

AVI-100-RD Receiver and Vehicle Detector

A New Dual Code AVI Receiver and Detector



Features

- Compatible with existing AVI systems used in the Southern Nevada Emergency Vehicle Gate Access System.
- Compatible with manufacturers Detector Systems, IDC, US Traffic, and Reno A&E
- Can be programmed to activate up to 2 different codes out of over 19,000 codes
- Operates on 10 to 30 volts AC/DC or 117/230 VAC
- Can be field programmed with the “Learn” pushbutton
- Responds to transmitters made by Detector Systems, IDC, US Traffic, and Reno A&E
- The main relay output is configured to output a call whenever the loop circuit has failed
- Works on any in-ground inductive loop from 20 to 2000 microhenries

Overview

The Diablo Controls AVI system consists of an AVI transmitter mounted to the underside of a fire engine, police car or other vehicle. The transmitter continuously transmits a coded signal. When this vehicle approaches a gated area, the code is received by a loop buried in the ground ahead of the gate or barrier. The receiver is the “smarts” of the system. It receives the coded message coming from a transmitter. If the transmitted code matches the pre-programmed code stored in the receiver, a relay contact is closed and a red LED is illuminated indicating a valid code is being received. This signal is then passed on to a gate controller, which automatically opens the gate or performs some other security function.

Learning

All Diablo Controls AVI receivers are shipped in the un-programmed mode. Before the receiver can be used for AVI, it must first learn the acceptable codes. To program a new code, the transmitter transmitting this code must first be energized and placed over the loop. Press and hold the “Learn” button until the red Valid LED starts blinking fast. Then simply release the button. This will store the new code in memory. Once this new code is received and learned, it will now activate each time this code is received.

The receiver has the capability of storing up to two codes. If the unit is asked to learn a third code, the oldest code is discarded.

To erase all the stored codes, disconnect the MS connector from the unit. With the pushbutton firmly pressed, reconnect the MS connector. Continue to press the button until the red Valid LED begins to blink slowly. Release the pushbutton. There are now no codes stored in memory and the unit is ready to learn new codes.

LED Indicators

The green Power LED will be on solid to indicate the unit is operating and powered. The red Valid LED will turn on when the unit is receiving a valid code. If the red Valid LED is blinking slowly then this unit is un-programmed and has no codes stored to validate.

Sensitivity

Almost all traffic control applications can be handled with sensitivity set at NORMAL (level 4). The sensitivity DIP Switches (S1, S2, and S3) should rarely be moved from NORMAL. However, the AVI-100-RD has eight settings varying from a LOW of level 0 to a HIGH of level 7.

Sensitivity	S1	S2	S3	ΔL%	Response Time (ms)
0	Off	Off	Off	1.28	.25
1	On	Off	Off	.64	0.5
2	Off	On	Off	.32	1
3	On	On	Off	.16	2
4	Off	Off	On	.08	4
5	On	Off	On	.04	8
6	Off	On	On	.02	18
7	On	On	On	.01	32



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AVI-100-RD Receiver

Frequency

Automatically tunes within one of four operating ranges.

Pulse / Presence

With this switch turned on, the main output will be a 125 ms pulse each time a vehicle enters the loop detection area. If the vehicle remains within the loop for two seconds, the detector will automatically retune, making it ready for the next vehicle to arrive. If this switch is turned off the detector will output presence.

Fail Safe vs Fail Secure

A fail safe detector will output “detect” when the loop circuit is failed. This is always useful on a safety loop. On the free exit loop this will keep the gate open until the situation is fixed. This is useful in applications where it is important to allow traffic flow to continue. A fail secure detector will never output “detect” when the loop circuit is failed. This will keep the gate closed. This is useful in high-security areas or installations where containment is needed. The AVI-100-RD is factory configured for fail safe operation. To change the operation to fail secure, open the detector and remove jumper J1 on the main PC board. **Note:** Never use a fail secure detector on a safety loop.

Ordering Information

AVI-100-RD-xxx

xxx = LV = Low voltage model 10 to 30 volts DC

xxx = 117 = 117 volts AC

xxx = 220 = 220 volts AC

Connector

Removable 10-position MS

Pin assignments

A – Power common

B – AVI relay common

C – Power in (+10 to 30 VDC) or (117/220 VAC)

D – AVI and detector loop input

E – AVI and detector loop input

F – Detector output relay (N.O. - closes for detect)

G – Detector output relay (N.C. - opens for detect)

H – Chassis ground

I – AVI output relay (N.O. - closes for valid ID)

J – No connection

Size

Height: 3.5” Width: 2.3” Depth: 4.25”

Operating Temperature

-35°F to 165°F (-37°C to 74°C)



Proudly Made In USA
Veteran Owned & Operated

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