Crystal Fire PLUS ⊕

Supplemental Commercial Installation Instructions
User Manual for Commercial Burner Installations and Burner Plates

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⚠ WARNING ⚠

The information in this instruction manual is intended only as a supplement to the Crystal Fire Plus® instruction manual and is not an exhaustive installation manual. If the information in both instruction manuals is not followed exactly, a fire or explosion may result causing property damage, personal, injury or loss of life.

⚠ WARNING ⚠

FOR OUTDOOR USE ONLY.
Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

⚠ WARNING ⚠

The Outdoor GreatRoom Company™, LLC disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged components

- Modification of the burner assembly or included components

- Installation other than detailed in this manual

Any such action may result in a fire or explosion causing property damage, personal injury, or death.

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1 COMMERCIAL CONTROLS

A. CONTROLS ON APPLIANCE
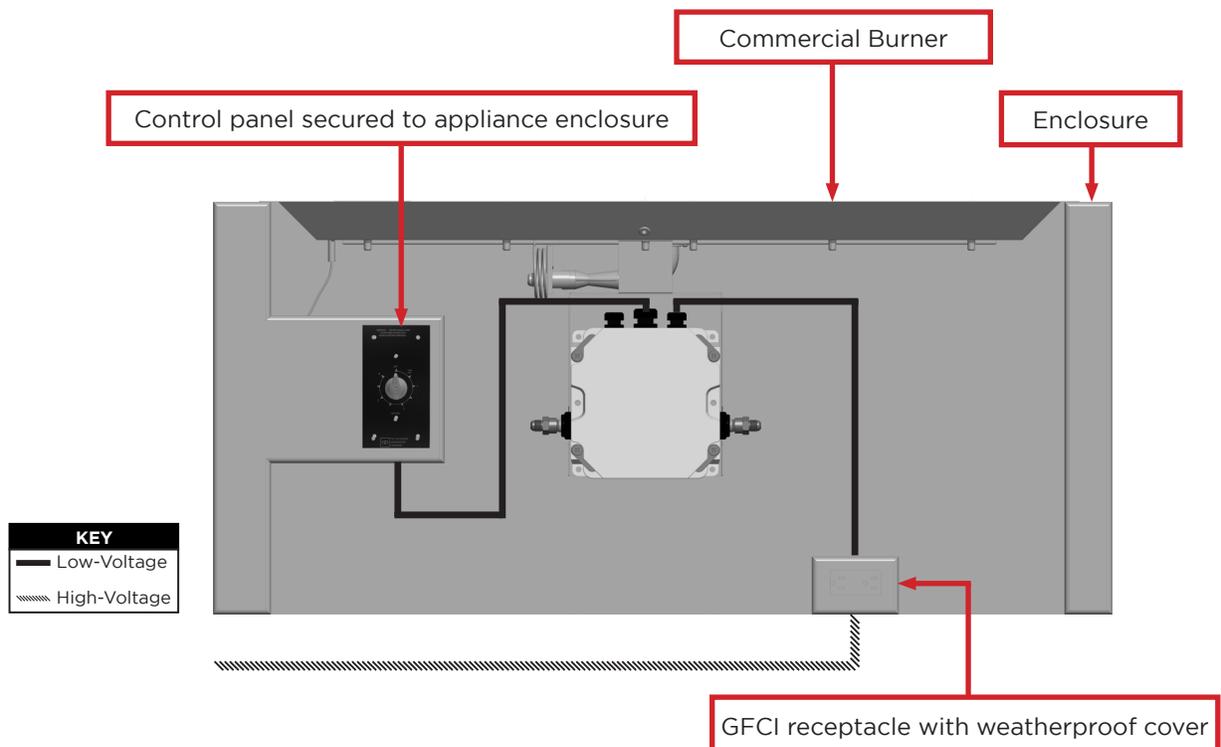
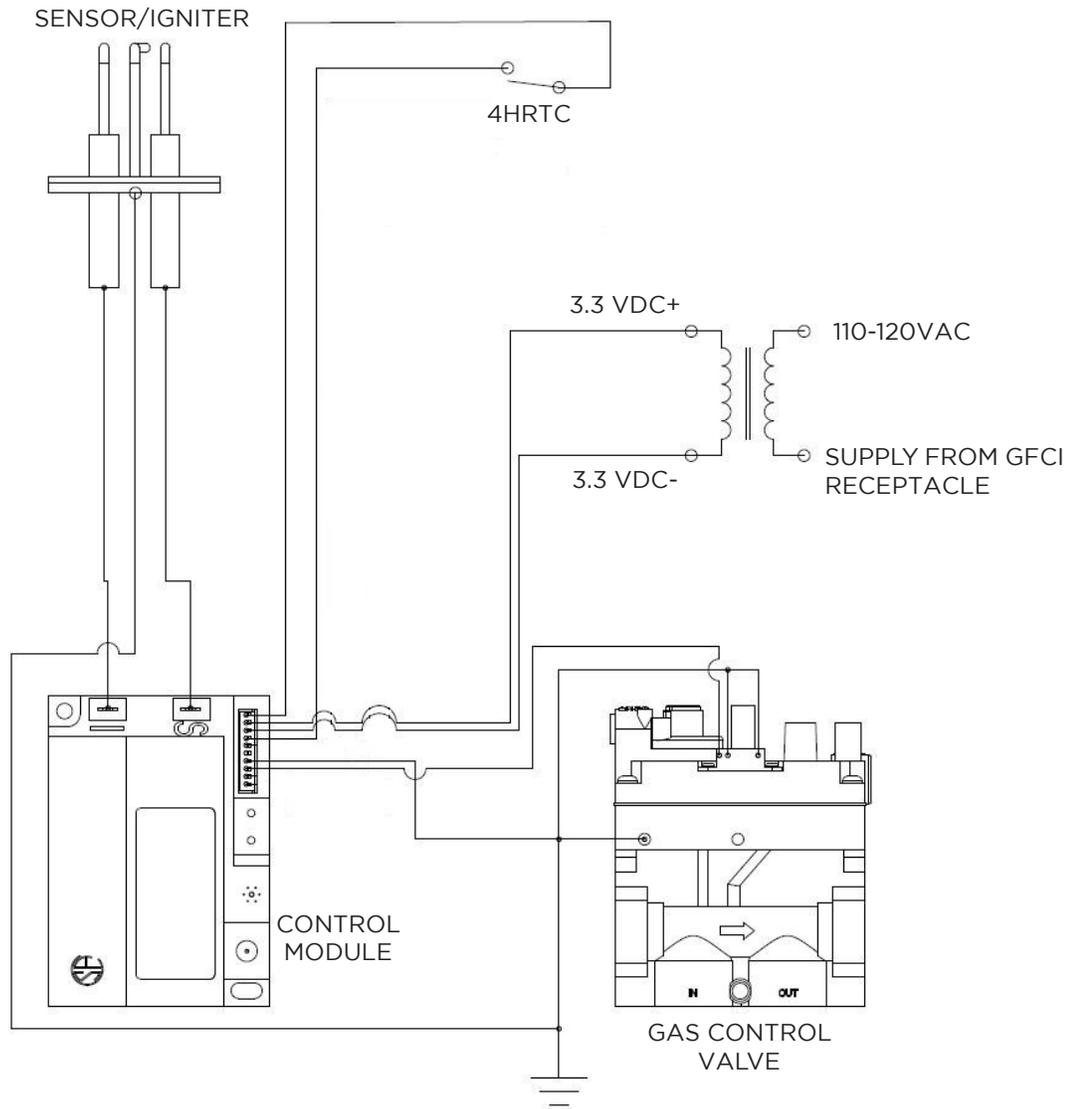| 4HRTC	4-HOUR TIMER CONTROL PANEL

