# Expansion Station Model 2VS GainTrac,Ventra Plus,Ventra Pro

Setup and Installation Guide

Mounting and Installation

The 2VS expansion station provides two variable-speed output channels for your controller. These output channels can vary the voltage to a group of fans using power settings ranging from 1 (minimum) to 60 (full on).

1. Attach the mounting feet to the enclosure with the hardware provided.

2. Mount the enclosure to the wall at the desired location:
   • When possible cut all holes in the bottom of the enclosure. This will prevent moisture from entering through the holes or fittings.
   • Always use watertight strain relief fittings after making cable routing holes in the enclosure.
   • Do not route the communications wire (data) through the same hole or fitting as the high voltage power wires. This can induce noise in the data line and interfere with communications between the station and controller.
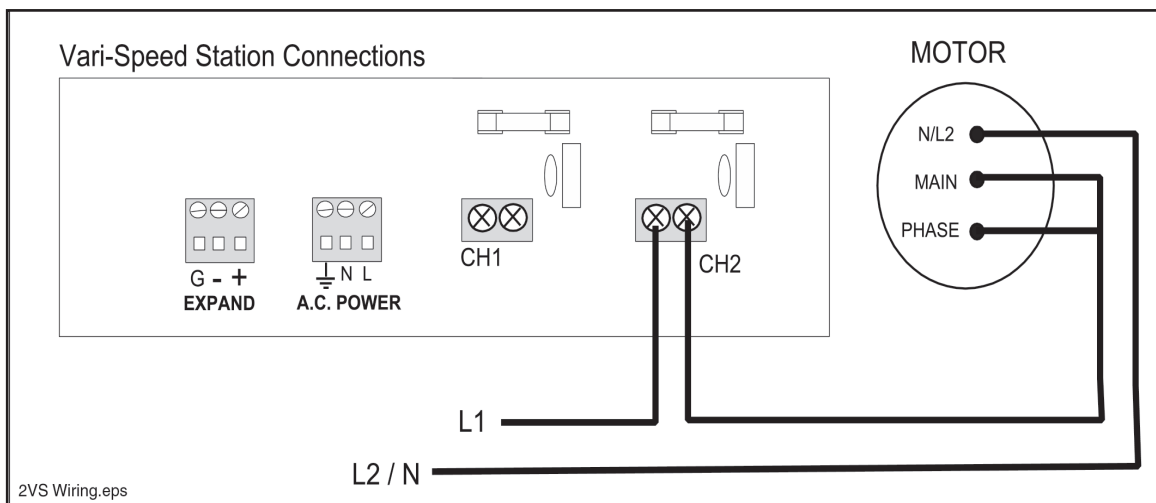
3. Using shielded twisted pair (22 or 24 gauge) cable, connect the variable speed station's EXPAND G (ground), DAT – and DAT + terminals to the controller's XTERN (EXPAND on 12-channel controllers) GND, DAT – and DAT + terminals.

4. Connect the CH1 and CH2 terminal blocks to the output device wiring (see illustration).

5. Connect the AC power to the AC POWER , N, and L terminals. The 2VS has a universal power supply that will operate on voltages from 90 - 265 VAC, 50/60 Hz. No switching or transformer rewiring is required.

Setting DIP Switches

The expansion station has a block of DIP (rocker) switches located inside the front cover on the main control board. These switches must be set correctly before powering up the system. If the switch positions are changed, remove and re-apply power to the board to reset it.

Setting the Address and Channel Numbers

A 16- or 32-channel GainTRAC controller reserves addresses 1 through 4 for its internal use, so you must begin numbering your expansion stations at address 5.

All Ventra Plus and Ventra PRO 16, 24, and 32 channel controllers only reserve address 1, so you can start numbering your expansion stations at address 2.

The switches, SEL 1, 2, 4, and 8 are used to select an address number for the expansion station. Each station must be given a unique number. The controller uses these address numbers to communicate with specific expansion stations. The tables below show the switch settings for each possible address number. For example, to assign an address number of 5, the switches would be set as follows: SEL 1 - off, SEL 2 - off, SEL 4 - on, SEL 8 - off.

