

RAIN SENSOR

OWNER'S MANUAL



Thank You for purchasing the Rain Sensor.

For maximum benefits and best results, please follow the instructions in this manual. We believe you will find this product extremely useful and practical.

For more information, please contact your dealer .

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1. INTRODUCTION

a. Introduction:

The Rain Sensor is a highly versatile device for automatic wiping of vehicle windscreen when it is wet due to moisture, raindrops or even mud. It works by reflecting harmonious light beams within a windscreen. When raindrops fall onto the windscreen, this harmony is disturbed, creating a drop in the light beam intensity. The system then activates the wipers to operate in fully automatic.

b. Benefits:

1. Safety:

the 0.1 seconds response time allows for quick reaction when sudden splashes of water totally 'blinds' the driver. Without the Rain Sensor the driver would be in a risk of an accident.

2. Comfort:

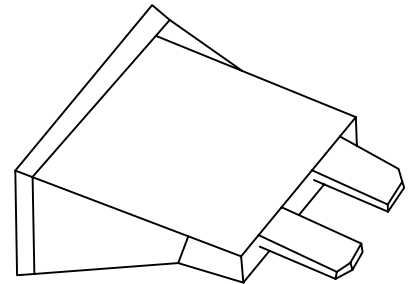
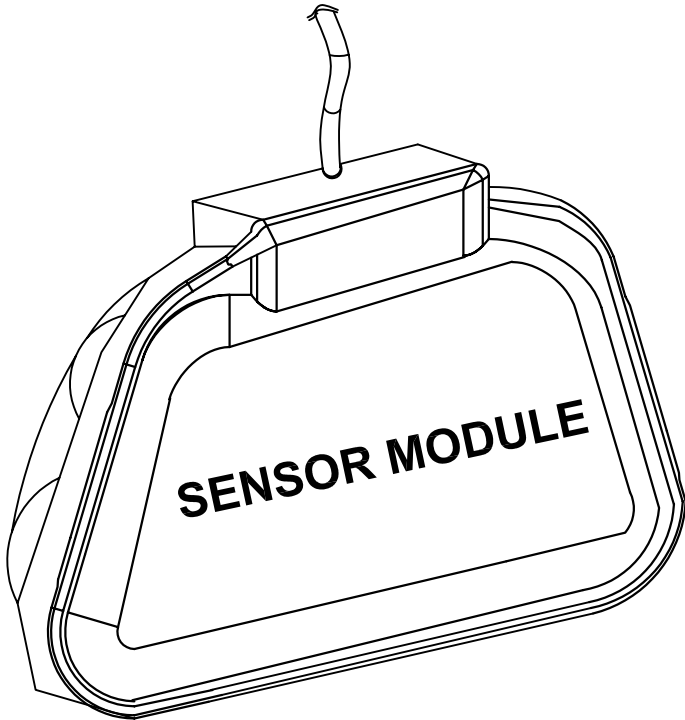
a driver may be subjected to many distractions: heavy traffic, bad weather, dangerous road conditions and fatigue. The Rain Sensor reduces the driver's burden, making driving more comfortable. Trailing a wet car is no longer a nuisance as detection of even 0.005 milliliters of water is possible.

c. Features:

1. Automatic Wiper Frequency.
2. Intelligent Wiper Speed Control.
3. Auto Tuning for Different Windscreens.
4. Manual Override Function.

