Voltage Converter-VC2700 & LVTM

Installation and Operation Instructions

Product Overview

BA/VC2700

The **BA/VC2700** is a 2.75" snaptrack-mountable 2.7 amp voltage converter. The unit takes a 24 VAC input and converts it to a regulated and adjustable output of 3-26 VDC. The unit also has a filtered, unregulated 24 VAC output tap drawn from the 24 VAC input. Both the 24 VAC and the VDC outputs are routed through independent ON-OFF rocker switches. The switches allow you to remove power from the AC or DC loads without disturbing the other circuit.

There are status LEDs for 24 VAC IN, 24 VAC OUT, VDC OUT and VDC FAULT (indicating that the resettable circuit breaker has tripped). The user can determine at a glance whether there is a problem with the HVAC system power and where the problem exists.

This unit has removable terminal block plugs at all inputs and outputs to simplify wiring. The unit can also be plugged directly into the **BA/BP2**, **BA/BP4** or **BA/BP8** Backplanes of the ETA line to provide power to a variety of ETA modules or other peripherals, and features a user-selectable full wave or half wave rectification.

BA/LVTM

The Line Voltage Transformer Module simplifies connecting an external transformer to the **BA/VC2700** Voltage Converter. Both modules can sit side-by-side in an eight inch long piece of industry standard 2.75" snaptrack (**BA/TRK08**).

The **BA/LVTM** takes 120/208/240 VAC power from a standard power cord, protects the input with a 3.15 amp resettable circuit breaker and filters out disruptive power line transients. Pluggable terminals provide a convenient way to terminate the primary and secondary windings of the transformer. Low voltage connectors on the end of the **BA/LVTM** directly plug into the **BA/VC2700**'s inputs for a clean yet flexible connection without interconnecting wires.

BA/LVTM-TB

The **BA/LVTM-TB** performs the same functions as the **BALVTM** described above. The **BA/LVTM-TB** does not have a plug for a standard line cord or power line filter. It has a 2-screw terminal block for the line power, line, neutral and earth ground.

