XV-INTG

Multiple System Integration Connection
for every X-VENTISO controller
Installation, Operation and Maintenance



XV-INTG takes one call and passes it down the line, one controller at a time: each one after the first starts only when the one before has answered. If any controller fails to answer, nothing after it starts and the system faults. **It works with every X-VENTISO controller**: every one uses the same black 4-pin ignition connection, and XV-INTG plugs in between that connection and the ignition wiring. Each controller keeps its own equipment and power, and each holds its own flue on its own.

Use	Controllers
Three or four flues	Meridian DUO plus Meridian, or two Meridian DUOs. Or a GBC-DUO plus a GBC, or two GBC-DUOs (WBC the same)
Draft plus makeup air	Draft controllers plus VMASS, VMASS last
Damper only, multi-flue	Two or more GFDCs, or two or more SFDCs, plus VMASS if needed
More than two	Daisy-chain from CONTROL 2 (page 3)

Sold separately. Low-voltage signal device; carries no line voltage. To run two Controlled Power controllers from one wall control instead, see XV-MULTICTRL.

1 Read First

Read this insert and the manual for each connected controller (XV-IM-CP or XV-IM-CP-DUO, XV-IM-MERD, XV-IM-VMASS, or XV-IM-DMP-CTRL for GFDC and SFDC) before installing, and leave all of them with the homeowner or building owner. Installation and service are for qualified personnel familiar with the codes that apply to the job. **Call 800.642.2920 before you install.**

DANGER: Unplug every connected controller and lock out power before installing or servicing.

WARNING: XV-INTG carries the interlock for the whole system: it splits the call to each controller and carries the interlock back to the appliance. Only one ignition lead goes to the appliance, from the XV-INTG's IGNITION. Never plug a controller's ignition lead into its own box as well, never wire a second ignition lead to the appliance, and never bypass, jumper or defeat any controller's draft proving or interlock.

CAUTION: **Never mix self-modulating and set-speed draft controllers** on one system: Meridian and Meridian DUO (self-modulating) never with GBC, GBC-DUO, WBC or WBC-DUO (speed set at commissioning). One XV-INTG system serves one appliance, so never gas and solid fuel controllers on the same system. Never put a damper control (GFDC, SFDC) on the same system as a draft controller: damper controls go only with damper controls.

WHICH CONTROLLER LEADS

The controller with the largest draft induction takes the lead, for safety. It goes on CONTROL 1 of the first XV-INTG, starts first and has command of the system. Order, first to last: **1** DUO draft controllers · **2** single draft controllers · **3** VMASS, always last. Never put VMASS in the lead. **Damper-only systems:** GFDCs only with GFDCs, SFDCs only with SFDCs; VMASS may join, always last. Unsure? Call 800.642.2920.

2 Install

Before you start

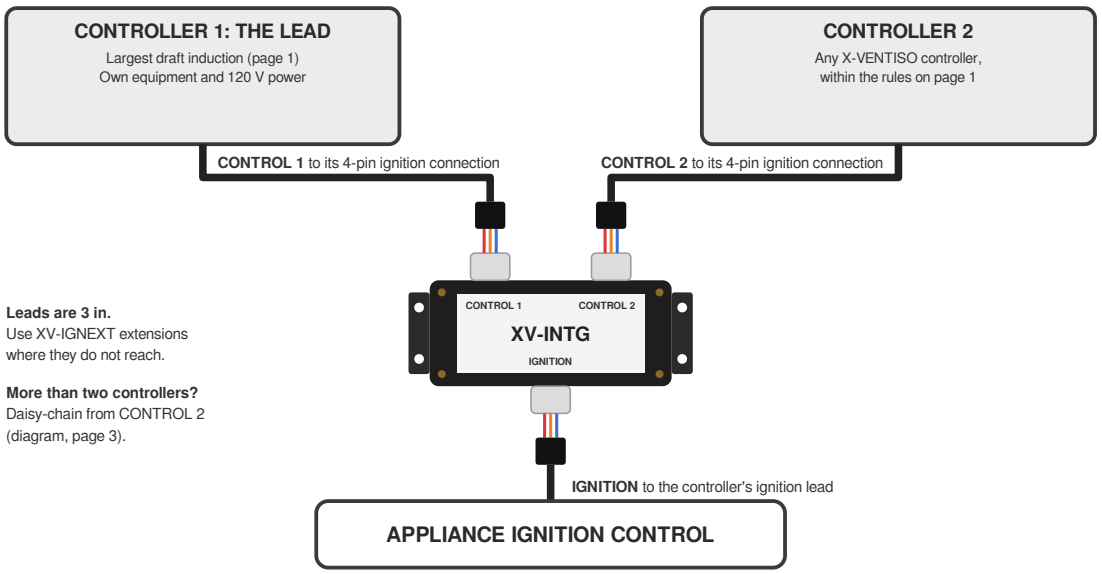
- Install each controller with its draft inducer, damper, probe and sensors (or makeup air components) per its own manual, with its own 120 V power.
- **Location:** indoors, dry, accessible after the finish is complete, next to one of the controllers, or to its wall control (MUC) on Controlled Power. Every lead is 3 in., so plan a black 4-pin ignition extension (XV-IGNEXT-20 or -50) for each connection the leads cannot reach.
- Any extension connection stays accessible, never inside conduit or a closed wall.

