

Operating Instructions

Model DB-300

Single Channel Loop Detector Demonstration Box

I. General Description

The DB-300 is used to demonstrate the features of Reno A & E's Models AX, B, and BX single channel loop detectors. It can also be used to test and/or troubleshoot problems with these detectors.

II. Operating Instructions

- 1) Connect the DB-300 to an appropriate power source. If you are using the DB-300 with a 120 VAC detector (Model AX-3, B-3, or BX-3), simply plug the power cord into a 120 VAC outlet. If you are using the DB-300 with a 24 VAC detector (Model AX-7, B-7, or BX-7), connect the power cord of the DB-300 to the output of a Variac set to provide 24 VAC power. If you are using the DB-300 with a 12 VDC detector (Model AX-23, B-23, or BX-23), connect the power cord of the DB-300 to a 12 VDC power source. If you are using the DB-300 with a 24 VDC detector (Model AX-24, B-24, or BX-24), connect the power cord of the DB-300 to a 24 VDC power source.

If using a 12 or 24 VDC power source, polarity is not important. Connect the DC+ lead to either prong of the DB-300 power cord and the DC- lead to the other prong.

NOTE: The DB-300 is designed to be used with 120 VAC, 24 VAC, 12 VDC, and 24 VDC detectors only. Under no circumstances should the DB-300 be connected to a 240 VAC power source.

- 2) Set the POWER switch to the "OFF" position and the LOOP switch to the "NORM." position.
- 3) Connect the detector to the DB-300 by inserting the 11-pin connector on the back of the detector into the 11-pin receptacle on the top of the DB-300. Note the location of the key slot on the receptacle and the corresponding keying tab on the detector connector.
- 4) If you have connected a single output detector (Model AX) to the DB-300, one of the "A" Relay LEDs on the DB-300 should be illuminated. If you have connected a Fail Safe detector, the "N/O" LED should be on. If you have connected a Fail Secure detector, the "N/C" LED should be on.
If you have connected a dual output detector (Model B or BX) to the DB-300, one of each of the "A" Relay and "B" Relay LEDs on the DB-300 should be illuminated. If you have connected a Fail Safe detector, the "A" Relay "N/O" LED and the "B" Relay "N/C" LEDs should be on. If you have connected a Fail Secure detector, the "A" Relay "N/C" LED and the "B" Relay "N/C" LEDs should be on.
- 5) Set the POWER switch to the "ON" position. Any "N/O" indication on the "A" Relay or "B" Relay LEDs should change to "N/C". The detector power (PWR or POWER) LED and one of the frequency (FREQ) LEDs (Model B only) should be illuminated.
- 6) Place the toy car that was included with the DB-300 over the white circle labeled LOOP to simulate a vehicle detection. The "N/C" indication on the "A" Relay or "B" Relay LEDs should change to "N/O" and the detect (DET or DETECT) LED on the detector should come on.

If you have connected a Model AX detector to the DB-300 and the detector output is set to operate in Pulse Mode, the "N/C" indication on the "A" Relay LEDs will momentarily change to "N/O" and then return to "N/C".

If you have connected a Model B or BX detector to the DB-300 and the detector Relay "B" output is set to operate in Pulse Mode, the "N/C" indication on the "B" Relay LEDs will momentarily change to "N/O" and then return to "N/C". If Relay "A" and Relay "B" are both set to operate in Presence Mode, the "N/C" indication on the "A" Relay and "B" Relay LEDs should both change to "N/O".

- 7) Remove the car. Any "N/O" indication on the "A" Relay or "B" Relay LEDs should change back to "N/C" and the detect LED on the detector should go off.
- 8) Press and hold the LOOP button labeled SHORT. The table below lists the possible outcomes of this action:

Model	Detect LED (DET or DETECT)	Loop Fail Indication (FAIL or LOOP FAIL)	"A" RELAY Indication	"B" RELAY Indication
AX	ON	FLASH (1 Hz)	N/O	-----
B (Fail Safe)	ON	FLASH (1 Hz)	N/C	N/O
B (Fail Secure)	ON	FLASH (1 Hz)	N/C	N/C
BX (Fail Safe)	ON	FLASH (1 Hz)	N/C	N/O
BX (Fail Secure)	ON	FLASH (1 Hz)	N/C	N/C

- 9) Release the LOOP button labeled SHORT. The detect LED on the detector should go out and any "N/O" indication on the "A" Relay or "B" Relay LEDs should change back to "N/C".

If you have connected a Model AX or BX detector to the DB-300, the FAIL or LOOP FAIL LED on the detector will begin to flash at a 3 Hz rate indicating a prior loop failure.

- 10) Reset the detector by pressing the button labeled RESET (Model AX or B) or by changing any DIP switch position except 1 or 2 (Model AX or BX). The detector can also be reset by moving the power switch on the DB-300 to the "OFF" position and then returning it to the "ON" position.

- 11) Move the LOOP switch to the "OPEN" position. The table below lists the possible outcomes of this action:

Model	Detect LED (DET or DETECT)	Loop Fail Indication (FAIL or LOOP FAIL)	"A" RELAY Indication	"B" RELAY Indication
AX	ON	ON	N/O	-----
B (Fail Safe)	ON	ON	N/C	N/O
B (Fail Secure)	ON	ON	N/C	N/C
BX (Fail Safe)	ON	ON	N/C	N/O
BX (Fail Secure)	ON	ON	N/C	N/C

- 12) Move the LOOP switch to the "NORM." position. The detect LED on the detector should go out and any "N/O" indication on the "A" Relay or "B" Relay LEDs should change back to "N/C".

If you have connected a Model AX or BX detector to the DB-300, the FAIL or LOOP FAIL LED on the detector will begin to flash at a 3 Hz rate indicating a prior loop failure.

- 13) Reset the detector by pressing the button labeled RESET (Model AX or B) or by changing any DIP switch position except 1 or 2 (Model AX or BX). The detector can also be reset by moving the power switch on the DB-300 to the "OFF" position and then returning it to the "ON" position.

NOTE: The DB-300 can be used to test the proper operation of a Model AX, B, or BX connected to low inductance (20 microhenry) loop. To do so, follow steps 1 through 13 as outlined above, but when performing step 2, set the LOOP switch to the "LOW" position.