Product Identification

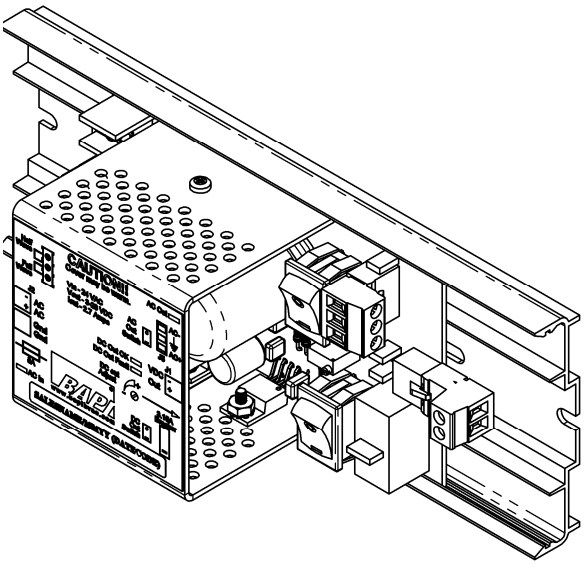

Fig: 1: BA/VC2700

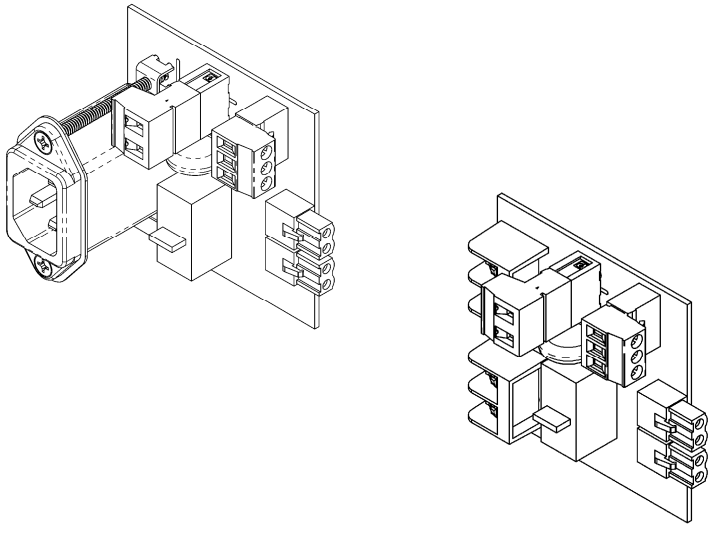

Fig 2: BA/LVTM on Left, BA/LVTM-TM on Right

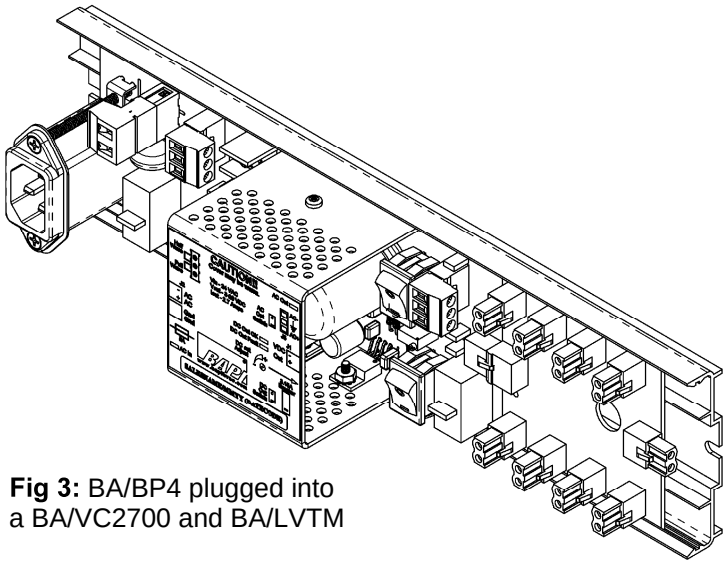

Fig 3: BA/BP4 plugged into a BA/VC2700 and BA/LVTM

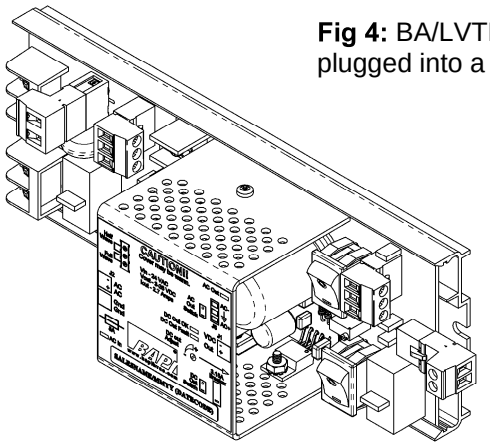

Fig 4: BA/LVTM-TB plugged into a BA/VC2700

Tool and Material List

1/4" Screwdriver, 1/8" Screwdriver, Wire Stripper, Drill, Voltmeter, Screws, Wire

Mounting

Each **BA/VC2700** ships with an eight-inch piece of snaptrack. On each end of the snaptrack is a crescent shaped mounting hole (see Figure 1). Place the snaptrack against its mounting surface and mark the two crescent shaped holes. Drill the holes for a #8 or #10 screw (provided by the user). Insert a screw into one hole and drive it down about 1/2 way. Slide the snaptrack under the screw head and drive in the opposite screw. Tighten both screws securely.

If a **BA/LVTM** or **BA/LVTM-TB** is used, slide the **BA/VC2700** to the end of the snaptrack. Remove the screw connectors from the **BA/VC2700's** AC input connectors. Put the **BA/LVTM** into the snaptrack and slide the connectors together (see Figures 3 and 4).

A **BA/BP4** or **BA/BP8** can mate with the output connector on the end of the **BA/VC2700** (see Figure 5).

The **BA/TB4** and the **BA/TB4-VC100** may also be used with the **BA/VC2700**. (See the BAPI web site for details)

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Terminations

If the **BA/VC2700** is to be used in full wave configuration, DO NOT ground either leg of the 24 VAC control transformer. If the **BA/VC2700** is to be used in half wave configuration, the AC- input is common with the VDC "OUT -" terminal. For more details contact your BAPI representative for application note The Science of Full or Half Wave Power Supplies.

