

PD132 Single-Channel Vehicle Detector Manual

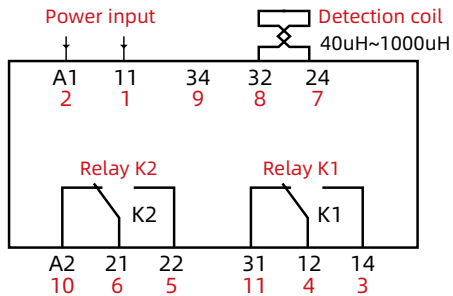


1. Technical Parameters

Working power supply AC220V
 Four levels of sensitivity adjustable
 Working frequency 20KHz ~ 170KHz
 Response time 10ms
 Working temperature -20°C ~+65°C
 Relative humidity ≤ 90% without condensation
 Infinite existence/Limited existence 500ms
 Maximum coil 8m×1m
 Output mode relay
 Ground sense lead is best within 10 meters (twisted pair)

Please refer to the body label for voltage details

2. Wiring diagram



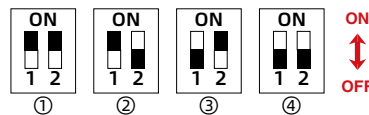
1. FireWire|AC220V+/-10%
2. Neutral line|20mA/50Hz
3. Relay K1 normally open contact
4. Relay K1 common contact
5. Relay K2 normally open contact
6. Relay K2 common contact
7. Coil
8. Coil Twisted pair
9. Empty feet
10. Relay K2 normally closed contact
11. Relay K1 normally closed contact

3. Work status indication

Power Indicator : It stays on during working hours.
Detection indicator : After the power is turned on, the detector will automatically calibrate. The calibration process is about 3 seconds. When the calibration is in progress, the green indicator light on the panel will always be on (note: there should be no vehicles on the coil during the calibration) After the calibration is completed, the green indicator light will go out . (The green light goes out when there is no car; the green light stays on when there is a car. The green light continues to flash when the vehicle detector is abnormal)

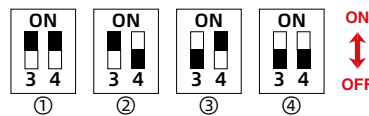
4. Working frequency adjustment

The user can change the operating frequency of the coil to avoid interference from adjacent coils or ambient frequencies. This product provides four frequency options, which can be set by the dial switches DIP1 and DIP2 on the panel referring to the figure on the right.



5. Sensitivity adjustment

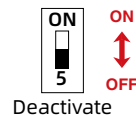
Sensitivity adjustment uses the dial switches DIP3 and DIP4 on the panel, with a total of four levels. See the table below for specific settings. During the trial run, first set the sensitivity to a lower gear. After the actual test, if the vehicle detects no output, the sensitivity should be increased by one gear. Repeat this until the vehicle detector works normally and stably.



① Low frequency \ ② Low frequency \ ③ Medium and high frequency \ ④ High frequency

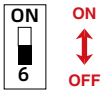
6. Sensitivity adjustment

When the vehicle detector detects the vehicle, it will automatically increase the sensitivity to the highest level, and return to the previously set sensitivity when the vehicle leaves the coil. This function is disabled when DIP5 on the panel is set to OFF.



7. Filter mode adjustment

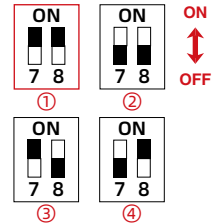
When the environmental electromagnetic disturbance is large, which causes frequent false actions of the detector, DIP6 can be pulled to the ON end to increase the filter coefficient to filter out the disturbance. But it should be noted that using this function when the environment is normal will reduce the sensitivity of the vehicle detector and increase the response time. Under normal circumstances, pull DIP6 to OFF to disable this function.



Note: If the vehicle detector is abnormal, first check the coil parameters, whether the embedding is reasonable, whether the lead wire is twisted or damaged, then adjust the operating frequency and sensitivity level, and finally use the enhanced filter mode.

8. Relay output mode (factory default setting ①)

- ① DIP7 ON, DIP8 ON/ when the vehicle enters the coil, K1 (pin 3, 4) is turned on. After the vehicle leaves, K1 (pins 3 and 4) is disconnected, while K2 (pins 5 and 6) is turned on for 500 milliseconds and then disconnected.
- ② DIP7 OFF, DIP8 OFF/When the vehicle enters the coil, K1 (pin 3, 4) is turned on while K2 (pin 5, 6) is turned on for 500 milliseconds and then disconnected. After the vehicle leaves, K1 (3 and 4 feet) is disconnected.
- ③ DIP7 ON, DIP8 OFF/When the vehicle enters the coil, K1 (pins 3 and 4) will be turned on for 500 milliseconds, and K2 (pins 5 and 6) will be turned on. K2 (5 and 6 feet) is disconnected after the vehicle leaves.
- ④ DIP7 OFF, DIP8 ON/When the vehicle enters the coil, K1 (3, 4 feet) and K2 (5, 6 feet) are simultaneously turned on. After the vehicle leaves, K1 (3, 4) and K2 (5, 6) are simultaneously disconnected open.

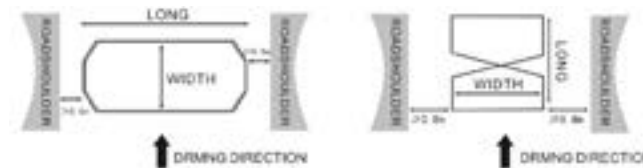


9. Car inspection device reset

When the car inspector is powered on, press the reset button on the panel, the car inspector will be restarted and reset to a car-free state.

10. Coil buried

The coil is generally cut into a rectangular groove, and buried with high temperature resistant Teflon wire for multiple turns. After the test is normal, it is potted with asphalt. When there are steel bars under the ground, add 1-2 turns to compensate, and the inductance of the coil remains between 80~500uH. The coil lead wires must be twisted tightly to prevent interference.



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: 1.2 meters wide, 5-7 laps
 Medium-sized truck: 1.5 meters wide, 4-6 laps

The length of the loop depends on the lane (not less than 0.8 meters away from the shoulders on both sides)
 Large truck or trailer: 1.8 meters wide, 4-6 laps

11. Key points of coil construction

1. Groove shape: generally rectangular (four corners are beveled)
2. Coil width: about twice the detection height.
3. Ground notch: about 4 mm wide and 30-50 mm deep.
4. Winding method: cut, clean and dry before winding the coil.
5. Wire material: Teflon high temperature resistant stranded tinned copper wire.
6. Wire section: more than 0.5 square millimeter.
7. Coil lead: no joint, must be twisted ≥ 20 times per meter.
8. Adjacent coils: the number of turns should not be the same.
9. Adjacent spacing: the distance from coil to coil ≥ 1 meter.
10. Potting material: After the test is normal, use asphalt for potting.

12. Coil material

Considering the mechanical strength, high and low temperature anti-aging, and acid and alkali corrosion resistance of the wires in actual projects, it is recommended to use Teflon high-temperature soft wires of more than 1 square millimeter, and the total resistance is less than 10 ohms. For projects with harsh environmental conditions and longer lead wires, consider 2.5 square millimeters of nylon sheathed wire. Coil inductance: 100uH to 300uH is recommended; coil specification: recommended not less than 1*2 meters; coil connection line: recommended not more than 5 Meters, twist at least 20 times per meter.