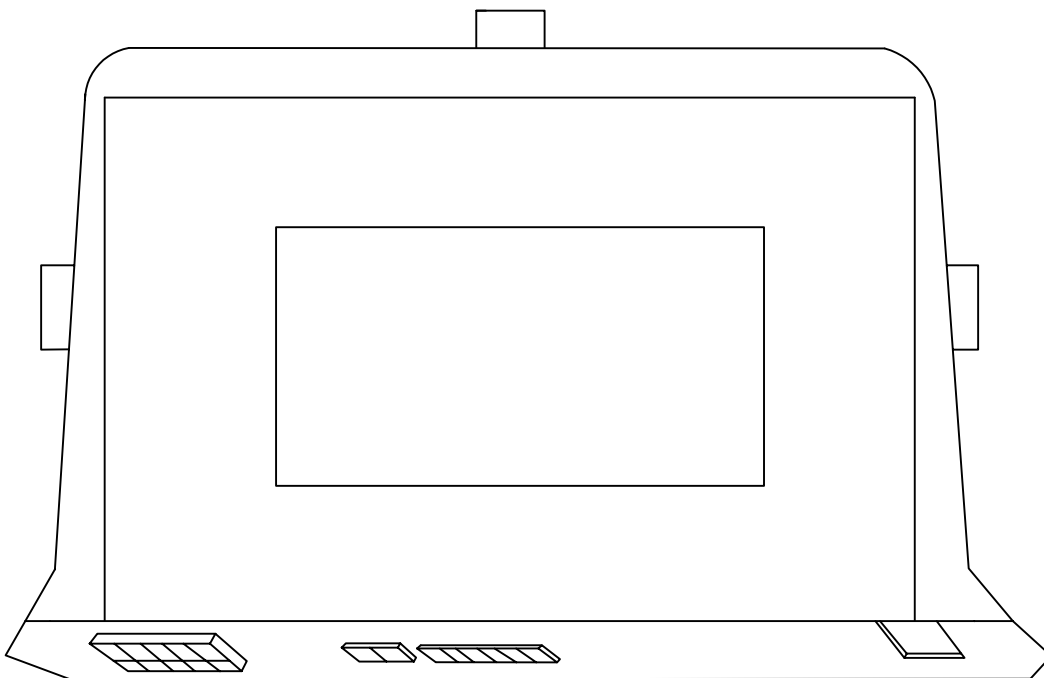
2 . PARTS LISTING

Sensor Module

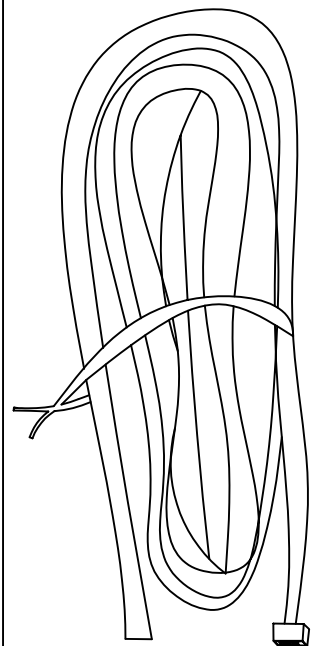


Fuse

Relay Module



Cable



3 . PRODUCT SPECIFICATION

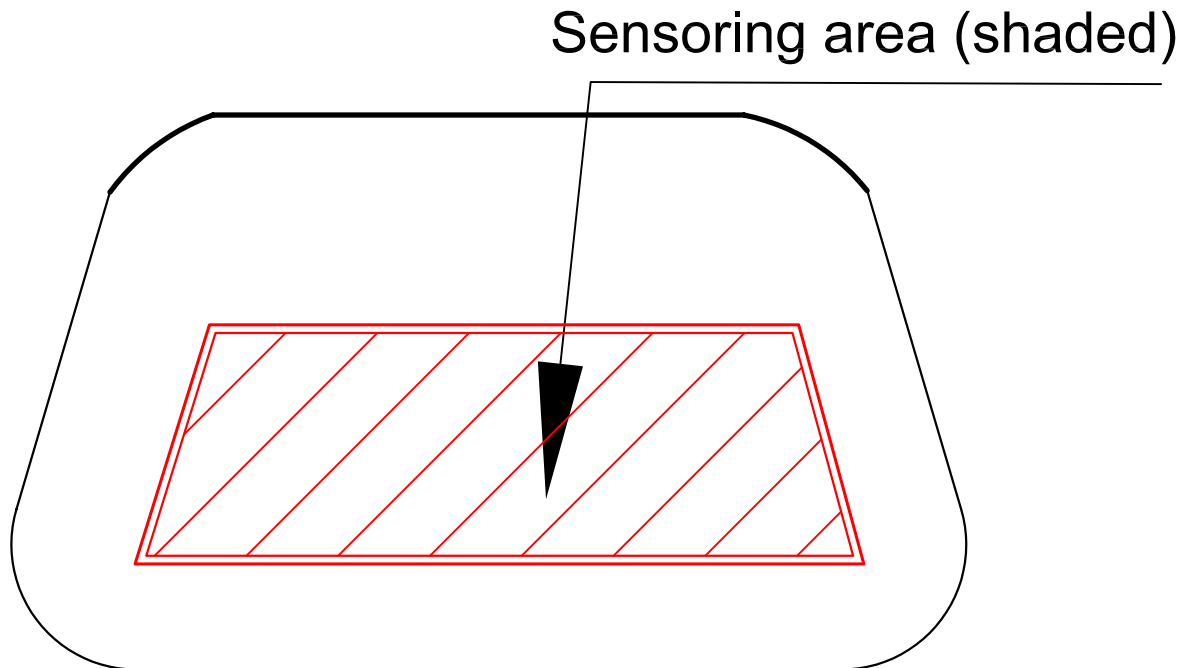
SPECIFICATION

1. Supply voltage: DC 10V to 16V
2. Operating current: <200mA
3. Operating temperature: -20 °C ~85 °C
4. Relay current: 20A
5. Wiper mode:
 - 1) intermittent
 - 2) slow
 - 3) fast
6. Detection medium: water, moisture, mud, any liquid;
7. Operating condition: when the car is activated, it starts to work;
when the car is deactivated, it stop to work;
8. Wiper response time: 0.1 second
9. Detection sensitivity: 0.005 milliliters(water)
10. Type of signal: infrared ray
11. Manual override: Available
12. Type of wiper: Model 1: Single wiper
Model 2: Dual wiper
13. Wiper motor: Dual
(positive or negative trigger)
14. Installation: DIY

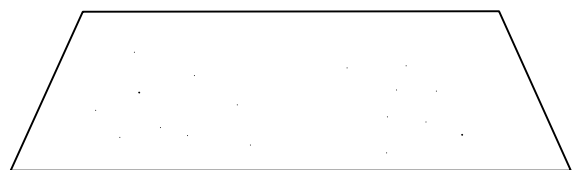
4 . DETECTION ZONE

a. Detection Zone

The detection zone of the Rain Sensor is where raindrops will be detected if they fall within the zone, as shown by the sketch below. Although the size is relatively small, it is sensitive enough to detect even a tiny drop of water (0.005ml)



The amount of raindrops (measured in milliliters) will automatically determine how fast and frequent the wiper will operate. More details next page.



Note:

Most vehicle wipers operate at 3 different modes:

Mode 1: Intermittent (low speed, low frequency)

Mode 2: Slow (low speed, medium frequency)

Mode 3: Fast (high speed, high frequency)

5 . WIPER MODE

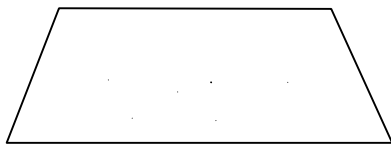
a. Wiper Mode

The relationship between the wiper mode and rain intensity can be summarised as shown in Table 1 below.

