

# AD PLUS Specfication



## Revision History

| Date              | Revision Version | Description                                                                                      | Author                   |
|-------------------|------------------|--------------------------------------------------------------------------------------------------|--------------------------|
| April 9, 2021     | V 2.2            | Added the description of the frequency bands supported by 4G and Wi-Fi.                          | Wang Xiaoyong            |
| April 14, 2021    | V 2.3            | Added the description of AI functions.                                                           | Wei Yiwen                |
| June 21, 2021     | V 2.4            | Revised LED status, released date of AI functions, and system connection diagram                 | Wei Yiwen                |
| July 19,2021      | V2.5             | Change the description of TF card to Micro SD card                                               | Paul zheng               |
| December 14, 2021 | V2.6             | Modify the description of AI functions                                                           | Lyons Liu                |
| March 14, 2022    | V2.7             | Added descriptions of no-cockpit camera model, forward BSD, etc. (supporting ADPlus,Version 1.3) | Zhou Hao / Wang Xiaoyong |

## Overview

Streamax AD Plus is an advanced dash camera with a built-in AI processor to detect driving events such as lane departure, forward collision, and improper driver behavior such as using mobile phones and not wearing seat belts.

AD Plus can alert the driver in real time of dangerous behaviors, and upload events to a monitoring platform to be reviewed by a fleet manager to aid him in coaching the drivers to reduce traffic risks.

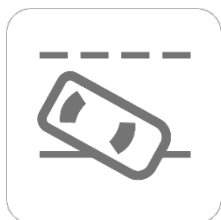
## Highlight

- Supports up to 4 channels of video recording
- Functions of built-in ADAS and DSC, supporting AI event detection (up to 2-channel)
- ADAS automatic calibration
- Harsh driving detection with 6-axis G -sensor (Harsh Acceleration, Deceleration & Sharp Turn)
- Real-time in-cab feedback
- Dual Micro SD card storage with dual-stream recording (HD and SD Recording)
- Built in Bluetooth, Wi-Fi & LTE modules<sup>1,2</sup>
- Supports live streaming, video playback, and event upload
- Supports Sleep Mode (no more than 0.1W consumption)

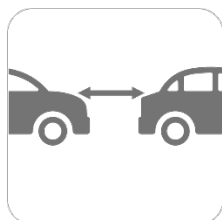
## Active Safety Features

Streamax AD Plus utilizes Machine Vision-based Video Analytic technology to automatically capture road dangers and unsafe driving behaviors. Detected events will trigger an audio and visual notification to alert the driver in real time, event recordings will be uploaded to the cloud simultaneously.

### ADAS Features



LDW



HMW

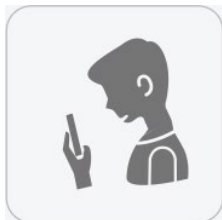


FCW

### DSC Features



Safety Belt Not Fastened



Mobil Phone

## Optional Accessories for Active Safety Features

### DMS Features



A-Pillar DMS



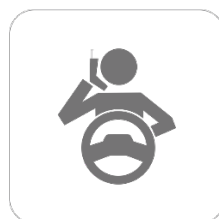
Driver Notifier (R-Watch)