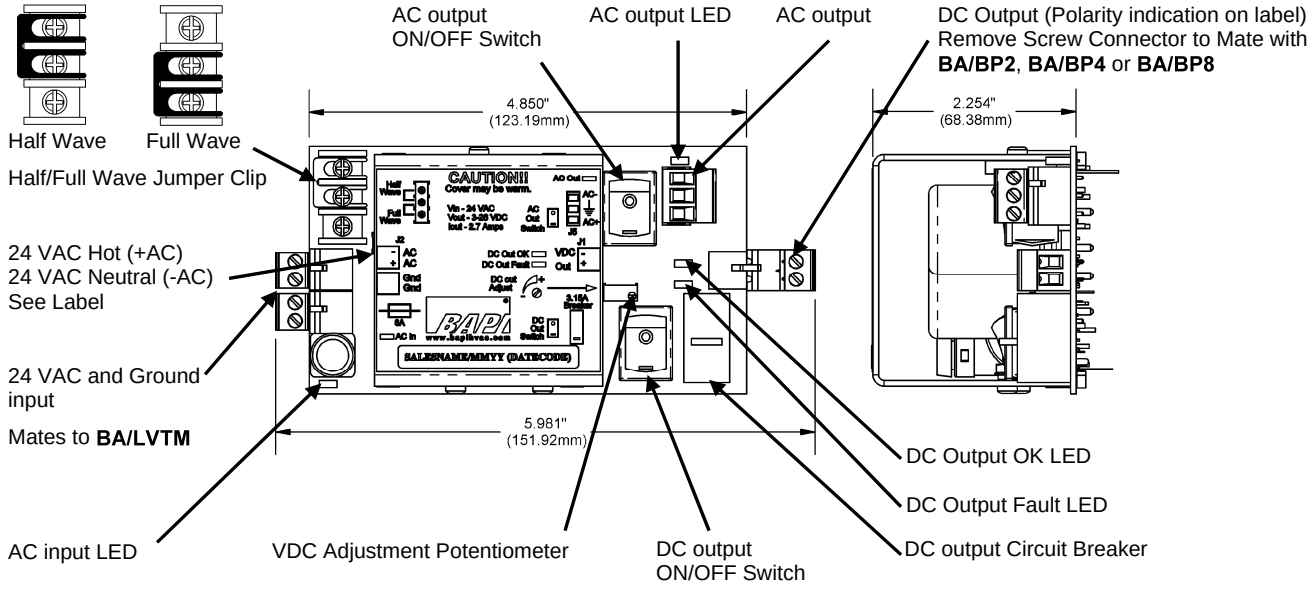
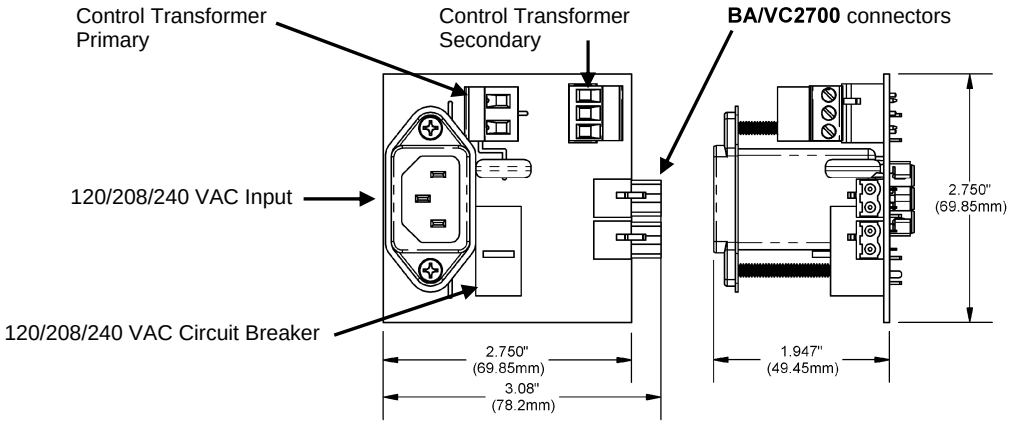


Fig 5: BA/VC2700 Features

NOTE: If more than one device is powered from one control transformer they all must be half ware or they all must be full wave. The fuse next to input connector is used to protect the **BA/VC2700** input from half/full mix-ups. The fuse is sized such that the circuit breakers will open before the fuse under normal fault conditions. If the fuse opens you have a half/full wave power mix-up. The fuse is 8 Amps, 5X20mm.

NOTE: -ADJ models are set to 24VDC output at the factory. If 24VDC is too high for your circuit adjust the output to a lower voltage before you connect the **BA/VC2700** to the load. Be sure to check and adjust the **BA/VC2700**'s output voltage, if necessary, when the load is applied.