Table 1

Rain intensity	Water amount	Wiper		
		Mode	Speed	Frequency
Light drizzle	0.005 ~ 0.1 ml	Intermittent	Low	Low
Normal rain	0.1 ~ 2.0 ml	Slow	Low	Medium
Heavy rain	> 2.0 ml	Fast	High	High

Light drizzle 0.005 ~ 0.1 ml



Intermittent mode

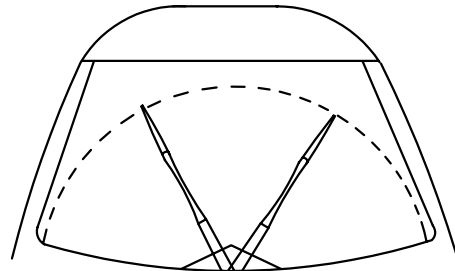


FIG 5.a.1

Normal rain 0.1 ~ 2.0 ml



Slow mode

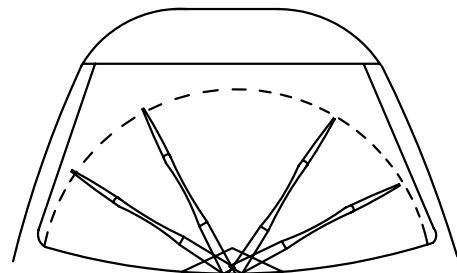
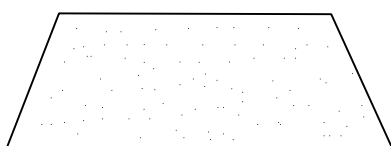


FIG 5.a.2

Heavy rain > 2.0 ml



Fast mode

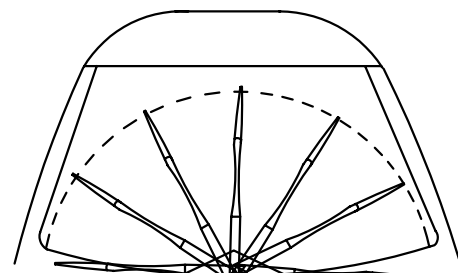


FIG 5.a.3

6 . INSTALLATION (1)

a.General Layout

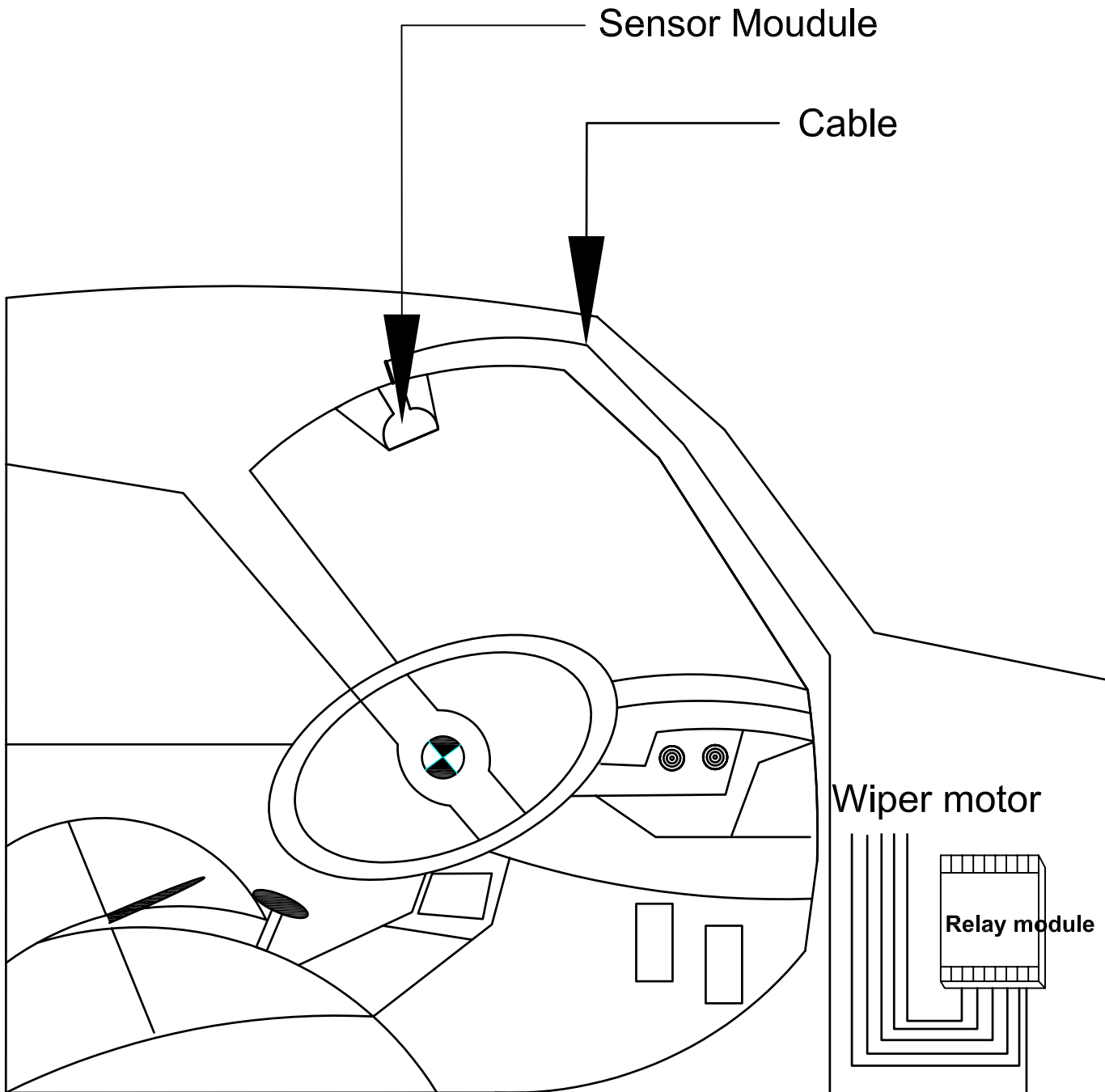


FIG 6.a.1

6 . INSTALLATION (2)