Lens Covered



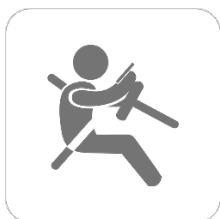
Fatigue



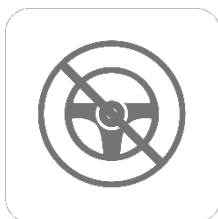
Phone Call



Smoking



Distraction



No Driver Detected



Safety Belt Not Fastened



Yawning

### BSD Features



Left Blind Spot Detection



Right Blind Spot Detection



Front Blind Spot Detection

## Specifications

(1) AD plus standard model

| Product Model                 |                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | AD Plus                                                                                                                                                                                                                                                                                                                                           |
| Network                       |                                                                                                                                                                                                                                                                                                                                                   |
| WIFI                          | Supported<br>2.4 G & 5.8 G<br>(IEEE Std.802.11a/IEEE Std.802.11b/ IEEE Std.802.11g/IEEE Std.802.11n/IEEE Std. 802.11ac)                                                                                                                                                                                                                           |
| 2G/3G/4G                      | Supported<br><b>For North America</b> EC25-AF<br>LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71<br>WCDMA: B2/B4/B5<br><b>For Europe and Asia</b> EC25-EC<br>LTE FDD: B1/B3/B7/B8/B20/B28A<br>WCDMA: B1/B8<br>GSM: B3/B8<br><b>For Latin America</b> EC25-AU<br>LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28<br>LTE TDD: B40<br>WCDMA: B1/B2/B5/B8<br>GSM: B2/B3/B5/B8 |
| Locating                      |                                                                                                                                                                                                                                                                                                                                                   |
| GPS                           | Supported<br>GPS L1 1575.42 MHz<br>BDS B1 1561.098MH<br>GALILEO E1B/C1<br>GLONASS L1OF 1602MHz<br>SBAS: WAAS, EGNOS, MSAS, GAGAN                                                                                                                                                                                                                  |
| Sensor                        |                                                                                                                                                                                                                                                                                                                                                   |
| Six-axis Sensor               | Supported                                                                                                                                                                                                                                                                                                                                         |
| Engine Data Interface         |                                                                                                                                                                                                                                                                                                                                                   |
| CAN Data Collection           | Supported                                                                                                                                                                                                                                                                                                                                         |
| LED Status                    |                                                                                                                                                                                                                                                                                                                                                   |
| Power Indicator: LED1 (left)  | Steady green when power is on.                                                                                                                                                                                                                                                                                                                    |
| Alarm Indicator: LED2 (Right) | Indicator-off by default. Blinking red 3 times when an alarm prompts.                                                                                                                                                                                                                                                                             |
| Storage                       |                                                                                                                                                                                                                                                                                                                                                   |
| Micro SD Card                 | 2 × Micro SD cards, with the maximum capacity of a single card up to 256 GB                                                                                                                                                                                                                                                                       |
| Video/Audio                   |                                                                                                                                                                                                                                                                                                                                                   |
| Video/Audio Recording         | 4-channel video (default: 2 channels; extended: 2 channels) + 1-channel audio                                                                                                                                                                                                                                                                     |
| Maximum Resources(2CH AI)     | PAL:<br>3*1080P@25fps (AHD) +1*1080P@25fps (IPC)<br>NTSC:<br>3*1080P@30fps (AHD) +1*1080P@30fps (IPC) x                                                                                                                                                                                                                                           |
| Maximum Resources(Without AI) | PAL:<br>1*5MP@25fps (AHD) +2*1080P@25fps (AHD) +1*1080P@25fps (IPC)<br>NTSC:<br>1*5MP@30fps (AHD) +2*1080P@30fps (AHD) +1*1080P@30fps (IPC)                                                                                                                                                                                                       |
| Image Settings                | Adjustable brightness, chroma, contrast, color saturation, and sharpness                                                                                                                                                                                                                                                                          |
| Video Coding                  | H.264/H.265                                                                                                                                                                                                                                                                                                                                       |
| Audio Compression Standard    | ADPCM/G.711/G.726 (default: G.711)                                                                                                                                                                                                                                                                                                                |

|                                                                                                              |                                                 |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| CBR/VBR                                                                                                      | Supported. Default: VBR; optional: CBR          |
| Audio                                                                                                        | Built-in MIC                                    |
| Speaker                                                                                                      | Built-in 1.5 W 8R                               |
| ADAS Camera Parameters                                                                                       |                                                 |
| Sensor Type                                                                                                  | 1/2.7" 5 megapixel CMOS Sensor                  |
| Shutter Speed                                                                                                | 1/30s - 1/100000s                               |
| Focal Length                                                                                                 | 2.8 mm<br>HFOV: 103°<br>VFOV: 71°               |
| Lens Mount                                                                                                   | MDVR built-in lens                              |
| Wide Dynamic Range (WDR)                                                                                     | Digital WDR                                     |
| Backlight Compensation                                                                                       | Supported                                       |
| Signal-to-Noise Ratio (S/N)                                                                                  | ≥ 39 dB                                         |
| Cabin Camera Parameters (note: no lens on the inside, the following parameters can not be paid attention to) |                                                 |
| Sensor Type                                                                                                  | 1/2.8" 2M pixel CMOS Sensor                     |
| Shutter Speed                                                                                                | 1/30s - 1/100000s                               |
| Focal Length                                                                                                 | 2.1 mm<br>HFOV: 148°<br>VFOV: 82°<br>DFOV: 169° |
| Lens Mount                                                                                                   | MDVR built-in lens                              |
| Wide Dynamic Range (WDR)                                                                                     | Digital WDR                                     |
| Backlight Compensation                                                                                       | Supported                                       |
| Signal-to-Noise Ratio (S/N)                                                                                  | ≥ 48 dB                                         |
| Port                                                                                                         |                                                 |
| RS232                                                                                                        | 1                                               |
| IO Alarm Input                                                                                               | 2                                               |
| CAN                                                                                                          | 1                                               |
| USB                                                                                                          | 1,Mini USB                                      |
| Speed                                                                                                        | 1                                               |
| Protocol                                                                                                     |                                                 |
| Network Protocol                                                                                             | HTTP, TCP, ARP, UDP, FTP, DHCP, DNS, IPV4, NTP  |
| Power Related                                                                                                |                                                 |
| Power Supply                                                                                                 | 9-36 V                                          |
| Built-in Battery                                                                                             | Not supported                                   |
| Typical Power Consumption                                                                                    | < 8 W                                           |
| Power Consumption                                                                                            | ≤ 11.5 W                                        |
| Environmental Specifications                                                                                 |                                                 |
| Operating Temperature                                                                                        | -40°C - +70°C                                   |
| Storage Temperature                                                                                          | -40°C - +85°C                                   |
| Humidity                                                                                                     | 15% - 90%                                       |

