

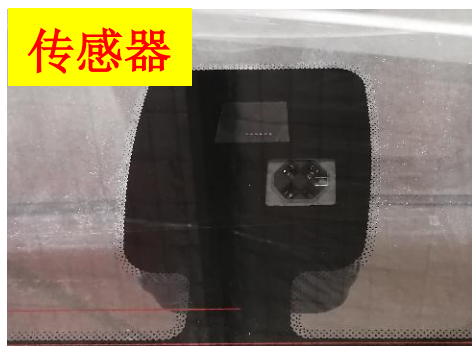
X3000车型ABCM自动车身控制器介绍 系统功能概述。

X3000配置的ABCM自动车身控制器，主要针对陕汽X3000车型BCM项目，零件号DZ97189585221，主要负责实现灯光自动控制、雨刮自动控制功能。在使用时必须配合BCM同时工作。

Introduction of ABCM automatic body controller for X3000 model

An overview of system functions.

The ABCM automatic body controller configured on the X3000 is mainly for the BCM project of the Shaanxi Automobile X3000 model. When used, it must work with BCM at the same time.



LIN →



→ CAN

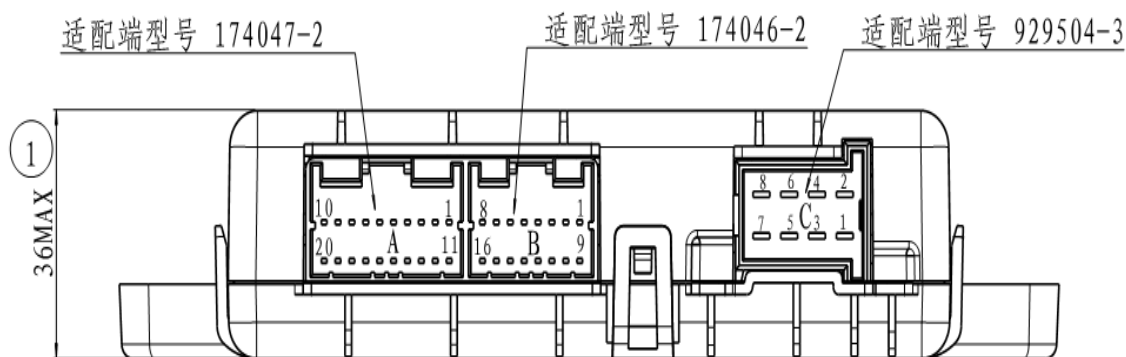
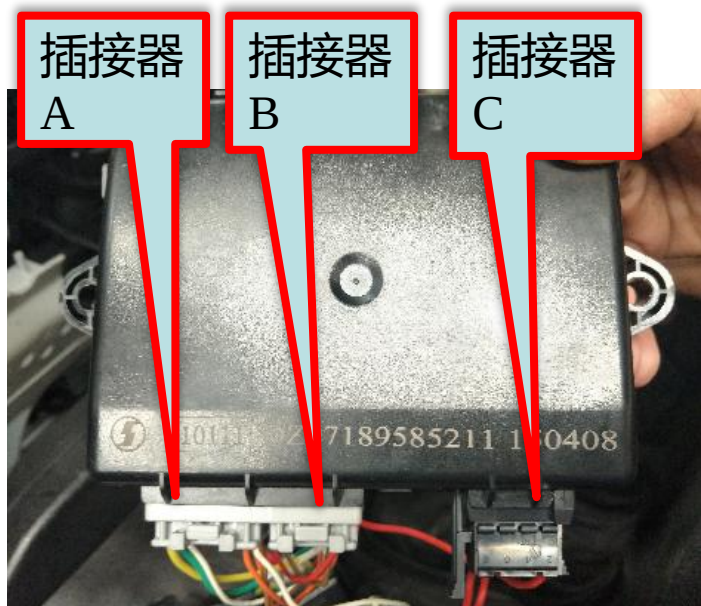


ABCM插接器结构总括图。

下图为X3000-ABCM自动车身控制器其外形结构和BCM相同，有三个线束插槽A，B，C，每个插槽结构都带有防错保护，共44个针脚。其插接器外形结构和BCM相同。

ABCM connector structure overview diagram.

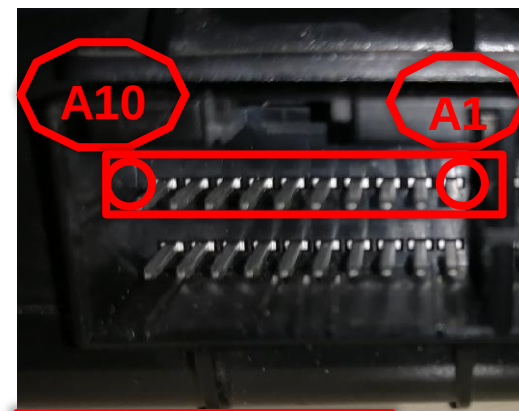
The following picture shows the X3000-ABCM automatic body controller. Its shape and structure are the same as BCM. There are three wiring harness slots A, B, and C. Each slot structure is equipped with error-proof protection, with a total of 44 pins. Its connector shape and structure are the same as BCM.



ABCM自动车身控制器的插接件A是20孔的插接器，针脚定义如下

The connector A of the ABCM automatic body controller is a 20-hole connector, and the pin definitions are as follows

针脚号	信号名称	信号类型	有效方式
pin number	Signal name	signal type	effective way
A1	雨刮器AUTO档位	输入端	高有效
	BKL-开关信号		
A2	点火开关信号	输入端	高有效
	HB-T15		
A3	A4	A5	N/A
A6	A7	A8	N/A
A9	N/A	N/A	N/A
A10	CAN—H	CAN通讯	高端
	DC-7		



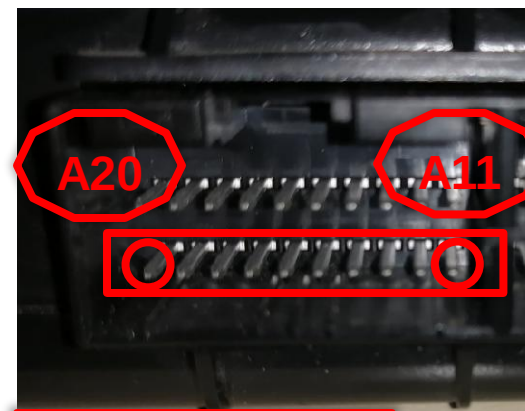
插接器A
The standby fuse



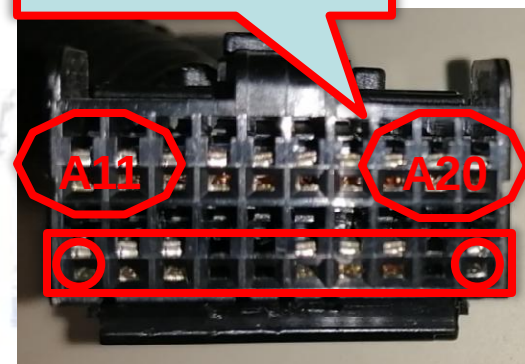
ABCM自动车身控制器的插接件A是20孔的插接器，针脚定义如下

The connector A of the ABCM automatic body controller is a 20-hole connector, and the pin definitions are as follows

针脚号	信号名称	信号类型	有效方式
A11	模拟量地	GND搭铁	负极端
	31003		
A12	灯光AUTO档位	输入端	高有效
	K-56101开关信号		
A13	A14	A15	N/A
A16	A17	A18	N/A
A19	LIN总线信号	输入端	高端
	81301		
A20	CAN—L	CAN通讯	低端
	FC-7		