Connections

Lead (label)	Goes to
CONTROL 1	Always a controller: the black 4-pin ignition connection of the lead controller (see Which Controller Leads, page 1). Meridian, VMASS, GFDC, SFDC: the lead off its box. GBC, WBC and DUOs: the 4-pin on the wall control (MUC). It starts first; nothing else starts until it returns the call. Never a chain link.
CONTROL 2	The next controller's 4-pin ignition connection (as for CONTROL 1), or the IGNITION lead of the next XV-INTG (daisy-chain)
IGNITION	The appliance ignition control (or, solid fuel, the call contact), through one controller's ignition lead: the call in, and the interlock back.

Steps

1. Unplug every controller.
2. Mount the XV-INTG on a flat, dry surface through the four tab holes, with fasteners suited to the surface: CONTROL leads up, IGNITION down.
3. Plug CONTROL 1 into the lead controller's black 4-pin ignition connection (Which Controller Leads, page 1), where its ignition lead would normally plug in: the lead off the box on Meridian, VMASS, GFDC and SFDC; the 4-pin on the wall control (MUC) on GBC, WBC and DUOs. Plug CONTROL 2 into the next controller's 4-pin ignition connection the same way.
4. Plug the ignition lead that ships with the controller into IGNITION on the bottom of the first XV-INTG, and wire its other end as in that controller's manual (ignition modules: XV-IM-CP / CP-DUO or XV-IM-MERD Appendix A; on/off control: Appendix B, home automation such as Lutron, Crestron, Control4 or Savant first, then a hearth remote receiver or a wall switch; XV-IM-DMP-CTRL for GFDC and SFDC). Remove the lever nut on Blue + Orange and connect the on/off control: on an XV-INTG system it stays off on every controller. The other controllers' ignition leads are not used: keep them as spares.
5. **More than two controllers:** daisy-chain from **CONTROL 2 only**. CONTROL 2 of each XV-INTG goes to the IGNITION lead of the next; each CONTROL 1 always goes to a controller. Only the first XV-INTG's IGNITION connects to the appliance. Call 800.642.2920 before you install any chained system.
6. Push every Molex connection until it latches. Support the cables so no weight hangs on a connector.
7. Plug in every controller, then start up and commission (Section 3).



XV-INTG wiring, two controllers. Daisy-chain wiring is on page 3. Ignition module wiring is in each controller's manual.

3 Start-Up and Commissioning

Start up and commission each controller per its own manual first. Then check the system as a whole:

1. Make the call (home automation, a hearth remote or a wall switch). The controller on CONTROL 1 starts first; each one after it starts only when the one before has returned the call. Check each draft inducer at the roof or chase top, and VMASS at its supply.
2. Confirm the appliance lights only after the last controller in the chain has returned the call. VMASS returns the call like any other controller: nothing after it starts, and the appliance does not light, until it is running.
3. Prove the interlock on the lead controller: with the appliance off, unplug the lead controller's draft inducer at its disconnect (damper-only systems: its damper), make the call, and confirm the lead controller alarms, nothing after it starts, and the appliance does not light. Restore it.
4. End the call. Each controller purges per its manual; VMASS keeps supplying air for 20 seconds while the flue purges.
5. Fill in the record on page 4 and in each controller manual.