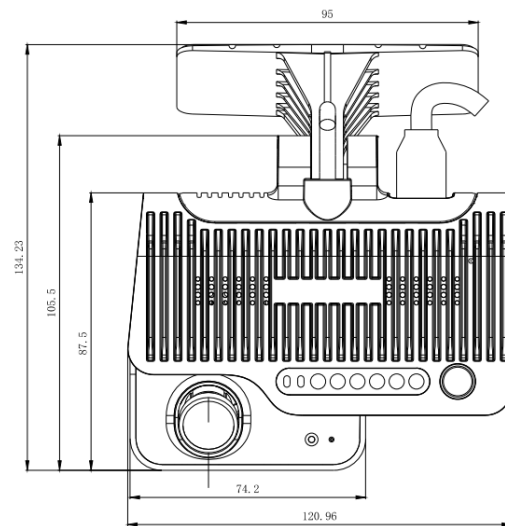
(2) AD plus no-cockpit camera model (compared to the standard model, the cockpit camera is canceled, and other parameters are exactly the same)

## Authentication Information

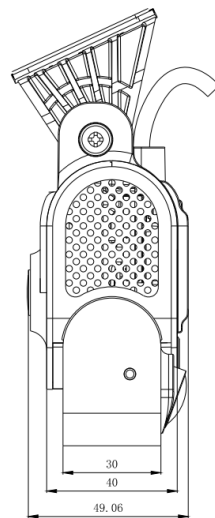
|                |
|----------------|
| Authentication |
| E-mark         |
| CE-EMC         |
| FCC-ID         |
| PTCRB          |
| ROHS           |
| REACH          |
| EN50155        |
| AT&T           |
| Verizon        |
| CE-RED         |
| UKCA           |

EC25-AF communication module is certified by FCC ID, PTCRB & AT&T.

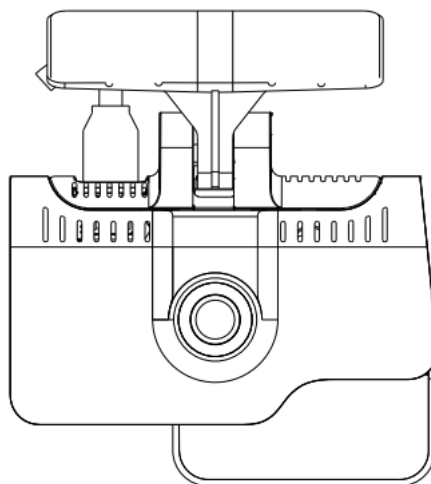
## Dimensions (mm)