- Installed **on the appliance.**
- Includes 36 in. wire lead that connects directly to CF-DSI.
- Replaces the standard CF-DSI control switch.
- Eliminates remote (CF-DSI-R) functionality.
- Operates **low-voltage** circuit.

INSTALLATION DIAGRAM - (4HRTC)

Commercial Burner

Control panel secured to appliance enclosure

Enclosure

KEY
— Low-Voltage
〰 High-Voltage

GFCI receptacle with weatherproof cover

WIRING DIAGRAM - (4HRTC)

SENSOR/IGNITER

4HRTC

3.3 VDC+

110-120VAC

3.3 VDC-

SUPPLY FROM GFCI
RECEPTACLE

CONTROL
MODULE

GAS CONTROL
VALVE

B. CONTROLS AWAY FROM APPLIANCE
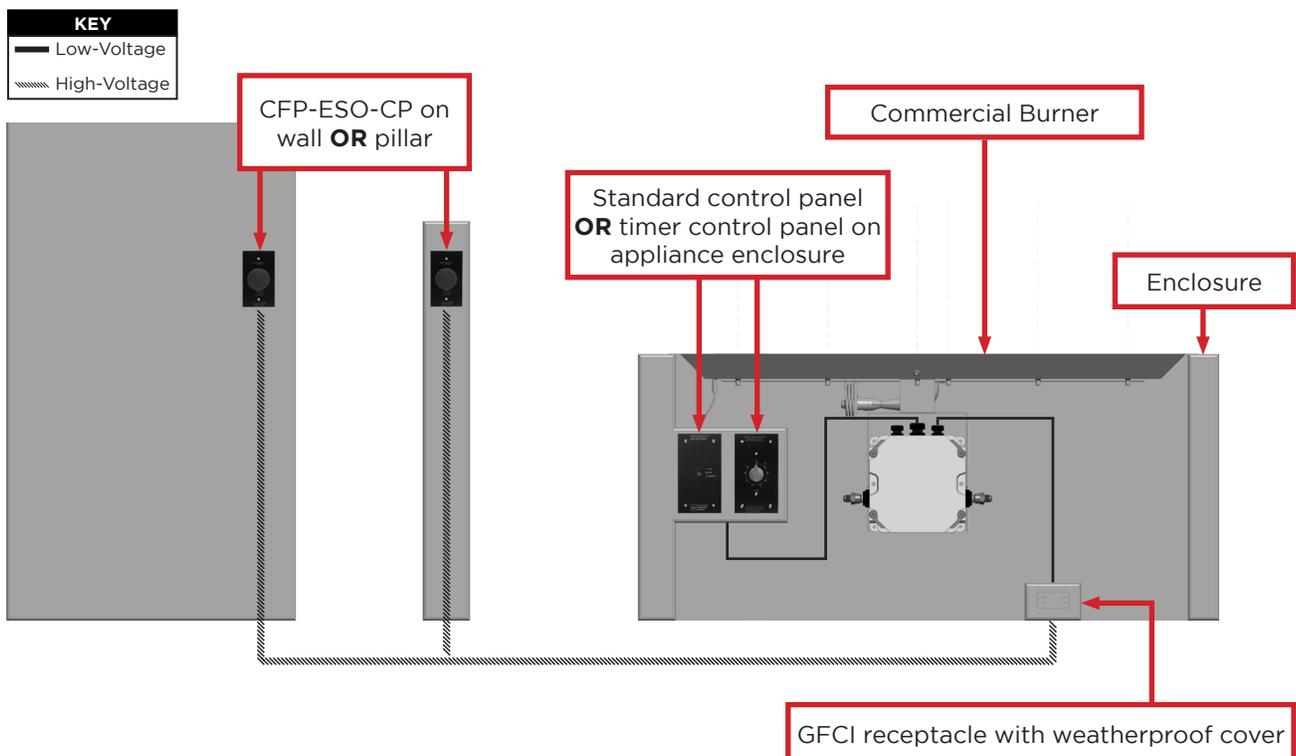
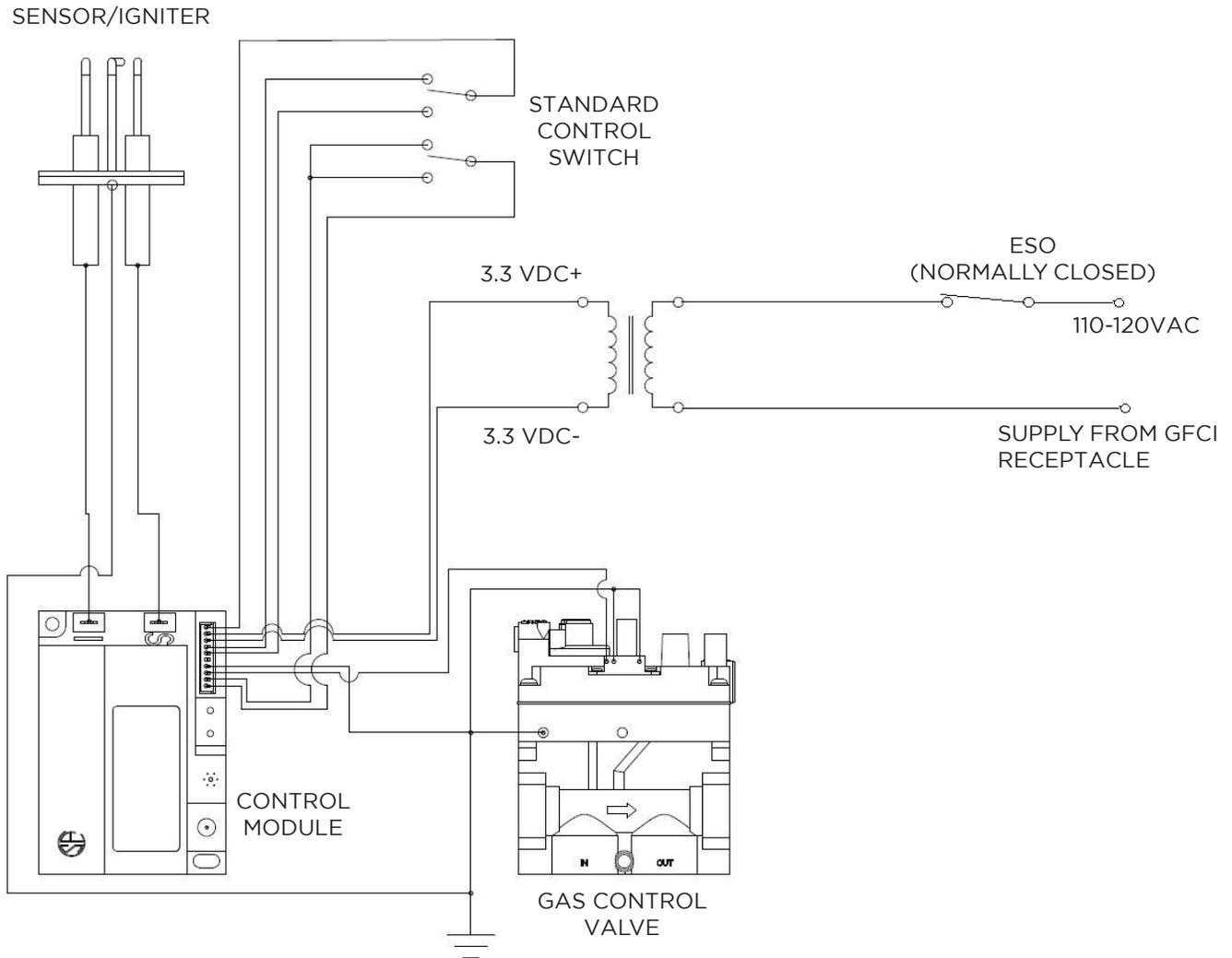| CFP-ESO-CP	EMERGENCY STOP

