



## Technical Report No. 64.210.09.1584.01

**Dated 2009-11-23**

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Manufacturing place: VEISE(Guangzhou) ELECTRONICS CO., LTD  
3/F Zhenfa Building, No.18 Huayuan St. Shatai Road,  
Guangzhou, P.R. China

Test subject: Product: Car rear view camera  
Type: DF-8021, DF-8020, DF-8093, DF-8073, DF-4103, DF-8083

Test specification: IEC 60529 2.1ED 2001-02, clause 12.2, 13.4, 13.6, 14.2.6

Purpose of examination: IP66

Test result: The test subject was found to be in compliance with

- IEC 60529 2.1ED 2001-02, clause 13.4, 13.6, 14.2.6 requirement

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## 1 Description of the test subject

### 1.1 Technical Data

Model:	DF-8021, DF-8020, DF-8093, DF-8073, DF-4103, DF-8083
Rated Voltage:	DC 12-24V (DF-8093, DF-8073) DC 12V (DF-8021, DF-8020, DF-4103, DF-8083)
Rated Frequency:	N/A
Rated Power, Rated Current::	100mA
Protection Class:	Class III
Protection Against Liquids:	IP66
Construction	Fixed

## 2. Order

### 2.1 Date of Purchase Order

2009-11-11.

### 2.2 Receipt of Test Sample, Location

The test object was sent to Guangzhou on 2009-11-11.

### 2.3 Date of Testing

From 2009-11-12 to 2009-11-23.

### 2.4 Location of Testing

The testing was done in Guangzhou, CEST lab.

### 2.5 Points of Non-compliance or Exceptions of the Test Procedure

None

## 3. Remark

### 3.1 Test conditions

### Tests for protection against access to hazardous parts indicated by the first characteristic numeral 6

- The test wire of 1,0mm  $\phi$  is applied to enclosure of the presented units.

### Dust test for first characteristic numeral 6

- The test is made using a dust chamber incorporating the basic principles shown in figure 2(IEC 60529 2.1ED 2001-02) whereby the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 $\mu$ m and the nominal width of a gap between wires 75 $\mu$ m. The amount of talcum powder to be used is 2kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.

### Test for second characteristic numeral 6

- The presented units are fixed as instruction manual;
- The nozzle shown in Figure 6 (IEC 60529 2.1ED 2001-02);
- Internal diameter of the nozzle: 12,5mm;
- Delivery rate: 100 l/min  $\pm$  5%;
- Water pressure: to be adjusted to achieve the specified delivery rate;
- Core of the substantial stream: circle of approximately 120mm diameter at 2,5m distance from nozzle;
- Test duration per square metre of enclosure surface area likely to be sprayed: 1min;
- Minimum test duration: 3min;
- Distance from nozzle to enclosure surface: between 2,5m and 3m.

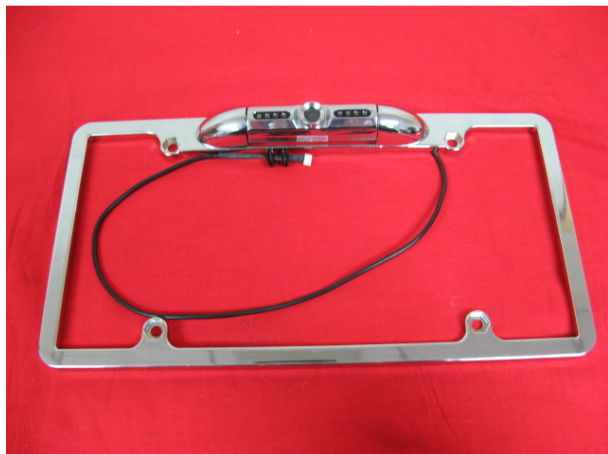
## 4. Test Results

After test:

- The test wire of 1,0mm  $\phi$  does not penetrate the presented units and adequate clearance is kept.
- No deposit of dust is observable inside the enclosure at the end of the test.
- The presented units are Class III apparatus and the safety is not impaired; The presented units can operate normally.

