instruction manual

AXB-REL8

Axcess Relay Controller

AXlink Bus Controllers

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Table of Contents

Product Information

The AXB-REL8 Relay Controller provides remote control for up to eight relay functions. Suitable for stand-alone or rack mount applications, the AXB-REL8 may be used with AXCESS or AXCENT systems via the four-wire AXlink data bus.

Front and Rear Panels

The front and rear panels of the AXB-REL8 are shown in FIG. 1.

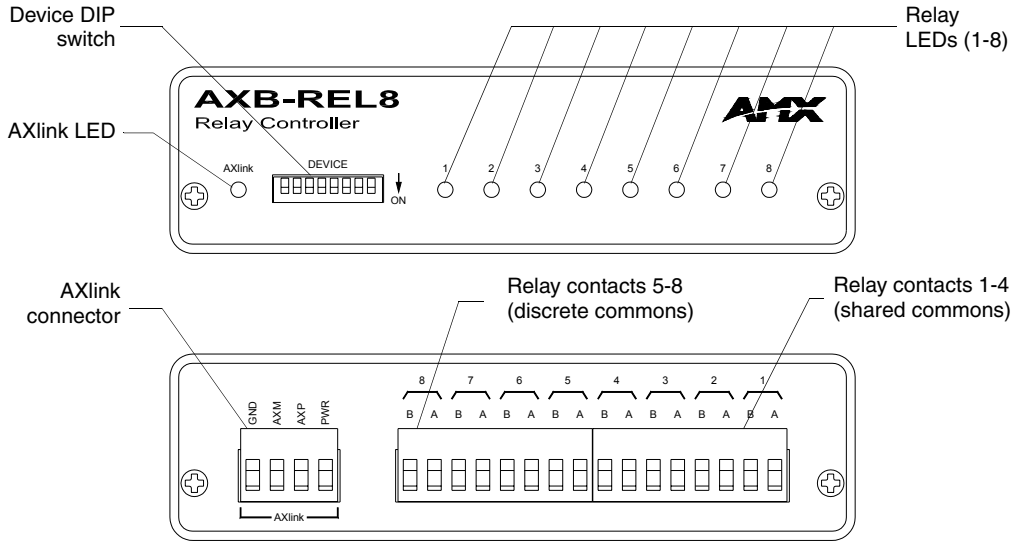


FIG. 1 AXB-REL8 front and rear views

Specifications

The following table details the specifications for the AXB-REL8 Axcess Relay Controller.

Specifications	
Dimensions (HWD)	1.51" x 5.55" x 5.45" (3.84 cm x 14.10 cm x 13.84 cm)
Enclosure	Non-glare, high-impact black matte plastic
Power Consumption Baseline draw With all 8 relays On	 • 90 mA @ 12 VDC (min) • 170 mA @ 12 VDC (max)
Weight	17.50 oz. (496.11 g)
Included Accessories	Metal tab strips included for external adjacent relay communing.
Optional Accessories	AC-RK Accessory Rack Kit

Specifications (Cont.)	
Dimensions (HWD)	1.51" x 5.55" x 5.45" (3.84 cm x 14.10 cm x 13.84 cm)
Enclosure	Non-glare, high-impact black matte plastic
Power Consumption	
Baseline draw	• 90 mA @ 12 VDC (min)
With all 8 relays On	• 170 mA @ 12 VDC (max)
Front Panel Components	
AXlink Status indicator	AXlink LED (green and blinks to indicate AXlink communication activity and power: • Full-Off indicates no power is being received or the controller is not functioning properly. • One blink per second indicates power is active and AXlink communication is functioning. • Full-On indicates there is no AXlink control or activity, but power is On.
Device DIP switch	An eight-position DIP switch is used to set the device number for the AXB-REL8.
Relay LEDs 1-8 (Red)	Illuminate when associated relay is closed. Relay LED's should match panel control function.
Rear Panel Components	
AXlink connector	Four-pin captive wire receives power and information via the AXlink bus and AXlink system controller.
Relay contacts	Eight (normally -open) isolated two-pin relay contacts 1 A @ 28 VAC or VDC: • Relays 1-4 can share a common **if use** jumper"A" pins with a tab strip • Relays 5-8 use discrete commons (wire commons individually)

Connection and Wiring

Setting the DEVICE Dip Switch

The eight-position Device DIP switch is located on the front panel of the AXB-REL8 as shown in FIG. 1 on page 1. Each device in the AXlink bus must have a unique AXlink device number.

NOTE

If you later change the device number, remove and reconnect the AXlink connector. This enters the new device number into memory. The device number takes effect only on power-up.

