

Overview

Many times it is necessary to perform several tasks simultaneously in an HVAC system. For example; turn on an auxiliary supply fan, turn on an exhaust fan, open purge dampers and close return dampers. Can you afford to tie up 4 I/O on a controller, or would you rather use one output to do all these tasks?

The BAPI BA/R49 Electronic Technicians Assistant device can turn on or off up to nine relays using only one controller output. Supplying 24 VDC and ground to the BA/R49's input causes the nine relay driver outputs to change state. Each output has a polarity switch so that some loads may be turned off while others are turned on as the input changes state.

Each output supplies a nominal 24VDC at 120 milli-amps allowing you to control most common relays or small contactors. All relay power is supplied from a BAPI BA/PS17 through either a BA/BP4 or BA/BP8 power back plane.

A green LED indicates that power is present. Each output lights a Red LED when sourcing power.

Mounting

The BA/R49 plugs into either a BA/BP4 or a BA/BP8 as shown in Figure 1.

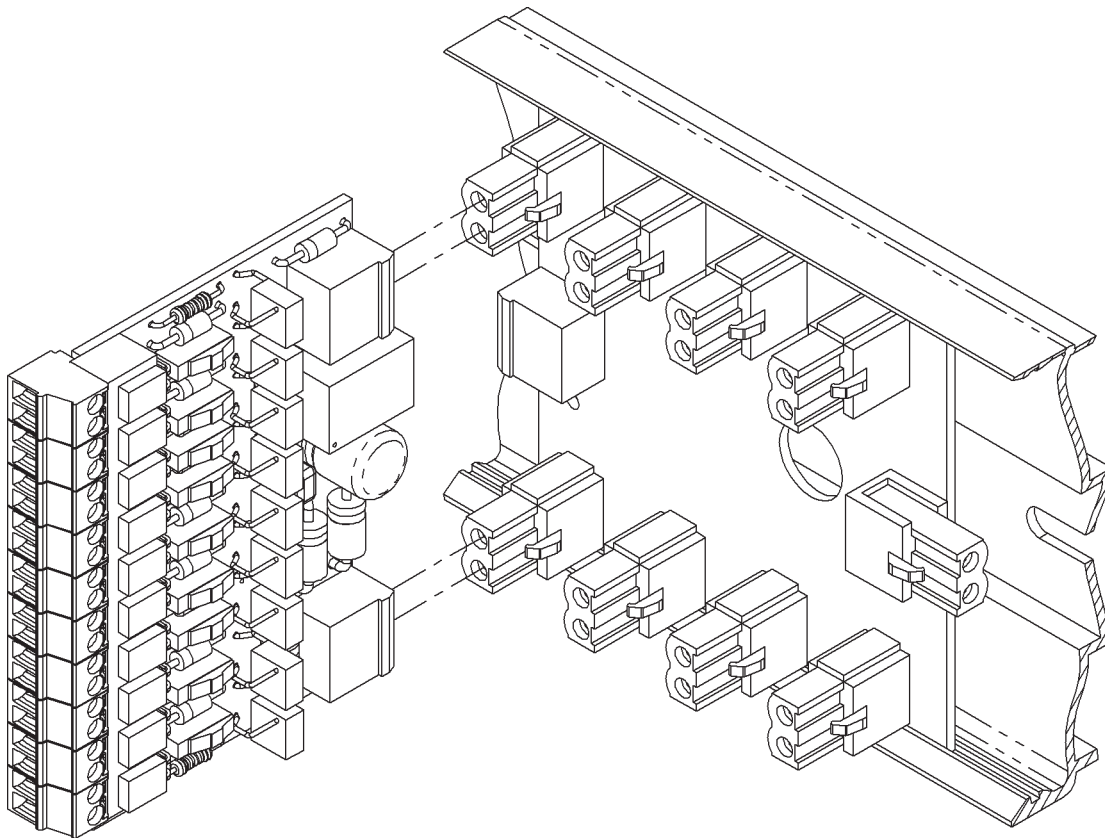


Figure 1 BA/R49 plugging into a BA/BP4

Specifications subject to change without notice.

Termination

Connect to J3 shown in the table below.

