Damper Controls
GFDC and SFDC Stand-Alone Damper Controllers

Installation, Operation and Maintenance

XV-GFDC Gas applications
XV-SFDC Solid fuel applications

For X-VENTISO automatic flue dampers on applications without a draft inducer. With an XV Series draft inducer, the draft inducer controller runs the damper instead (gas: XV-GBC, XV-GBC-DUO, Meridian; solid fuel: XV-WBC, XV-WBC-DUO); see that controller's manual.

1 Read First

Read this manual fully before installing, and leave it with the homeowner. Installation and service are for qualified personnel familiar with the codes that apply to the job.

DANGER: Disconnect, lock out and tag all power before installing or servicing. Failure to do so can cause fire, shock or serious injury.

WARNING: Do not install, use or service in an explosive or hazardous environment. Follow all national, state and local codes; where they differ from this manual, the code governs.

MATCH THE CONTROLLER TO THE DAMPER.

XV-GFDC runs gas dampers only (XV-GFD, XV-TMD top-mount; XV-INLD inline). **XV-SFDC runs the solid fuel damper only** (XV-SFD). Gas dampers fail closed and the solid fuel damper springs open; each is wired for the safe position for its fuel. The 4-pin damper plug is the same on both, so either damper physically plugs into either controller. Check the damper label before you plug it in. **Never put a gas damper on a wood fire.**

XV-SFDC: LEAVE THE WALL SWITCH ON UNTIL ALL COALS ARE OUT.

Switching the wall switch off closes the damper 30 seconds later. Leave the switch ON until the fire and all coals are completely out. Tell the homeowner, and leave the Owner Quick Reference (back cover) with them.

DANGER: Never put voltage on Blue + Orange. These two wires already carry low voltage from the controller. Close them with a dry contact only: a switch, remote receiver contact or automation relay. Never connect line voltage (120 V), 24 VAC or a remote's battery power to them.

The controller is sealed at the factory. There is nothing inside to adjust and no setting to make. The display is for reading only. Opening the controller voids the warranty. If an alarm will not clear, call 800.642.2920.

What this manual covers

1. Read First
2. Which Controller, What You Need
3. How It Works
4. Mount and Connect
5. Install the GFDC (Gas)
6. Install the SFDC (Solid Fuel)
7. Start-Up and Commissioning
8. Operation and Display
9. Annual Maintenance
10. Troubleshooting
11. Specifications
12. Startup Checklist and Commissioning Record

A. Ignition Module Connections (GFDC)
B. On/Off Control Options (GFDC)
C. Several Controllers on One Call (XV-INTG)

The system in one paragraph

The controller opens the X-VENTISO automatic flue damper on a call, proves it open, and acts on that proof. On gas (GFDC), the appliance cannot light until the damper proves open: the damper proven relay sits in the appliance's ignition circuit. On solid fuel (SFDC), the damper opens from a wall switch in the room and an alarm sounds if it does not prove open. Every connection is a factory-wired plug. The controller plugs into a 120 V receptacle.

2 Which Controller, What You Need

	XV-GFDC (Gas)	XV-SFDC (Solid Fuel)
Use on	Gas applications, venting on their own (no draft inducer)	Wood and solid fuel applications, drafting on their own (no draft inducer)
Runs these dampers	XV-GFD, XV-TMD (top-mount); XV-INLD (inline)	XV-SFD (all sizes)
How the damper is proven	Damper end switch, read by the controller	Damper end switch, read by the controller
What proof does	Closes the damper proven relay: the appliance can light	Display shows OPEN; alarm if the damper does not prove open
Call to run	Blue + Orange: the appliance's ignition control, or an automation, remote or switch contact (Appendix B)	Wall switch in the room containing the fireplace (by others), on Blue + Orange
Alarm	Damper position alarm: display and buzzer	Damper position alarm: display and buzzer
When the call ends	30-second post-purge, then the damper closes	30-second post-purge, then the damper closes
On power loss	Gas damper fails closed; the appliance cannot fire	Spring-open actuator: the damper opens. No battery; UPS recommended
Designed for	NFPA 54 vent damper interlock: the appliance cannot fire until the damper proves open	NFPA 211 automatic dampers: listed damper installed per its listing, operable from the room containing the fireplace

In the box

- Controller (sealed), with 6 ft power cord
- 4 ft ignition lead, black 4-pin
- GFDC: two SIT Proflame 2 terminal blocks factory-connected on the ignition lead
- Installation manual

Sold separately

- Damper: XV-GFD / XV-TMD / XV-INLD (GFDC) or XV-SFD (SFDC). See XV-IM-DMP for the damper install
- Damper cap XV-DMPCAP (top-mount dampers)
- SFDC wall switch: any single-pole switch (by others)
- Damper extension cables XV-DAMPEREXT: 20, 50 or 100 ft
- Ignition extension cables XV-IGNEXT: 20 or 50 ft
- GFDC ignition adapters: XV-IGN-ADPT-RS (Robertshaw 780-715 U); XV-IGN-PFAK (automation or switch on Proflame 2)
- XV-INTG, several damper controls on one call (Appendix C)

Before you start, confirm the site

- **Power:** a 120 V, 15 A grounded receptacle within 6 ft of the controller, indoors. GFCI where code calls for it. SFDC: a UPS is recommended (Section 6).
- **Controller location:** indoors, dry, accessible after the finish is complete, where the display can be read. Between 5 and 104°F (-15 to 40°C), no condensing humidity. Not outdoors; not inside a closed wall.
- **Cable runs:** plan the damper lead and any extension so every connection stays accessible: never inside conduit or a closed wall.
- **Adding a draft inducer later?** Specify XV-GBC or Meridian (gas) or XV-WBC (solid fuel) instead: they run the damper too, and the damper stays.

3 How It Works

GAS XV-GFDC sequence

Stage	What happens
Off	No call. Damper closed (gas dampers close on their seal). Damper proven relay open: the appliance cannot light.
Call	Blue + Orange close: the appliance's ignition control calls, or an automation, remote or switch contact (Appendix B).
Opening	The controller powers the damper open and watches its end switch.
Proven	The end switch proves the damper open. The controller closes the damper proven relay (Black + Red) and the appliance can light.
Running	The damper stays proven. If proof is lost while running, the relay opens, the appliance shuts off and the alarm sounds.
Call ends	The relay opens and the appliance shuts off. The damper stays open for a 30-second post-purge, then closes on its seal.
Alarm	The damper does not prove open: the relay stays open, the appliance does not light, and the damper position alarm sounds (display and buzzer). Ending the call silences and resets it. Find and fix the cause before calling again.
Power loss	The relay opens and the appliance gas valve closes, including on ignition controls with battery backup (the controller sits in the ignition circuit). The damper fails closed. The appliance cannot light until power returns and the damper proves open again.

SOLID FUEL XV-SFDC sequence

Stage	What happens
Off	Wall switch off. Damper closed.
On	The wall switch turns the system on. The controller opens the solid fuel damper and watches its end switch.
Proven	The damper proves open. Display shows OPEN. Light the fire.
Alarm	The damper does not prove open: damper position alarm (display and buzzer), usually seen before the fire is lit. Switching off silences and resets it. Find the cause before lighting a fire.
Switched off	The damper stays open for a 30-second post-purge, then closes. **Leave the switch ON until the fire and all coals are completely out**.
Power loss	The spring-open actuator opens the damper. There is no battery: without power there is no alarm. A UPS is recommended (Section 6).

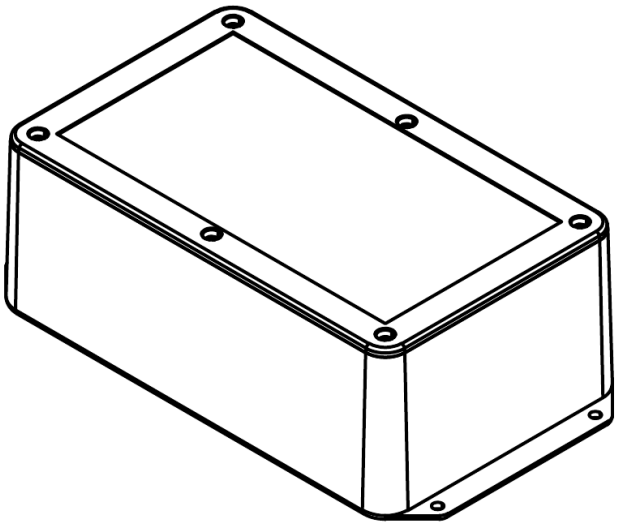
Code basis

GAS NFPA 54-2018: a listed, automatically operated vent damper (12.15), interlocked so the appliance cannot fire until the damper proves open. SOLID FUEL NFPA 211-2019: a listed automatically operated damper installed per its listing (9.9.4), at the top of the flue and operable from the room containing the fireplace (11.2.9.2). Codes are adopted and amended locally; the authority having jurisdiction makes the final call on every installation.