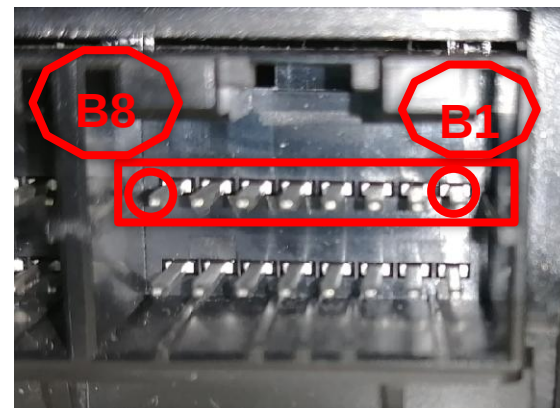
插接器A
The standby fuse



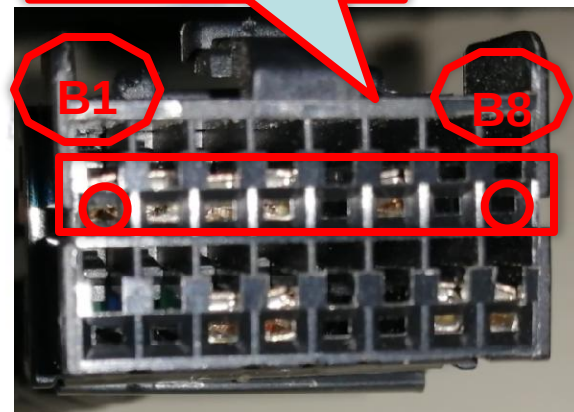
ABCM自动车身控制器的插接件B是16孔的插接器，针脚定义如下

The connector B of the ABCM automatic body controller is a 16-hole connector, and the pin definitions are as follows

针脚号	信号名称	信号类型	有效方式
B1	N/A	N/A	N/A
B2	12伏电源输出	输出端	高有效
	81300		
B3	B4	B5	N/A
B6	B7	B8	N/A
B9	B10	N/A	N/A
B11	数字地（模拟信号回地）	输出端	低有效
	31000		
B13	B14	N/A	N/A



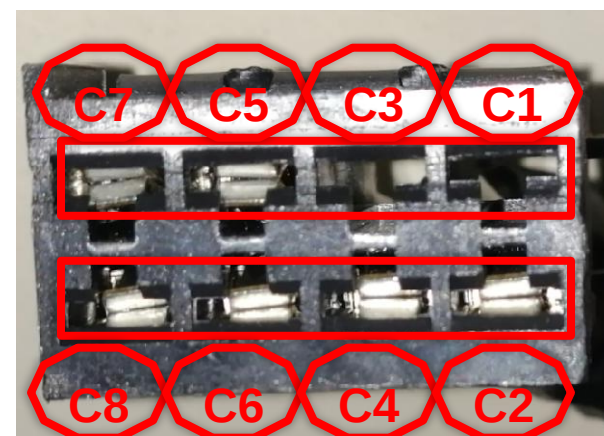
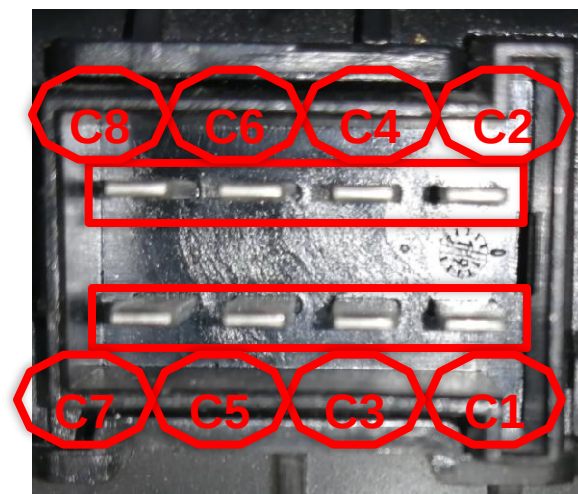
插接器B
The standby fuse



ABCM自动车身控制器的插接件C是8孔的插接器，针脚定义如下

The connector C of the ABCM automatic body controller is an 8-hole connector, and the pin definitions are as follows

针脚号	信号名称	信号类型
C1	电源1	输入端
	30001	常电
C2	N/A	N/A
C3	N/A	N/A
C4	N/A	N/A
C5	N/A	N/A
C6	N/A	N/A
C7	电源2	输入端
	30001	常电



ABCM自动车身控制器的基本功能描述及功能详解。

其中C1、C7电源的连接：

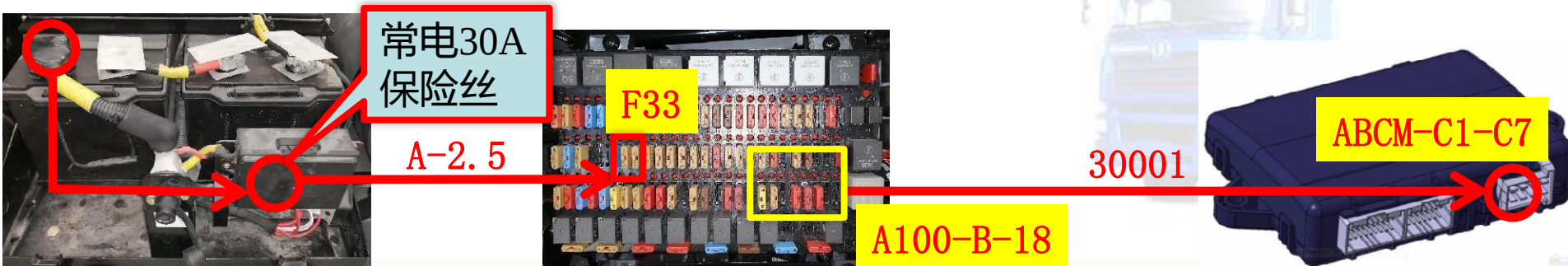
A100电器装置板输出的30001常电通过F33保险丝从电器装置板A100的B-18插接器输出，此30001电源由C1、C7端子接入ABCM自动车身控制器的常电（此电源是不间断电源，不受电瓶总开关控制）。

Basic function description and function detailed explanation of ABCM automatic body controller.

Among them, the connection of C1 and C7 power supply:

The 30001 constant power output from the A100 electrical device board is output from the B-18 connector of the electrical device board A100 through the F33 fuse.

The 30001 power supply is connected to the constant power of the ABCM automatic body controller through the C1 and C7 terminals (this power supply is uninterrupted The power supply is not controlled by the battery master switch).



ABCM自动车身控制器的基本功能描述及功能详解。

其中电源负极线的连接：

ABCM的电源负极线由31000棕色线从X242驾驶室左搭铁点连接到ABC的B-11针脚, 位置如图：

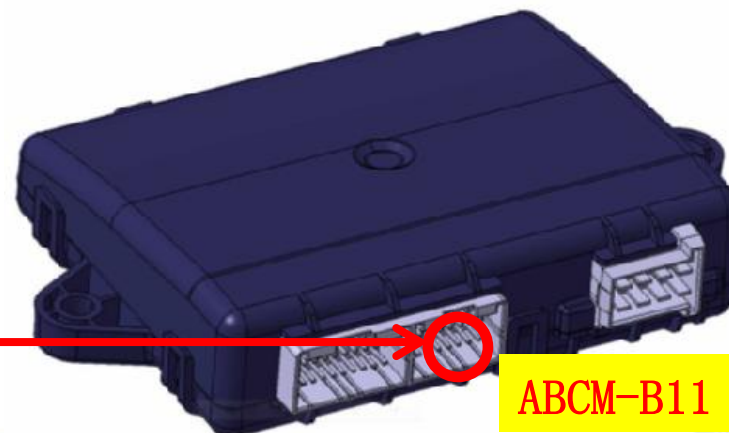
Basic function description and function detailed explanation of ABCM automatic body controller.

The connection of the power supply negative line:

The power supply negative wire of ABCM is connected by 31000 brown wire from the left ground point of X242 cab to the B-11 pin of ABCM, the location is as shown in the figure:

X242左搭铁点
ground point

31000



ABCM-B11



SHACMAN

4.4.1.

