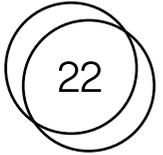


## Installation Instruction: Alternate Material



For installation in finish materials such as millwork, stone, glass, tile, metal, etc.



Single Outlet - 2 inch box - 12.5 Cubic inches  
Double Outlet - 4 inch box - 35 Cubic inches

- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway, all of which originate outside the box. Other than connecting to a single device, the conductors must not be spliced in the box or continued to another device. No other wiring shall enter the box.

- Connections for each device to the conductors shall be made with the provided clamping wire connectors.
- The included sticker with QR code shall be added to the circuit directory panel recording the location of the removal tool.

NOTE: The 22 system is a departure from conventional cover plate systems, and requires a licensed electrician as well as precise and skilled craftsmanship during installation. If you have never installed a 22 System device, we recommend a practice installation.

1. Determine finish material thickness and select appropriate device depth (short/medium/long):

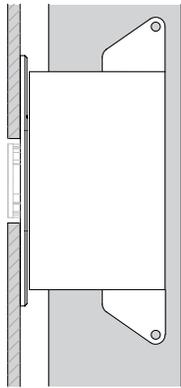


Plate thickness, 3mm (1/8")  
Thickness of finish material:  
6.35mm (1/4")

**Short:** Install the junction box 9mm (0.35") away from finished wall surface.

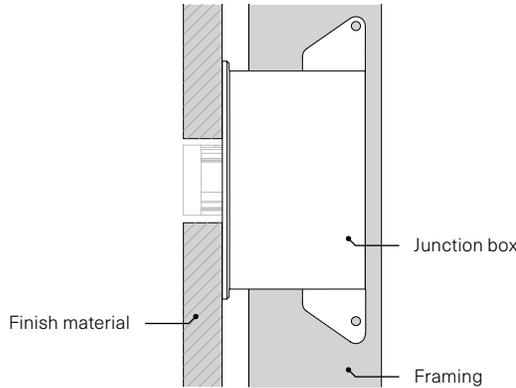


Plate thickness, 3mm (1/8")  
Thickness of finish material:  
19mm (3/4")

**Medium:** Install the junction box 22mm (0.87") away from finished wall surface.

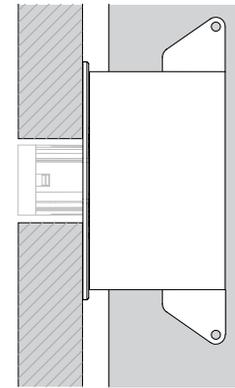
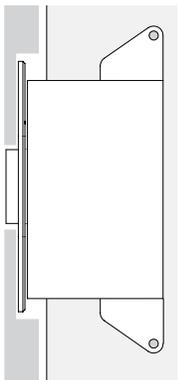


Plate thickness, 3mm (1/8")  
Thickness of finish material:  
31.75mm (1-1/4")

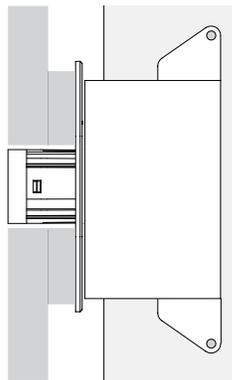
**Long:** Install the junction box 35mm (1.35") away from finished wall surface.

2. Recess and install the nonmetallic junction box.

**NOTE:** If the finish material thickness is not one of the three standard scenarios shown above, select the closest option and machine down or shim up to achieve the correct depth.



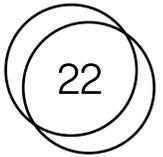
**Machine down**  
(Suitable for soft material)



**Shim up**  
(Suitable for hard material)

# ATTACHMENT B - 22 System Installation Instructions

## Installation Instruction: Alternate Material



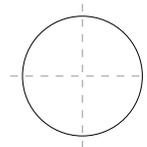
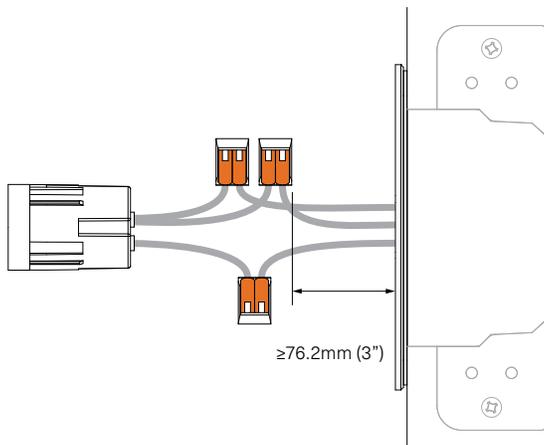
For installation in finish materials such as millwork, stone, glass, tile, metal, etc.

3. The nonmetallic conductors must have sufficient length ( $\geq 76.2\text{mm}$  / 3") to be accessible from the front of the finished wall surface.



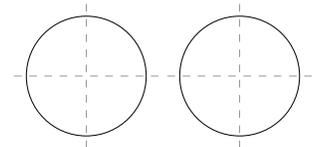
**IMPORTANT: The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.**

5. Measure and drill hole locations in your finish material. The reveal size must be at least 36.5mm (1.4375") diameter (1-7/16" bit size).



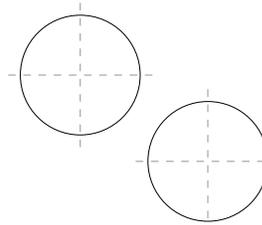
36.5mm (1.44")

Single



45.8mm (1.8")

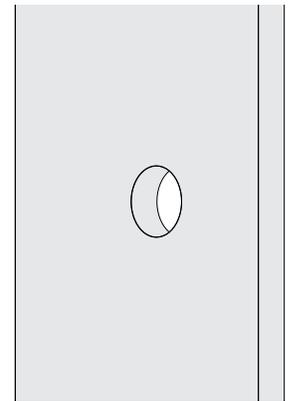
Double linear



37.7mm (1.48")

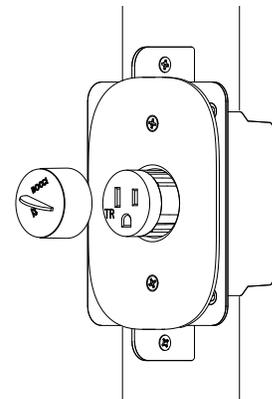
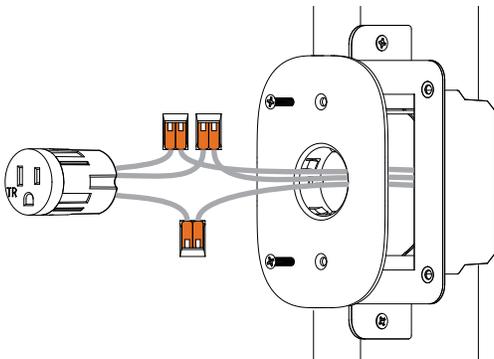
Double diagonal

26mm  
(1")



4. Affix the mounting plate to the junction box. Make all necessary connections using the provided wire connectors. Insert the device into the mounting plate. Ensure that all four locking tabs are engaged.

