

Overview and Identification

BAPI's voltage converter is a cost-effective way of converting 24 VAC or VDC to 5, 12, 15 or 5 to 24 VDC for use on peripheral devices that require DC voltage. The converter is available with a 350 mA output.

The VC350A can be mounted in 2.75" snaptrack or with the high bonding tape on the bottom of the unit. The VC350A-EZ with its revolutionary EZ mounting system allows for 2.75" snaptrack, DIN rail or surface mounting.

Although most BAPI room units can run on 24 VAC power, converting to DC power eliminates the AC power "noise" which can affect the room sensor readings. BAPI's tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same cable as the signal lines. To minimize the AC voltage noise, the DC converter must be mounted as close to the controller as physically possible. Do not mount the converter at the sensor end of the wire, the AC will still couple into the sensor signal if you do. All fixed outputs of 5, 10, 12 or 15 VDC are adjustable $\pm 10\%$. The adjustable model (-ADJ) has an output of 5 to 24 VDC

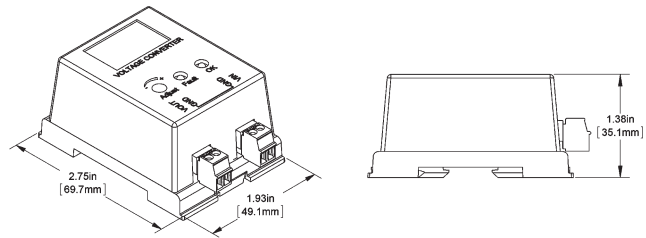


Fig. 1: VC350A-EZ Voltage Converter

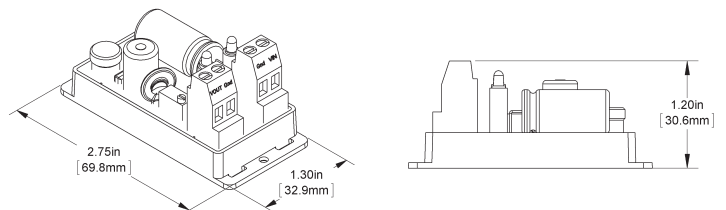


Fig. 2: VC350A Voltage Converter

Specifications

Output Voltage: 5 to 24 VDC @ 350 mA

Recommended Input Voltage: 18 to 28 VAC, 24 VDC (15 VA)

Input Voltage Limits:

Model of Unit	Minimum (VAC/VDC)	Maximum (VAC/VDC)	Input Current @ Min Input Volts (AC/DC)
5V	5.0/9.0	28.0/35.0	5.2 VA/305 mA
10V	10.0/14.7	28.0/35.0	8.3 VA/315 mA
12V	12.0/16.9	28.0/35.0	9.5 VA/318 mA
15V	15.0/20.5	28.0/35.0	11.2 VA/320 mA
ADJ (24V)	24.0/31.0*	28.0/35.0*	16.7 VA/325 mA*

*These specs are for 24V output. Lower voltage output specs are similar to the fixed model specs above.

Environmental Operation Range:

0 to 95% RH non-condensing

-40 to 149°F (-40 to 65°C) 350 mA @ any output voltage

-40 to 158°F (-40 to 70°C) 350 mA @ 5 VDC

330 mA @ 10 VDC

280 mA @ 12 VDC

224 mA @ 15 VDC

140 mA @ 24 VDC

Environmental Storage Range: -40 to 176°F (-40 to 80°C)

Wiring: 4 wires, 16 to 22 gauge

Rectification: Half-Wave Rectified

Grounding: AC & DC Ground are Common

Note: The VC350A and VC350A-EZ are Class 2 circuits when they are powered from a UL Class 2 power supply.

Specifications subject to change without notice.

Mounting



This unit should be mounted at or within 2 feet of the control panel. DO NOT mount near or directly behind your room sensor.



The VC350 is intended to convert the AC power provided at the panel to DC. Tests show that fluctuating and inaccurate peripheral device signal levels are possible when AC power wiring is present in the same conduit as the signal lines.

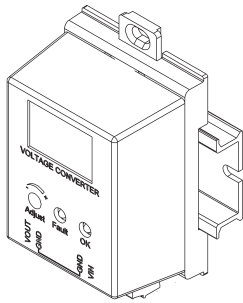


Fig. 3: EZ-Mount on a DIN Rail

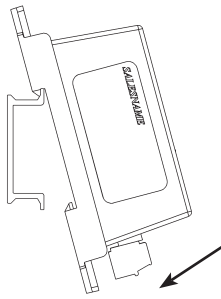


Fig. 4: Catch EZ Mount hook on DIN rail before rotating sensor into place

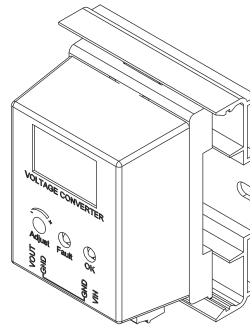


Fig. 5: EZ-Mount in Snaptrack

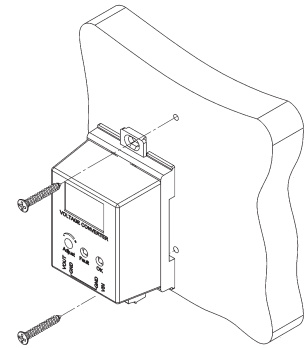


Fig. 6: EZ-Mount Screwed to a Surface

MOUNTING TABS

The EZ Mount Base has mounting tabs that can be extended or pushed in. Figures 7 and 8 show the details.