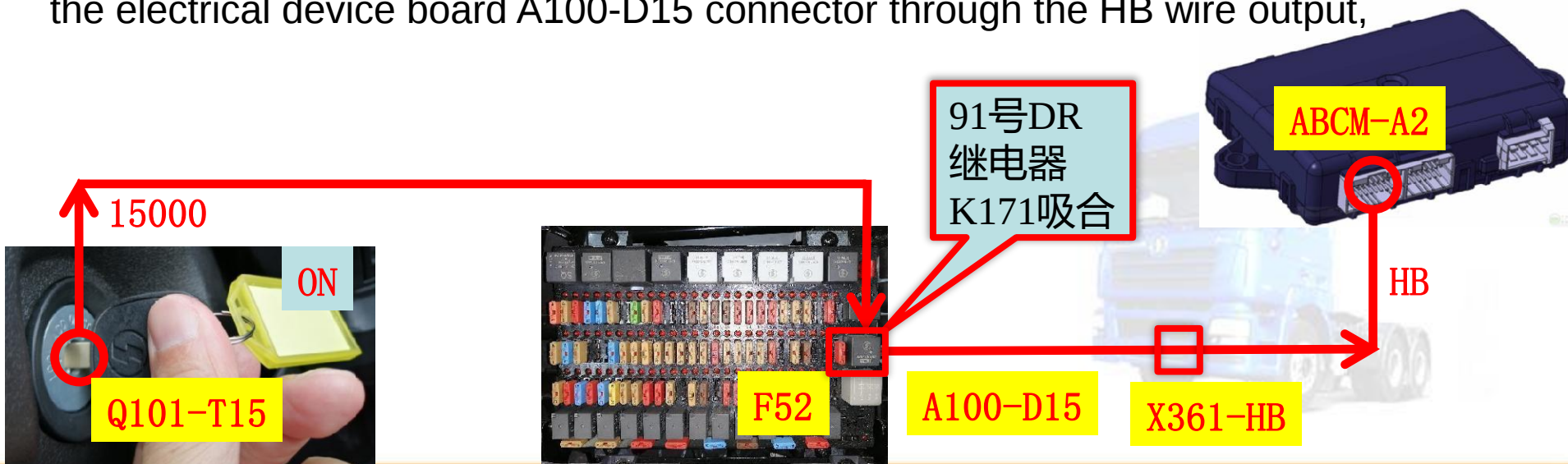
陕西重型汽车进出口有限公司
SHAANXI HEAVY DUTY AUTOMOBILE IMPORT & EXPORT CO.,LTD

ABCM自动车身控制器的基本功能描述及功能详解。

钥匙开关T15信号：钥匙开关Q101旋转进入ON档时，钥匙开关控制91号位置的DR电源继电器K171吸合，K171输出的15000钥匙电通过F52保险丝从电器装置板A100-D15插接器由HB线输出，

Basic function description and function detailed explanation of ABCM automatic body controller.

Key switch T15 signal: When the key switch Q101 is rotated into the ON position, the key switch controls the DR power relay K171 at position 91 to pull in, and the 15000 key power output from K171 passes through the F52 fuse from the electrical device board A100-D15 connector through the HB wire output,



ABCM自动车身控制器的基本功能描述及功能详解。

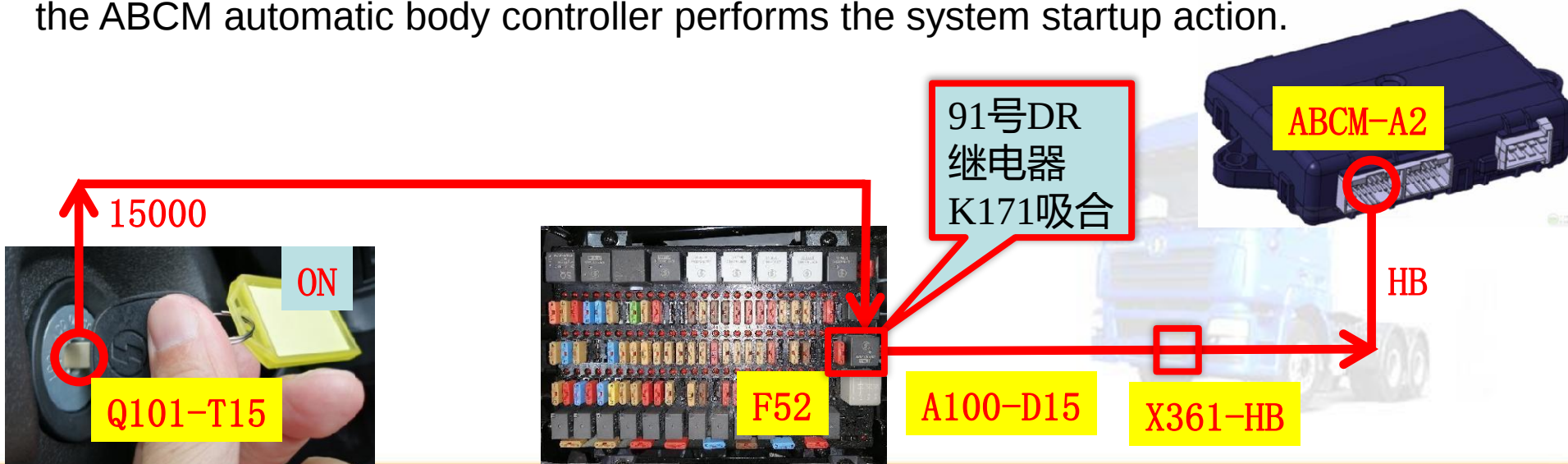
钥匙开关T15信号：

此HB钥匙电信号由X361分电器分配，从ABCM自动车身控制器的A2端子由HB线接入，于是ABCM自动车身控制器执行系统开机动作。

Basic function description and function detailed explanation of ABCM automatic body controller.

Key switch T15 signal:

The HB key electric signal is distributed by the X361 distributor, and is connected from the A2 terminal of the ABCM automatic body controller through the HB line, so the ABCM automatic body controller performs the system startup action.



ABCM自动车身控制器的基本功能描述及功能详解。

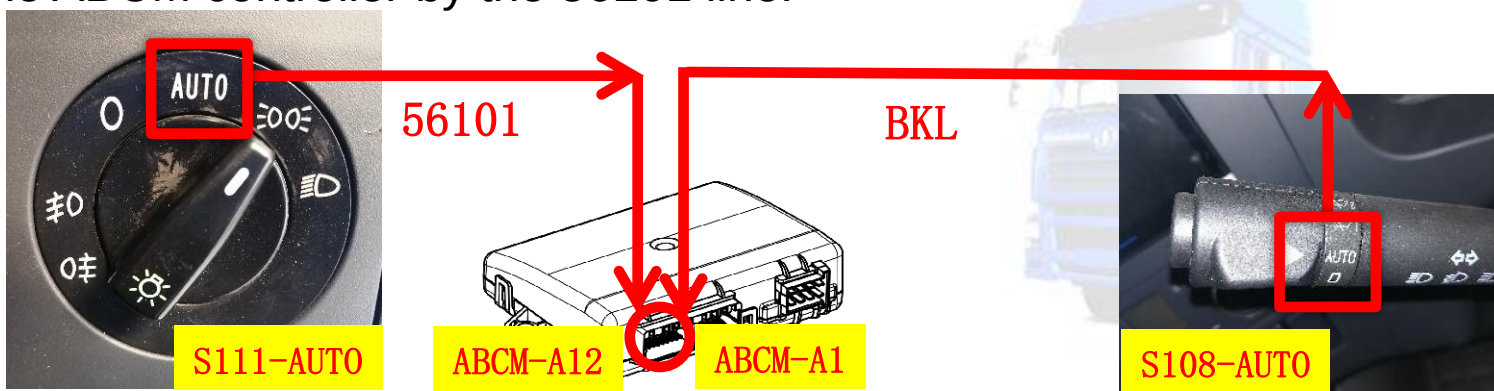
ABCM的输入开关信号：

雨刮器开关(组合开关) S108旋入自动档AUTO时，其雨刮器自动控制信号通过BKL线接入到ABCM的A1端子。

转动灯光总开关S111向灯光AUTO档开启时，S111输出的灯光AUTO档控制信号，由56101线连接到ABCM控制器的A12端子。

Basic function description and function detailed explanation of ABCM automatic body controller. Input switch signal of ABCM:

When the wiper switch (combination switch) S108 is rotated into the automatic gear AUTO, its wiper automatic control signal is connected to the A1 terminal of the ABCM through the BKL line. When turning the main light switch S111 to turn on the light AUTO file, the light AUTO file control signal output by S111 is connected to the A12 terminal of the ABCM controller by the 56101 line.