Front View



Left View

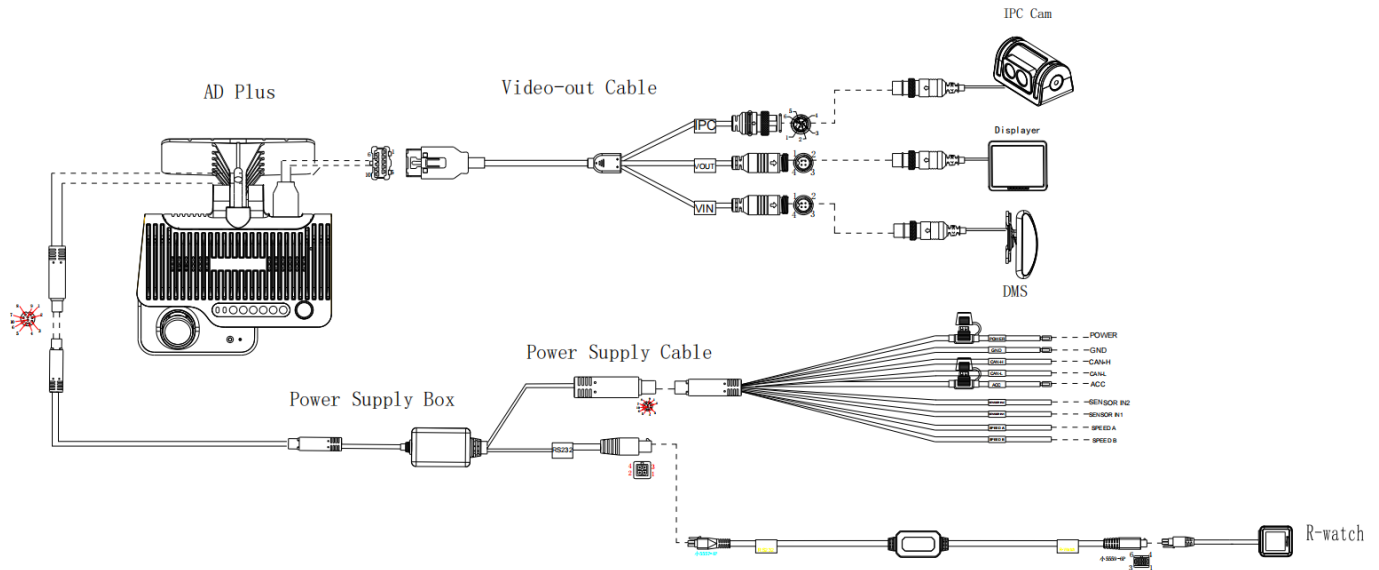


Rear View

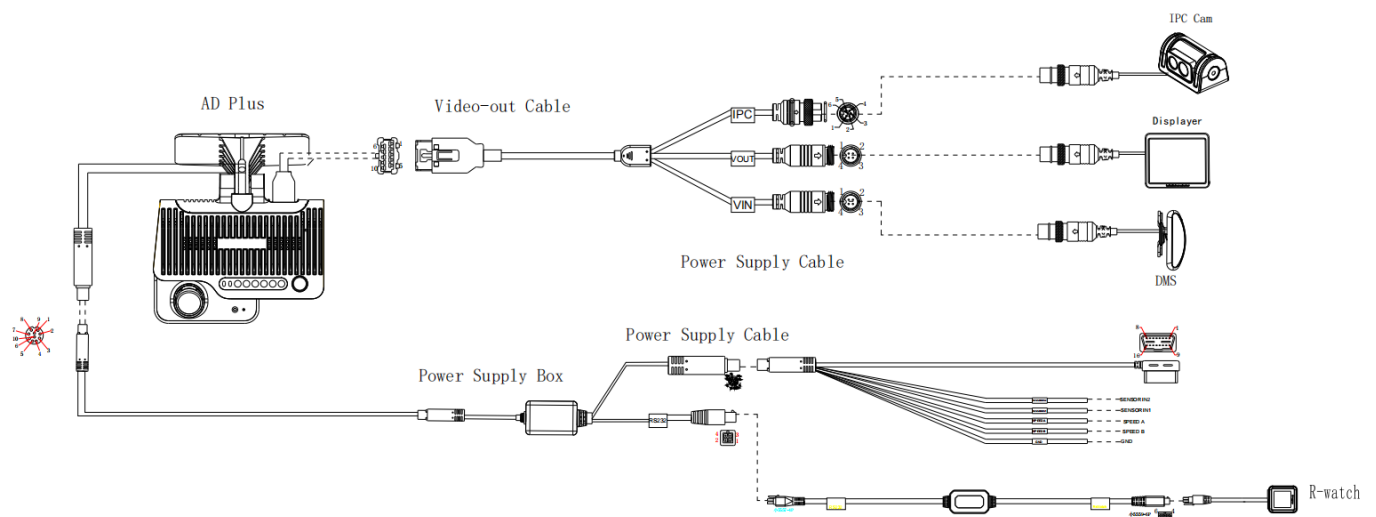
Note: The figures above only take the standard model as an example.