- Installed **away from the appliance.**

- Install on a wall or pillar in accordance with local electrical code.

- Includes printed instruction cover plate.

- Mounts to single-gang junction box.

- Immediately cuts **high-voltage** to the appliance circuit.

INSTALLATION DIAGRAM - (CFP-ESO-CP)

KEY
━━ Low-Voltage
∿∿∿ High-Voltage

CFP-ESO-CP on wall **OR** pillar

Standard control panel **OR** timer control panel on appliance enclosure

Commercial Burner

Enclosure

GFCI receptacle with weatherproof cover

SENSOR/IGNITER

STANDARD CONTROL SWITCH

ESO (NORMALLY CLOSED)

3.3 VDC+

110-120VAC

3.3 VDC-

SUPPLY FROM GFCI RECEPTACLE

CONTROL MODULE

GAS CONTROL VALVE

IN   OUT

⚠ **WARNING** ⚠

If any components were damaged during the incident that prompted the use of the emergency stop button, they **must be replaced** before the appliance is operated again. In some instances, the entire appliance should be replaced.

After emergency stop is pressed and situation is resolved, **DO NOT** immediately reset the emergency stop button. Follow these steps to reset:
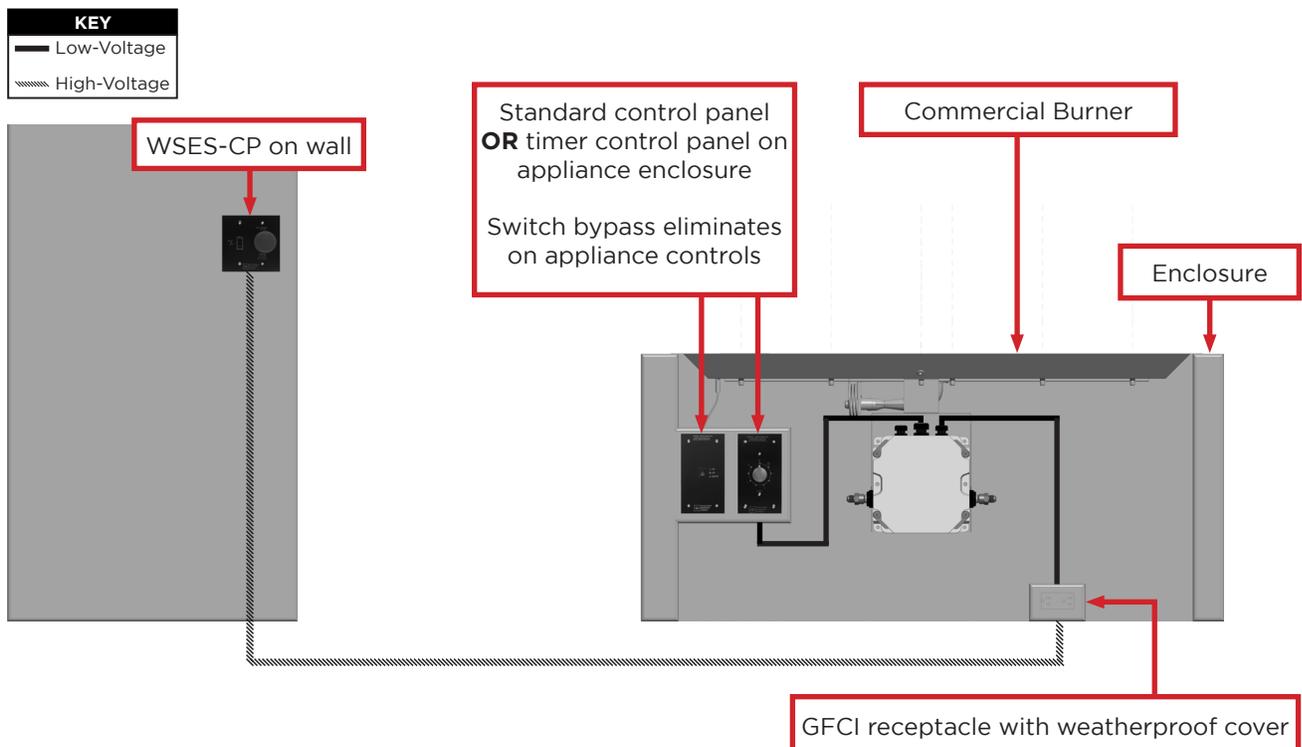
1. Turn all controls to the OFF position. This includes the CF-DSI switch, the 4-hour timer, and/or the wall switch.