b. Block Diagram

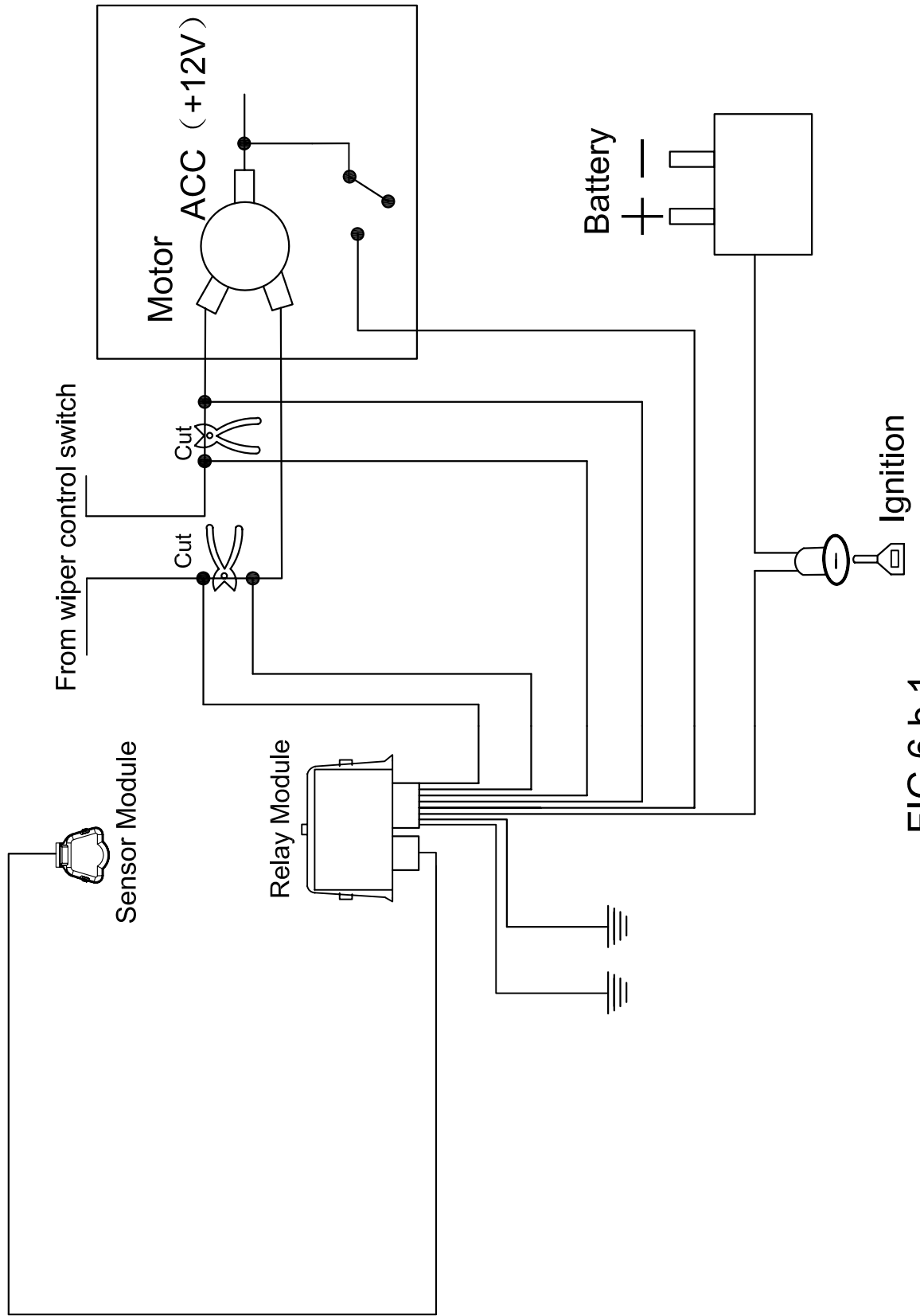


FIG 6.b.1

6 . INSTALLATION (3)