6. If a wet material such as grout, mortar, plaster etc is used, use the trim cap (22.1.2) to block the face of the devices to create the necessary reveal.



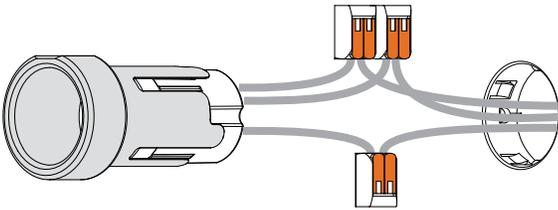
## Installation Instruction: Alternate Material

For installation in finish materials such as millwork, stone, glass, tile, metal, etc.

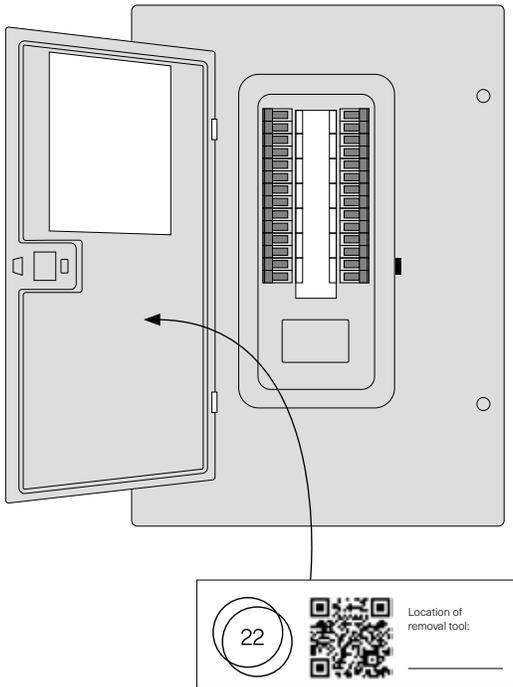
7. Install finish material, remove trim cap (22.1.2) if used.



8. **IMPORTANT: For inspection and maintenance, a 22.1 removal tool (sold separately) is required to access the connectors and conductors. Please see Removal Guide for details.**



9. Record the location of the removal tool on the provided sticker with QR code and affix to the circuit directory panel.



## Installation Instruction: Drywall



Single Outlet - 2 inch box - 12.5 Cubic inches  
Double Outlet - 4 inch box - 35 Cubic inches

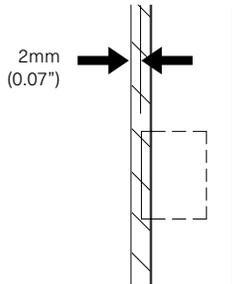
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway, all of which originate outside the box. Other than connecting to a single device, the conductors must not be spliced in the box or continued to another device. No other wiring shall enter the box.

- Connections for each device to the conductors shall be made with the provided clamping wire connectors.
- The included sticker with QR code shall be added to the circuit directory panel recording the location of the removal tool.

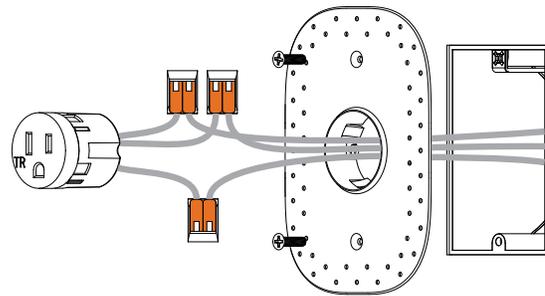
NOTE: The 22 system is a departure from conventional cover plate systems, and requires a licensed electrician as well as precise and skilled craftsmanship during installation. If you have never installed a 22 System device, we recommend a practice installation.

1. For optimum strength, make sure the back of the mounting plate meets the nonmetallic junction box (the surface of the junction box must be approx. 1.5mm (1/16") back from face of drywall). If there is no direct contact between the back of the mounting plate and the junction box, the system will perform but not at its peak strength.

The junction box used must be min. 54mm (2-1/8") deep (shallow boxes will not fit the depth of the component).



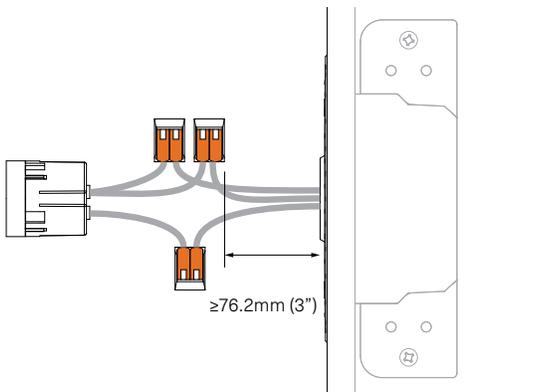
3. Make all necessary connections using the provided wire connectors. Insert the device into the mounting plate. Ensure that all four locking tabs are engaged.



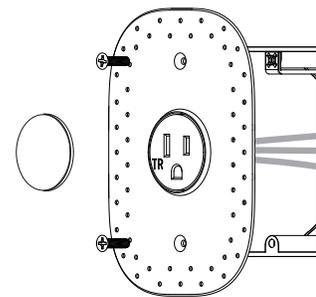
2. The nonmetallic conductors must have sufficient length ( $\geq 76.2\text{mm}$  / 3") to be accessible from the front of the finished wall surface.



**IMPORTANT:** The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.



4. Devices come with a two layer protective silicone cap -leave this in place after the device has been inserted into the mounting plate. This will be used in further steps to mask the device face during the "mudding in" process. Fasten the mounting plate to the junction box using the included screws.