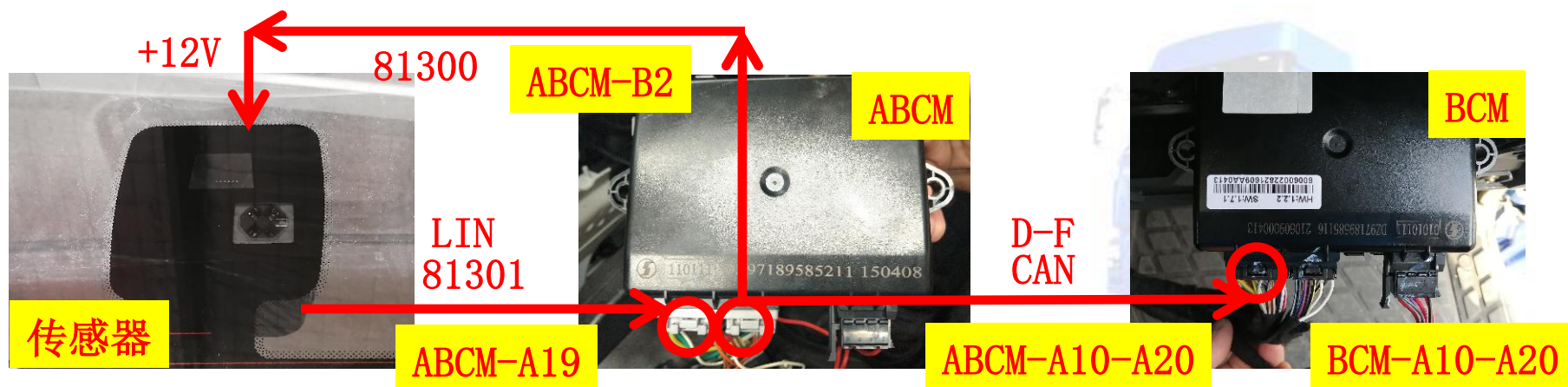
ABCM自动车身控制器的基本功能描述及功能详解。

ABCM的传感器：ABCM通过B2端子输出的12伏电源由81300线连接到雨量光线传感器B151的1号端子，ABCM通过A11端子输出的电源负极线由31003线连接到雨量光线传感器B151的2号端子，雨量光线传感器B151通过4号端子输出的LIN线由81301线连接到ABCM的A19端子。

Basic function description and function detailed explanation of ABCM automatic body controller.

ABCM's sensors:

The 12 volt power output from ABCM through the B2 terminal is connected to the No. 1 terminal of the rain light sensor B151 by the 81300 line, the negative line of the power output from the ABCM through the A11 terminal is connected to the No. 2 terminal of the rain light sensor B151 by the 31003 line, and the rain light sensor B151 The LIN line output through the No. 4 terminal is connected to the A19 terminal of the ABCM by the 81301 line.



ABCM自动车身控制器的基本功能描述及功能详解。

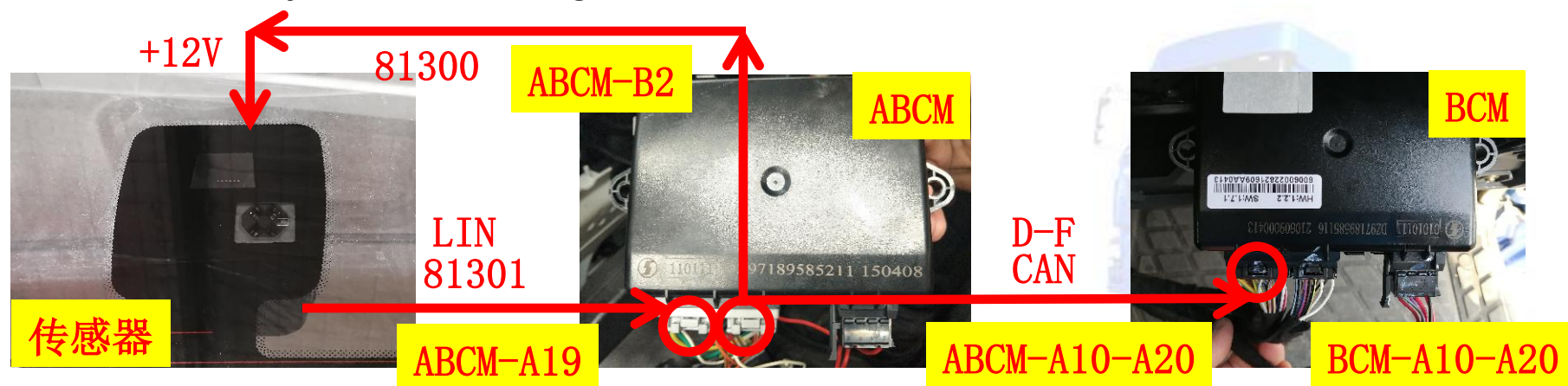
ABCM的自动控制1:

当灯光AUTO档开启时，当雨刮AUTO档开启时，ABCM开启自动控制模式，由ABCM自动车身控制器根据雨量、光线传感器采集的数据，通过81301线发送LIN线CAN报文。

Basic function description and function detailed explanation of ABCM automatic body controller.

Automatic control of ABCM 1:

When the light AUTO file is turned on, when the wiper AUTO file is turned on, the ABCM turns on the automatic control signal mode, and the ABCM automatic body controller sends the LIN line CAN message through the 81301 line according to the data collected by the rain and light sensors.



ABCM自动车身控制器的基本功能描述及功能详解。

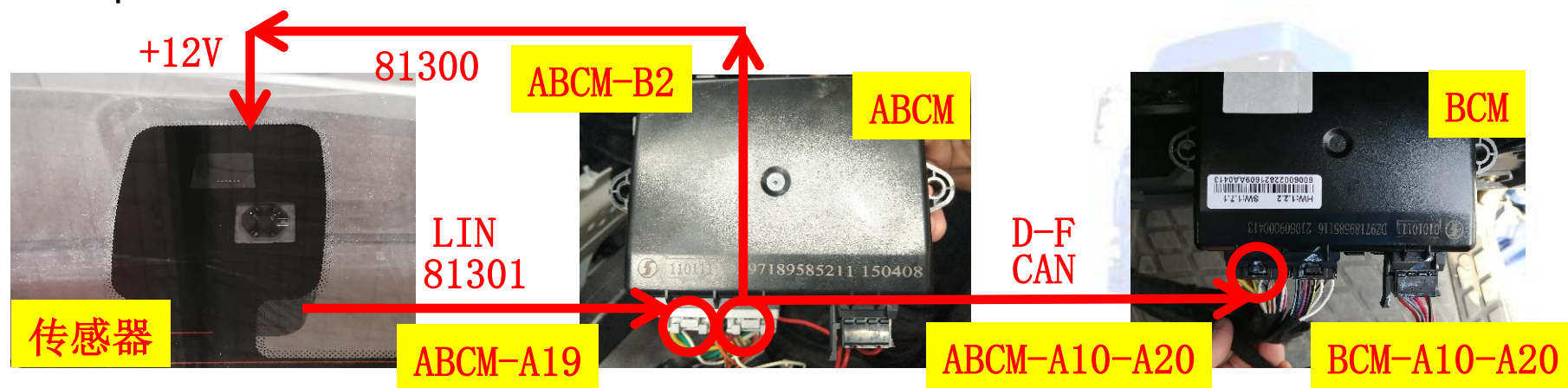
ABCM的自动控制2:

ABCM运算LIN线的数据之后再发送CAN报文， ABCM的A10和A20端子通过D-F黄绿色CAN总线与BCM传输信号。车身控制器BCM控制灯光和雨刮的开启。

Basic function description and function detailed explanation of ABCM automatic body controller.

Automatic control of ABCM 2:

After the ABCM calculates the data of the LIN line, it sends the CAN message. The A10 and A20 terminals of the ABCM transmit signals to the BCM through the D-F yellow-green CAN bus. The body controller BCM controls the turning on of the lights and wipers.