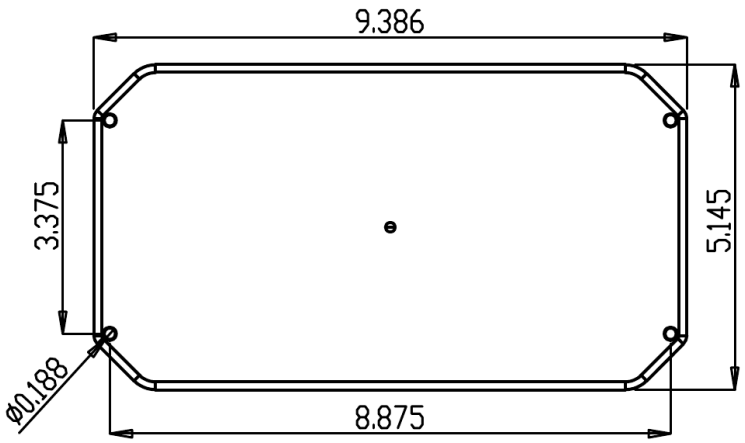
4 Mount and Connect

Mount the controller

1. Pick an indoor, dry spot within 6 ft of the 120 V receptacle and within reach of the damper lead (or its extension). Keep it away from high-power wiring and equipment that causes electrical noise, and out of strong vibration.
2. Mount the controller on a wall or structure with four screws (by others) through the 3/16 in. holes in the mounting tabs, on 3-3/8 x 8-7/8 in. centers. Mount it with the display readable.
3. Do not open the lid. The controller is sealed at the factory, and the tamper seal must stay intact for the warranty.



XV-GFDC and XV-SFDC share one enclosure.



Mounting holes, back of the enclosure (inches). Overall 5-1/8 x 9-3/8 (including tabs) x 3-1/8 in.

Make the connections

Connection	On the controller	To
White 4-pin Molex	Damper connection	Damper lead (30 ft standard on the damper), or an XV-DAMPEREXT extension
Black 4-pin Molex	Ignition connection	4 ft ignition lead. GFDC: to the appliance ignition control (Section 5, Appendix A). SFDC: to the wall switch (Section 6)
Power cord, 6 ft	Controller	120 V, 15 A grounded receptacle

- Plug in. No field wiring inside the controller. Push each Molex until it latches.
- Damper lead longer than standard: one continuous custom lead, or 20, 50 or 100 ft extensions. Ignition lead: XV-IGNEXT, 20 or 50 ft. Every connection stays accessible: never inside conduit or a closed wall.
- Low-voltage runs: keep them out of conduit or raceways carrying line voltage, and away from motors and other inductive loads. 18 AWG shielded cable is recommended for any field-run low-voltage connection.
- Plug the controller in last, after every other connection is made.

5 Install the GFDC (Gas)

CAUTION: Gas dampers only: XV-GFD, XV-TMD or XV-INLD. Never connect the solid fuel damper (XV-SFD) to the GFDC.

Configuration	Damper	Page
GFDC with top-mount damper	XV-GFD or XV-TMD at the termination, under an XV-DMPCAP cap	7
GFDC with inline damper	XV-INLD in the flue run, inside the chase	8

At the appliance

1. Install the gas appliance and its ignition control per the appliance manufacturer's instructions.
2. Install the damper per XV-IM-DMP (top-mount: Sections 4 and 5; inline: Section 6).
3. Mount the controller (Section 4).

Connect the ignition lead

The GFDC uses the same 4-wire ignition lead as every X-VENTISO gas controller. Black + Red are the **damper proven relay**: a dry contact that closes only once the damper proves open, so the appliance can light. Blue + Orange are the **ignition demand**: the call that starts the system. Neither pair has polarity.

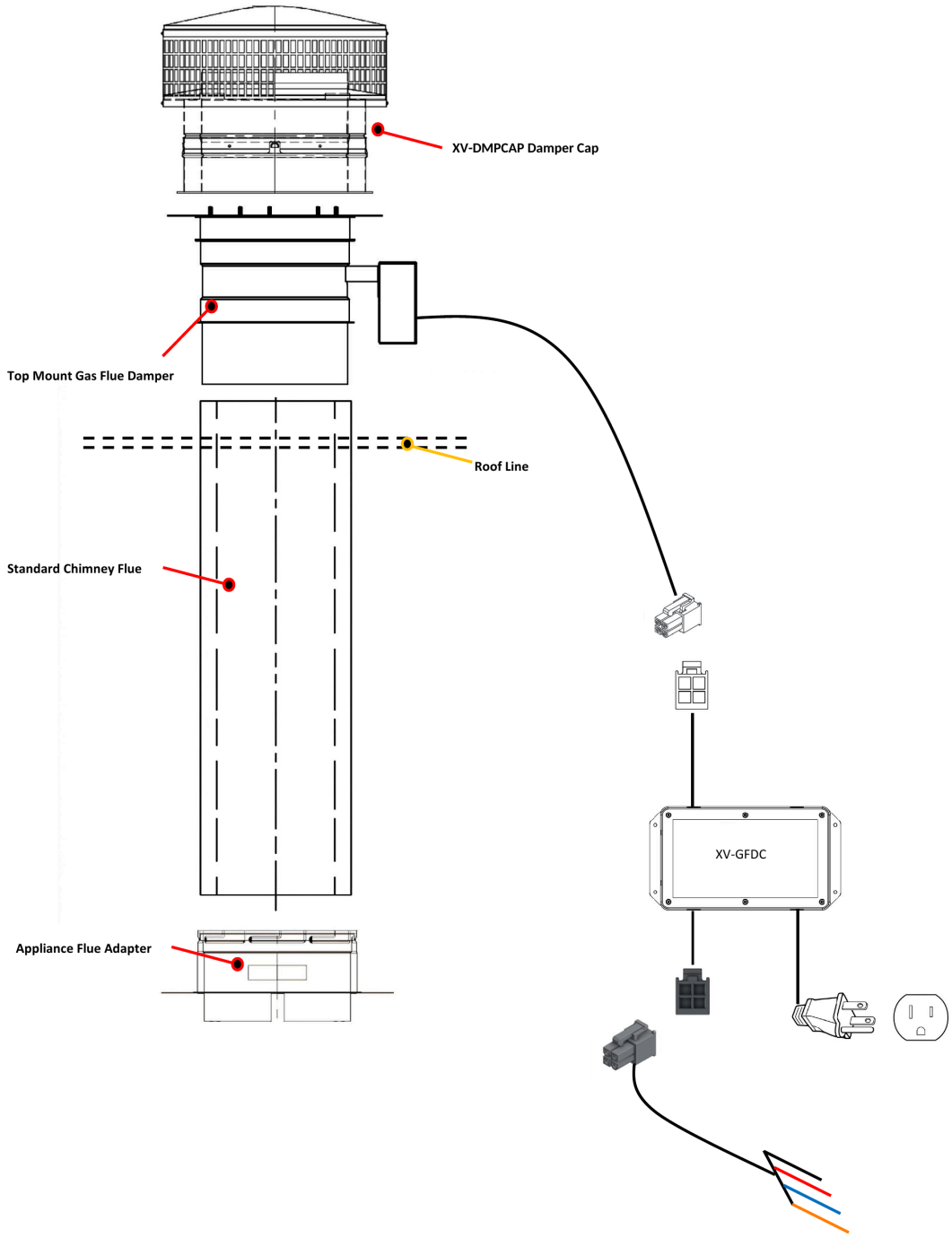
Ignition wire	Function	SIT Proflame 2
Black and Red	Damper proven relay (lets the appliance light once the damper is proven open)	X4
Blue and Orange	Ignition demand (the appliance's call for the system to run)	X13

4. **SIT Proflame 2:** remove the original ON/OFF switch from X4, then plug the factory-connected terminal blocks into the module: Black and Red to X4, Blue and Orange to X13. Turn AUX on at the Proflame remote during start-up. For automation or a wall switch on a Proflame 2 appliance, use XV-IGN-PFAK (Appendix A).
5. **Dexen, Robertshaw 780-715 U, Resideo / Honeywell S8610U:** see Appendix A. Blue + Orange then go to the on/off control, automation first (Appendix B).
6. **Module not shown?** Call 800.642.2920 before wiring.
7. Plug the ignition lead into the controller's black 4-pin and the damper lead into its white 4-pin.
8. Plug the controller into the receptacle. Do not run the appliance until you complete the Startup Checklist (Section 12).