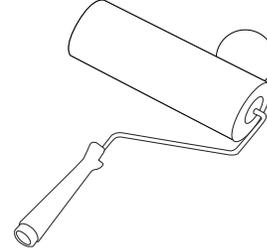
# ATTACHMENT B - 22 System Installation Instructions

## Installation Instruction: Drywall

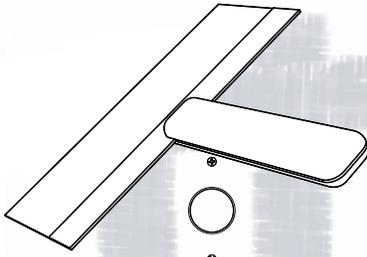
5. Tape the mounting plate edges with fiber mesh drywall tape.



9. Paint over entire assembly.



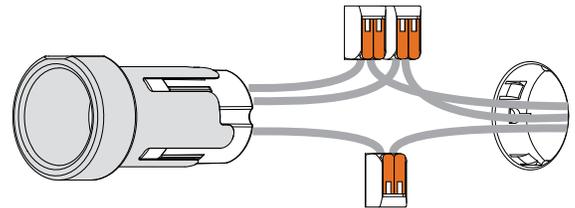
6. Use a drywall filler compound to "mud over" the entire assembly - feather from the center of the mounting plate outwards for 600mm (2') using a large drywall trowel.



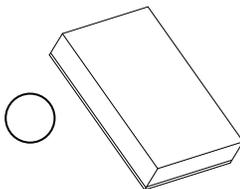
10. Once dry, peel back the entire paper face. A tab in the silicon layer of the protective cap will be exposed under the paper - this will allow you to remove the silicon layer and expose the device.



11. **IMPORTANT: For inspection and maintenance, a 22.1 removal tool (sold separately) is required to access the connectors and conductors. Please see Removal Guide for details.**

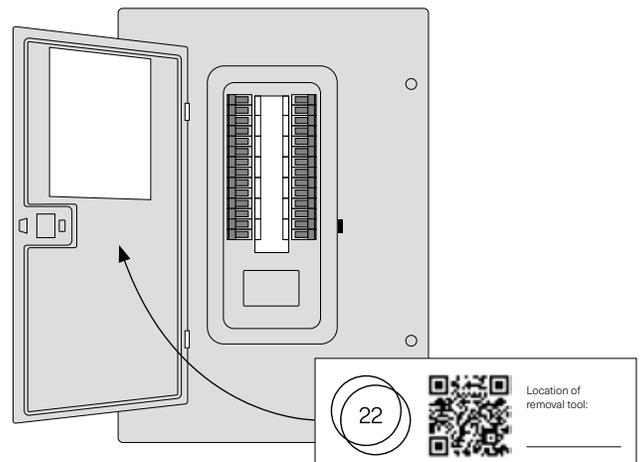


7. Using a foam sanding block, sand the entire area until the rim and the protective cap of the device are exposed. For long term performance, it is essential to sand right down to the plastic rim.

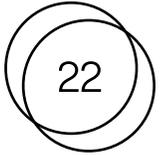


12. Record the location of the removal tool on the provided sticker with QR code and affix to the circuit directory panel.

8. Partially peel back the paper face of protective cap ensuring silicon layer remains snugly in place around operative component. This will allow you to locate the component after painting.



## Removal Guide: Drywall / Alternate Material

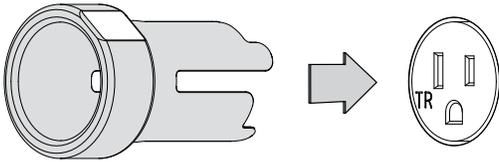


- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway, all of which originate outside the box. Other than connecting to a single device, the conductors must not be spliced in the box or continued to another device. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

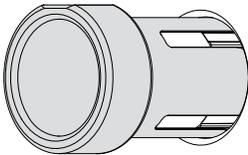
- The included sticker with QR code shall be added to the circuit directory panel recording the location of the removal tool.

NOTE: The 22 system is a departure from conventional cover plate systems, and requires a licensed electrician as well as precise and skilled craftsmanship during installation. If you have never installed a 22 System device, we recommend a practice installation.

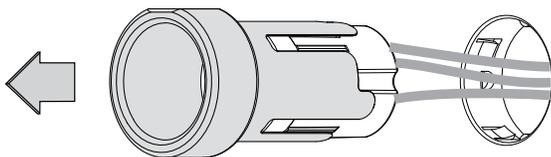
1. Align the flat part of removal tool to top of the device.



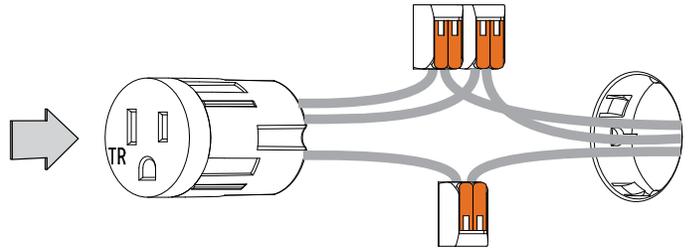
2. Push removal tool carefully into the reveal surrounding the device until it is flush to the wall.
3. Carefully pull out the device by tension fit.



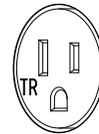
4. Carefully withdraw connectors and conductors from the interior of the junction box and perform any necessary repairs. As connections may differ between devices, see individual spec sheet for more details.



5. When repairs are completed, carefully insert connectors and conductors back into the interior of the junction box. Then, insert the device back into the opening and ensure all four locking tabs are engaged.



6. Touch up drywall and paint if needed.



To purchase a removal tool, visit:



Canada (CAD)



Worldwide (USD)

Mounting Plate Ø35

Alternate

22.2.5  
22.2.4  
22.2.6

Description

The alternate mounting plate is designed to be used on surfaces other than drywall - for example: millwork, stone, glass, tile, metal, etc. The mounting plate will accommodate a wide range of finish material thicknesses and accept any of the 22 System Ø35 devices.

Installation

Drilled and mounted behind rigid material.