c. Wiring Diagram

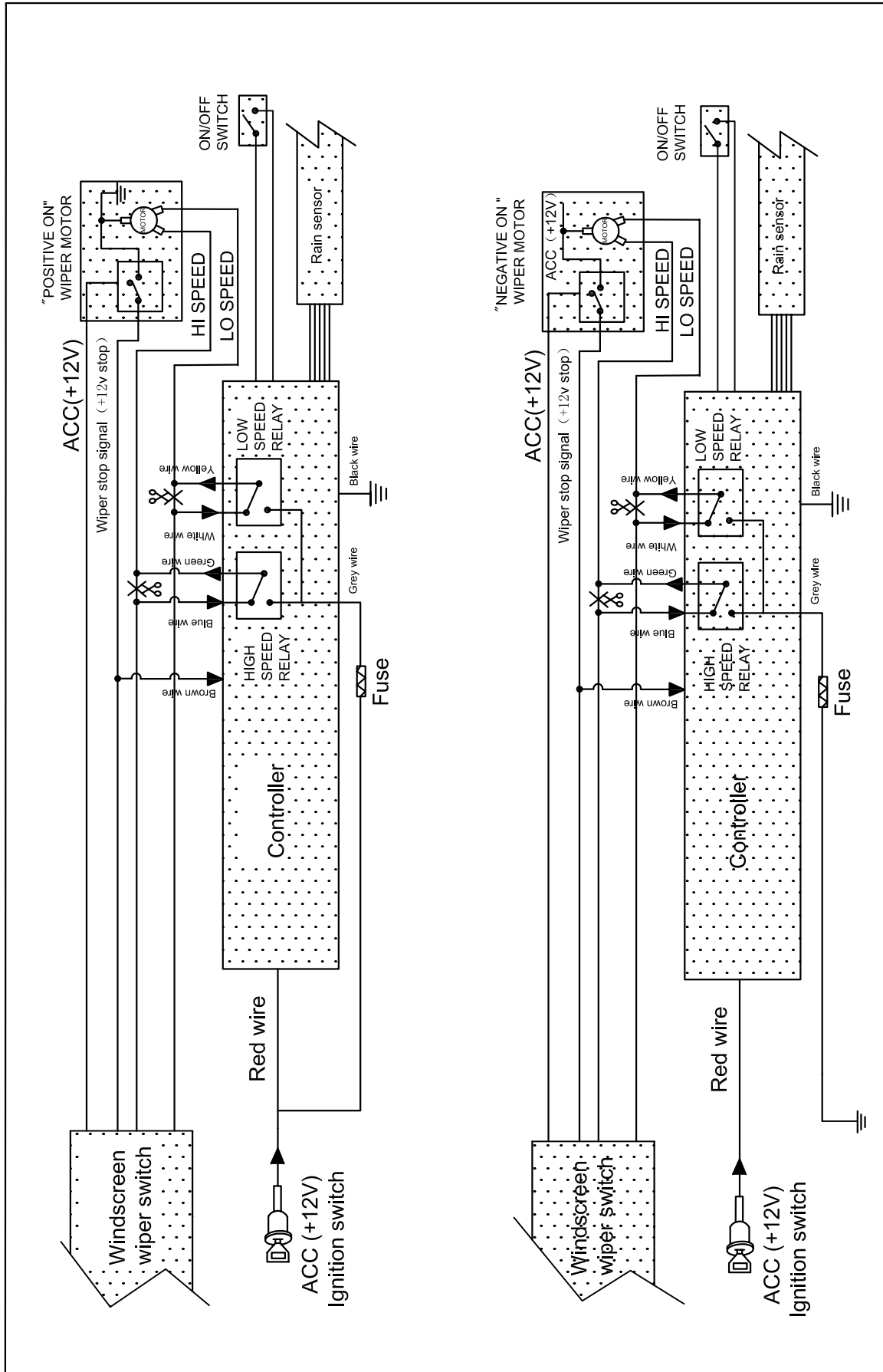


FIG 6.c.1

6 . INSTALLATION (4)