Din Rail Mounting, Fig 3

- If not showing, pull the blue mounting tabs out as shown in Figure 8.
- Catch EZ mount hook on DIN rail as shown in Figure 4.
- Rotate the EZ pressure module down until the bottom mounting tab snaps into place on the DIN rail.

Snap Track Mounting, Fig 5

- If showing, push the blue mounting tabs in as shown in Figure 7.
- The edges of the EZ Mount base will fit into the board slots in 2.75 inch snap track.

Screwed to a Surface, Fig 6

- If not showing, pull the blue mounting tabs out as shown in Figure 8.
- Place the EZ Pressure unit against the surface and mark the screw holes.
- Drill 1/8" pilot holes for #8 flathead screws.
- Screw EZ Pressure unit to surface.

Note: The mounting holes in the blue mounting tabs are elongated to allow for alignment.

Snap Track Mount

- Mounting with snaptrack: Remove the VC350 from the snaptrack. Screw the snaptrack to the surface where you need to mount the unit. Replace the VC350 in the snaptrack.
- Mounting without snaptrack: Peel the backing from the tape on the back of the unit and attach to the surface where you need to mount the unit.

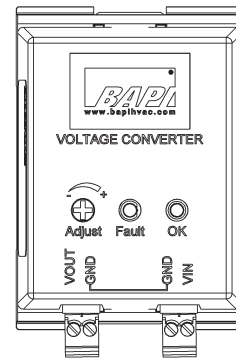


Fig. 7: EZ-Mount with mounting tabs pushed in

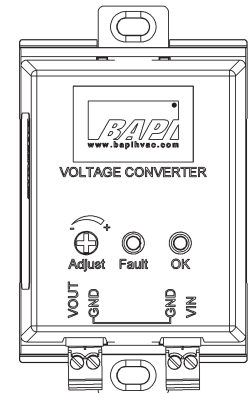


Fig. 8: EZ-Mount with mounting tabs extended

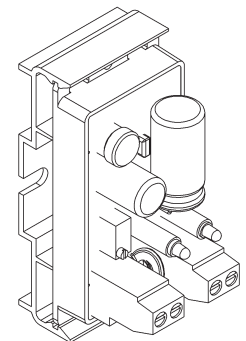
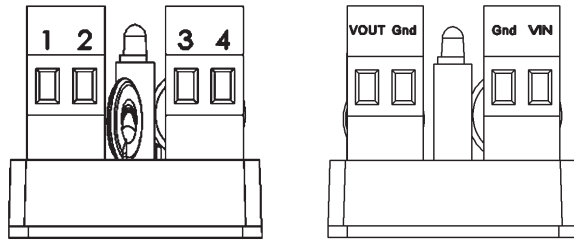


Fig. 9: VC350A mounted in Snap Track

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Termination



Prior to 1/23/2013

After 1/23/2013

Fig. 10: VC350A Wiring Terminals

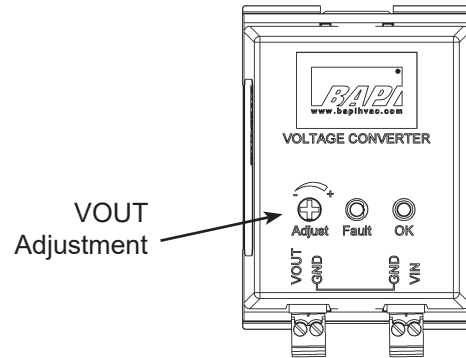


Fig. 11: VC350A-EZ Wiring Terminals

VC350A Terminal		VC350A-EZ Terminal	Function
Prior to 1/23/2013	After 1/23/2013		
1	VOUT	VOUT	VDC out to peripheral devices
2	GND	GND	VDC out ground or common
3	GND	GND	VAC or VDC input ground or common
4	VIN	VIN	VAC or VDC input from transformer or other power supply

Note: The terminals 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.

Diagnostics

Red or Fault	Green or OK	Condition	Solution
LED OFF	LED ON	Normal operation	
LED ON	LED ON	Unstable condition, excessive load on the output	Reduce the output load and reset power to the device
LED OFF	LED OFF	No input power	Check for proper supply voltage
LED ON	LED OFF	Output shorted to ground	Remove power, find and remove VDC short

Note: If the DC output voltage is lower than or higher than your limits, turn the VOUT Adjust until the output voltage is within limits.

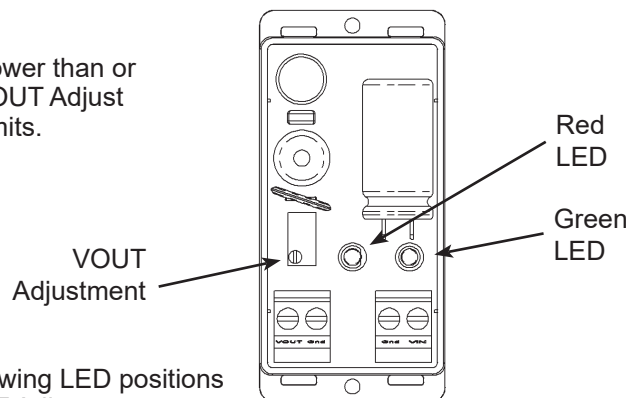


Fig. 12: VC350A showing LED positions and VOUT Adjust

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