4.11.1

陕西重型汽车进出口有限公司
SHAANXI HEAVY DUTY AUTOMOBILE IMPORT & EXPORT CO.,LTD

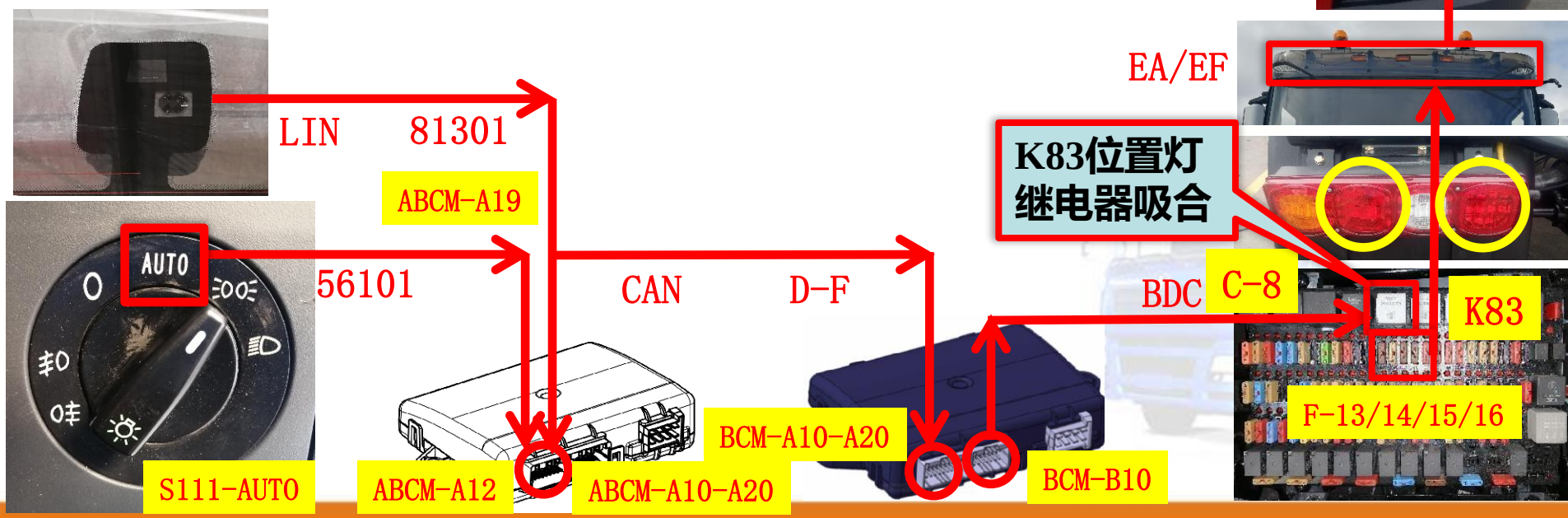
ABCM电控单元的基本功能描述及功能详解。

灯光AUTO控制功能1:

转动灯光总开关S111向灯光AUTO档开启时，开启灯光自动模式，S111输出的灯光AUTO档控制信号，由56101线连接到ABCM控制器的A12端子。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 1:

When turning the main light switch S111 to turn on the light AUTO file, the light automatic mode is turned on, and the light AUTO file control signal output by S111 is connected to the A12 terminal of the ABCM controller by the 56101 line.



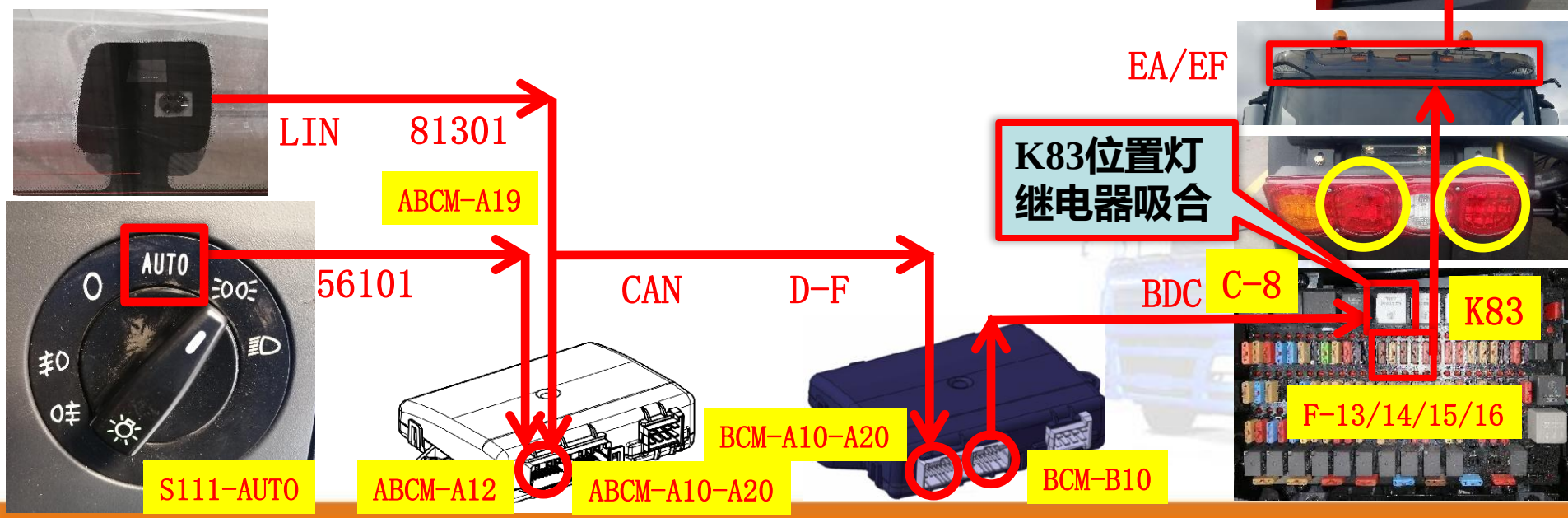
ABCM电控单元的基本功能描述及功能详解。

灯光AUTO控制功能2:

ABCM系统根据雨量光线传感器采集到的数据，通过81301线发送LIN线报文到ABCM的A19端子，ABCM的A10、A20通过D-F黄绿色CAN总线与BCM传输信号。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 2:

According to the data collected by the rain light sensor, the ABCM system sends the LIN line message to the A19 terminal of the ABCM through the 81301 line, and the A10 and A20 of the ABCM transmit signals to the BCM through the D-F yellow-green CAN bus.



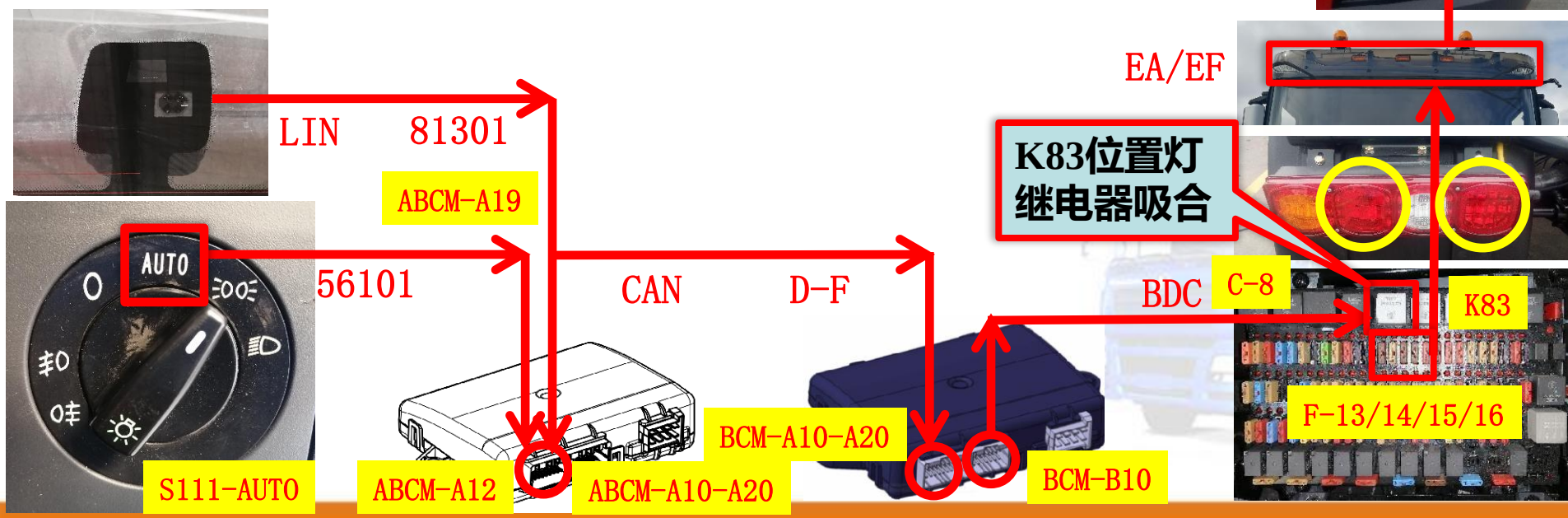
ABCM电控单元的基本功能描述及功能详解。

灯光AUTO控制功能3:

ABCM在灯光AUTO自动模式，若周围环境光线已经变暗，则雨量光线传感器给ABCM传输LIN线报文，ABCM给BCM传输CAN报文信号，由BCM的B10给电器装置版A100-C8输出位置灯控制信号。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 3:

ABCM is in the light AUTO mode, if the ambient light has become dark, the rain light sensor transmits LIN line message to ABCM, ABCM transmits CAN message signal to BCM, and B10 of BCM outputs position light to A100-C8 of electrical device version control signal.