2. Verify that appliance is not covered or obstructed.

3. Reset the emergency stop button by twisting clockwise.

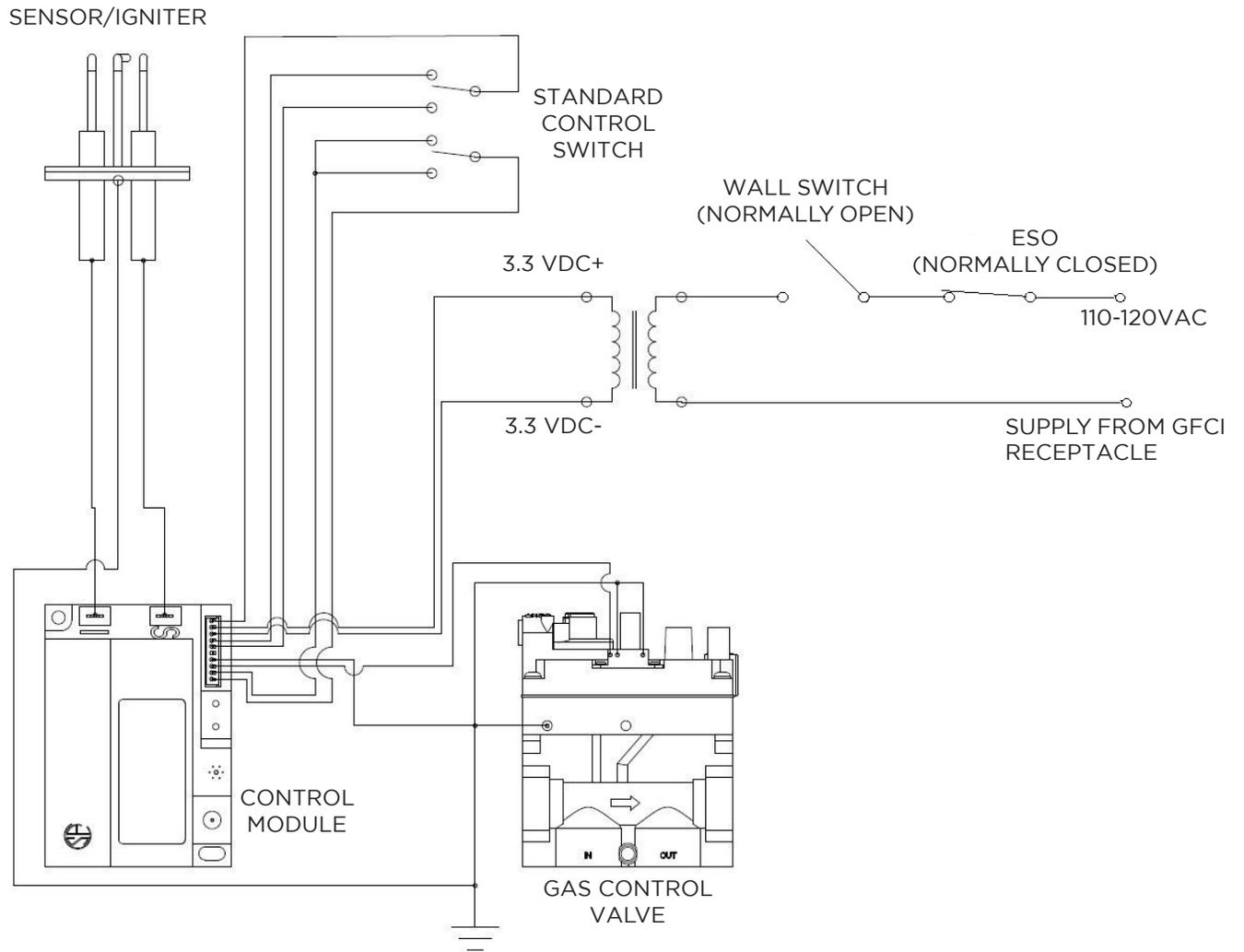# WSES-CP ON/OFF WALL SWITCH AND EMERGENCY STOP
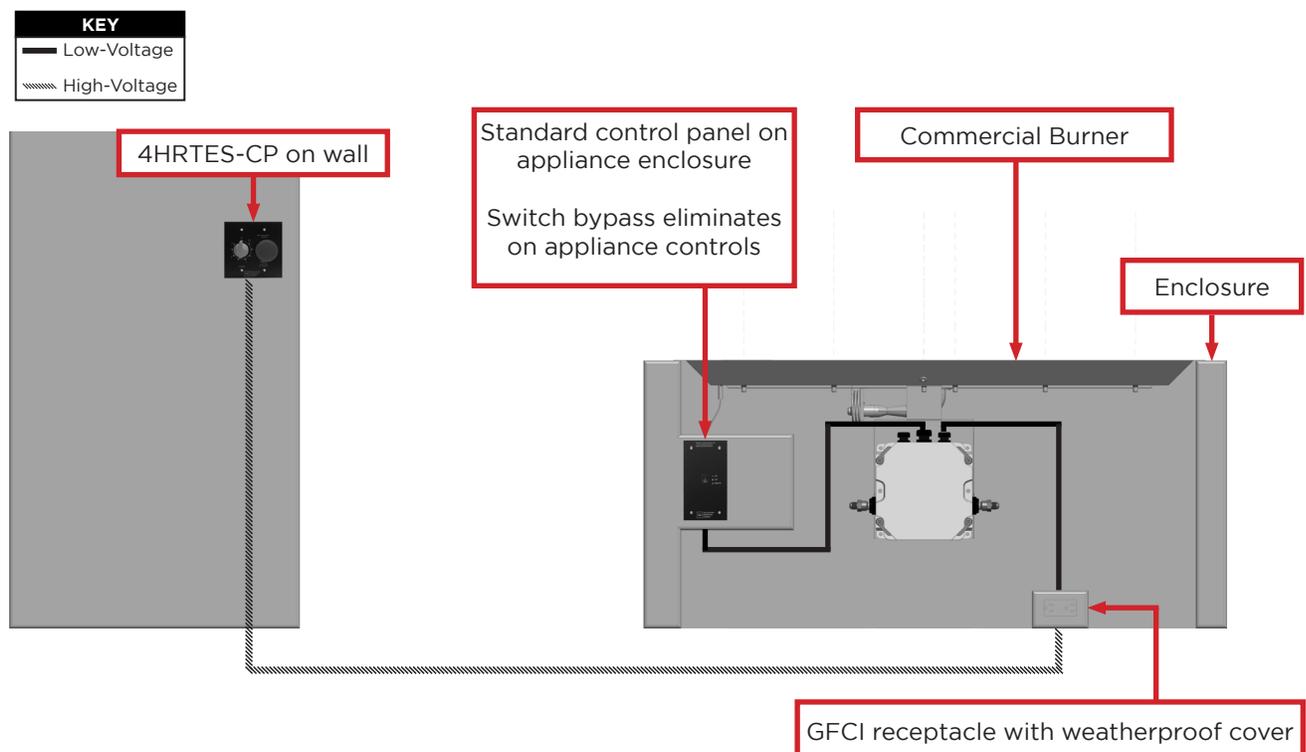