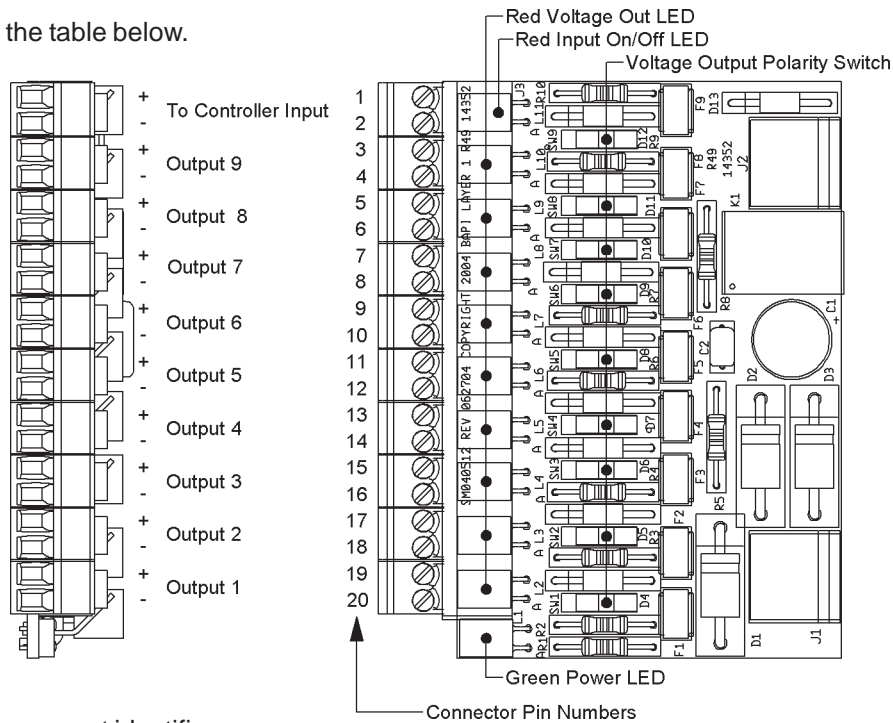


Figure 2 BA/R49 component identifier

Table 1: BA/R49 Connection List

Pin Number	Wire Connection
1	+24 VDC from controller to turn On BA/R49 (state 2)/ 0VDC to turn off (state 1)
2	Ground from Controller
3	Output 9 Power + (0VDC or 24VDC)
4	Output 9 Power - (Ground from backplane)
5	Output 8 Power + (0VDC or 24VDC)
6	Output 8 Power - (Ground from backplane)
7	Output 7 Power + (0VDC or 24VDC)
8	Output 7 Power - (Ground from backplane)
9	Output 6 Power + (0VDC or 24VDC)
10	Output 6 Power - (Ground from backplane)
11	Output 5 Power + (0VDC or 24VDC)
12	Output 5 Power - (Ground from backplane)
13	Output 4 Power + (0VDC or 24VDC)
14	Output 4 Power - (Ground from backplane)
15	Output 3 Power + (0VDC or 24VDC)
16	Output 3 Power - (Ground from backplane)
17	Output 2 Power + (0VDC or 24VDC)
18	Output 2 Power - (Ground from backplane)
19	Output 1 Power + (0VDC or 24VDC)
20	Output 1 Power - (Ground from backplane)

Specifications subject to change without notice.



Note: The male connectors that plug into the jacks on the board use a rising block screw terminal to hold the wires. If the block is in a partially up position the wire may be inserted under the block and the wire will not be held when the screw is tightened. To avoid improper wiring, turn the male connector screws counterclockwise until the block is below the wire opening before inserting the wire. Lightly tug on each wire after tightening to verify proper termination.

Troubleshooting

Possible Problems:

Power LED L1 does not light

Possible Solutions:

- Check to see that the BA/R49 is firmly inserted into the backplane
- Check to see if the power cable is firmly inserted into the backplane.
- Check to see if the PS17 is working correctly
- Check to see if the power to the PS17 is turned on

Input LED L11 does not light

- Check controller for 24 VDC
- Check controller ground connection

Relay drive LEDs L2 through L10 do not light

- Check output setting to see if drive LED should be on.
- Disconnect segment of J3 that does not light, if LED turns on, check wiring or load for short to ground

Specifications

Power Voltage	26 to 36 VDC (from BAPI BA/PS17)
Power Current	50mA maximum plus relays (1.7VA max plus relays)
Input Control Voltage	0 or 24 VDC @ 7mA max
Output Power Voltage	nominal 24 VDC (23 to 32VDC)
Output Power Current	9 outputs of 120mA maximum (26 Watts total)

Specifications subject to change without notice.