

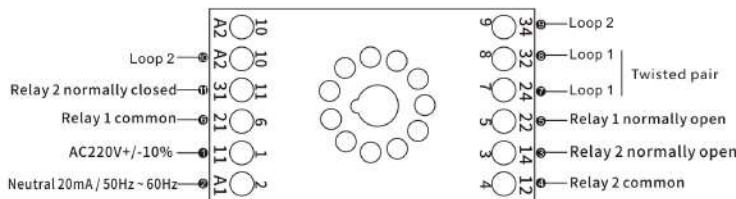
PD232 Dual Car Detector Manual

1. Technical Parameters

Operating Voltage: AC220V/50Hz,4.5W
 Sensitivity: four levels adjustable
 Frequency: 20KHz ~ 170KHz
 Reaction Time: 10ms
 Working temperature: -20 °C ~ +65 °C
 Relative humidity: ≤90% without condensation
 Signal holding time: Unlimited / limited 300ms
 Maximum Loop: 8m × 1m
 Output mode: relay
 Detection lead: best within 10 meters
 Dimension: 38mm × 75mm × 115mm



2. Wiring diagram



3. Function and working status indication

When the power is turned on, the detector will automatically calibrate. The calibration process takes about 1 second. While the calibration is in progress, the two LEDs on the panel are always green. No car should be parked on the loop during calibration. When the calibration is successful, the "detection" indicator on the panel goes out. When a car passes on the loop, the "detection" indicator on the panel lights up and the corresponding relay outputs. If the loop is not detected during the calibration or the loop inductance value is not within the allowed range, the corresponding LED indicator on the panel will blink continuously.

4. Working frequency adjustment

The user can change the operating frequency of the loop to avoid interference from adjacent loop or ambient frequencies. This product provides 2 kinds of frequency selection: When the DIP switches DIP1 and DIP2 on the panel are turned ON, the frequency is low, corresponding to loop 1 and loop 2 respectively.

5. Loop sensitivity adjustment

There are four levels of sensitivity adjustment using the DIP3, DIP4, DIP5, and DIP6 switches on the panel. See the figure below for specific settings. During trial operation, first set the sensitivity to a lower level. After the actual test, if the vehicle detects no output, the sensitivity should be increased by one level, and so on until the vehicle detector works normally and stably.

Sensitivity level	loop 2		loop 1	
	DIP3	DIP4	DIP5	DIP6
High	OFF	OFF	OFF	OFF
Med-high	OFF	ON	OFF	ON
Mid-Low	ON	OFF	ON	OFF
Low	ON	ON	ON	ON

6. Single-double conversion

When DIP10 on the panel is turned ON, it can be used as two single channels.

7. Automatic sensitivity increase

When DIP7 on the panel is set to ON, 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 loop. (The default setting is OFF.)

8. Leave output time setting

When DIP9 is pulled ON, it is detected that the relay d1 (pins 5 and 6) has a limited output of 300ms after the vehicle leaves the loop.

When DIP9 is pulled OFF, both relay d1 (pins 5 and 6) and relay d2 (pins 3 and 4) are turned on when the vehicle is detected to leave the loop.

9. There is an output time setting

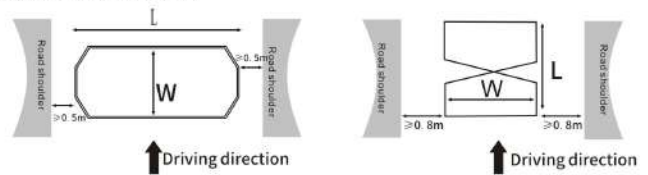
By default, DIP8 is pulled to OFF, and relays D1 (pins 5 and 6) and D2 (pins 3 and 4) are permanently present outputs (that is, there is always an output when the car is pressed on the loop); Relay D2 (pins 3 and 4) has a limited output of 300ms. Relay D1 (pins 5 and 6) is not controlled. It is recommended to use permanent presence output under normal conditions.

10. Detector reset

The detector will reset when the vehicle detector is powered on, when the reset button on the panel is pressed, and when the presence time is exceeded in limited presence mode. After reset, the detector will be initialized to a car-free state.

11. Loop embedding

The loop is generally cut into a rectangular groove, and the high temperature resistant Teflon wire is used to bury multiple turns. After testing, it is filled with asphalt. When there is reinforcing steel under the ground, 1-2 turns will be added for compensation, and the loop inductance will remain between 80 and 500uH. The loop leads must be tightly twisted to prevent interference.



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

Car: 1.0 meter wide, 5-7 turns

Minivan: 1.2 meters wide, 4-7 turns

Medium truck: 1.6 meters wide, 4-6 turns

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

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

Tips: Two adjacent loops must not be placed in the same number of turns.

12. Key points for loop construction

- Grooving shape: generally rectangular (four corners beveled)
- loop width: about twice the detection height
- Groove on the ground: about 4mm wide and 30-50mm deep
- Winding method: cut, clean and dry before winding the loop
- Wire material: Teflon high temperature resistant multi-strand tinned copper wire

- Wire section: more than 0.75 square millimeter
- loop lead: no connector, must be twisted =20 times per meter
- Adjacent loop: the number of turns should not be the same
- Adjacent distance: loop-to-loop distance =1 meter
- Encapsulation material: Encapsulated with asphalt after normal testing

13. Loop material

Taking into account the mechanical strength, high and low temperature aging resistance, acid and alkali corrosion resistance of the actual project, it is recommended to use a Teflon high temperature flexible wire with a square millimeter or more, with a total resistance less than 10 ohms. For projects with severe environmental conditions and long lead wires, 2.5 square millimeters of nylon sheathed wire loop inductance: 80uH to 500uH recommended; loop specifications: recommended not less than 1 * 2 meters; loop connection wires: recommended not to exceed Meters, twisted at least 20 times per meter.