1. Circuit Diagram (CHANGE "INT" TO "AUTO")

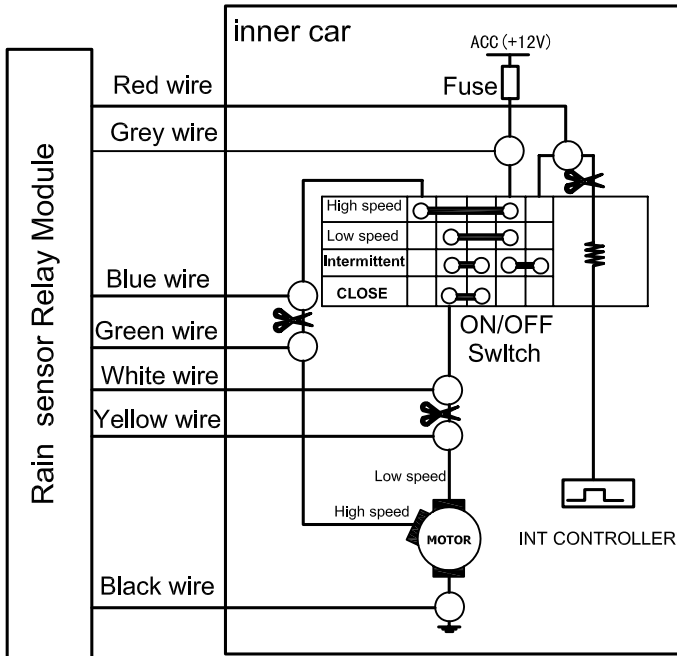


fig.1 "POSITIVE ON" WIPER MOTOR

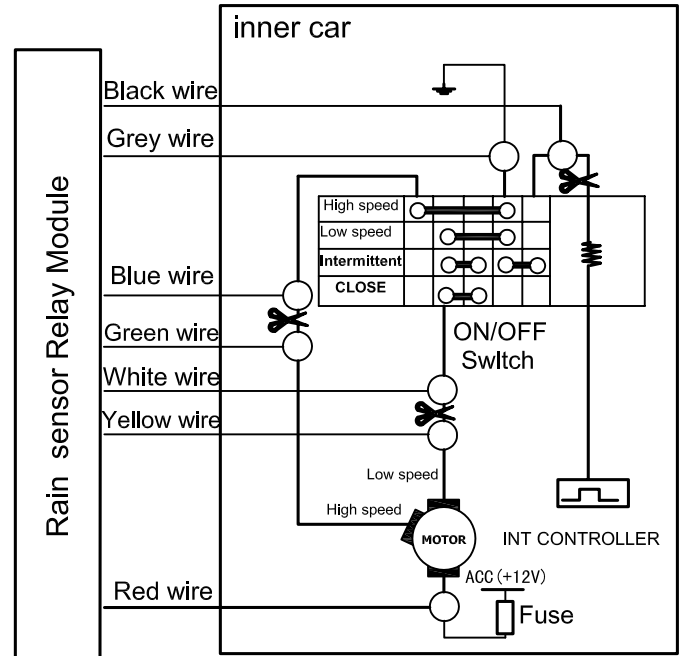


fig.2 "NEGATIVE ON" WIPER MOTOR

2. Attach Tinted Sheet

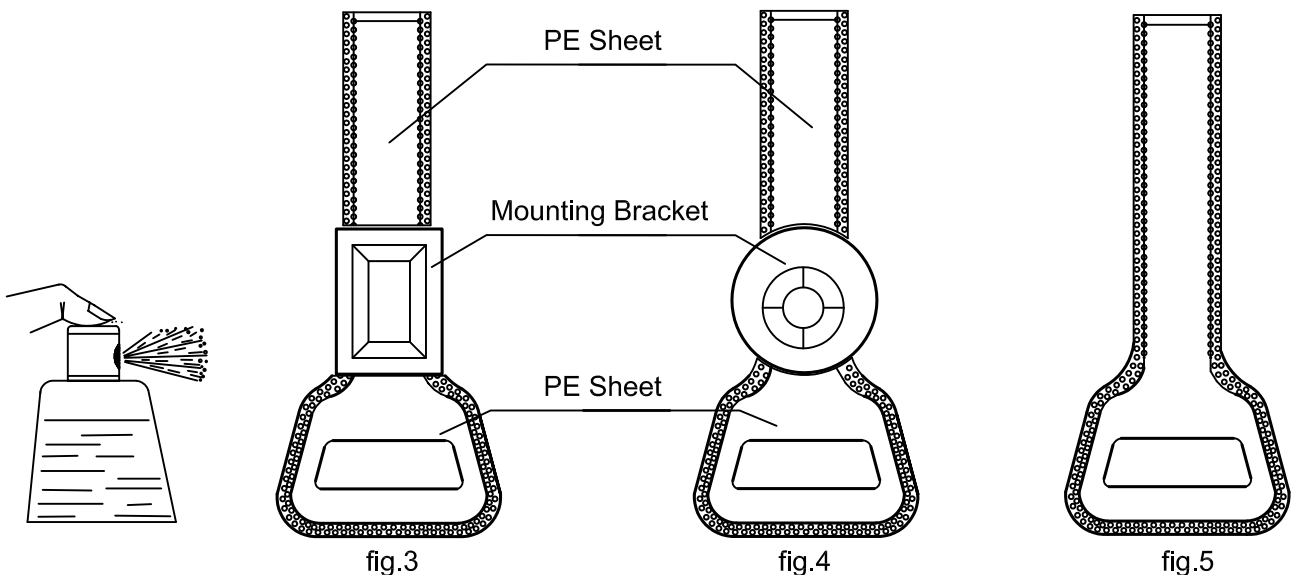


fig.3

fig.4

fig.5

- 1) Clean windscreen surface
- 2) According to the Mounting bracket, cut the sheet, as fig.3,fig.4,fig.5
- 3) Apply some water or soapy water
- 4) Attach tinted sheet and use a squeegee to squeeze out excess water

6 . INSTALLATION (5)