NEVER LEAVE A SWITCH OR REMOTE WIRED DIRECTLY TO THE MODULE.

It bypasses the damper proving and can light the appliance with the damper closed. The switch, remote or automation contact moves to Blue + Orange. No lever nut on Blue + Orange: the GFDC has no wall control, so a lever nut would keep the system called all the time.

XV-GFDC with Top-Mount Gas Damper

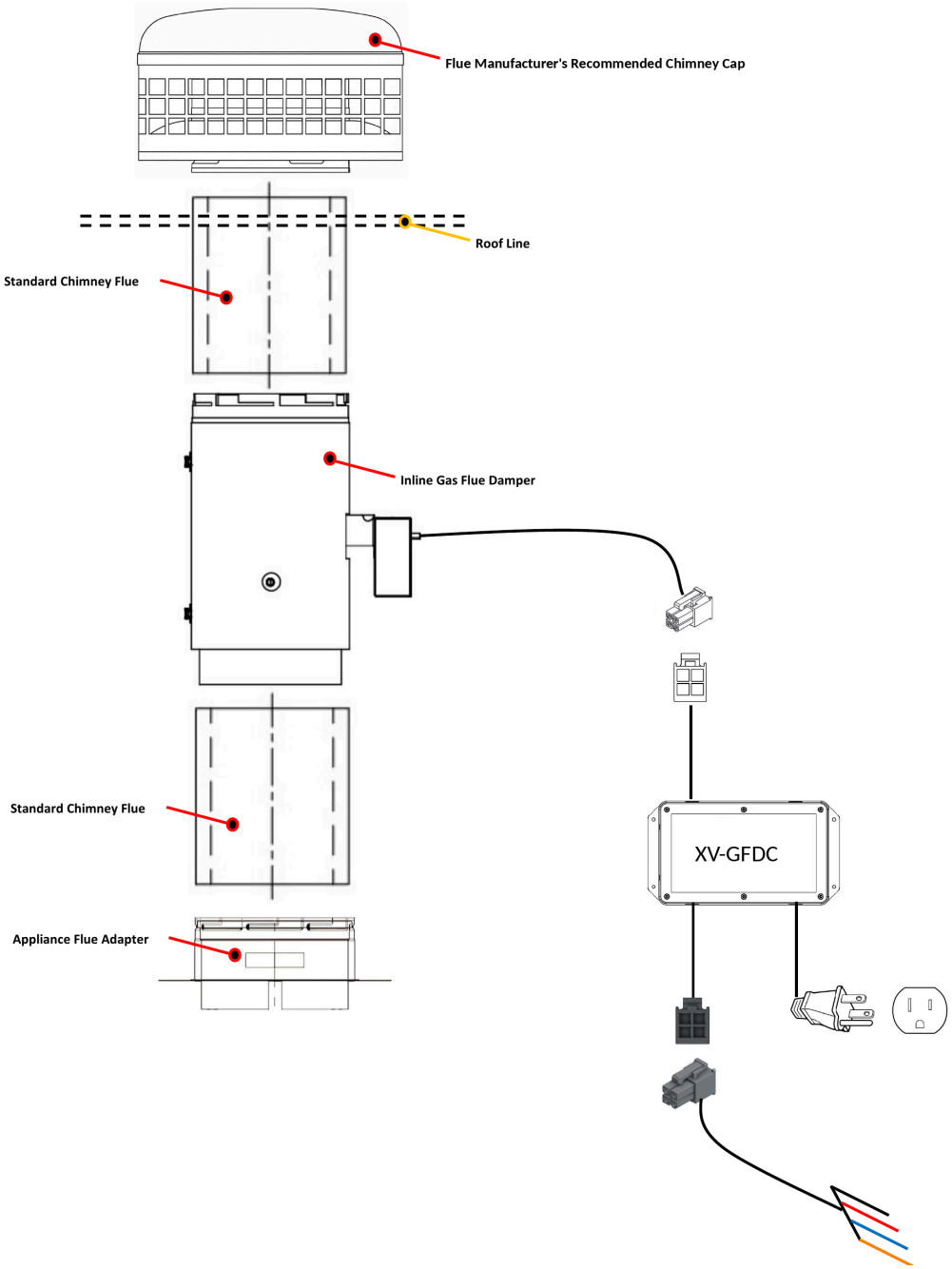


Molex	Connection
White 4-pin	Damper
Black 4-pin	Ignition connection

Ignition wire	Connection
Black	Damper proven relay
Red	Damper proven relay
Blue	Ignition demand
Orange	Ignition demand

Same layout as configuration guide XV-CG-GFDC-TMD.

XV-GFDC with Inline Damper



Molex	Connection
White 4-pin	Damper
Black 4-pin	Ignition connection

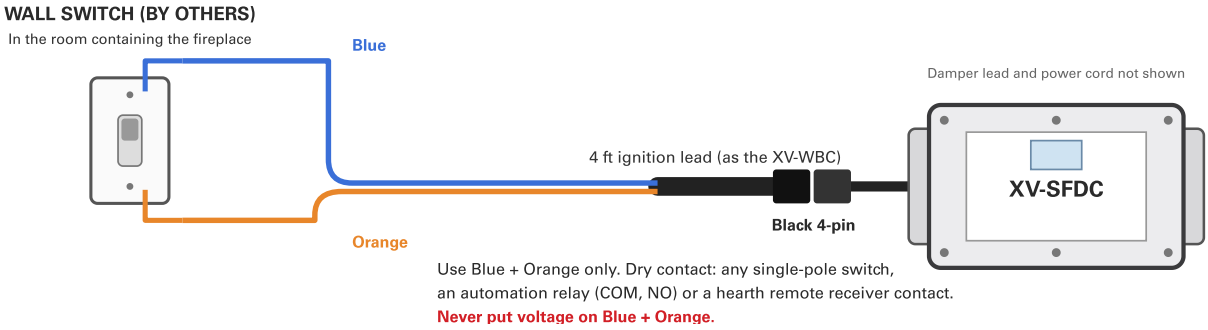
Ignition wire	Connection
Black	Damper proven relay
Red	Damper proven relay
Blue	Ignition demand
Orange	Ignition demand

Same layout as configuration guide XV-CG-GFDC-INLD.

6 Install the SFDC (Solid Fuel)

DANGER: Solid fuel damper only: XV-SFD. Never connect a gas damper (XV-GFD, XV-TMD, XV-INLD) to the SFDC. A gas damper fails closed on power loss while the fire keeps burning.

1. Install the fireplace or solid fuel appliance and its chimney per the manufacturers' instructions.
2. Install the XV-SFD at the top of the flue, under an XV-DMPCAP cap, per XV-IM-DMP Section 7.
3. Mount the controller (Section 4).
4. Install the wall switch (by others) **in the room containing the fireplace**, where the person tending the fire can reach it. Any single-pole switch; or an automation relay or hearth remote receiver contact. Dry contact only.
5. Connect the switch to Blue + Orange of the 4 ft ignition lead (the same lead as the XV-WBC) and plug the lead into the controller's black 4-pin. Use Blue + Orange only.
6. Plug the damper lead into the damper (and any extension) and the controller's white 4-pin.
7. Plug the controller into the receptacle (or the UPS). Do not light a fire until you complete the Startup Checklist (Section 12).



LEAVE THE WALL SWITCH ON UNTIL THE FIRE AND ALL COALS ARE COMPLETELY OUT.