Note: Transformer polarity shown on the **BA/LVTM** silkscreen.

Fig 6: BA/LVTM Features

NOTE: The connectors use a rising block screw terminal to hold the wires. It is possible for the block to be in a partially up position allowing the wire to be inserted under the block. Be sure that the connector screws are turned fully counterclockwise before inserting the wire. Lightly tug on each wire after tightening to verify proper termination.

Specifications subject to change without notice.

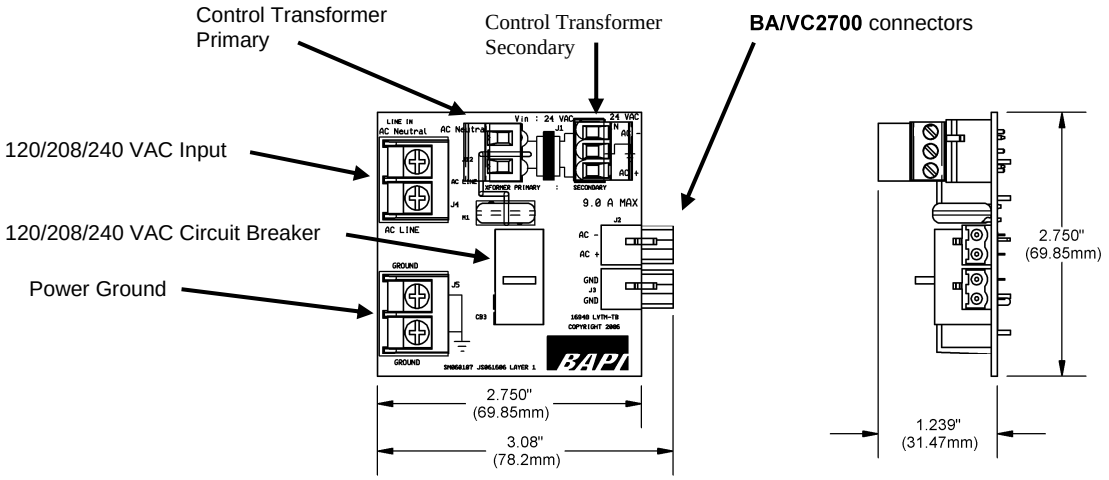


Fig 7: BA/LVTM-TB Features

BA/VC2700 LED Diagnostics

AC input LED GREEN	AC output LED GREEN	DC fault LED RED	DC OK LED GREEN	Condtion
ON	ON	OFF	ON	Normal Operation.
ON	OFF	OFF	ON	DC OK, AC output switch OFF.
ON	OFF	ON	ON	This condition is not stable and may indicate that there is an excessive load on the VDC output. Reduce the output load. AC output switch OFF.
ON	ON	ON	ON	This condition is not stable and may indicate that there is an excessive load on the VDC output. Reduce the output load.
ON	ON	ON	OFF	DC output circuit breaker open. Remove power, remove VDC short and reapply power
ON	ON	OFF	OFF	DC output switch OFF
ON	OFF	ON	OFF	DC output circuit breaker open. Remove power, remove VDC short and reapply power AC output switch OFF
ON	OFF	OFF	OFF	DC output switch OFF AC output switch OFF
OFF	OFF	OFF	OFF	No AC input, circuit breaker may be open on LVTM

Specifications

BA/LVTM
Input Voltage: 120/240 VAC at 3.15 Amps Max.
Output Voltage: 24 VAC at 9 Amps Max.

BA/LVTM/LVTM-TB
Input Voltage: 120/240 VAC at 3.15 Amps Max.
Output Voltage: 24 VAC at 9 Amps Max.

BA/VC2700
Input Voltage: 18-30 VAC
Input Current Max: 4 AAC (100 VA)
Output: Full Wave, 5 to 26 VDC at 2.7 ADC (100 VA Input)
Half Wave, 5 to 25.5 VDC at 2.7 ADC (100 VA Input)
Min DC Output Voltage.... 3 VDC
Note: Other current output ranges are available, contact BAPI for more information
Output Ripple 50mV p-p, Full Wave
100mV p-p, Half Wave
AC Voltage Output Same as Input
Min Input Voltage 18 VAC for 5 to 15 VDC Output:
23 VAC for 24 VDC Output:

Note: The VC2700 is a Class 2 circuit when it is powered from a UL Class 2 power supply.

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