The device can be 1 of the 255 devices in an Axcess, AXCENT, AXCENT^2, or AXCENT^3 system. The device number must match the device assignment in the Axcess program. AMX assigns device numbers into the following three segments:

- Cards 1 through 95
- Boxes 96 through 127
- Panels 128 through 255

Set the device number by setting the DEVICE DIP switch. The device number is the total of all of the switches in the ON (down) position. The following table shows the switch numbers and their corresponding values.

Device DIP switch settings								
Position	1	2	3	4	5	6	7	8
Value	1	2	4	8	16	32	64	128

As an example, the following DIP switch (FIG. 2) defines the AXB-REL8 as device number 97 (1 + 32 + 64 = 97).

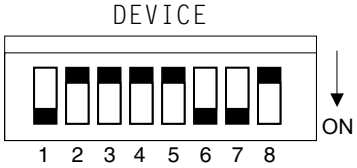


FIG. 2 Example device DIP switch with value of 97

Set the AXB-REL8 device number before connecting AXlink wiring. Do not install relay wiring at this time.

Wiring Requirements

The AXB-REL8 uses a four-pin AXlink Central Controller connector for power and data. If the distance between the AXB-REL8 and the Central Controller exceeds power consumption limits, you must connect an optional 12 VDC power supply. Refer to the following section for more information.

CAUTION

Do not connect power to the AXB-REL8 until the wiring is complete. If you are using a 12 VDC power supply, apply power to the AXB-REL8 only after installation is complete.

Preparing captive wires

To connect the wiring into a captive-wire connector:

1. Strip 1/4 inch off the wire insulation for all four wires.
2. Tin 2/3 of the exposed wire.
3. Insert each wire into the appropriate captive-wire connector up to the insulation.
4. Tighten the captive screws to secure the fit in the connector.

Wiring guidelines

The AXB-REL8 requires 12 VDC power to operate properly. The Central Controller supplies power via the AXlink cable. The maximum AXlink wiring distance between the Central Controller and AXB-REL8 is determined by power consumption, supplied voltage, and the wire gauge used for the cable. The following table lists wire sizes and the maximum lengths allowable between the AXB-REL8 and the Central Controller, based on the maximum power consumption rating of 170 mA (all eight relays ON).

The maximum wiring lengths for using AXlink power are based on a minimum of 13.5 volts available at the Central Controller's power supply.

Wiring Guidelines at 170 mA	
Wire Size	**Maximum Wiring Length**
18 AWG	690.42 feet (210.43 m)
20 AWG	436.80 feet (133.13 m)
22 AWG	272.33 feet (83.00 m)
24 AWG	171.66 feet (52.32 m)

If the AXB-REL8 is installed farther away from the control system than recommended in the above table, connect a 12 VDC power supply to the AXlink connector on the AXB-REL8 rear panel (see Wiring AXlink with Optional 12 VDC Power Supply).

Connecting the Wiring

The following paragraphs describe wiring connections for using the AXlink and relay connectors.

CAUTION

If using power from AXlink, disconnect the wiring from the control system before wiring the AXB-REL8.

AXlink data and power connections

Connect the control system's AXlink connector to the AXlink connector on the rear panel of the AXB-REL8 for data and 12 VDC power as shown in FIG. 3.

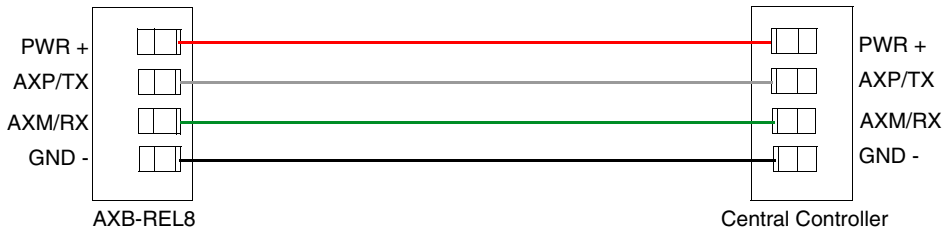


FIG. 3 AXlink wiring

Wiring AXlink with optional 12 VDC power supply

Connect the control system's AXlink connector to the AXlink connector on the rear panel of the AXB-REL8 as shown in FIG. 4.