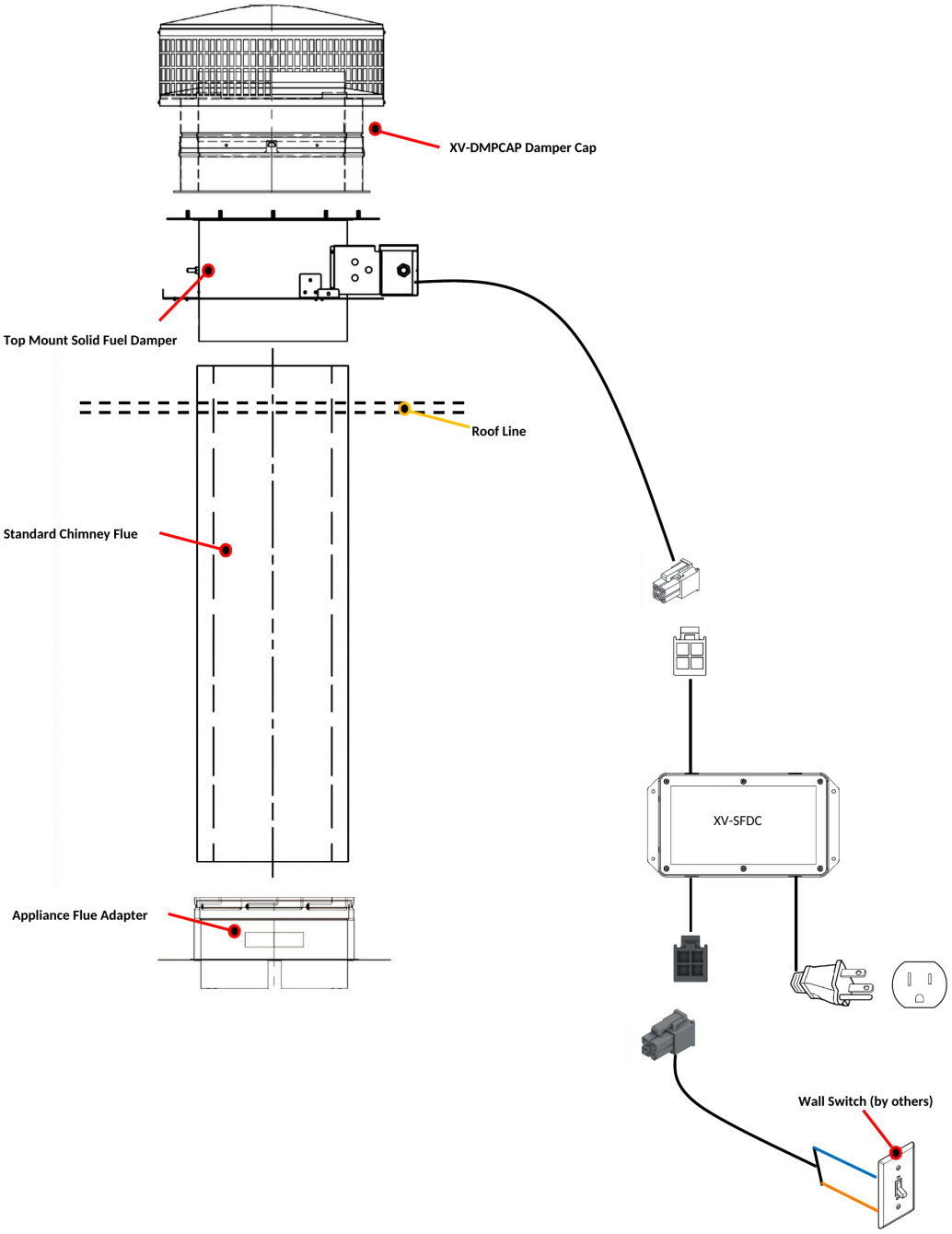
Switching the wall switch off closes the damper 30 seconds later. Show the homeowner, and leave the Owner Quick Reference (back cover) with them.

Installer, on automation: Keep the XV-SFDC out of All Off, Away, Goodnight and scheduled-off automation scenes. It should switch off only when the owner turns it off.

RECOMMENDED Connect the XV-SFDC to a UPS (uninterruptible power supply) so the alarm stays active during a power outage. On power loss the damper springs open.

Code basis: NFPA 211-2019 9.9.4 (listed automatically operated damper, installed per its listing) and 11.2.9.2 (damper at the top of the flue, operable from the room containing the fireplace). The wall switch in that room is what makes the damper operable from the room.

XV-SFDC with Solid Fuel Damper



Molex	Connection
White 4-pin	Damper
Black 4-pin	Low voltage contact closure

Ignition wire	Connection
Blue	Wall switch (dry contact, by others)
Orange	Wall switch (dry contact, by others)

Same layout as configuration guide XV-CG-SFDC-SFD.

7 Start-Up and Commissioning

There is no test mode and no setting to make. Every test below uses the real connections: the call, the damper lead and the power cord. Record each result on the Startup Checklist (Section 12).

GAS XV-GFDC

1. **Normal start.** Make a call (Proflame 2: AUX on at the remote). The damper opens and proves; the display shows OPEN; the appliance lights.
2. **Shutdown.** End the call. The appliance shuts off; the damper stays open 30 seconds, then closes on its seal.
3. **Proving test.** With no call, unplug the damper lead at the controller. Make a call. The appliance must not light, and the alarm sounds (display and buzzer). End the call (the alarm resets) and plug the damper back in.
4. **Loss of proof while running.** With the appliance running, unplug the damper lead at the controller. The appliance must shut off. End the call, plug the damper back in; the system runs on the next call.
5. **Power loss.** With the appliance running, unplug the controller. The appliance must shut off (including on an ignition control with battery backup) and the damper closes. Plug it back in.
6. Cycle the system on and off three times with a normal start, prove and shutdown.

SOLID FUEL XV-SFDC

1. **Normal start.** Turn the wall switch on. The damper opens and proves; the display shows OPEN.
2. **Shutdown.** Switch off. The damper stays open 30 seconds, then closes.
3. **Proving test.** With the switch off, unplug the damper lead at the controller and switch on. The alarm must sound (display and buzzer). Switch off (the alarm resets) and plug the damper back in.
4. **Spring-open test.** With the switch off and the damper closed, unplug the controller. The damper must spring open. Plug the controller back in. If a UPS is installed, also check the UPS per its maker.
5. **Automation.** If the switch is an automation contact, confirm the XV-SFDC is in no All Off, Away, Goodnight or scheduled-off scene.
6. Show the homeowner the wall switch and the display. Tell them: **leave the switch ON until the fire and all coals are completely out.** Leave the Owner Quick Reference (back cover).

WARNING: Do not light the appliance or a fire until every test passes. If a test fails, see Troubleshooting (Section 10) or call 800.642.2920.

8 Operation and Display

The display shows what the controller is doing. It sits behind a clear cover that protects the board, and it is for reading only: the controller is sealed and has nothing to set.

Display	Meaning
OFF / DAMPER CLOSED	No call. Waiting.
START / OPENING DAMPER	Call received. Opening the damper and checking its end switch.
OPEN	Damper proven open. Normal operation. GFDC: the appliance can light.
CLOSE / DAMPER CLOSING	Call ended. The damper closes after the 30-second post-purge.
ALARM / DAMPER POSITION	The damper did not prove open, or lost proof while running. The buzzer sounds. GFDC: the appliance stays off.
Model and version	Shown briefly at power-up.

Alarms

	XV-GFDC	XV-SFDC
Damper not proven	Appliance does not light. Display ALARM; buzzer.	Display ALARM; buzzer. Usually seen before the fire is lit.
Silencing and reset	Turn the fireplace off (end the call). That silences and resets the alarm. There is no mute button.	Switch off. That silences and resets the alarm, but the damper closes 30 seconds later: **with a fire burning, leave the switch ON** and call for service.
After an alarm	Find and fix the cause before calling again (Section 10).	Find and fix the cause before the next fire (Section 10).
Power lost while on	Appliance shuts off; damper fails closed. Nothing can fire.	Damper springs open. No alarm without power (UPS recommended).

XV-SFDC: LEAVE THE SWITCH ON UNTIL ALL COALS ARE OUT.

Switching the wall switch off closes the damper 30 seconds later. Leave the switch ON until the fire and all coals are completely out.

SFDC ALARM WITH A FIRE BURNING

Do not add fuel. Do not switch the system off. Let the fire burn down, ventilate the room, and call for service.

Smoke in the room, a smoke or CO alarm, or fire outside the firebox: get everyone out and call 911 from outside.

9 Annual Maintenance

Inspect the system once a year, and record each inspection: the warranty requires a documented annual inspection. Solid fuel: do it with the annual chimney inspection.

Every year	How
Damper	Inspect per XV-IM-DMP Section 11. Solid fuel: clean the damper whenever the chimney is swept.
Connections	Every Molex fully latched; damper lead, ignition lead and extensions undamaged and still accessible; power cord and plug undamaged.
Controller	Mounted firmly, dry, tamper seal intact. Wipe the clear display cover clean with a soft, damp cloth; never pry it off. Do not open the controller.
Proving test	Repeat the proving test from Section 7 (unplug the damper lead at the controller): GFDC, the appliance must not light; both, the alarm must sound.
SOLID FUEL Spring-open test	Switch off, let the damper close, unplug the controller: the damper must spring open. Plug it back in.
SOLID FUEL UPS, if installed	Test and replace its battery per the UPS maker.
SOLID FUEL Automation	The XV-SFDC is still out of All Off, Away, Goodnight and scheduled-off scenes.