Materials

Polycarbonate

Finishes

White

Patents

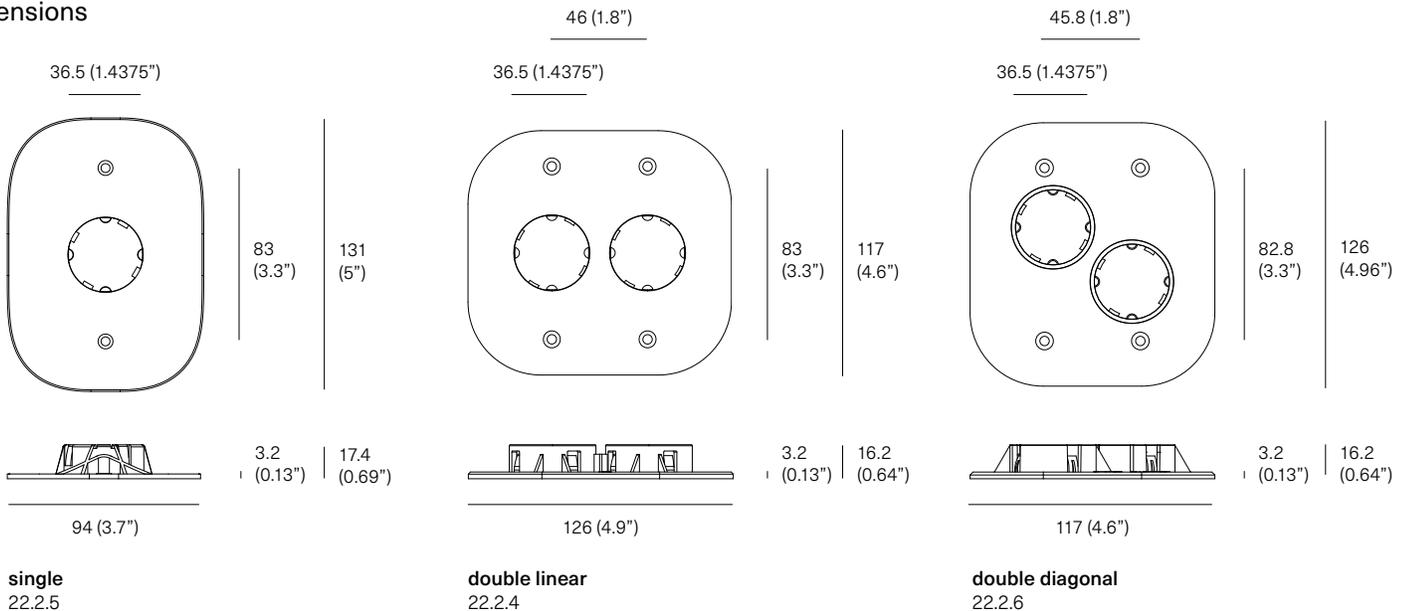
US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

Certifications



- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

Dimensions



Mounting Plate Ø35  
Drywall

- 22.2.1
- 22.2.2
- 22.2.3

**Description**

The drywall mounting plate is designed to "mud" directly into drywall without a visible cover plate or trim. The mounting plate will accommodate any of the 22 System Ø35 devices in the short device depth.

**Installation**

Mud-in.

**Materials**

Polycarbonate

**Finishes**

White

**Patents**

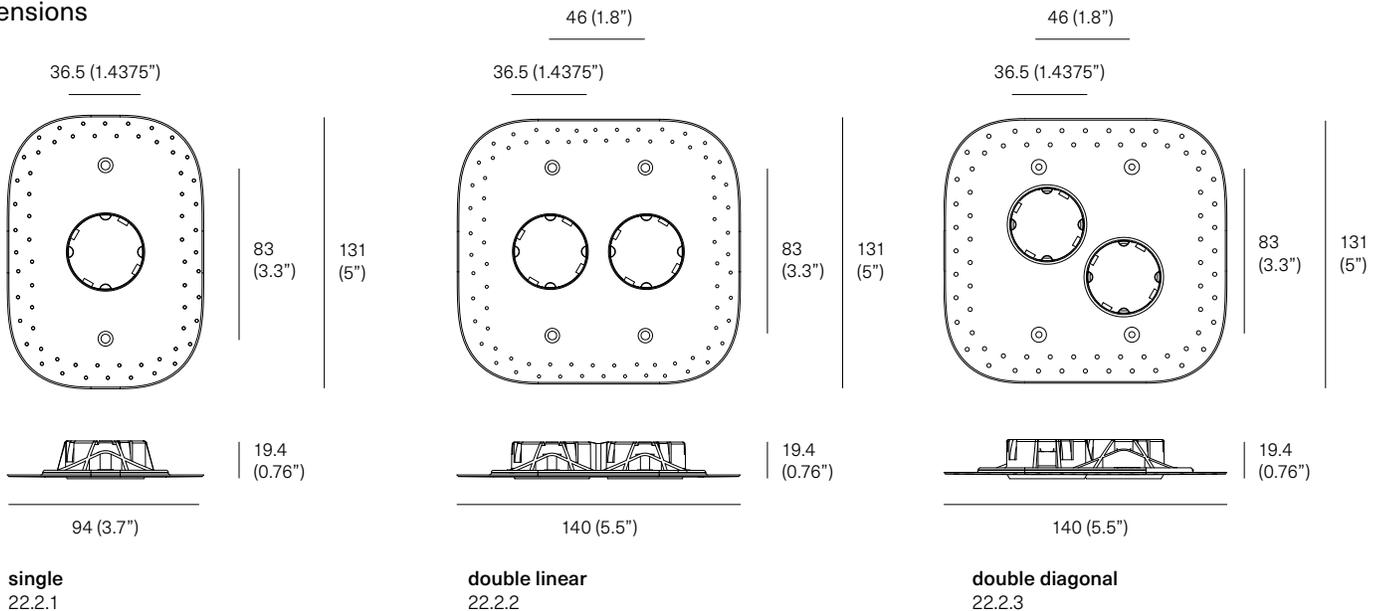
US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

**Certifications**

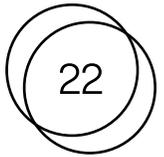


- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

**Dimensions**



## Outlet 15A Type A/B



22.3.7  
22.3.7M  
22.3.7L

### Description

The 15A outlet is a type A/B outlet. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

125V AC, 60Hz - 15A

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, grey, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

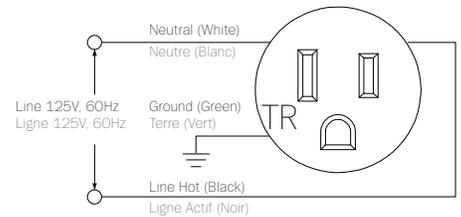
### Certifications



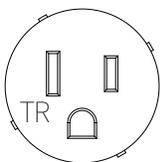
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Diagram

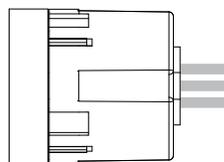
22 System tamper-resistant receptacles use 14GA (2.08mm) wire for 15A output.