d.Installition of Sensor Module

**Sensing area
min 2.5mm lower
than wiper**

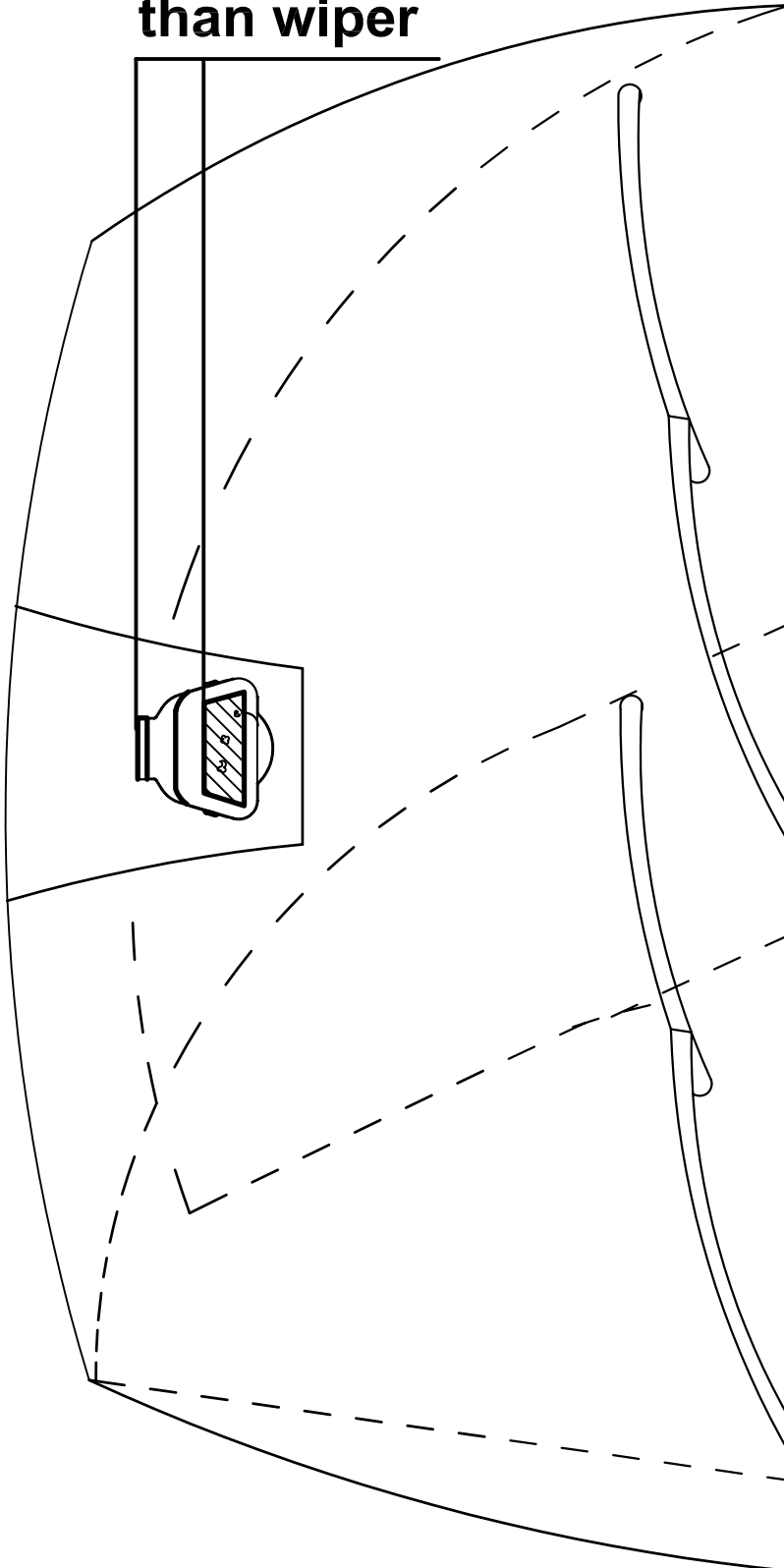


FIG 6.d.1

6 . INSTALLATION (6)

e.Installation of Relay Module

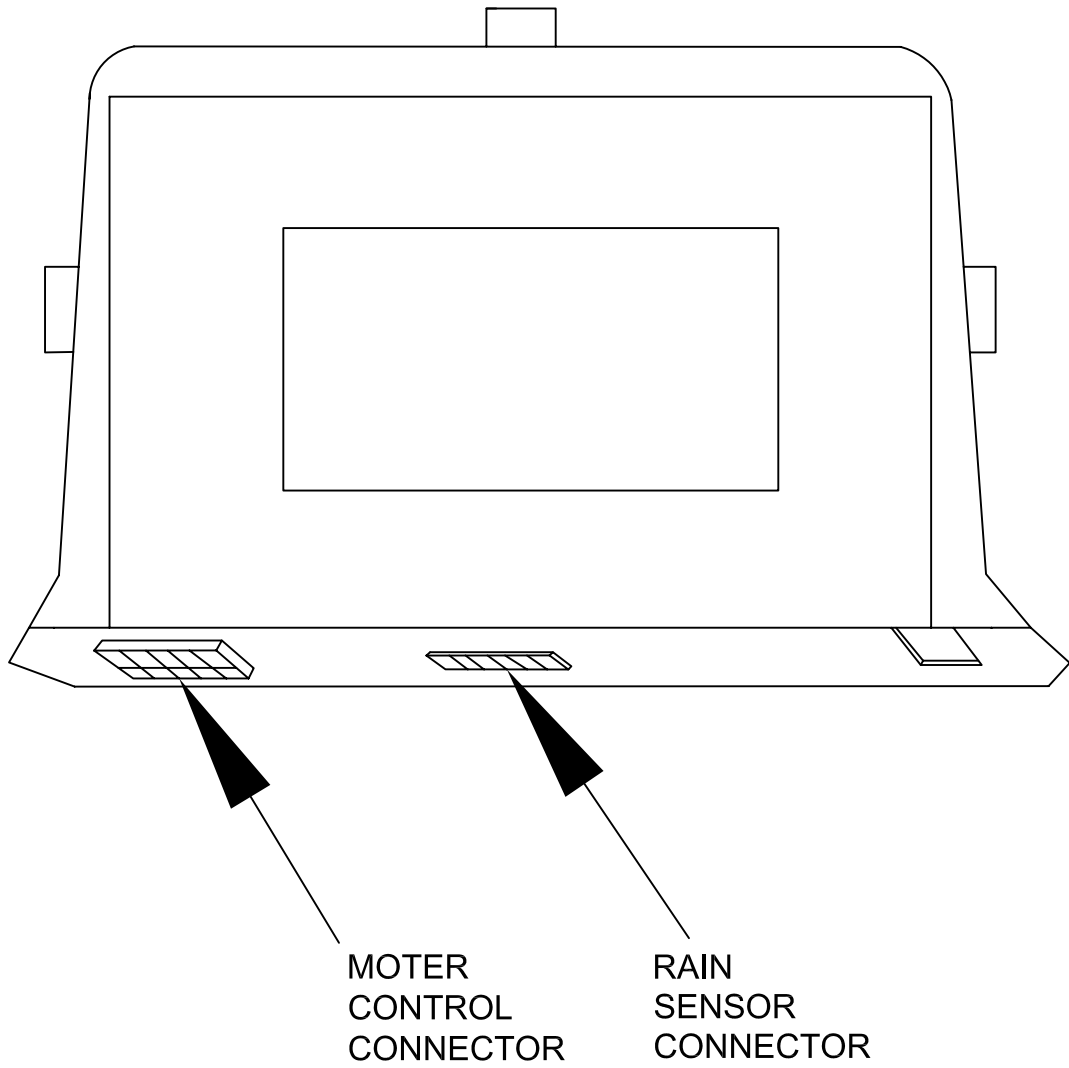


FIG 6.e.1

6 . INSTALLATION (7)

e.Wires of Relay Module

Wires of Relay Module

Number	Name	Specification	Notes
1	Red wire	+12V (ACC)	Ignition+12v
2	Black wire	GND	Ground
3	Yellow wire	Low speed wiper control wire	Close to the wiper motor
4	White wire	Low speed wiper control wire	Away from the wiper motor
5	Green wire	Fast speed wiper control wire	Close to the wiper motor
6	Blue wire	Fast speed wiper control wire	Away from the wiper motor
7	Brown wire	Wiper motor stop wire	When wiper stops +12v When wiper operates 0v
8	Grey wire	Common wiper control wire	Positive triggered voltage motor: +12v Negative triggered voltage motor: ground