Warranty

2 years from the invoice date, parts and shipping, valid with proper installation and a documented annual inspection. Skipping the inspection voids the warranty. Opening the controller voids the warranty. Not covered: water or weather damage, damage from installation outside these instructions.

Service record

Date	By	Damper	Connections	Proving test	Spring-open (SFDC)	Notes

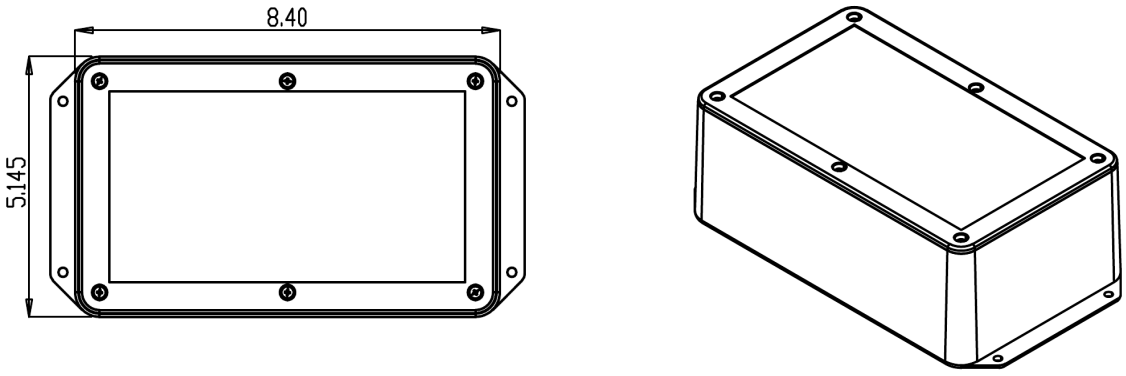
10 Troubleshooting

Every check below is done without opening the controller. If these do not solve it, call **800.642.2920**. Do not open the controller.

Symptom	Check
Display dark	• Controller plugged in; receptacle (or UPS) has power • GFCI or breaker tripped
GAS Display OFF, appliance called	• Ignition lead latched at the controller's black 4-pin • Proflame 2: AUX turned on at the remote; remote synced to the module • Other modules: the automation, remote or switch contact on Blue + Orange is closing (Appendix B)
SOLID FUEL Display OFF, switch on	• Switch (or automation contact) on Blue + Orange of the ignition lead • Ignition lead latched at the controller's black 4-pin • Controller plugged in
ALARM / DAMPER POSITION	• Damper lead and any extension fully latched • Damper blocked: ice, debris, nest, creosote (solid fuel) • Wrong damper type for the controller (see the rows below) • Damper actuator not moving: call • To silence: end the call. SFDC with a fire burning: leave the switch on and call
GAS Appliance will not light, display OPEN	• Black + Red landed per Appendix A for this module • Original switch removed from the module • Appliance fault: see the appliance manual
GAS Appliance will not light, damper does not move	• A solid fuel damper (XV-SFD) connected to the GFDC. Replace it with a gas damper
SOLID FUEL Alarm sounds and will not clear	• A gas damper connected to the SFDC. Replace it with an XV-SFD before the next fire
SOLID FUEL Damper closed while the fire was still burning	• The switch was turned off, or an automation scene turned it off. Turn it back on • Take the XV-SFDC out of All Off, Away, Goodnight and scheduled-off scenes
Damper stays open with no call	• Within 30 seconds of the call ending: normal post-purge • GFDC: the call source is holding Blue + Orange closed (relay stuck, Proflame AUX left on) • SFDC: wall switch on; or power is off (spring-open)
Smoke or odor at the opening	• Damper proven open? Check the display • House depressurization: range hood, dryer, bath fans or closed doors. If spillage tracks with exhaust, the home needs makeup air • Chimney blocked or too short for the opening: call

11 Specifications

	XV-GFDC	XV-SFDC
Fuel	Gas applications	Wood and solid fuel applications
Dampers	XV-GFD, XV-TMD, XV-INLD	XV-SFD
Electrical rating	120 VAC, 60 Hz, 1.0 A	120 VAC, 60 Hz, 1.0 A
Power connection	6 ft cord; plugs into a standard 120 V receptacle	Same; UPS recommended
Call to run	Blue + Orange, dry contact only (appliance ignition control, automation, remote or switch)	Wall switch by others, dry contact on Blue + Orange
Damper proven relay (Black + Red)	Dry contact, 3 A @ 30 VDC, 3 A @ 250 VAC	Not used
Leads	4 ft ignition lead, black 4-pin. Damper lead 30 ft (on the damper), white 4-pin	Same
Damper connection	4-pin Molex, plug-in; powers the 24 V damper actuator	Same
Proving	Damper end switch	Same
Post-purge	30 seconds after the call ends	30 seconds after switch-off
Alarm	Damper position alarm: display and buzzer; resets when the call ends	Same; resets at switch-off
On power loss	Appliance cannot fire; gas damper fails closed	Spring-open actuator: damper opens. No battery backup
Enclosure	NEMA 1 (indoor), factory-sealed, tamper seal	Same
Dimensions	5-1/8 x 9-3/8 (including mounting tabs) x 3-1/8 in.	Same
Mounting	Surface mount, four 3/16 in. holes on 3-3/8 x 8-7/8 in. centers	Same
Weight	7 lb	7 lb
Display	View-only, 0.875 x 1.375 in. window behind a clear protective cover	Same
Operating environment	5 to 104°F (-15 to 40°C), 5 to 90% RH non-condensing	Same
Listings	UL 508 Industrial Control, UL/ULC 378 Draft Equipment. ETL Listed (c/us), Intertek control no. 4007025	Same
Designed for	NFPA 54 vent damper interlock (12.15)	NFPA 211 automatic dampers (9.9.4, 11.2.9.2)
Warranty	2 years from invoice, parts and shipping, with a documented annual inspection	Same



Enclosure, lid and isometric views (inches). Dimensioned drawing on request.

12 Startup Checklist and Commissioning Record

Do not skip steps. Skipping steps can create a hazardous condition or damage equipment.

A. Before power

#	Check	Result
1	Damper matches the controller: gas damper on GFDC, XV-SFD on SFDC (check the damper label).	YES / NO
2	Damper installed per XV-IM-DMP; flow arrow toward the termination.	YES / NO
3	Controller mounted indoors, dry, display readable, tamper seal intact.	YES / NO
4	All Molex connections latched; every extension connection accessible, not in conduit or a closed wall.	YES / NO
5	GAS Ignition lead landed per Section 5 / Appendix A; original switch removed from the module; no lever nut on Blue + Orange.	YES / NO
6	SOLID FUEL Wall switch in the room containing the fireplace, on Blue + Orange.	YES / NO
7	Receptacle verified 120 V. SOLID FUEL UPS installed (recommended): YES / NO.	YES / NO

B. Tests (Section 7)

#	Check	Result
1	GAS Normal start: damper proves, appliance lights. Shutdown: appliance off, damper closes after 30 s.	YES / NO
2	GAS Damper lead unplugged: appliance does not light; alarm sounds.	YES / NO
3	GAS Damper lead unplugged while running: appliance shuts off.	YES / NO
4	GAS Controller unplugged while running: appliance shuts off.	YES / NO
5	SOLID FUEL Normal start: damper proves open. Switch off: damper closes after 30 s.	YES / NO
6	SOLID FUEL Damper lead unplugged: alarm sounds.	YES / NO
7	SOLID FUEL Controller unplugged with the damper closed: damper springs open.	YES / NO
8	SOLID FUEL Automation: SFDC in no All Off, Away, Goodnight or scheduled-off scene.	YES / NO
9	Cycled on and off three times with normal start, prove and shutdown.	YES / NO
10	Owner shown operation and given the Owner Quick Reference. SOLID FUEL Owner shown: leave ON until all coals are out.	YES / NO

Controller model / serial		**Damper part number**	
Appliance / ignition module		**Installer / date**	

TECHNICAL SUPPORT **800.642.2920** x-ventiso.com

A Appendix A: Ignition Module Connections (GFDC)