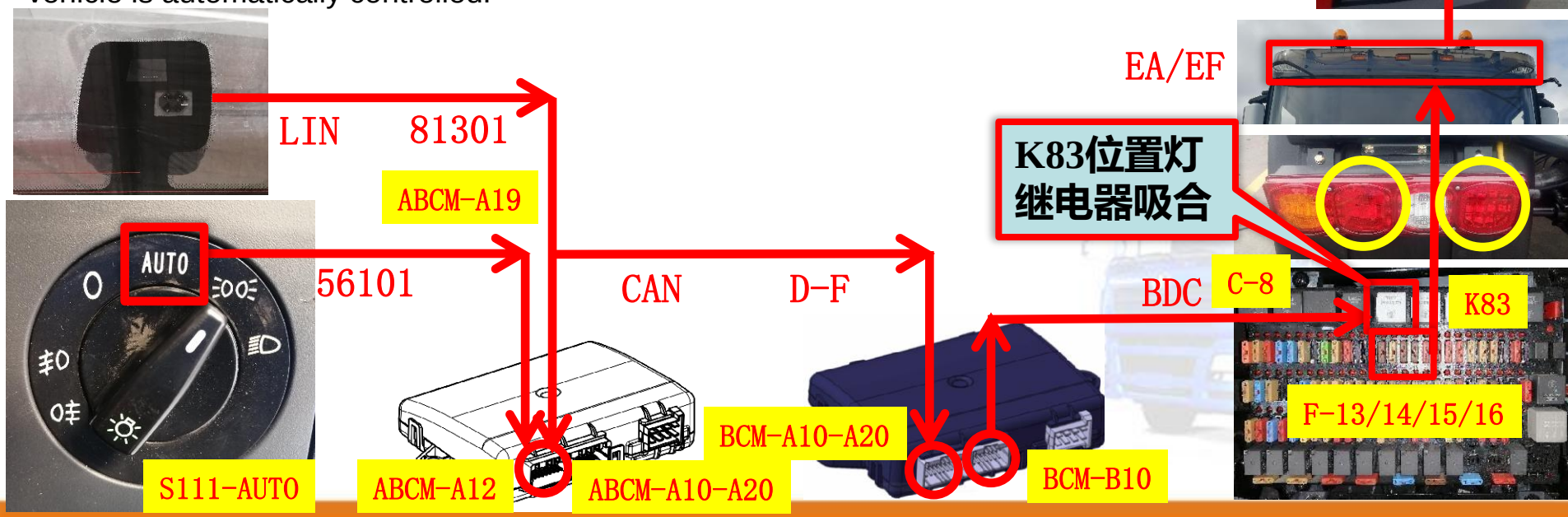
ABCM电控单元的基本功能描述及功能详解。

灯光AUTO控制功能4:

此位置灯控制信号驱动K83位置灯继电器吸合， K83继电器输出的位置灯工作电流通过A100电器装置板的F13, F14, F15, F16的保险丝。从而实现自动控制全车所有位置灯的点亮。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 4:

This position light control signal drives the K83 position light relay to pull in, and the position light working current output by the K83 relay passes through the F13, F14, F15, F16 fuses of the A100 electrical device board. In this way, the lighting of all position lamps of the whole vehicle is automatically controlled.



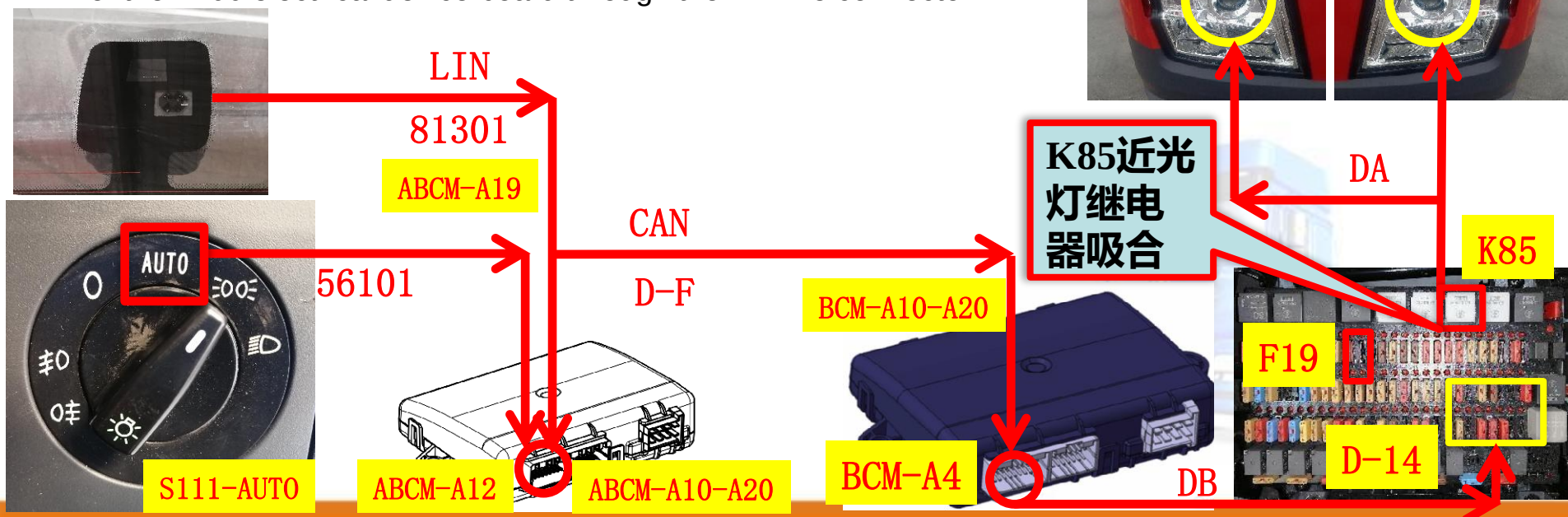
ABCM电控单元的基本功能描述及功能详解。

灯光AUTO控制功能5:

ABCM在灯光AUTO自动模式，若周围环境光线继续变暗，则BCM控制器收到ABCM发送CAN报文信号， BCM从A4端子输出的近光灯控制线通过DB线传输到A100电器装置板的D14插接器。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 5:

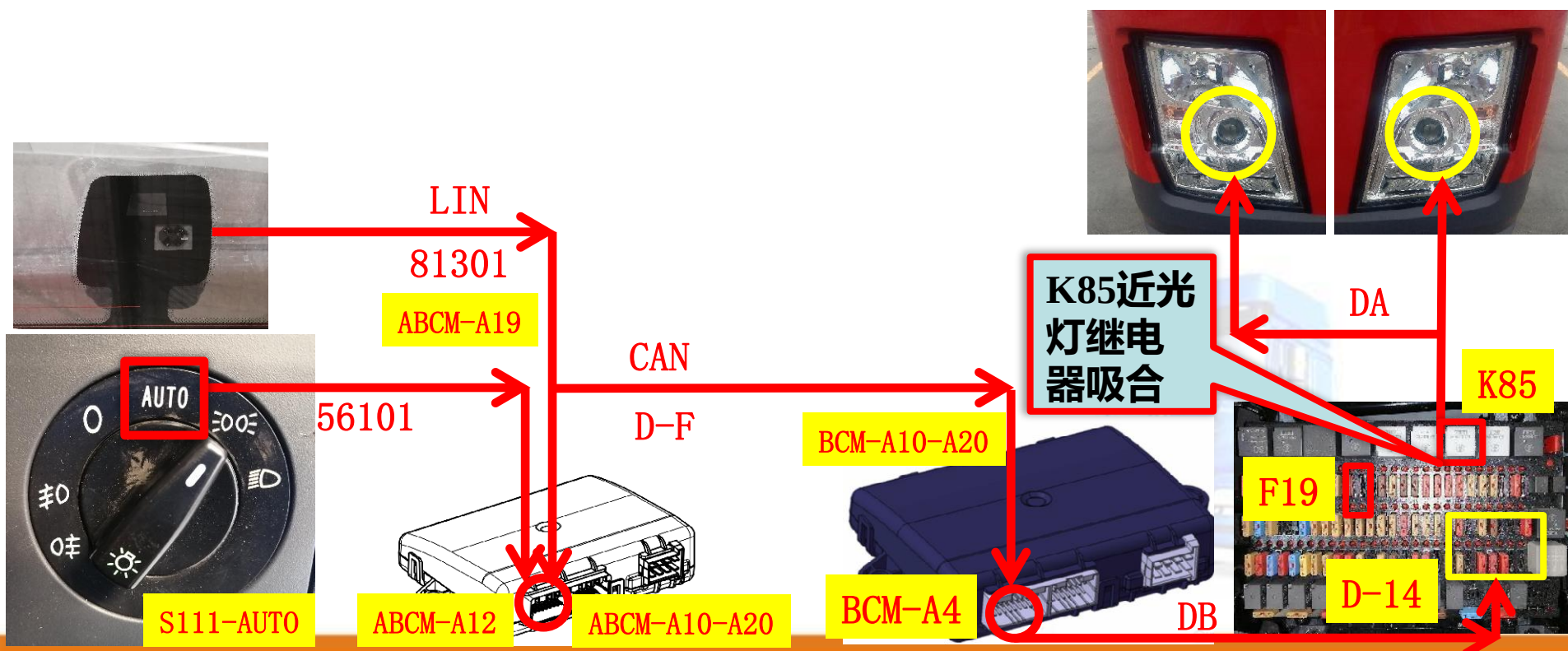
ABCM is in AUTO light mode, if the ambient light continues to dim, the BCM controller will receive the CAN message signal sent by ABCM, and the low beam control line output by the BCM from the A4 terminal is transmitted to D14 of the A100 electrical device board through the DB line connector.