- Installed **away from the appliance**.

- Only install on a wall **within line-of-sight** of the appliance in accordance with local electrical code.

- Includes printed instruction cover plate.

- Mounts to double-gang junction box

- Operates **high-voltage**.

- Included DSI switch bypass (CF-DSI-SB) can be installed on DSI to remove control from appliance and give sole control to the WSES-CP.

- If CF-DSI-SB is installed, remote functionality is removed.

INSTALLATION DIAGRAM - (WSES-CP)

KEY
— Low-Voltage
⋙ High-Voltage

WSES-CP on wall

Standard control panel **OR** timer control panel on appliance enclosure

Switch bypass eliminates on appliance controls

Commercial Burner

Enclosure

GFCI receptacle with weatherproof cover

WIRING DIAGRAM - (CFP-ESO-CP)

SENSOR/IGNITER

STANDARD CONTROL SWITCH

WALL SWITCH (NORMALLY OPEN)

ESO (NORMALLY CLOSED)

3.3 VDC+

110-120VAC

3.3 VDC-

SUPPLY FROM GFCI RECEPTACLE

CONTROL MODULE
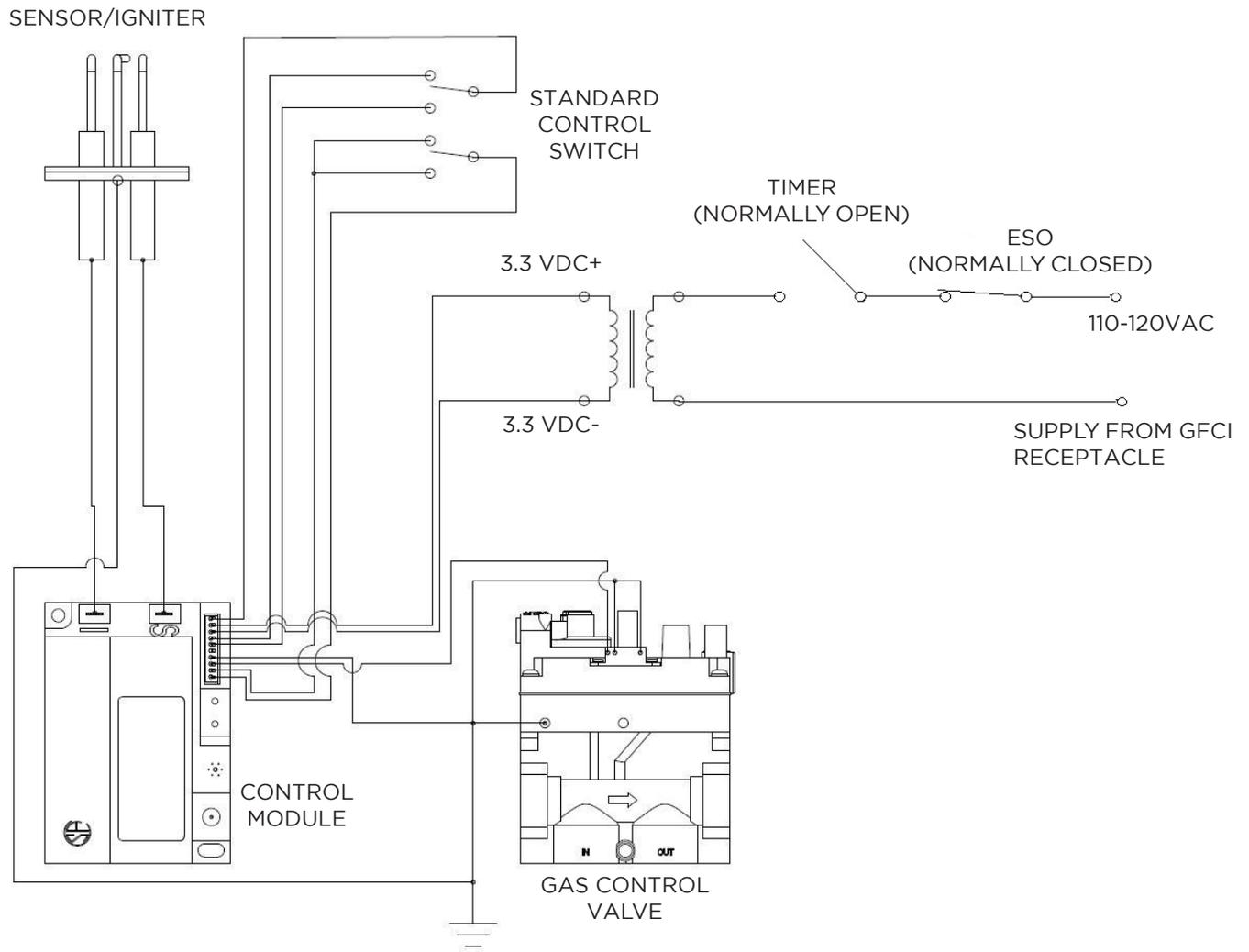
GAS CONTROL VALVE

IN   OUT

- Installed **away from the appliance**.

- Only install on a wall **within line-of-sight** of the appliance in accordance with local electrical code.

- Includes printed instruction cover plate.

- Mounts to double-gang junction box

- Operates **high-voltage**.

- Included DSI switch bypass (CF-DSI-SB) can be installed on DSI to remove control from appliance and give sole control to the WSES-CP.

- If CF-DSI-SB is installed, remote functionality is removed.