## 5. Product photos

### DF-8021&DF-8020



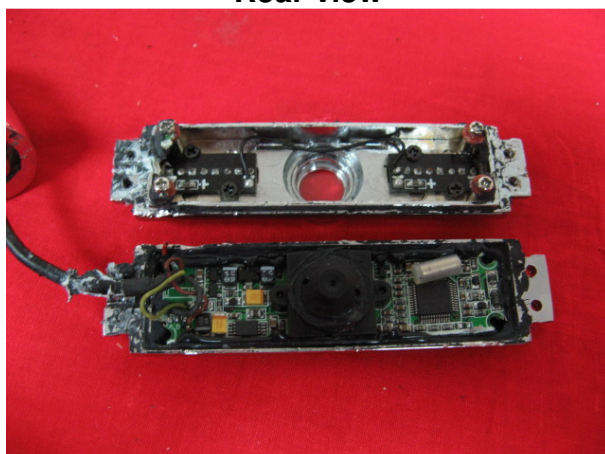
**Front view**



**Rear view**



**Disassembly of camera**

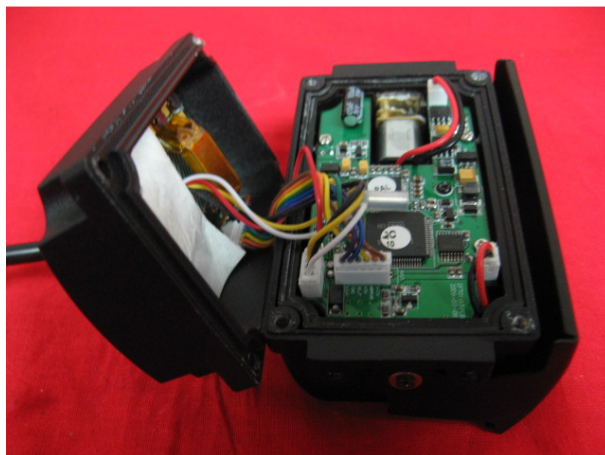


**Internal view**

### DF-8093



**External view**

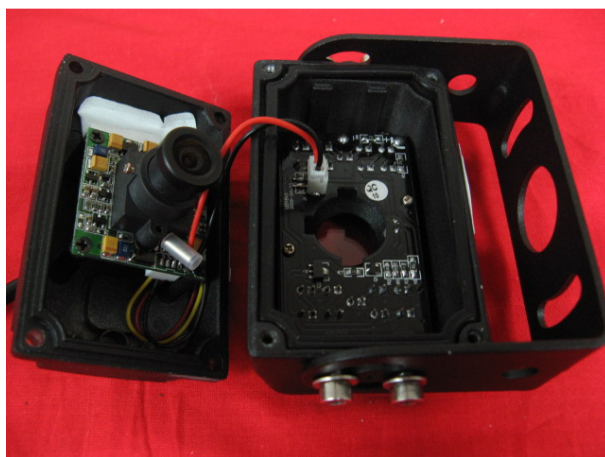


**Internal view**

### DF-8073



**External view**

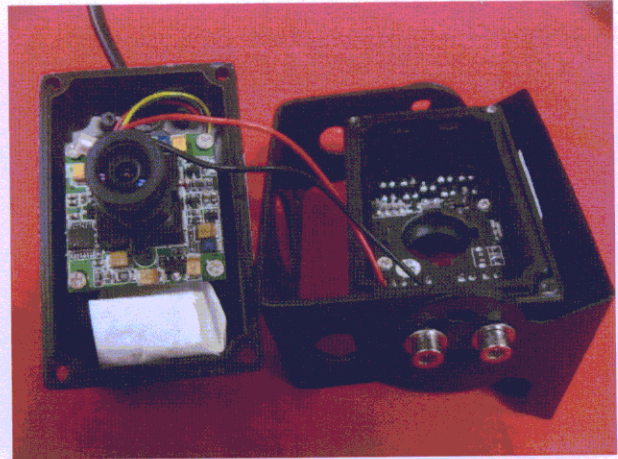


**Internal view**

**DF-4103**



**External view**



**Internal view**

**DF-8083**



**External view**



**Internal view**

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