Press On — Press Off

TERM	
SPARE	
SEL 8	
SEL 4	
SEL 2	
SEL 1	

DIP Station Number.eps
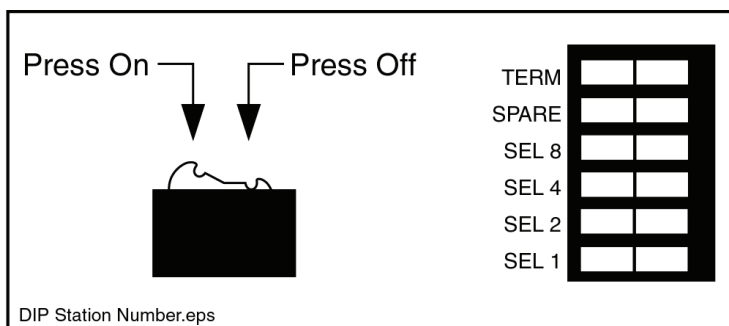
Addresses for 16 and 32 channel GainTRAC or Ventra PLUS

Reserved by Controller   Available Addresses

Station Number ▶	1 (host)	2	3	4	5	6	7	8	9
Switch 1	Off	On	Off	On	Off	On	Off	On	Off
Switch 2	Off	Off	On	On	Off	Off	On	On	Off
Switch 4	Off	Off	Off	Off	On	On	On	On	Off
Switch 8	Off	Off	Off	Off	Off	Off	Off	Off	On

16 and 32 channel GainTRAC and Ventra PLUS controllers use the expansion station address as part of the channel number. Example; an Expansion station with an address of 5 would contain channels 51 and 52.

Channel Numbers Available	51 & 52	61 & 62	71 & 72	81 & 82	91 & 92

Addresses for 12 channel Ventra PLUS and ALL Ventra PRO models (16, 24 and 32 channel)

Reserved by Controller

Station Number ▶	1 (host)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Switch 1	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On
Switch 2	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On
Switch 4	Off	Off	Off	Off	On	On	On	On	Off	Off	Off	Off	On	On	On	On
Switch 8	Off	Off	Off	Off	Off	Off	Off	Off	On	On	On	On	On	On	On	On

12 channel Ventra PLUS and ALL Ventra PRO models reference station numbers and channel numbers separately. So, an expansion station with an address of two would contain channels 1 and 2.

GT Style 2VS Address.eps

Termination

If the variable speed station is at the end of the communications chain, or if it is the only expansion station connected to the controller, the TERM (terminate) DIP switch located inside the front cover should be ON.

If the expansion station is not at the end of the communications chain, the TERM DIP switch should be OFF.

You may also need to terminate or un-terminate your controller. Refer to the controller's Installation Manual for more information about termination for the controller.

Channel Output Toggle Switches

Each equipment group is connected to an output channel. The three-position toggle switch next to each channel label allows you to manually control the equipment. A light illuminates next to a channel when it is on, either manually or by the controller.

ON/OFF - Setting the switch to ON or OFF overrides the controller. You can use this switch to test an equipment group, turn off equipment, or override the control for any reason.

AUTO - Setting the switch to AUTO allows the controller to automatically control device operation.

Front Panel LEDs

There are three types of LEDs (indicator lights) on the front panel of the variable speed station:

   • Power - Illuminates when power is applied to the station.
   • Transmit / Receive - These illuminate or flicker on and off when the station is communicating with the controller.
   • Output Channel LEDs -These illuminate when an output channel is turned on either manually or by the controller.

Replacement Parts

CONNECT WIRES FROM
TRIAC ASSEMBLIES (8)
AS SHOWN.