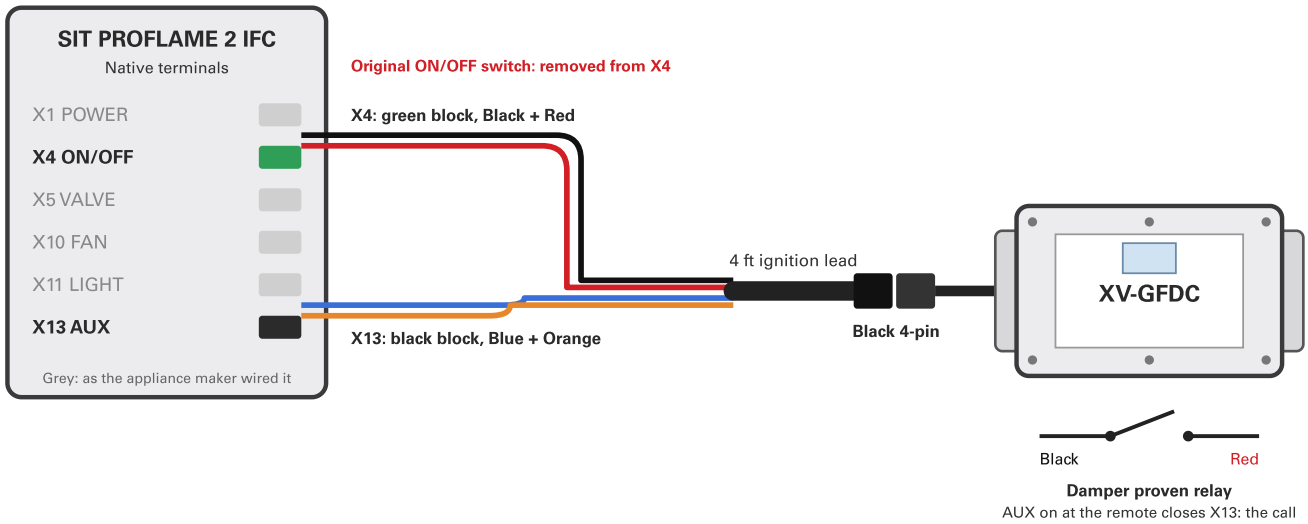
The GFDC connects to the appliance's ignition control through its 4 ft ignition lead, the same 4-wire lead used on every X-VENTISO gas controller. **Black + Red are the damper proven relay:** the appliance can only light after the damper proves open. **Blue + Orange are the ignition demand:** the call that starts the system. Black + Red is a dry relay contact, rated 3 A @ 30 VDC / 250 VAC. Blue + Orange carries low voltage from the controller: close it with a dry contact only. Neither pair has polarity. On Dexen, Robertshaw and Resideo / Honeywell modules, Blue + Orange go to an on/off control from Appendix B.

CAUTION: Always verify against the appliance manufacturer's wiring diagram; the appliance's instructions govern. Never leave a switch or remote wired directly to the module: it bypasses damper proving. Module not shown here? Call 800.642.2920 before wiring.

SIT Proflame 2

On Proflame 2, Blue + Orange land on the module at X13. X13 is a dry relay contact: it closes when AUX is on and puts no voltage on Blue + Orange. X4 is the board's low-voltage ON/OFF input; the GFDC relay replaces the original ON/OFF switch there. The Proflame 2 remote is the on/off control. Turn AUX on at the remote during start-up; it stays on once set. With AUX off, the GFDC never starts and the appliance will not light. For automation, a wall switch or a remote switch on a Proflame 2 appliance, use the XV-IGN-PFAK kit (next page).

Ignition wire	Function	Proflame 2 terminal
Black and Red	Damper proven relay	X4: green, wider terminal block
Blue and Orange	Ignition demand	X13: black, smaller terminal block

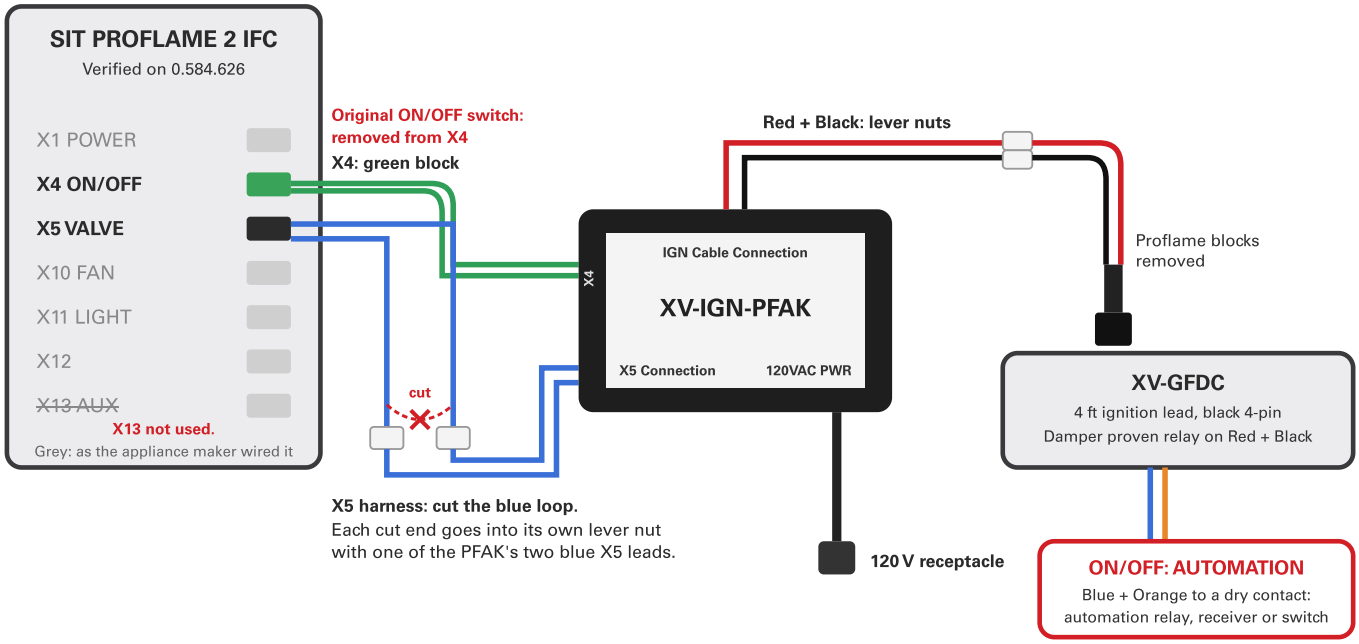


SIT Proflame 2 with the GFDC. Schematic: terminal order and spacing on the module are illustrative.

SIT Proflame 2 with automation or a switch: XV-IGN-PFAK

On its own, a Proflame 2 appliance runs only from its Proflame remote. To run it from home automation, a remote receiver or a wall switch instead, add the XV-IGN-PFAK kit. The PFAK takes over X4 and X5 and closes them only after the GFDC proves the damper open. That frees Blue + Orange for any on/off control in Appendix B. X13 is not used. Full steps: insert XV-IM-ACC-IGN-PFAK, in the kit.

1. Remove the Proflame blocks from the ignition lead: green on red/black, black on blue/orange. Loosen each screw with a small flathead and pull the wire out. The ends are already stripped.
2. Remove the original ON/OFF switch from X4. Plug the PFAK's green X4 block onto X4.
3. X5: cut the blue wire loop on the X5 harness. Strip both ends and land each in its own lever nut with one of the PFAK's two blue X5 leads.
4. Land the ignition lead's red and black in the PFAK's red and black lever nuts.
5. Connect Blue + Orange to the on/off control, automation first (Appendix B). Dry contact only.
6. Plug the PFAK's power cord into a 120 V receptacle.