ABCM电控单元的基本功能描述及功能详解。

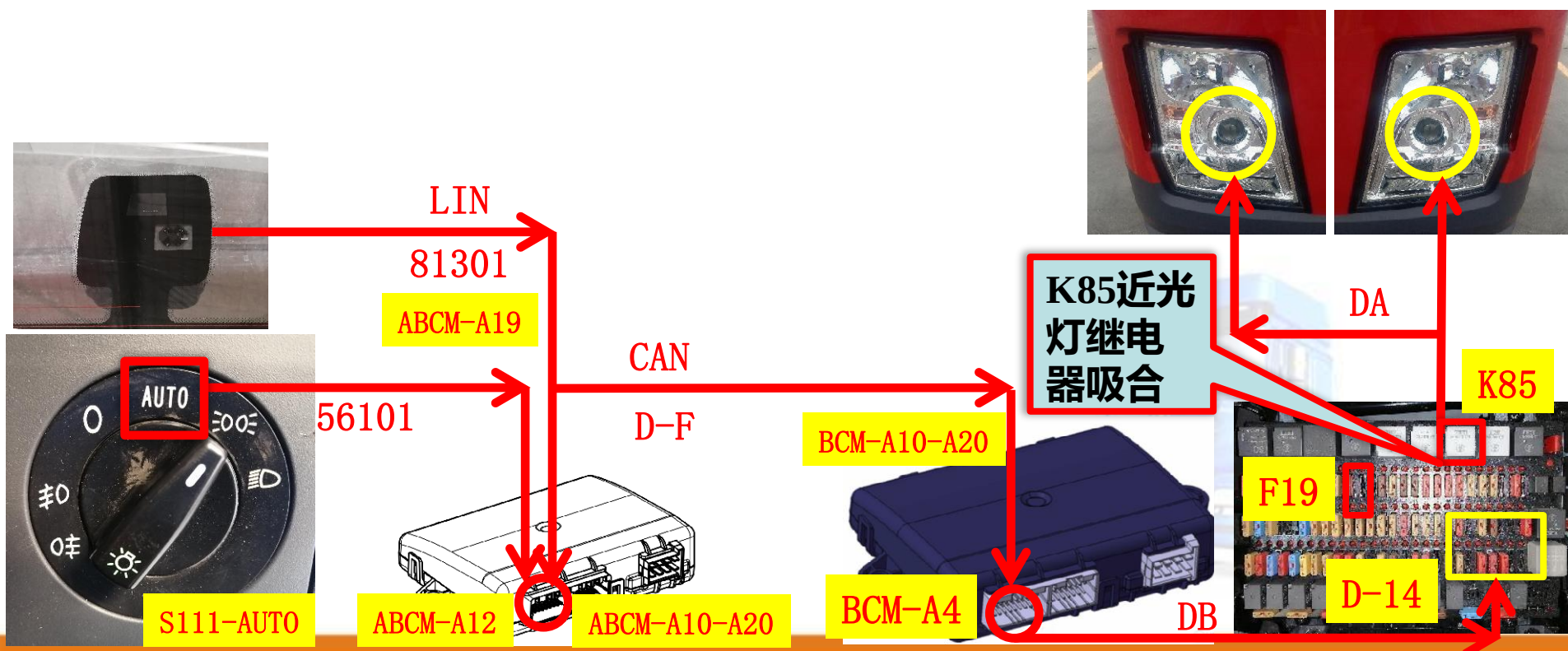
灯光AUTO控制功能6：

近光灯控制信号DB线，驱动K85近光灯继电器吸合，K85继电器的电源由F19保险丝提供，K85继电器输出的近光灯工作电流通过A100电器装置板的D-19-20插接器，由DA黄红色线连接到E111左近光灯，E110右近光灯点亮。



Basic functional description and detailed functional explanation of ABCM electronic control unit. Lighting AUTO control function 6:

The low beam control signal DB line drives the K85 low beam relay to pull in, the power supply of the K85 relay is provided by the F19 fuse, and the low beam working current output by the K85 relay passes through the D-19-20 connector of the A100 electrical device board. The DA yellow-red line is connected to the left low beam of E111, and the right low beam of E110 is lit.



ABCM电控单元的基本功能描述及功能详解。

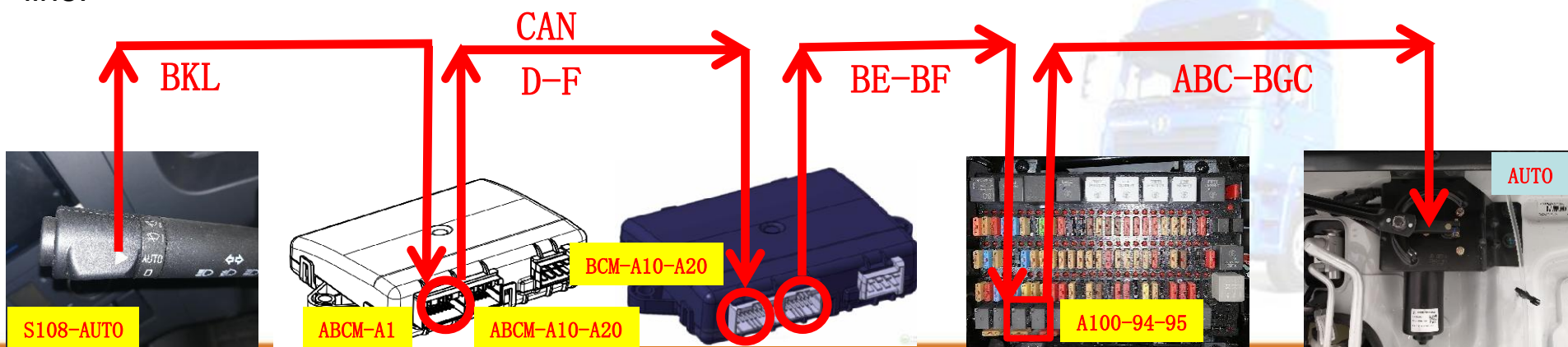
雨刮自动功能1:

雨刮器开关(组合开关) S108旋入自动档AUTO时，其雨刮器自动控制信号通过BKL线接入到ABCM自动车身控制器的A1端子。由ABCM的控制系统根据雨量光线传感器采集到的数据，通过81301线发送LIN线报文到ABCM的A19端子。

Basic functional description and detailed functional explanation of ABCM electronic control unit.

Wiper automatic function 1:

When the wiper switch (combination switch) S108 is rotated into the automatic gear AUTO, its wiper automatic control signal is connected to the A1 terminal of the ABCM automatic body controller through the BKL line. According to the data collected by the rain light sensor, the ABCM control system sends the LIN line message to the A19 terminal of the ABCM through the 81301 line.