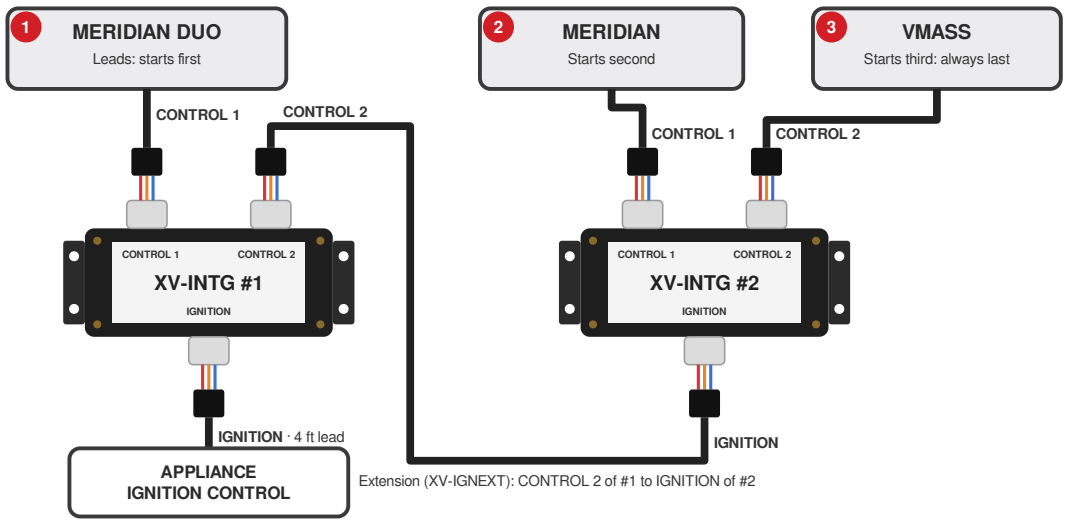
How it runs

- One at a time: the controller on CONTROL 1 starts first and must return the call before the controller on CONTROL 2 starts, and so on down the chain. The appliance lights only when the last one has returned the call, so each controller added adds its own start-up time.
- Each controller measures and drives its own flue, so each gets the draft it needs even when the flues differ.
- If a controller does not answer, or faults while running, the system faults: nothing after it starts, and the appliance stays off or shuts down.

4 Troubleshooting

Symptom	Check
Nothing starts on a call	• IGNITION connection seated and wired to the ignition control • The controller on CONTROL 1 plugged in, powered and its lead seated: nothing starts until it does • Then see the controller manual Troubleshooting
The chain stops partway: controllers start up to a point, the rest never start	• The last controller that started has not returned the call: check its display for status or ALARM, then its manual • The next CONTROL lead seated on that controller's 4-pin (box lead, or the MUC) • In a daisy-chain: the CONTROL 2 to IGNITION link seated
Appliance will not light, every draft inducer running	• One controller has not proven: check each display for status or ALARM • Then see that controller's manual
Appliance lights before every flue has proven	• **Shut the appliance off and call 800.642.2920.** A second ignition lead may be wired to the appliance, or a controller's box lead may be plugged into its own ignition lead instead of the XV-INTG (Read First)

Daisy-Chain Wiring



Example: Meridian DUO plus Meridian plus VMASS on two XV-INTG units. The DUO leads; VMASS goes last. Numbers show the order the controllers start; each waits for the one before to return the call. The chain always continues from CONTROL 2; only XV-INTG #1 connects to the appliance.

5 Annual Inspection

Inspect with each controller's annual inspection, and unplug every controller first. Every connector latched; cables not crushed, cut or pulled; cable glands tight; nothing hangs on a connector; enclosure intact and dry. Re-prove the interlock (Section 3, step 3). A damaged XV-INTG is replaced, not repaired: call 800.642.2920.

6 Specifications

Item	Specification
Part number	XV-INTG
Use with	Every X-VENTISO controller: XV-GBC, XV-GBC-DUO, XV-WBC, XV-WBC-DUO, XV-MERD-CTRL, XV-MERD-DUO, XV-VMASS, XV-GFDC, XV-SFDC. One appliance per system: one fuel type; never Meridian with Controlled Power; damper controls only with damper controls.
Function	Splits one call to two controllers and carries the interlock back to the appliance
Connections	Three black 4-pin Molex leads: CONTROL 1, CONTROL 2 (top), IGNITION (bottom)
More than two controllers	Daisy-chain from CONTROL 2 to the next unit's IGNITION. Controllers on the system = XV-INTG units + 1.
Lead length	3 in., each lead. Longer runs: black 4-pin ignition extensions, XV-IGNEXT-20 (20 ft) or XV-IGNEXT-50 (50 ft).
Electrical	Low-voltage signal device. No line voltage, no power cord, no power of its own.
Enclosure	8 x 4 x 2 in. (203 x 102 x 51 mm), W x H x D, including the mounting tabs. NEMA 1 (indoor). Four mounting holes on the side tabs; cable glands on every lead.
Operating environment	Indoors, dry, non-condensing, as for the connected controllers
Warranty	2 years, valid with proper installation and a documented annual inspection of the system. Skipping the inspection voids the warranty.

Commissioning record

Installed by		**Date**	
CONTROL 1 (model, serial)		**CONTROL 2 (model, serial)**	
Chained units (number)		**Appliance / ignition control**	
Interlock proven, each flue	YES / NO	**Purge checked**	YES / NO

Service record

Date	By	Connectors / cables	Interlock test	Notes

X-VENTISO by earthcore

Leave this insert with the homeowner or building owner, with every connected controller's manual.

Lutron, Crestron, Control4 and Savant are trademarks of their respective owners.

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