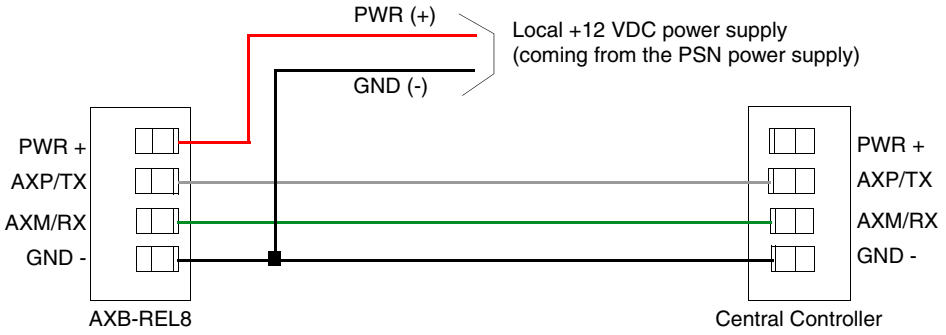


FIG. 4 Wiring AXlink with Optional 12 VDC power supply

Use a 12 VDC power supply when the distance between the control system and AXB-REL8 exceeds the limits described in the Wiring Guidelines at 170 mA table on page 4, or the power supply current capacity cannot accommodate the 170 ma (max) draw of the AXB-REL8. Make sure to connect the GND and +12 VDC wire on the AXB-REL8 AXlink connector end. Do not connect the optional +12 VDC power supply wire to the control system's power supply side of the AXlink connector (FIG. 4).

Checking the installation

After set-up is complete:

1. Check continuity of relay wiring.
2. Check cable numbers and wiring, interfaces and sources against supplied documentation.
3. Install tab strips to jumper between shared commons and clip off excess tabs.
4. Insert relay wiring terminals into AXB-REL8.

Relay connections

The relay specification is 1 A @ VAC or VDC. FIG. 5 on page 6 shows the relay wiring diagram for the AXB-REL8. The dotted lines are used to indicate commons. Install supplied tab strips to jumper between shared commons. Clip off excess tabs and bend strip up, away from other wiring.

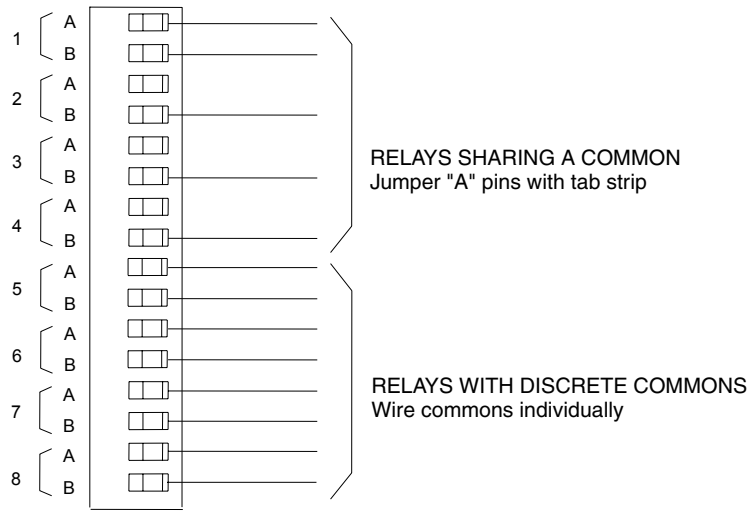


FIG. 5 Relay wiring diagram

Testing the installation

1. Check AXlink status LED - it should blink once per second (see Specifications table for AXlink status LED).
2. Relay LED lights, but source does not activate:
3. Check wiring continuity.
4. Check jumpers used for shared commons.
5. Check cable and source against supplied documentation.
6. Check operational status of interface or source.

Rack-Mounting the AXB-REL8 (optional)

To rack-mount the AXB-REL8 into the optional AC-RK Accessory Rack Kit:

1. Remove any connected relay and AXlink connectors from the rear panel.
2. Remove the two screws on the front panel of the AXB-REL8.
3. Remove the front panel and the space bracket behind the panel.
4. Place the unit in the appropriate opening in the AC-RK.
5. Place the front panel of the AXB-REL8 on the front of the rack, over the unit.
6. Fasten the front panel to the rack and to the unit with the two screws you removed.

System Worksheet and Installation Guide

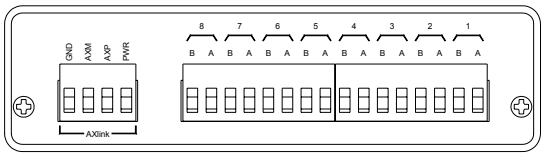
AXB-REL8

Dealer ID#

Dealer PO#

Job SO#

Description Serial#



Device #		Wiring	Function	Color/Pin	AMX Cable/Infc #	Source
1	A					
	B					
2	A					
	B					
3	A					
	B					
4	A					
	B					
5	A					
	B					
6	A					
	B					
7	A					
	B					
8	A					
	B					

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