### Dimensions

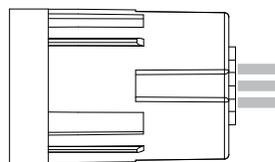


35 (1.38")



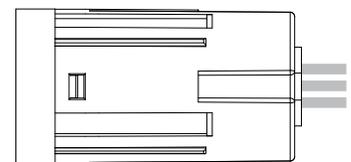
37 (1.45")

**short**  
22.3.7



49 (1.9")

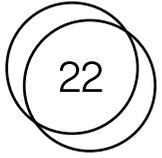
**medium**  
22.3.7M



62 (2.4")

**long**  
22.3.7L

## Outlet 20A Type A/B



22.3.8  
22.3.8M  
22.3.8L

### Description

The 20A outlet is a type A/B outlet. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

125V AC, 60Hz - 20A

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, grey, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

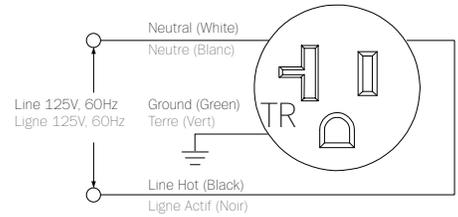
### Certifications



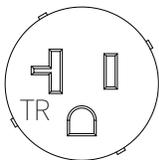
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Diagram

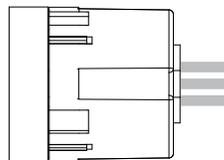
22 System tamper-resistant receptacles use 12GA (2.63mm) wire for 20A output.



### Dimensions

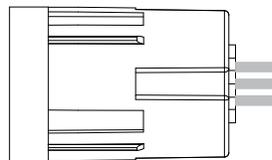


35 (1.38")



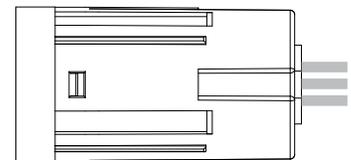
37 (1.45")

**short**  
22.3.8



49 (1.9")

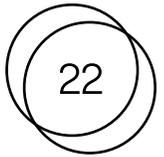
**medium**  
22.3.8M



62 (2.4")

**long**  
22.3.8L

## Switch on/off single pole



22.3.2

### Description

The switch is an on/off single pole line voltage device. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

120V, 15A

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, grey, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

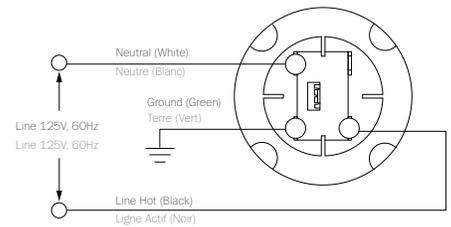
### Certifications



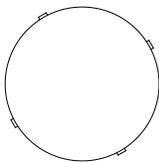
- **Junction boxes must be nonmetallic.**
- **The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.**
- **Connections for each device to the conductors shall be made with the provided clamping wire connectors.**

### Diagram

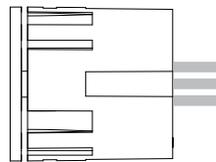
22 System receptacles use 14GA (2.08mm) wire for 15A output.



### Dimensions



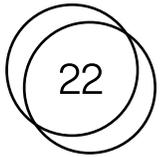
35 (1.38")



36 (1.4")

**short**  
22.3.2

## Telephone RJ12



22.3.3  
22.3.3M  
22.3.3L

### Description

The telephone jack is a RJ12 device. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

44-57V DC (POE protocols)

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

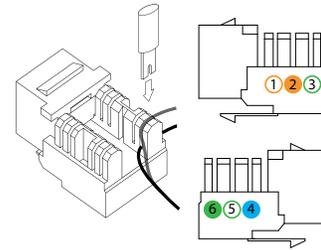
### Certifications



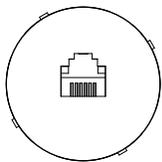
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Diagram

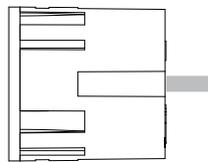
Insert all wires into the RJ12 keystone by inserting them into the corresponding colour coded position using a Type 110 punch down tool and trim excess wire.



### Dimensions

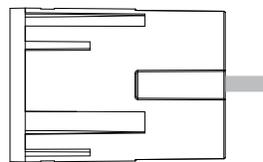


35 (1.38")



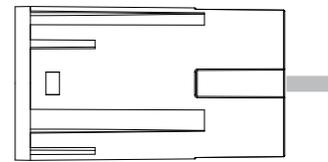
34.9 (1.4")

**short**  
22.3.3



48.2 (1.9")

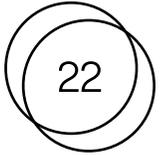
**medium**  
22.3.3M



60.4 (2.4")

**long**  
22.3.3L

## Cable F Connector



22.3.5  
22.3.5M  
22.3.5L

### Description

Cable F connector. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

24V DC, 500mA max

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

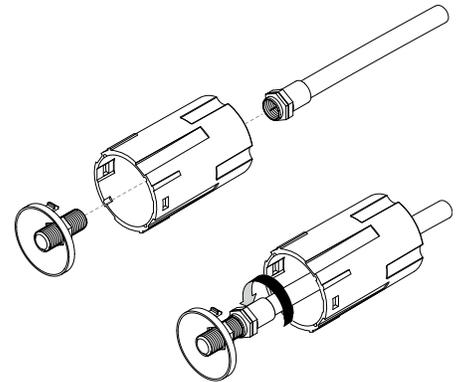
### Certifications



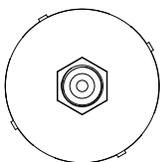
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Diagram

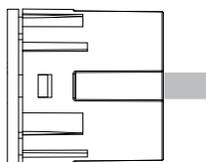
Thread the coaxial RF cable through the barrel as illustrated. Screw the coaxial cable onto the threaded stem and snap the barrel onto the face plate.