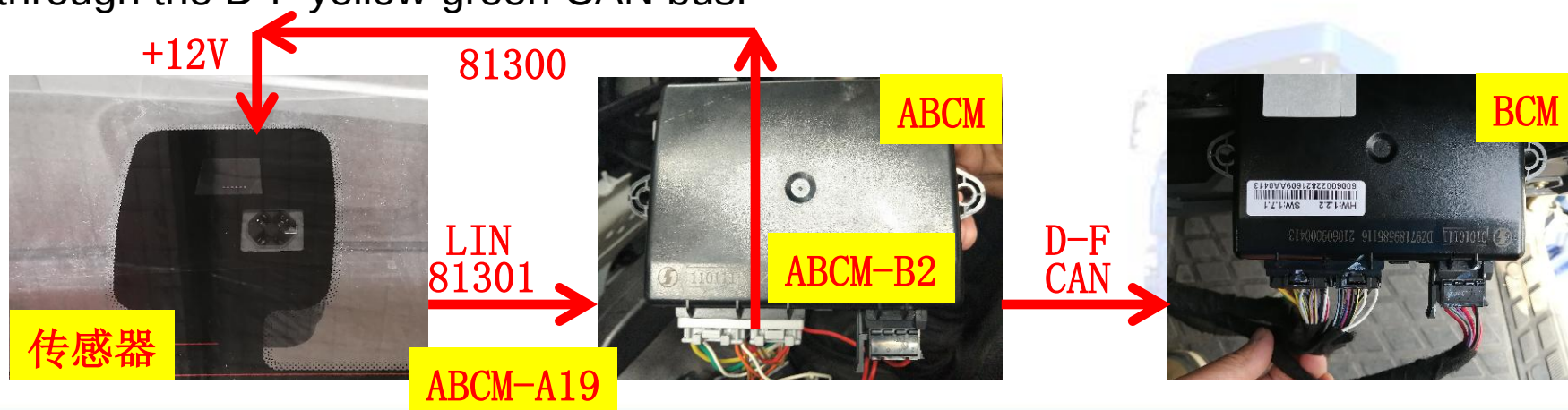
ABCМ电控单元的基本功能描述及功能详解。

雨刮自动功能2:

雨刮器开关(组合开关) S108旋入自动档AUTO时, 开启自动模式, ABCM的B2针脚通过81300线输出12伏电源给雨量光线传感器提供工作电源, ABCM通过D-F黄绿色CAN总线与BCM传输信号。

Basic functional description and detailed functional explanation of ABCM electronic control unit. Wiper automatic function 2:

When the wiper switch (combination switch) S108 is turned into the automatic gear AUTO, the automatic mode is turned on, and the B2 pin of the ABCM outputs 12V power supply to the rain light sensor through the 81300 line to provide the working power supply for the rain light sensor, and the ABCM transmits the signal to the BCM through the D-F yellow-green CAN bus.



ABCM电控单元的基本功能描述及功能详解。

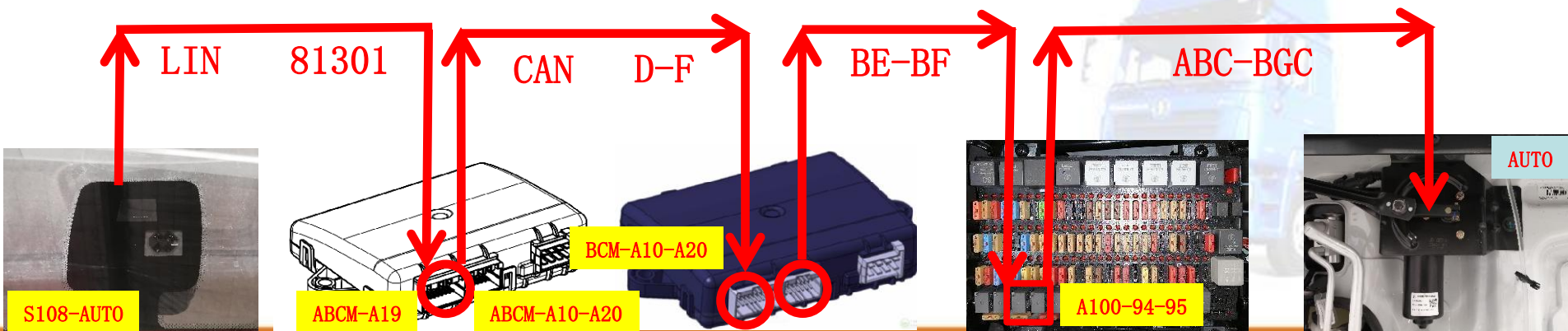
雨刮自动功能3:

ABCM在AUTO开启自动模式，若前风挡玻璃没有雨水，则雨刮器每间歇6秒钟低速运行一次刮水动作，用于系统功能测试。若行车中有雨水滴落，雨量光线传感器给ABCM传输LIN线报文。

Basic functional description and detailed functional explanation of ABCM electronic control unit.

Wiper automatic function 3:

ABCM starts the automatic mode in AUTO. If there is no rain on the front windshield, the wiper will run a wiping action at a low speed every 6 seconds for the system function test. If there is rain dripping on the road, the rain light sensor transmits the LIN line message to the ABCM.



ABCM电控单元的基本功能描述及功能详解。

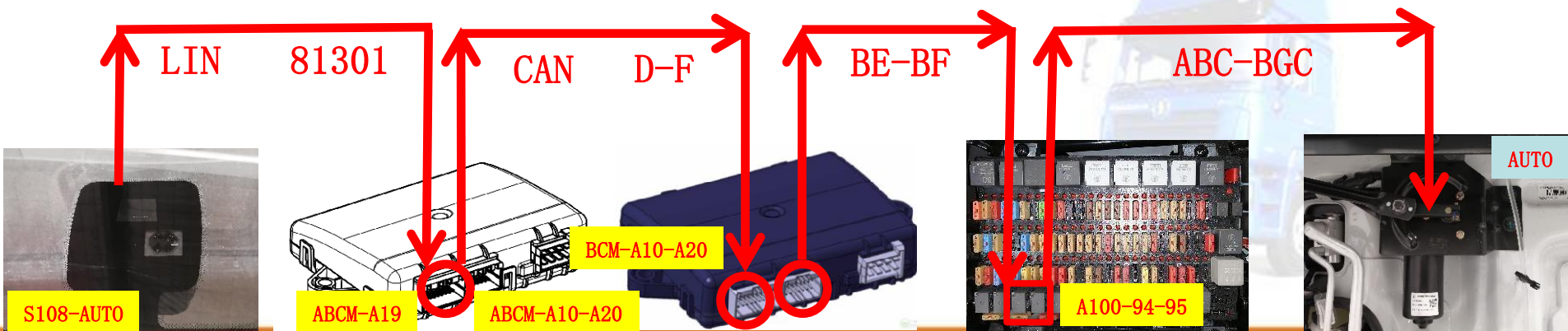
雨刮自动功能4：

ABCM给BCM传输CAN报文信号，由BCM给电器装置版A100-K94-K95输出继电器线圈驱动电流，从而自动控制雨刮电机的高速、低速、间歇性运行等动作。

Basic functional description and detailed functional explanation of ABCM electronic control unit.

Wiper automatic function 4:

The ABCM transmits the CAN message signal to the BCM, and the BCM outputs the relay coil drive current to the electrical device version A100-K94-K95, thereby automatically controlling the high-speed, low-speed, intermittent operation of the wiper motor.



ABCM电控单元的基本功能描述及功能详解。

雨刮自动功能5:

若雨中行车，车速小于20Km/h，则ABCM给BCM发送低速运转请求。车速大于20Km/h，则ABCM给BCM发送高速速运转请求。同时ABCM结合降雨量，濛濛细雨时激活雨刮间歇档，小雨中雨时激活雨刮低速，大雨时激活雨刮高速。

Basic functional description and detailed functional explanation of ABCM electronic control unit.

Wiper automatic function 5:

If driving in the rain and the vehicle speed is less than 20Km/h, ABCM sends a low-speed operation request to BCM. When the vehicle speed is greater than 20Km/h, ABCM sends a high-speed running request to BCM. At the same time, ABCM combined with rainfall, activates the wiper intermittent gear when it is drizzly, activates the wiper low speed when the rain is light and moderate, and activates the wiper high speed when it is heavy rain.

