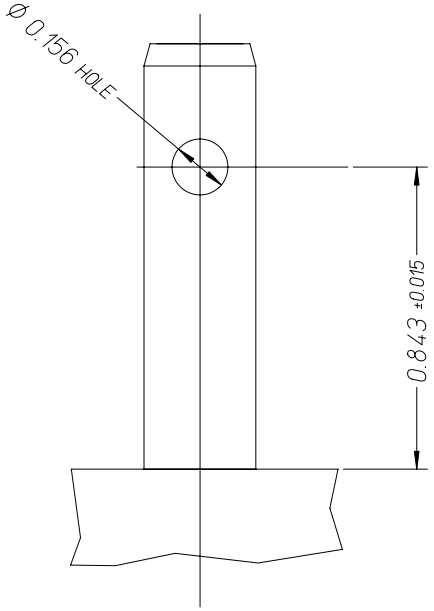
# *FLAT BLADE HOLE LOCATIONS*
# *GENERAL INFORMATION*




***LOCATION # 1***

CONFIGURATIONS USING LOCATION # 1

1-15, 2-15, 5-15, 6-15, 7-15, 11-15,
14-15, 15-15, 18-15, 24-15
1-20, 2-20, 5-20, 5-20ALT, 6-20, 6-20ALT
7-20, 10-20, 11-20, 14-20, 15-20, 18-20, 24-20




***LOCATION # 2***

CONFIGURATIONS USING LOCATION # 2

1-30, 2-30, 5-30, 6-30, 7-30, 10-30, 11-30
14-30, 15-30, 18-30, 24-30.
5-50, 6-50, 7-50, 10-50, 11-50, 14-50,
15-50, 18-50, 24-50
14-60, 15-60, 18-60.

***NOTES:***

*1– HOLE IN FLAT BLADE IS OPTIONAL, AND IT IS INTENDED FOR MANUFACTURING PURPOSES ONLY. HOWEVER IF USED IT MUST BE LOCATED AS PER DIMENSIONS SHOWN ABOVE.*