## System Connection Diagram

### (1) Connection diagram of the discrete wiring power supply system



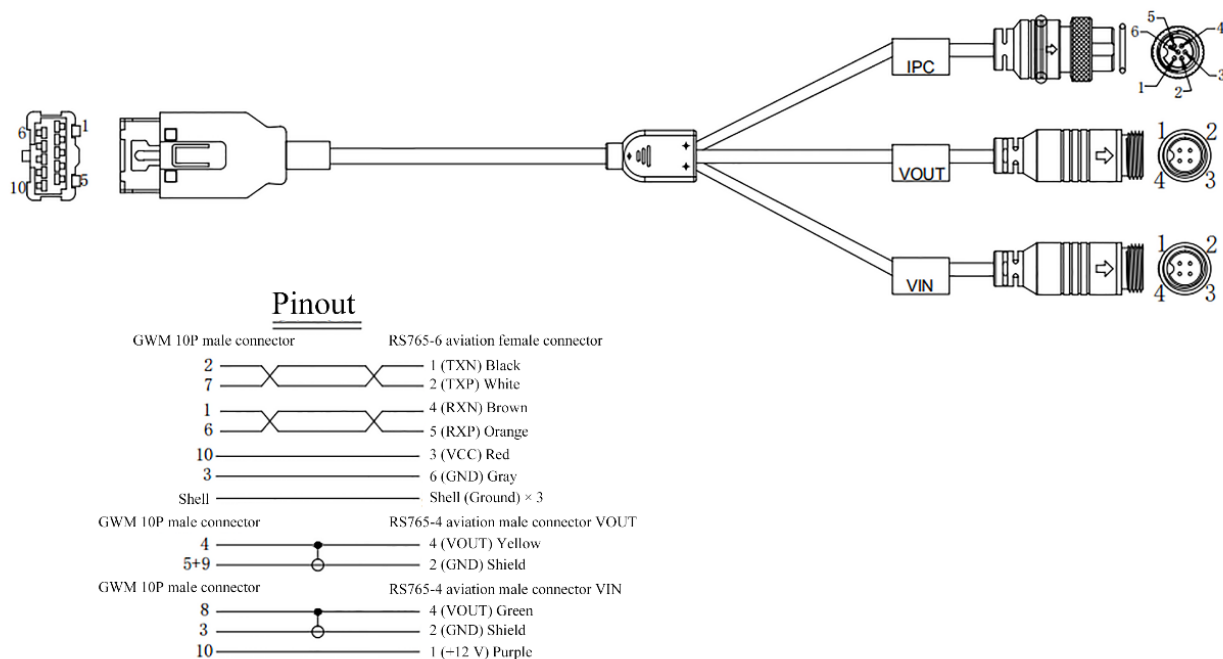
### (2) OBD wiring diagram



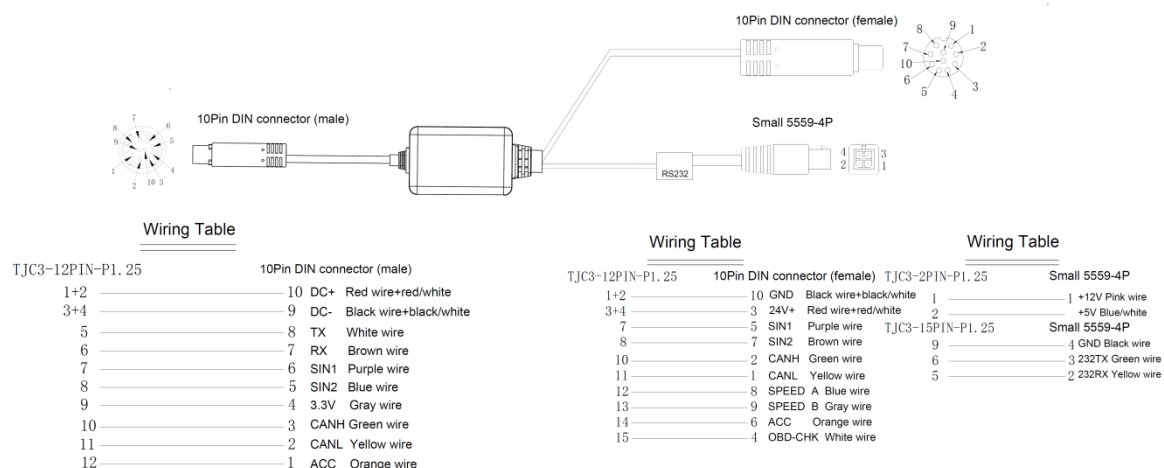
Note: The figures above only take the standard model as an example.

