

220D single-channel vehicle detector instructions

1. Technical parameters

Power supply: AC220V $\pm$ 10%

Sensitivity: 9 levels adjustable

Working frequency: about 100KHz

Detection time: 35ms

Working temperature: -40°C~+65°C

Working humidity: relative humidity up to 95%

Lightning protection measures: multiple protection

Environmental drift: automatic compensation

Storage temperature: -40°C~+85°C

Installation method: DIN rail

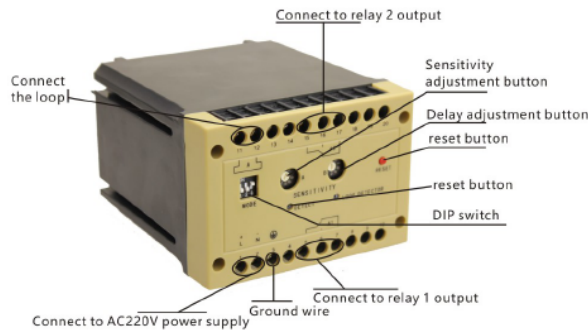
Dimensions: 110X60X100mm

Detection channel: 1 way

Output mode: double relay

Delay function: 0-4.5 seconds optional

2. Wiring diagram



Normally: pin 1.2 is connected to AC220V power supply, pin 3. is connected to "ground", pin 11.12 is connected to loop, pin 5 is common, pin 6 is normally open, and pin 7 is normally closed. 15 feet are common, 16 feet are normally open, 17 feet are normally closed. It is important to note: the loop lead wire must be twisted tightly, otherwise it is

3. Three, set the delay time

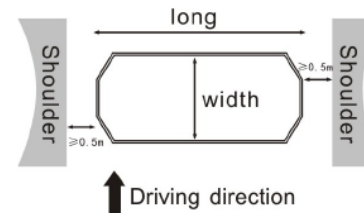
chassis, if the vehicle has not completely left the loop, the detector will misjudge that the vehicle has left the loop. At this time, the delay function of the vehicle can be activated. Set by rotating the B rotary encoder switch on the right side of the panel, the delay time is the gear value multiplied by 0.5 seconds (if the gear value is "0", the delay is 0 seconds, no delay, if the gear value is "5", the delay is 2.5 seconds) Generally, the higher the vehicle chassis, the longer the delay, and the maximum delay time is 4.5 seconds

4. Four loops buried

The loops are generally cut into rectangular grooves, and embedded with high temperature resistant Teflon wire for multiple turns. After the test is normal, they are potted with asphalt, glass glue or cement. The inductance of the loop is maintained between 80 ~ 500uH. The loop lead wires must be twisted tightly to prevent interference.

To embed the loop, first use a road cutter to cut grooves on the road surface. Chamfer the four corners with 45 degrees to prevent the sharp corners from damaging the loop cable. The slot width is generally 3-5 mm, and the depth is 40 to 50 mm. At the same time, a slot leading to the gate is cut for the loop lead

Unless conditions do not permit, the detection loop should be rectangular. The two long sides are perpendicular to the moving direction of the vehicle (metal object), and the distance between each other is recommended to be 1 meter. The length of the long side depends on the width of the road, and the ends are usually 0.5 meters narrower than the width of the road. The number of turns of the loop is 4 or 6 turns. If two loops are adjacent to each other, one 4 turns and the other 6 turns. As shown below:

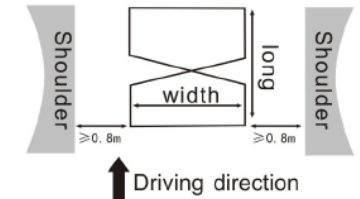


The length of the loop depends on the lane (not less than 0.5 meters away from the shoulders on both sides)

Car: 1.0m wide, 5-7 laps

Minivan: 1.2m wide, 5-7 laps

Medium-sized truck: 1.5m wide, 4-6 laps



The length of the loop depends on the lane (the distance from the shoulders on both sides is not less than 0.8 meters)

Large truck or trailer: 1.8 meters wide, 4-6 circles

Please be sure to note: Half of the loop width is the actual detection height of the vehicle detection, slightly different! Subject to actual conditions

5. Loop installation guide

Whether the detector can work well depends largely on the induction loop it is connected to. Several important parameters of the loop Including: loop material, loop shape and whether it is constructed and buried correctly. The following items must be paid attention to during installation:

5-1. Loop crosstalk

When the two induction loops are very close, the magnetic fields of the two loops are superimposed and interfere with each other. This phenomenon is crosstalk. Crosstalk can cause false detection results and deadlock of the loop detector. To eliminate crosstalk between adjacent loops that belong to different inductions, the following measures can be taken:

- A. The same size and different number of turns can change the working frequency of the loop. -It is generally recommended that one is 4 laps and the other is 6 laps.
- B. Increase the distance between adjacent loops. The distance between the detection loops must be greater than 1 meter
- C. Carry out a good shield on the lead wire of the loop, and the shield wire must be grounded at the detector end. loop cables and connectors are best used, such as high-temperature tinned wires.

5-2. Key points of loop construction:

- > Conductor cross section: greater than 0.75mm²
- > Grooving on the ground: about 3-5mm wide and 40-50mm deep
- > Slot cleaning: the slot must be cleaned and dried before winding the loop
- > Winding method: clockwise or counterclockwise
- > Adjacent loops: the number of turns cannot be the same
- > Potting materials: liquid asphalt, glass glue, cement
- > Adjacent spacing: the distance from side to side is greater than 1 loop width
- > Wire material: high temperature resistant Teflon stranded tinned copper wire
- > loop lead: no connector, must be twisted at least 20 times per meter

6. Detector reset

When the power is turned on, the car detector will automatically reset to a car-free state. Please remember to manually press the reset button every time you finish adjusting the sensitivity or delay or DIP switch

7. Debug sensitivity

Sensitivity adjustment uses the A rotary coding switch on the left side of the panel, there are ten gears, "0" is the lowest, and "9" is the highest. During the trial run, first set the sensitivity to "5". After the actual test, if the detector does not respond, increase the sensitivity by one level. Repeat this several times until the detector reaches the best state

Note: The "high" sensitivity should be used with caution! If the detector has a small number of loop turns, the sensitivity is adjusted to the "high" gear, the response is too fast, it will cause the loop to falsely detect that there is a car when there is no car on the loop, and a "false death" phenomenon