INSTALLATION DIAGRAM - (4HRTES-CP)

KEY
- Low-Voltage
- High-Voltage

4HRTES-CP on wall

Standard control panel on appliance enclosure

Switch bypass eliminates on appliance controls

Commercial Burner

Enclosure

GFCI receptacle with weatherproof cover

WIRING DIAGRAM - (4HRTES-CP)

SENSOR/IGNITER

STANDARD
CONTROL
SWITCH

TIMER
(NORMALLY OPEN)

ESO
(NORMALLY CLOSED)

3.3 VDC+

110-120VAC

3.3 VDC-

SUPPLY FROM GFCI
RECEPTACLE

CONTROL
MODULE

GAS CONTROL
VALVE

IN   OUT

C. ADDITIONAL CONTROL INFORMATION
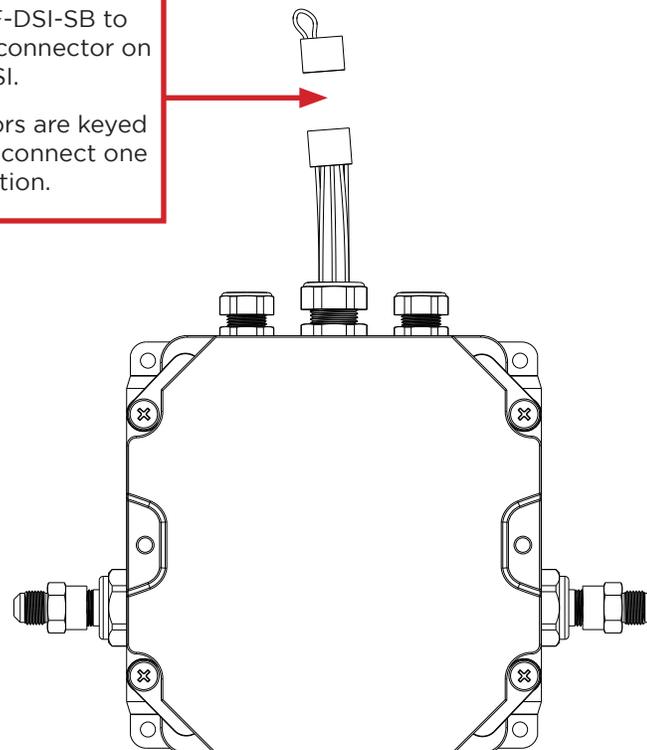
CF-DSI-SB	SWITCH BYPASS

- Installs on CF-DSI where low-voltage control switch would normally connect.

- Removes manual switch and remote functionality from CF-DSI

- Appliance is then controlled **solely by the high-voltage**.
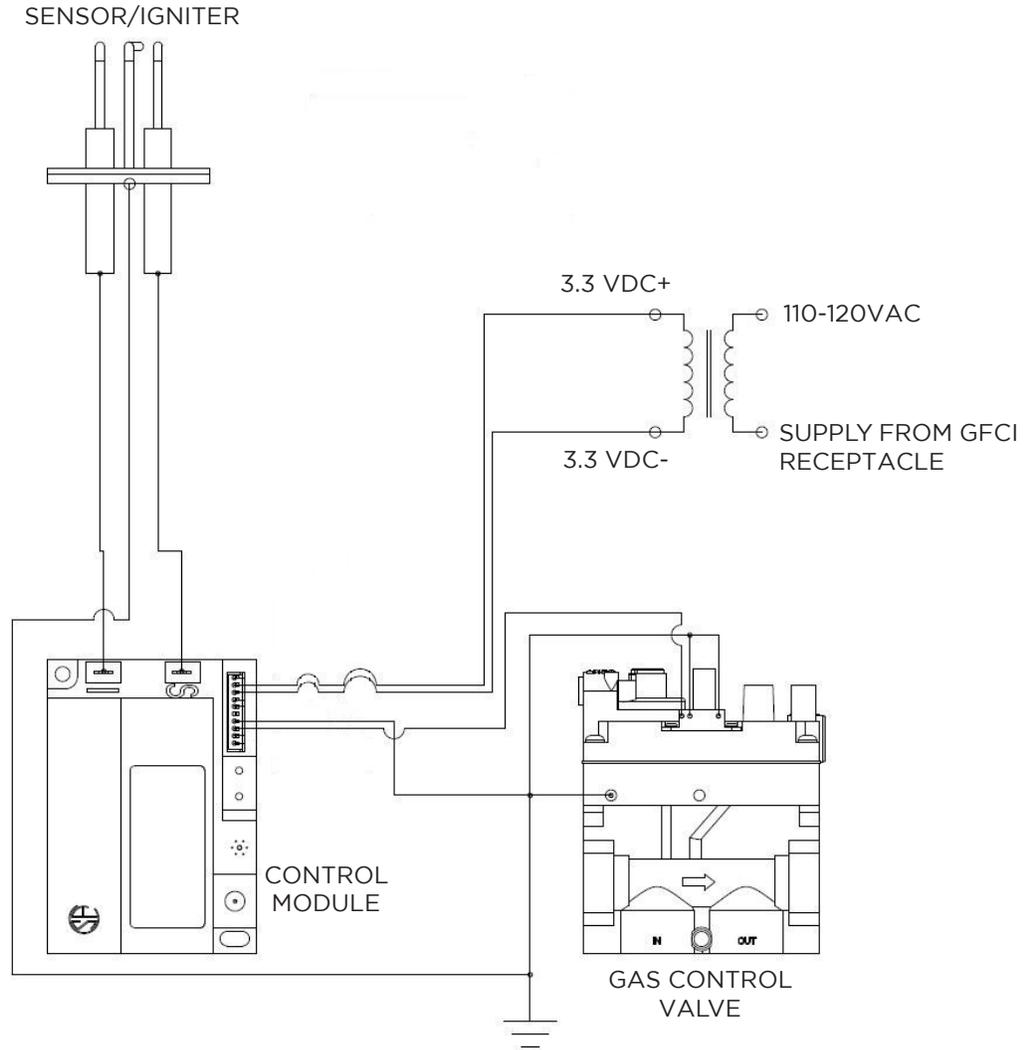
INSTALLATION DIAGRAM - (CF-DSI-SB)

Connect CF-DSI-SB to female 5-pin connector on DSI.