## Definition of Cable Connector Pinouts

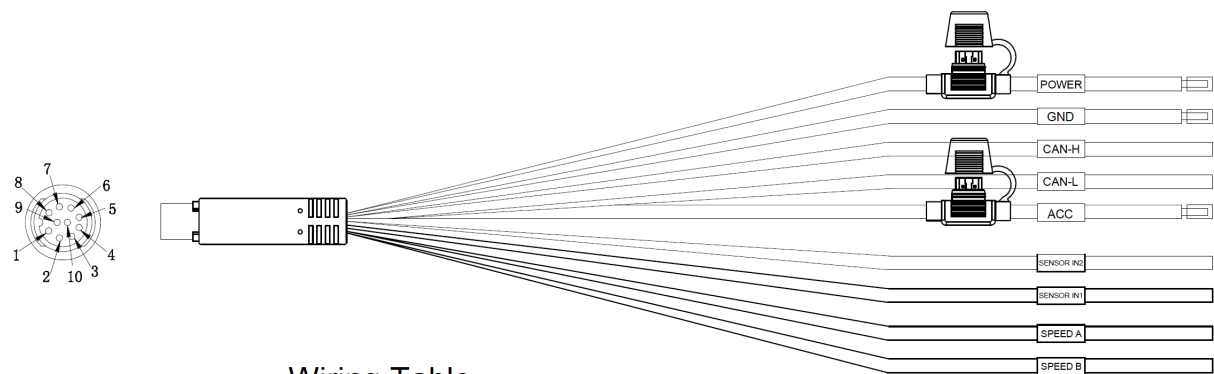
### (1) Video output cable connector pinout



### (2) Power box connector pinout



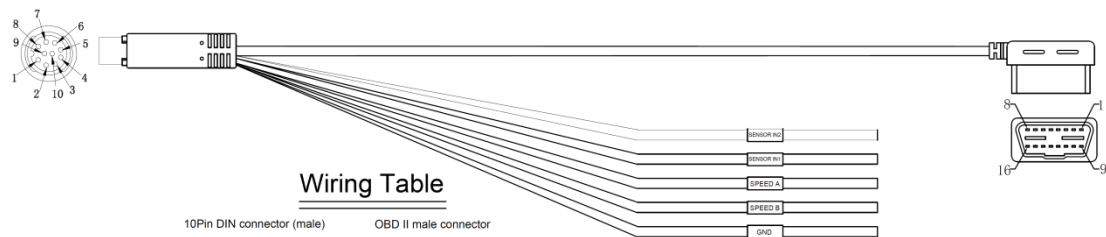
(3) Power output cable connector pinout



Wiring Table

| Supporting wire |                         | 10Pin DIN connector (male) |
|-----------------|-------------------------|----------------------------|
| Half-striping   | ACC Orange wire         | 3A fuse box 6              |
|                 | CAN-L Yellow wire       | 1                          |
|                 | CAN-H Green wire        | 2                          |
|                 | SPEED A Blue wire       | 8                          |
|                 | SENSOR IN2 Green/yellow | 7                          |
|                 | SENSOR IN1 Gray wire    | 5                          |
|                 | SPEED B Green/black     | 9                          |
| Half-striping   | POWER Red wire          | 3A fuse box 3              |
| Half-striping   | GND Black wire          | 10                         |

(4) OBD cable connector pinout



Wiring Table

| 10Pin DIN connector (male) |      | OBD II male connector |
|----------------------------|------|-----------------------|
| GND Black wire             | 10+4 | 4+5                   |
| CAN-H Green wire           | 2    | 6                     |
| CAN-L Yellow wire          | 1    | 14                    |
| POWER Red wire             | 3    | 3A PPTC 16            |
| SPEED A Green/yellow       | 8    |                       |
| SENSOR IN2 Blue wire       | 7    |                       |
| SENSOR IN1 Gray wire       | 5    |                       |
| SPEED B Green/black        | 9    |                       |
| GND Black wire             | 10   |                       |