### Dimensions

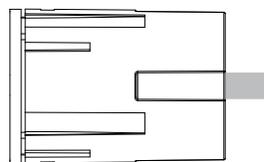


35 (1.38")



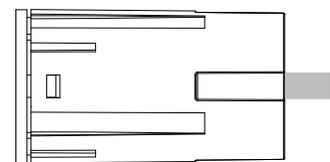
34.9 (1.4")

**short**  
22.3.5



48.2 (1.9")

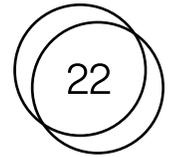
**medium**  
22.3.5M



60.4 (2.4")

**long**  
22.3.5L

Keypad Control



22.3.6

Description

This is a keypad control to provide digital inputs to intelligent control automation systems. It accepts an RJ45 CAT5 cable connection to the control system. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

Electrical

44-57V DC (PoE protocols)

Materials

Polycarbonate casing, electrical components.

Finishes

White, almond, grey, black.

Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

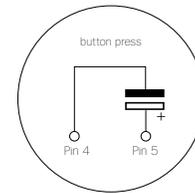
Certifications



REACH RoHS

Wiring schematic

| PIN | PIN | WIRE |  |          |
|-----|-----|------|--|----------|
| 1   | 3   | 1    |  | Not Used |
| 2   | 3   | 2    |  | Not Used |
| 3   | 2   | 1    |  | Not Used |
| 4   | 1   | 2    |  | Switch   |
| 5   | 1   | 1    |  | Switch   |
| 6   | 2   | 2    |  | Not Used |
| 7   | 4   | 1    |  | Not Used |
| 8   | 4   | 2    |  | Not Used |

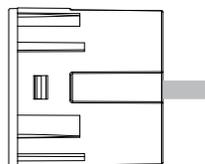


- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

Dimensions



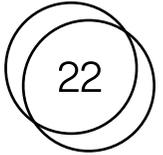
35 (1.38")



33.4 (1.3")

short  
22.3.6

## Data RJ45 CAT6A



22.3.9  
22.3.9M  
22.3.9L

### Description

The CAT6A network cable device. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

44-57V DC (PoE protocols)

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, grey, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

### Certifications

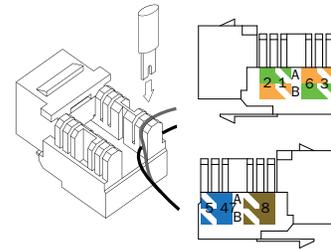


REACH RoHS

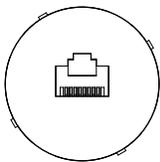
- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Diagram

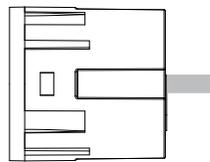
Insert all wires into the CAT6a keystone by inserting them into the corresponding colour coded position using a Type 110 punch down tool and trim excess wire.



### Dimensions

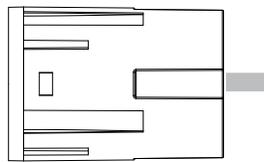


35 (1.38")



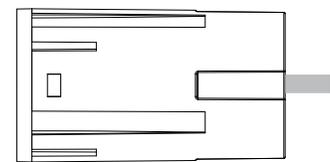
34.9 (1.4")

**short**  
22.3.9



48.2 (1.9")

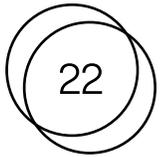
**medium**  
22.3.9M



60.4 (2.4")

**long**  
22.3.9L

USB A—15W  
Double Port



22.3.10  
22.3.10L

**Description**

The USB A double port line voltage device. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

Worldwide utility patents pending.

**Electrical**

5V DC, 2.1A-3A

**Materials**

Polycarbonate casing, electrical components.

**Finishes**

White, almond, grey, black.

**Patents**

US # 7,956,295 B2 & 8,912,439 B2

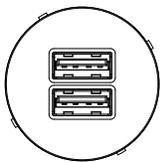
**Certifications**



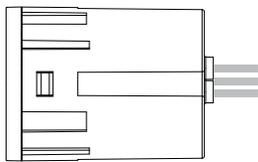
REACH RoHS

- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

**Dimensions**

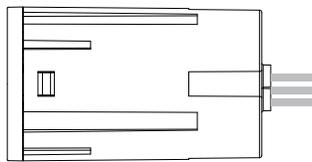


35 (1.38")



44.3 (1.7")

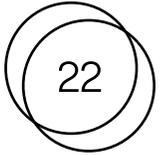
**short**  
22.3.10



56.8 (2.2")

**long**  
22.3.10L

USB C—40W  
Single Port



22.3.11S  
22.3.11M  
22.3.11L

**Description**

The fast charging USB C power outlet is a line voltage receptacle. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

**Electrical**

Input: 100-240V~  
50-60 Hz, 0.35A

**Output (USB-PD)**

5V = 3A  
9V = 3A  
12V = 3A  
15V = 3A  
20V = 2.25A

**Materials**

Polycarbonate casing, electrical components.

**Finishes**

White, almond, grey, black.

**Patents**

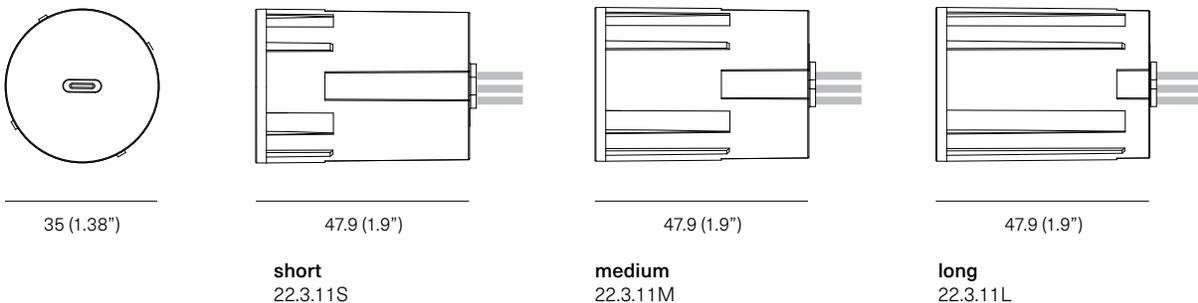
US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

**Certifications**

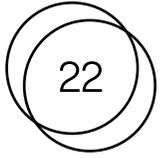


- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

**Dimensions**



## HDMI



22.3.12  
22.3.12M  
22.3.12L

### Description

HDMI device. It can be inserted into any of the 22 System Ø35 mounting plates (22.2.2, 22.2.3, 22.2.4, 22.2.6, 22.2.1, 22.2.5).