DETAIL B
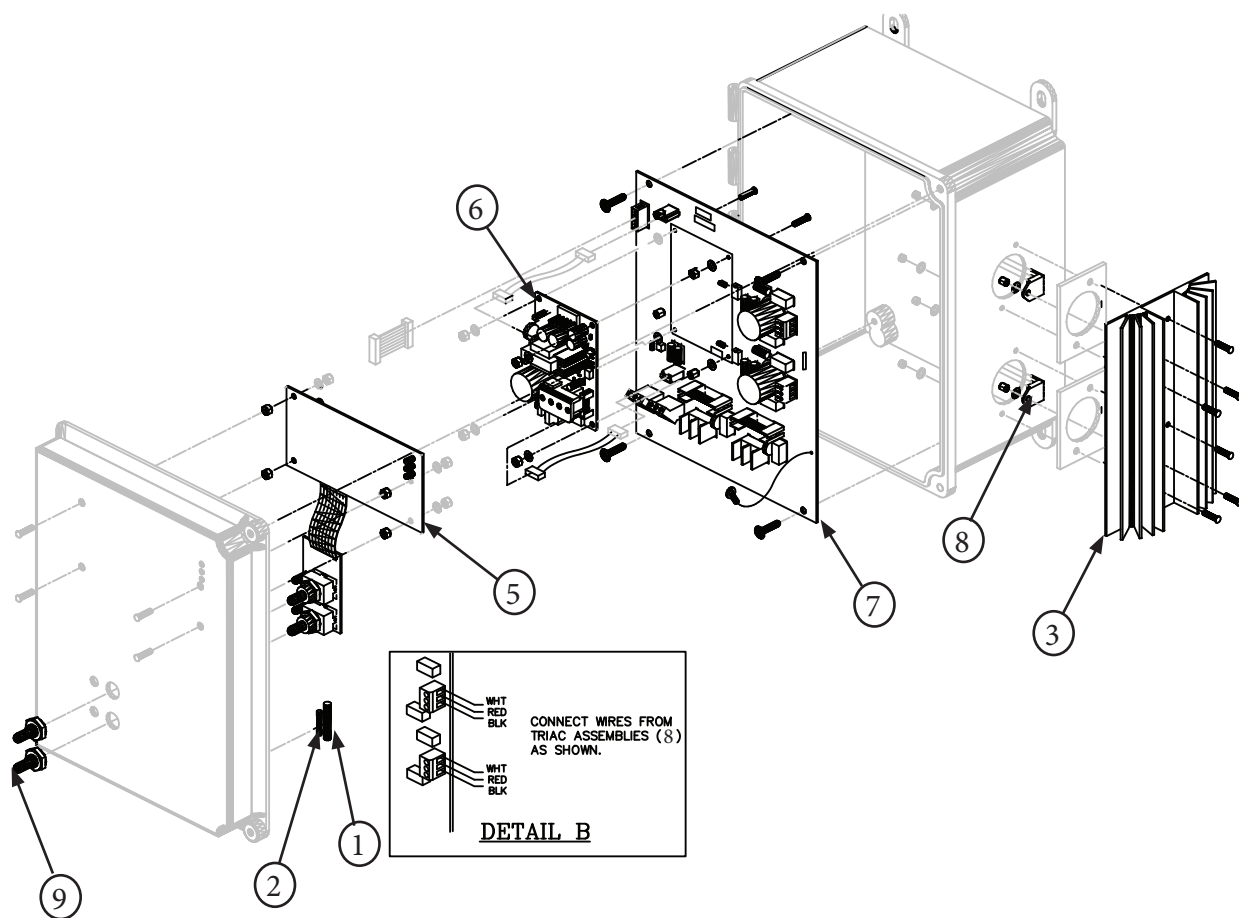
KEY	PART#	DESCRIPTION	QTY
		Replacement Parts for EA-008-001	
1	FS-13	FUSE 3AB CERAMIC BODY 20A	1
2	FS-017-019	FUSE FAST 2.0A 5 X 20mm	1
3	HS-008-100	HEAT SINK MACH 4.13 X 7.00	1
4	LD-107-201	DECAL RAYDOT VENTRA EXP 2VS *(not shown)*	1
5	PA-087-001	PCB ASSY EXP STA M2VS-CONTROL	1
6	921490	PWR SPLY UNIVERSAL 25W	1
7	PA-088-001	PCB ASSY EXP STA M2VS-OUTPUT	1
8	TR-010-100	TRIAC W/WIRE LEADS	2
9	920898	BOOT, TOGGLE, BLACK SILICONE	1
-	WS-043-001	WIRE ASSY 12VDC 25W (not shown)	1
-	WS-044-001	WIRE ASSY 120VAC 25W (not shown)	1