The connectors are keyed and can only connect one direction.
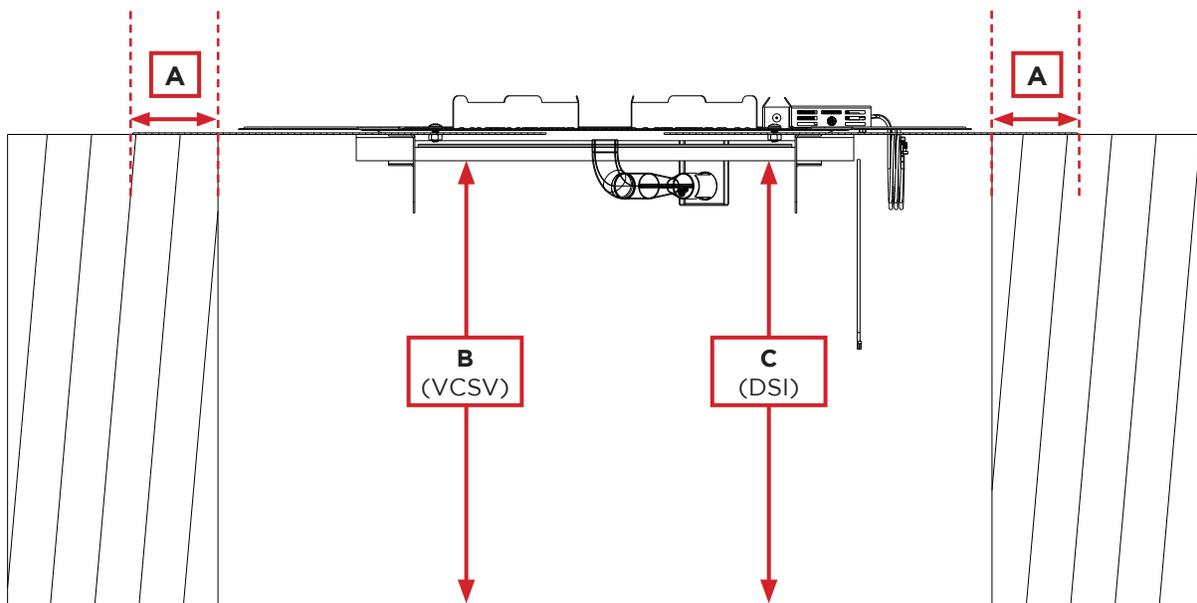
WIRING DIAGRAM - (CF-DSI-SB)

SENSOR/IGNITER

3.3 VDC+

110-120VAC

3.3 VDC-

SUPPLY FROM GFCI
RECEPTACLE

CONTROL
MODULE

GAS CONTROL
VALVE

2 BURNER PLATE INFORMATION

A. SQUARE BURNER PLATES

INSTALLATION GUIDELINES

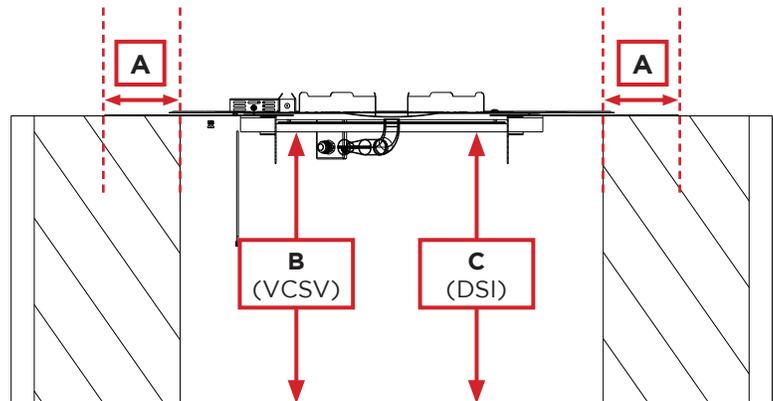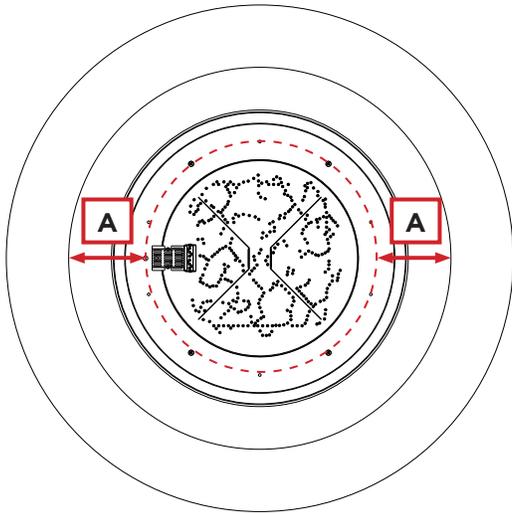| BURNER PLATE MODEL	A MIN (IN.)	A MAX (IN.)	B MIN (IN.)	B MAX (IN.)	C MIN (IN.)	C MAX (IN.)
BP24S	1.00	2.50	6.00	N/A	15.00	N/A
BP30S	1.00	5.50	6.00	N/A	15.00	N/A
BP36S	1.00	5.50	6.00	N/A	15.00	N/A
BP42S	1.00	6.00	6.00	N/A	15.00	N/A

INSTALLATION INSTRUCTIONS

1. Ensure enclosure meets requirements detailed in Crystal Fire Plus installation manual.

2. Position and if necessary secure burner plate to enclosure.

3. Install top material or capstone.

4. Burner insert can then be connected to gas and electrical according to the Crystal Fire Plus instruction manual and lowered into the burner plate. Ignition wind guard should be oriented towards cutout in burner plate.