### Electrical

Ultra HD, 4K@50/60hz, Deep Colour, Dolby True HD, DTS-HD Master Audio.

### Materials

Polycarbonate casing, electrical components.

### Finishes

White, almond, grey, black.

### Patents

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

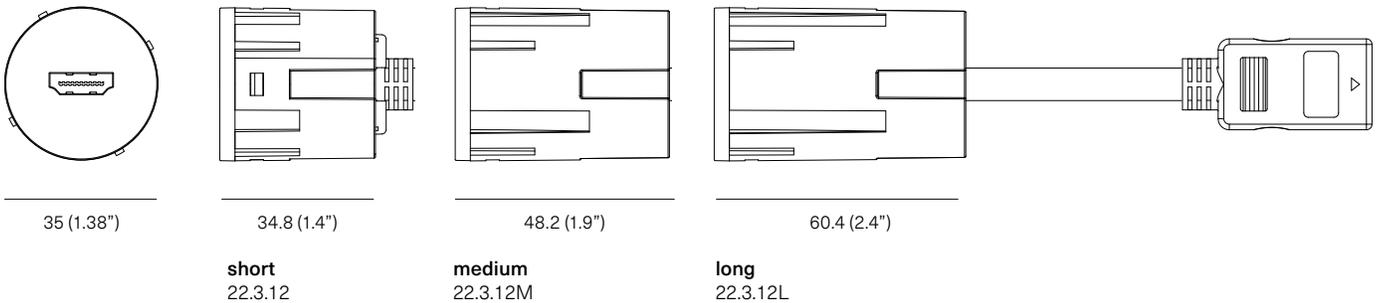
### Certifications



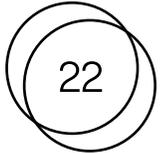
REACH RoHS

- Junction boxes must be nonmetallic.
- The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or conductors in a nonmetallic raceway all of which originate outside the box. No other wiring shall enter the box.
- Connections for each device to the conductors shall be made with the provided clamping wire connectors.

### Dimensions



Removal Tool—Ø35

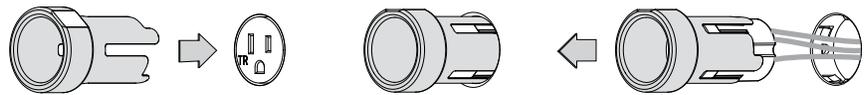


22.1

**Description**

The removal tool is designed to remove all 22 System Ø35 devices from the mounting plates without disturbing the surface finish of the wall. Simply insert and gently pull. The tool will disengage the locking tabs on the mounting plate and allow for removal. See Repair guide for detail instructions.

**Diagram**



- The included sticker with QR code shall be added to the circuit directory panel recording the location of the removal tool.

**Materials**

Stainless steel tool, silicon protective cover.

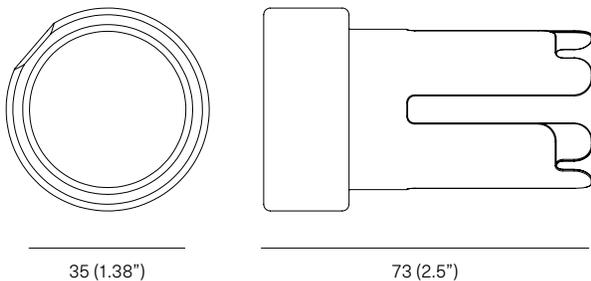
**Finishes**

Brushed stainless steel.

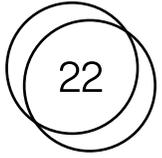
**Patents**

US # 7,956,295 B2 & 8,912,439 B2  
Worldwide utility patents pending.

**Dimensions**



Trim Cap—Ø35

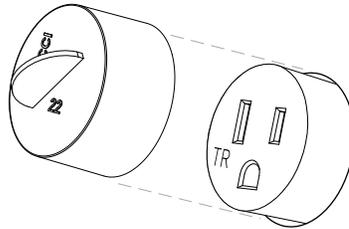


22.1.2

**Description**

The trim cap is used to protect the Ø35 device face and is suggested for alternate material installations using plaster, concrete, tile/grout, mortar, etc.

**Diagram**



**Materials**

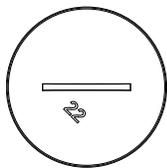
Plastic.

**Finishes**

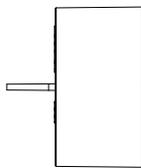
Black.

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**Dimensions**



36.5 (1.4")



20 (0.79")