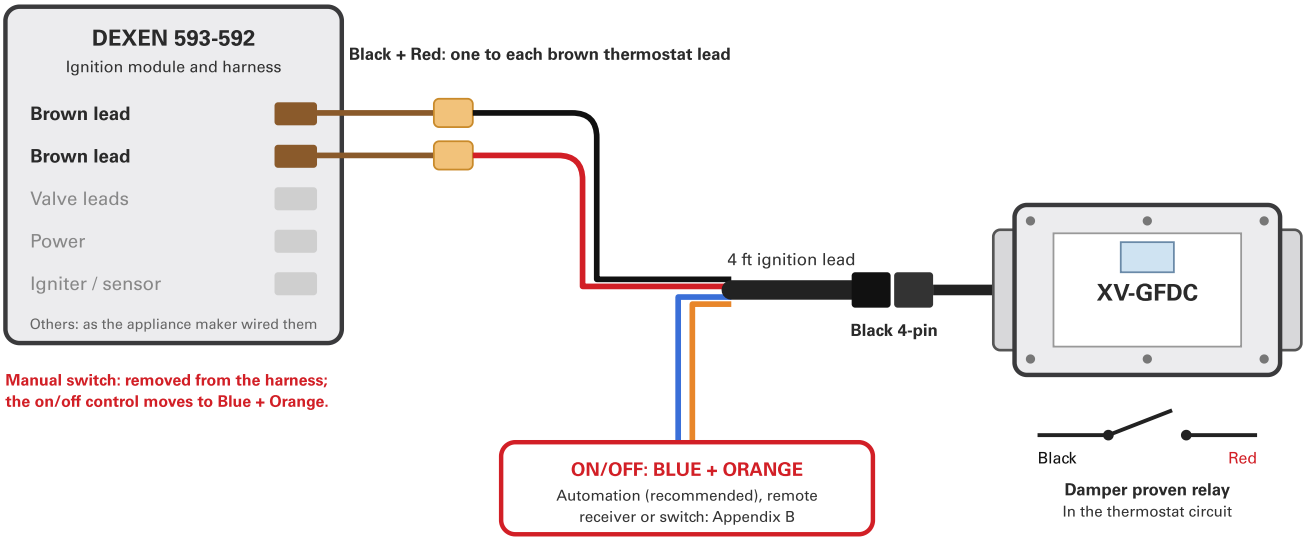


XV-IGN-PFAK with the GFDC: the PFAK closes X4 and X5 only after the damper is proven open.

Dexen 593-592

The GFDC sits between the call source and the module. Black + Red go one to each harness thermostat lead (the two brown leads where the manual switch or remote normally connects). The manual switch comes off the harness; the on/off control moves to Blue + Orange (Appendix B). Field-wired. Dry contacts: no polarity within a pair.

Ignition wire	Function	Dexen 593-592 connection
Black and Red	Damper proven relay	One to each brown thermostat lead on the harness
Blue and Orange	Ignition demand	On/off control, dry contact (Appendix B)

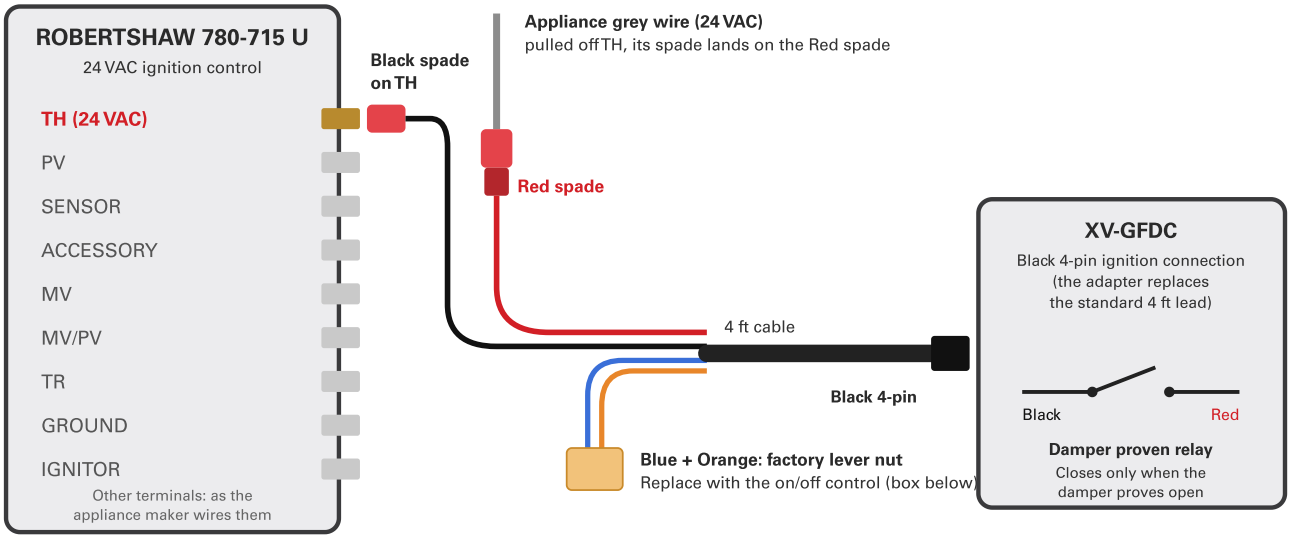


Remove the manual switch from the harness. Left on it, it would light the appliance without the damper proven open. Schematic: lead order on the module is illustrative.

Robertshaw 780-715 U (24 VAC): use adapter XV-IGN-ADPT-RS

Order XV-IGN-ADPT-RS, the Robertshaw ignition adapter. It plugs into the GFDC in place of the standard ignition lead, with factory spade terminals on Black and Red. No splicing at the module. Full steps: insert XV-IM-ACC-IGN-ADPT-RS, in the kit.

1. Pull the appliance's grey wire spade off the module's TH (24 VAC) terminal.
2. Push the adapter's Black spade onto TH.
3. Connect the grey wire's spade to the adapter's Red spade.
4. Plug the adapter into the GFDC's black 4-pin.
5. Remove the factory lever nut from Blue and Orange and connect the on/off control, automation first (Appendix B). On the GFDC the lever nut always comes off.

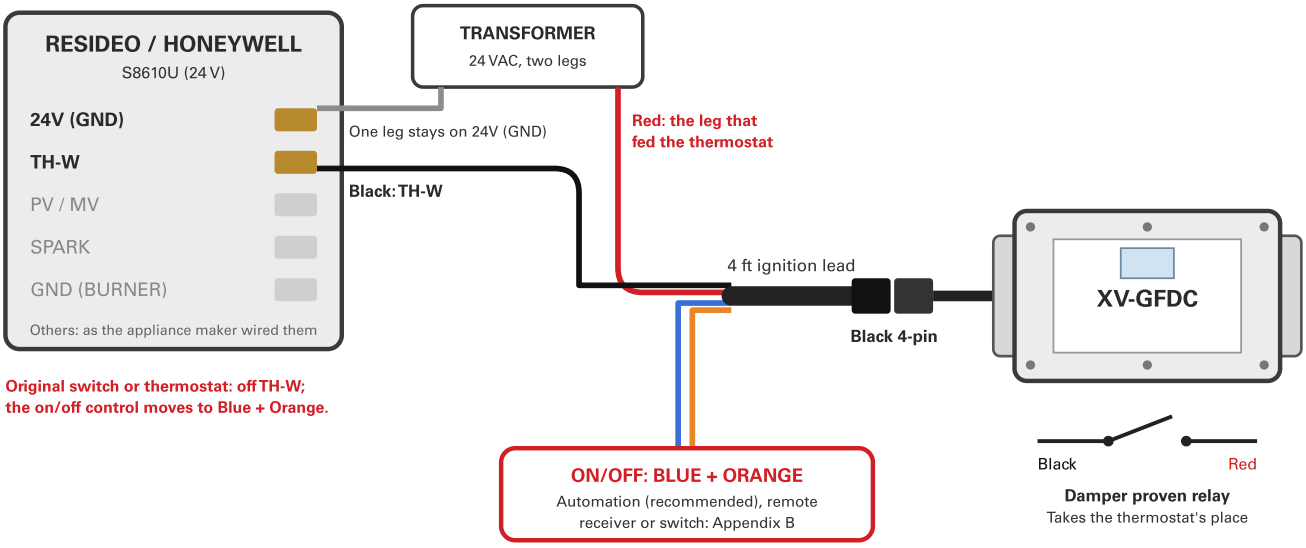


The damper proven relay sits in series in the grey 24 VAC wire to TH. Schematic: terminal order on the module is illustrative.

Resideo / Honeywell S8610U (24 V)

The same control is sold under both the Resideo and Honeywell names; the wiring is identical. On 24 V modules, the call for heat is the thermostat circuit: the transformer's 24 VAC leg runs through the thermostat or switch to TH-W. The GFDC's damper proven relay takes the thermostat's place in that circuit, and the on/off control moves to Blue + Orange.