FIG 6.e.2

6 . INSTALLATION (8)

f. Sensor Location

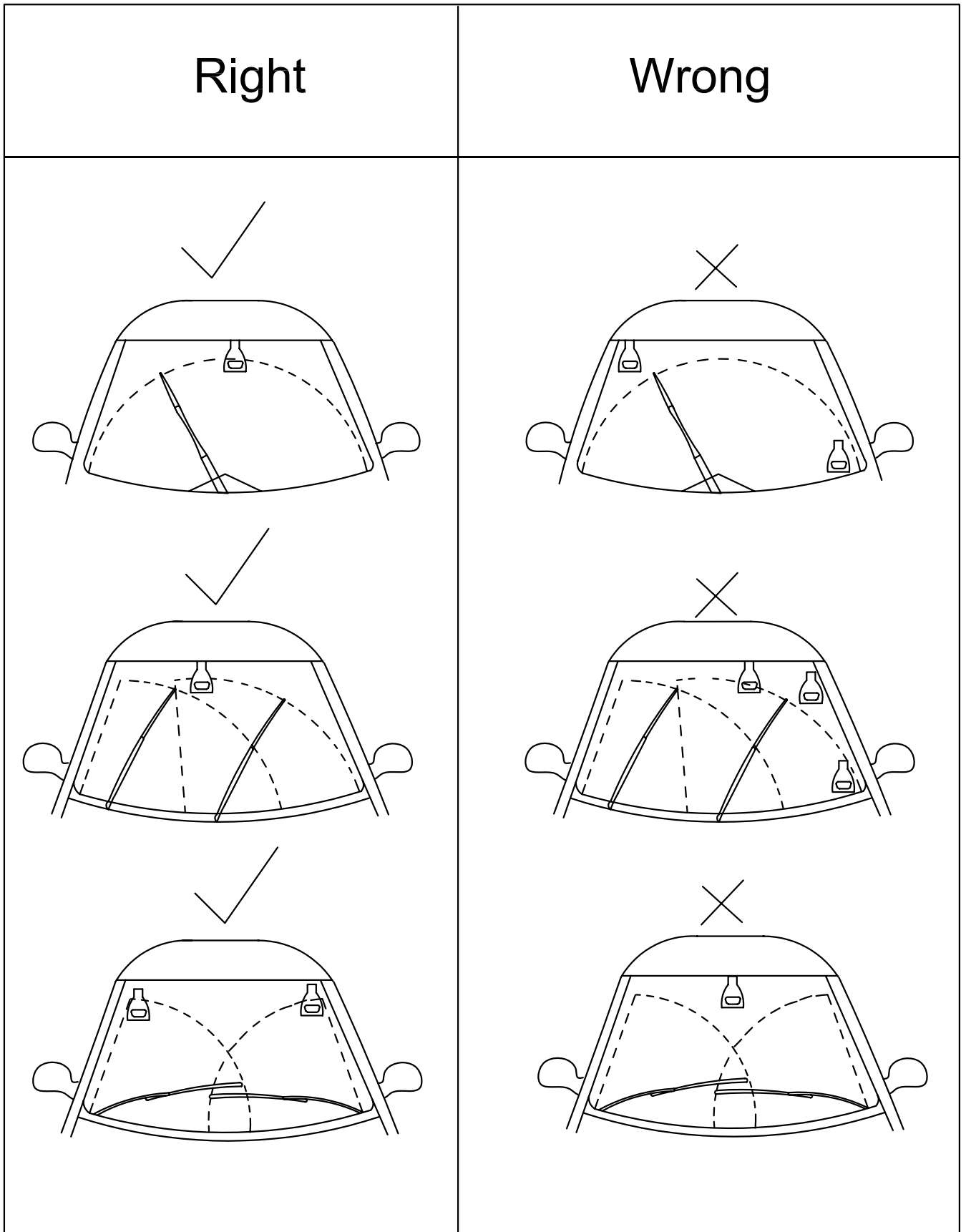


FIG 6.f.1

7 . TROUBLE SHOOTING

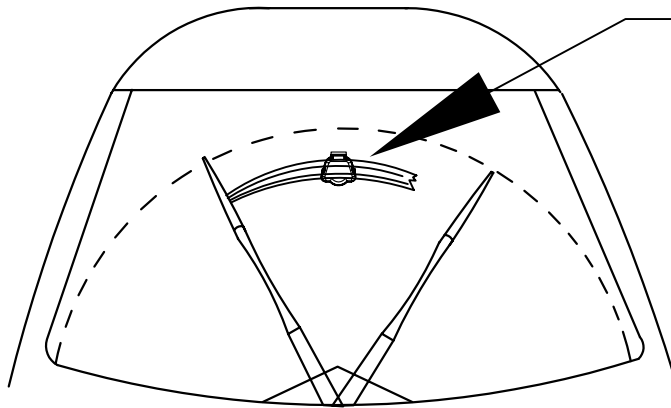
A.If wiper does not operate:

1. Check ignition key at "ACC" position.
2. Check fuse is ok.

B.If wiper keeps wiping even though rain has stopped:

1. Clean the the windscreen.
2. Check wiper blades is in good condition and not worn off.
Replace wiper blade if necessary.

Water trails left by worn off wiper blade may cause wiper to continue wiping even after rain has stopped.



Important!

In case of faulty operation during use, especially in the rain, immediately turn off the device and operate the wipers manually.