Template—Ø35  
Linear

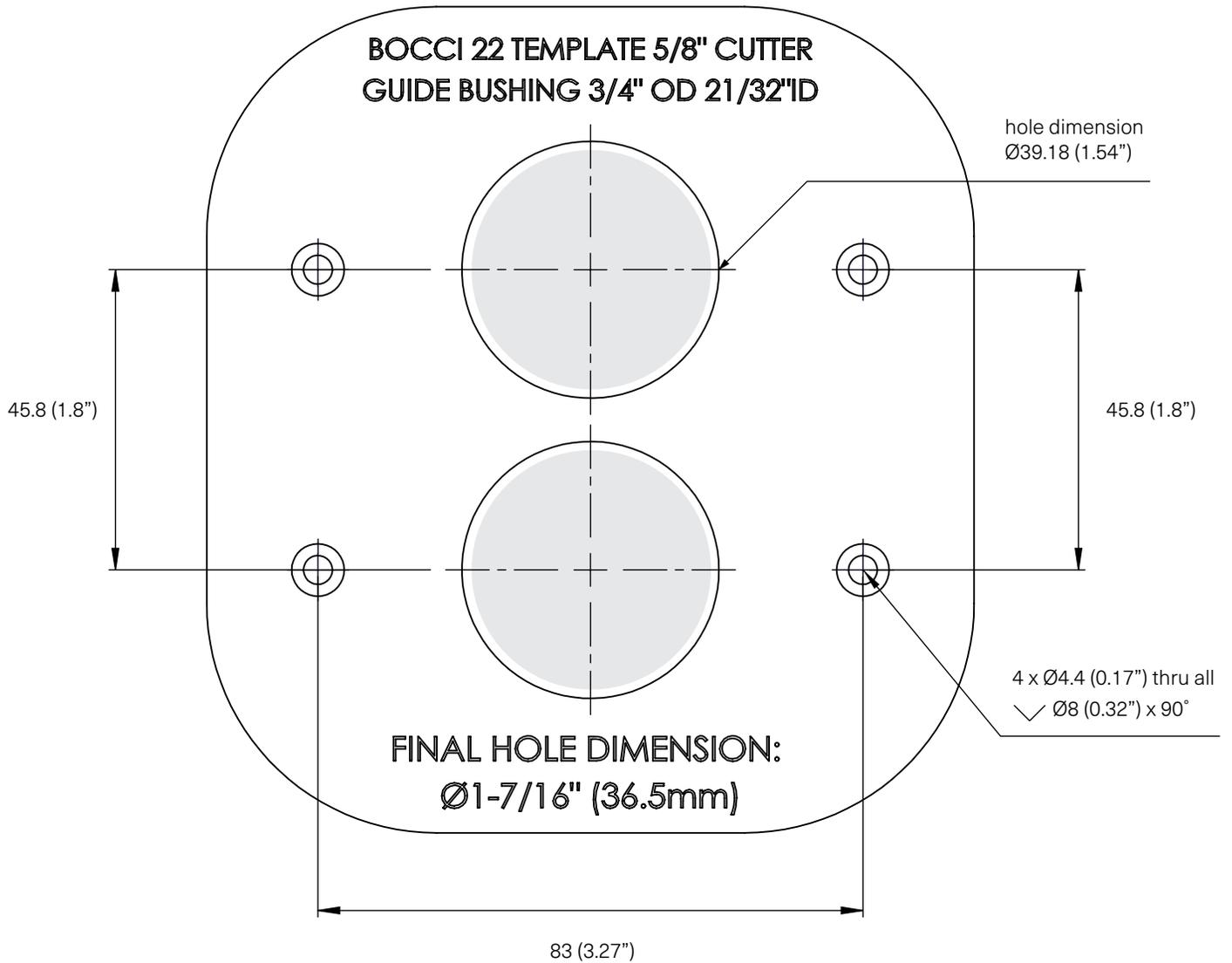
22.1.4

**Description**

Double linear alternate template.

**Materials**

Clear acrylic.



Scale 1:1

DO NOT SCALE DRAWING

Template—Ø35  
Diagonal

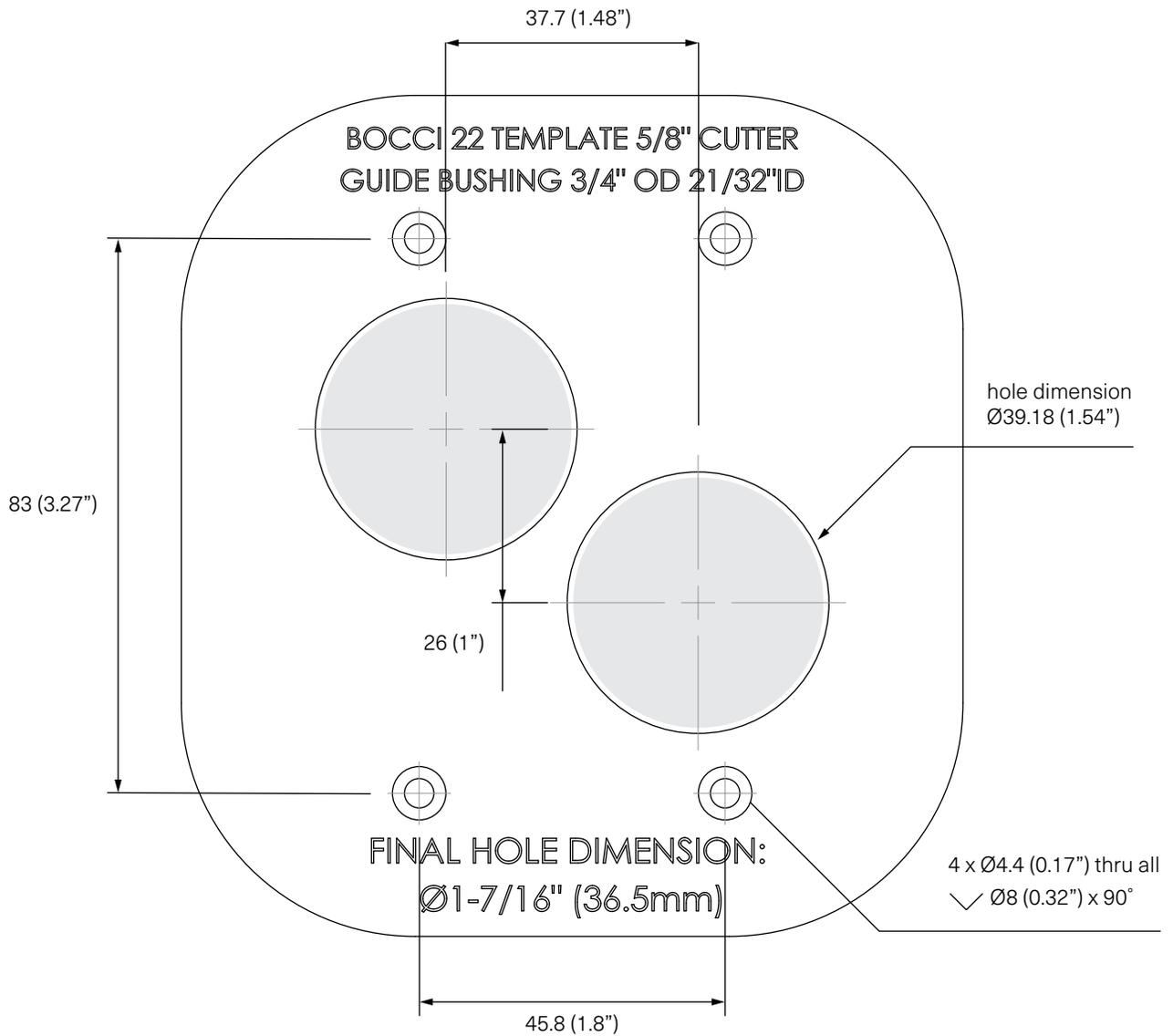
22.1.6

Description

Double diagonal alternate template.

Materials

Clear acrylic.



Scale 1:1

DO NOT SCALE DRAWING