Ignition wire	Function	S8610U connection
Black	Damper proven relay	TH-W
Red	Damper proven relay	Transformer 24 VAC leg that fed the thermostat (other leg stays on 24V/GND)
Blue and Orange	Ignition demand	On/off control, dry contact (Appendix B)

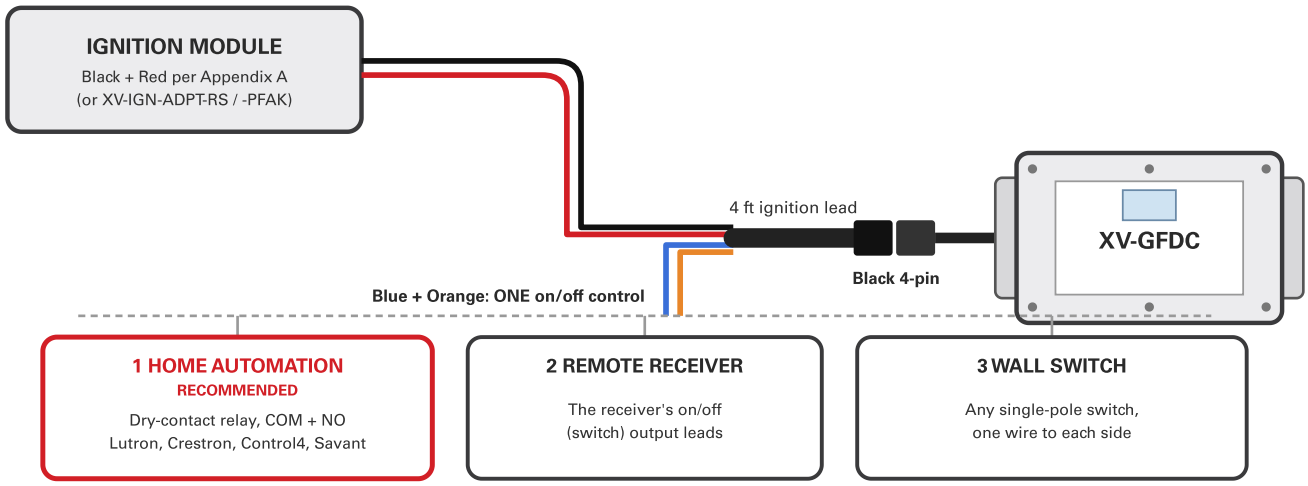


The original switch or thermostat comes off TH-W. Schematic: terminal order on the module is illustrative.

B Appendix B: On/Off Control Options (GFDC)

These options apply to the GFDC on Dexen, Robertshaw (XV-IGN-ADPT-RS) and Resideo / Honeywell modules, and on Proflame 2 with the XV-IGN-PFAK kit (Appendix A). Blue + Orange on the ignition lead is the call that starts the system. Close the contact and the system runs; open it and the system shuts down. Pick one.

Option	How
1. Home automation (recommended)	A dry-contact relay output, COM and NO, from Lutron, Crestron, Control4, Savant or any platform that can close a contact. Program it to stay closed while on. Automation turns the system on and off; damper proving and the interlock stay with the GFDC.
2. Remote receiver	The receiver's on/off (switch) output leads, which would otherwise go to the ignition module.
3. Wall switch	Any single-pole switch: one wire to each side. It switches the low-voltage call only: no line voltage on these wires.



NEVER PUT VOLTAGE ON BLUE + ORANGE. NO LEVER NUT.

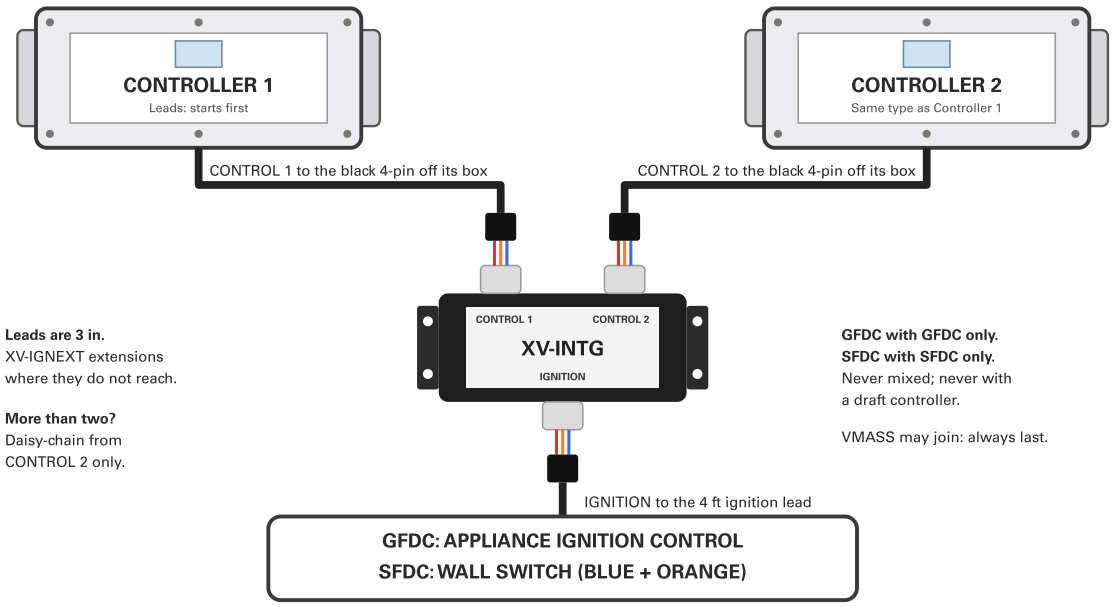
Blue + Orange already carry low voltage from the controller. Close them with a dry contact only: an automation relay, remote receiver contact or switch. Never connect line voltage (120 V), 24 VAC or a remote's battery power to them. The GFDC has no wall control: a lever nut on Blue + Orange would keep the system called all the time.

CAUTION: One control at a time on Blue + Orange. Never wire the same switch, remote or relay to the ignition module as well: that bypasses damper proving.

Lutron, Crestron, Control4, Savant, SIT, Proflame, Dexen, Robertshaw, Resideo and Honeywell are trademarks of their respective owners.

C Appendix C: Several Controllers on One Call (XV-INTG)

Use XV-INTG where one call must run more than one damper control: one appliance with two or more flues, each with its own damper and controller. XV-INTG plugs in between the controllers' black 4-pin ignition connections and the ignition wiring. Full instructions: insert XV-IM-ACC-INTG, in the XV-INTG box.



XV-INTG with two damper controls. CONTROL leads go to each controller's black 4-pin; IGNITION goes to the 4 ft ignition lead.

Rules

- **Same type only:** GFDC with GFDC, SFDC with SFDC. Never mixed, and never on a system with a draft controller (GBC, WBC, Meridian). One XV-INTG system serves one appliance. VMASS makeup air may join a system: always last.
- **One at a time:** Controller 1 starts first. Each controller after it starts only when the one before has answered (damper proven). If any controller fails to answer, nothing after it starts and the system faults: GFDC, the appliance stays off.
- **Ignition:** GFDC, the 4 ft ignition lead from IGNITION on the first XV-INTG goes to the appliance ignition control (Appendix A), with the on/off control on its Blue + Orange (Appendix B). SFDC, the wall switch goes on Blue + Orange of that lead (Section 6). No lever nut.
- **More than two controllers:** daisy-chain from CONTROL 2 to the next XV-INTG's IGNITION only. Leads are 3 in.; use XV-IGNEXT where they do not reach.
- **Start-up:** run the Section 7 tests with the whole system, then test each damper. Leave the XV-INTG wiring as it is and unplug the white 4-pin damper lead at one controller at a time. Damper lead off Controller 1: Controller 1 alarms, Controller 2 never starts, and the appliance does not light. Damper lead off Controller 2: Controller 1 opens and proves, Controller 2 alarms, and the appliance does not light. Either controller failing shuts the system down. Plug each lead back in after its test.

Call 800.642.2920 before you install a multi-controller system.

OWNER QUICK REFERENCE

GAS Gas (XV-GFDC)

- Turn the fireplace on and off the way you always do (automation, remote or switch). The damper opens first; the fireplace lights once the damper is proven open.
- If the fireplace will not light and the controller beeps or shows ALARM, turn the fireplace off (that silences the alarm) and call your installer.
- Smell gas? Leave the house and call your gas supplier from outside.

SOLID FUEL Solid fuel (XV-SFDC)

- Switch the system on before you light the fire. Wait until the display shows OPEN.
- **Switching the wall switch off closes the damper 30 seconds later. Leave the switch ON until the fire and all coals are completely out.**
- Alarm before you light the fire: switch off (that silences it) and call your installer. Do not light a fire.
- Alarm with a fire burning: do not add fuel and do not switch the system off. Let the fire burn down, ventilate the room, and call for service.
- Power outage: the damper opens on its own.
- Smoke in the room, a smoke or CO alarm, or fire outside the firebox: get everyone out and call 911 from outside.

Have the system inspected every year (solid fuel: with the chimney inspection). The warranty requires it.

X-VENTISO by earthcore

Leave this manual with the homeowner.

Keep it with the appliance's own instructions. It has the commissioning record and everything a service technician needs.

TECHNICAL SUPPORT **800.642.2920** x-ventiso.com