5. For BI28 burners, it is necessary to secure burner insert to burner plate. Remove the four (4) 1/4"-20 x 3/4" machine screws from burner plate threaded inserts and secure BI28 to burner plate through perimeter drainage holes.
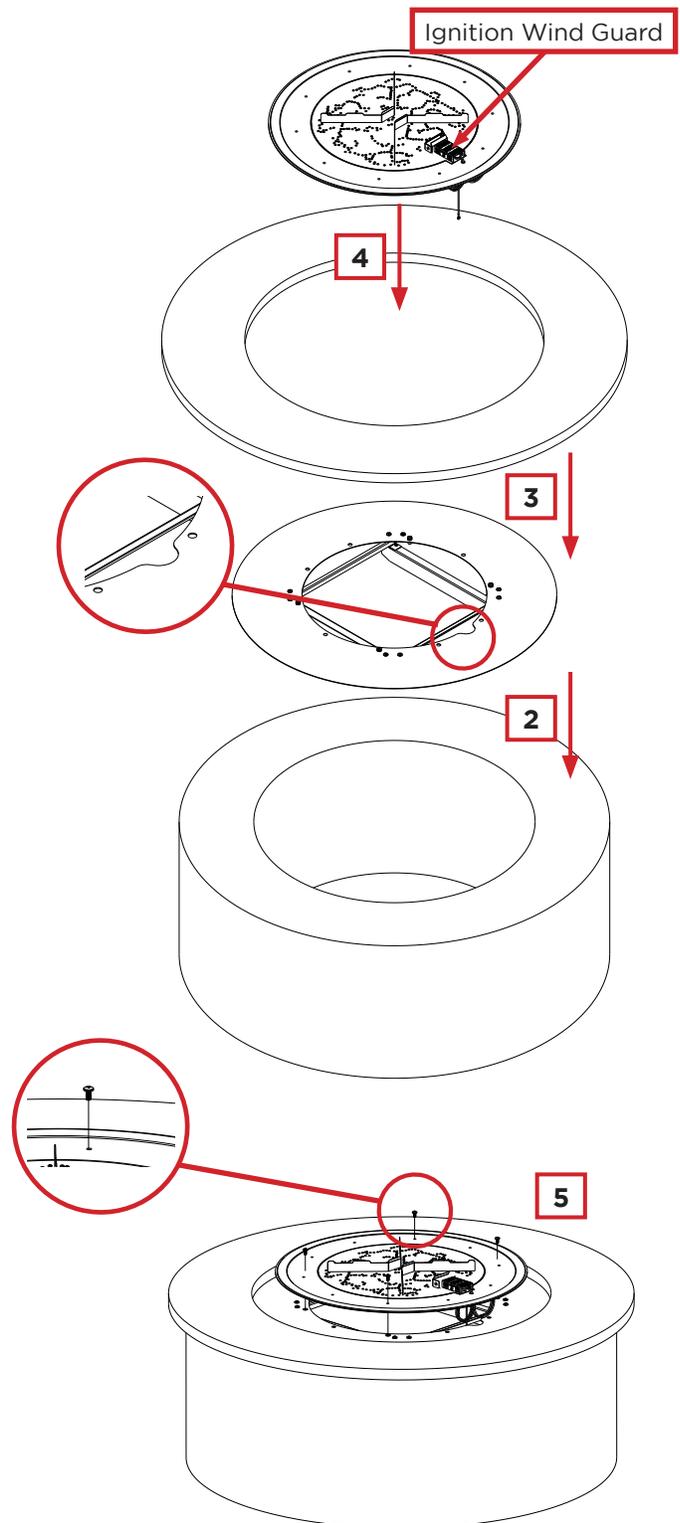
Ignition Wind Guard

B. ROUND BURNER PLATES

INSTALLATION GUIDELINES

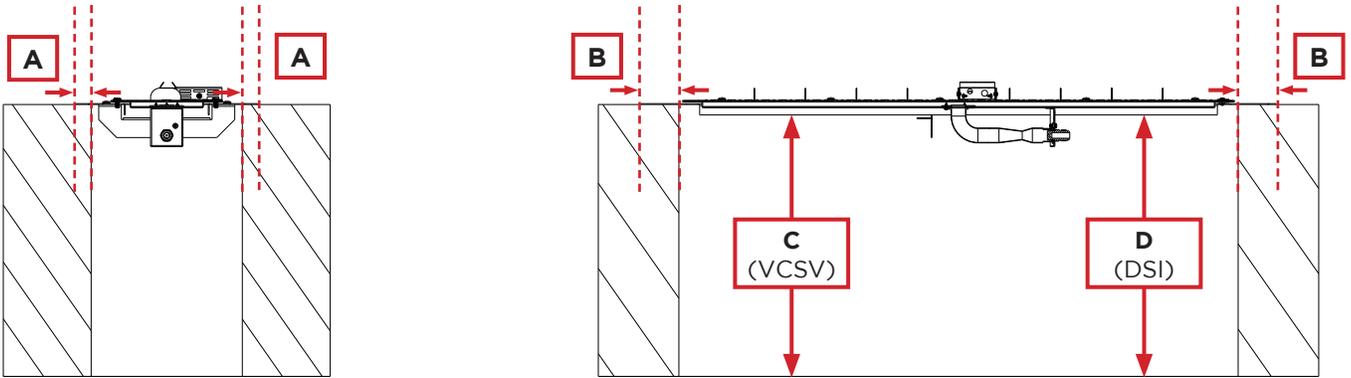| BURNER PLATE MODEL	A MIN (IN.)	A MAX (IN.)	B MIN (IN.)	B MAX (IN.)	C MIN (IN.)	C MAX (IN.)
BP20RD	1.00	2.50	6.00	N/A	15.00	N/A
BP24RD	1.00	4.50	6.00	N/A	15.00	N/A
BP30RD	1.00	2.50	6.00	N/A	15.00	N/A
BP36RD	1.00	5.50	6.00	N/A	15.00	N/A
BP42RD	1.00	6.00	6.00	N/A	15.00	N/A
BP48RD	1.00	6.00	6.00	N/A	15.00	N/A

INSTALLATION INSTRUCTIONS

1. Ensure enclosure meets requirements detailed in Crystal Fire Plus installation manual.

2. Position and if necessary secure burner plate to enclosure.

3. Install top material or capstone.

4. Burner insert can then be connected to gas and electrical according to the Crystal Fire Plus instruction manual and lowered into the burner plate. Ignition wind guard should be oriented towards cutout in burner plate.

5. For BI28 burners, it is necessary to secure burner insert to burner plate. Remove the four (4) 1/4"-20 x 3/4" machine screws from burner plate threaded inserts and secure BI28 to burner plate through perimeter drainage holes.

Ignition Wind Guard

C. LINEAR BURNER PLATES

INSTALLATION GUIDELINES

WIDTH OF BURNER PLATE (IN.)	A MIN (IN.)	A MAX (IN.)	B MIN (IN.)	B MAX (IN.)	C MIN (IN.)	C MAX (IN.)	D MIN (IN.)	D MAX (IN.)
12	.50	1.50	.50	3.00	15.00	N/A	13.00	N/A
18	.50	2.25	.50	3.00	15.00	N/A	13.00	N/A
24	.50	3.50	.50	3.00	15.00	N/A	13.00	N/A

INSTALLATION INSTRUCTIONS

1. Ensure enclosure meets requirements detailed in Crystal Fire Plus installation manual.

2. For burner plates longer than 64 in., the two halves of the burner insert and burner plate must be secured together with included mending brackets and hardware.

3. Position and if necessary secure burner plate to enclosure.

4. Install top material or capstone.

5. Burner insert can then be connected to gas and electrical according to the Crystal Fire Plus instruction manual and lowered into the burner plate. Thermocouple and igniter lead should pass through indicated hole on burner plates.

   Note: For VCSV units, thermocouple and igniter lead should pass through indicated hole on burner plate.

6. Secure burner insert to burner plate with included brackets and hardware.