Power Box Max

Product specification

1. Product overview

Power Box Max is a Dashcam video extension power box that supports the expansion of 4 AHD inputs or 3 AHD inputs plus 1 IPC input. It has AI extension capability and supports left, right, and rear Blind Spot Detection (BSD) audio-visual alarms. It also supports quick power supply from the original vehicle's OBD port and OBD data parsing capability. It is commonly used in Dashcam products that require vehicle blind spot compensation and cargo monitoring in the scenes of medium and large freight vehicles.

2. Product features

- Support 3-way IO detection and 1-way iButton access.
- Support 1-way IO output with a current of up to 0.5A.
- Support 3-way RS232, where RS232-1 is default for R-Watch, RS232-2 is for B3 left, and RS232-3 is for B3 right.
- Powered by OBD, with 2 built-in CAN channels, support for J1939 protocol, and a choice between J1708/J1850/K-LINE protocols.
- Support 4-way AHD input or 3-way AHD plus 1-way IPC input.
- Support 1-way video output, configurable as AHD or CVBS output.
- Equipped with AI detection capability, supporting up to 3-way BSD with time division and real-time operation of 2-way BSD, and support for 2-way B3 blind spot indicators.

3. 3Product Specifications

Product number	
	Power Box Max
Interface	
RS232	3 ch, 232-1 connects to R-Watch by default, 232-2 connects to the left side of B3, and 232-3 connects to the right side of B3
SENSOR IN	3 inputs
SENSOR OUT	1 output
iButton	1 channel
CAN	2 ch
K-LINE	1ch（和 J1708/J1850/K-LINE）choose one of three
USB	1 x USB2.0 (Type A) , Used for local upgrade
LAN	1 ch, Connect to AD Plus 2.0
Video	
Enter	4 channels AHD or 3 channels AHD+1 channel IPC
Output	1 ch video output, configurable as AHD or CVBS output.
Total Resource	3 channels 720P 15 frames + 1 channels 720P 10 frames It can support up to 3 channels of BSD for time-sharing and 2 channels of BSD for real-time operation
Power Related	
Power supply	12V and 24V vehicles (self-adaptive)
Standby power consumption	• In standby mode: 13.5V@4.2mA, 27V@2.3mA • In sleep mode (4G and MCU powered): 13.5V@59.8mA, 27V@41.8mA

	• Typical power consumption (with AD Plus2.0 and 4 cameras in Power Box Max): about 25W • Full-load power consumption (with dual SD cards installed, SIM card for dialing, Wi-Fi turned on, additional 4 cameras, and infrared lamp turned on): about 30W ＊The above data are test data obtained in a specific environment in the laboratory, and may vary with the individual product differences, service environment, and testing methods.
Physical properties	
Size（mm）	192mm x 98.5mm x 30mm
Weight（g）	554g（Bare Metal）
Working environment	
Operating temperature	-40℃~+70℃(-40°F ~ +158°F)
Storage temperature	-40℃~+85℃(-40°F ~ +185°F)
Working humidity	15%-95%（No condensation）
LED Indicator Status	
Power Status Lights	Off/Green Off: The device is not powered on Steady green: The device is powered normally
Network Status Indicator	Off/Red Off：Means the connection between AD Plus and Power Box Max is failed Red：Means the connection between AD Plus and Power Box Max is connected

4. Dimensions（mm）
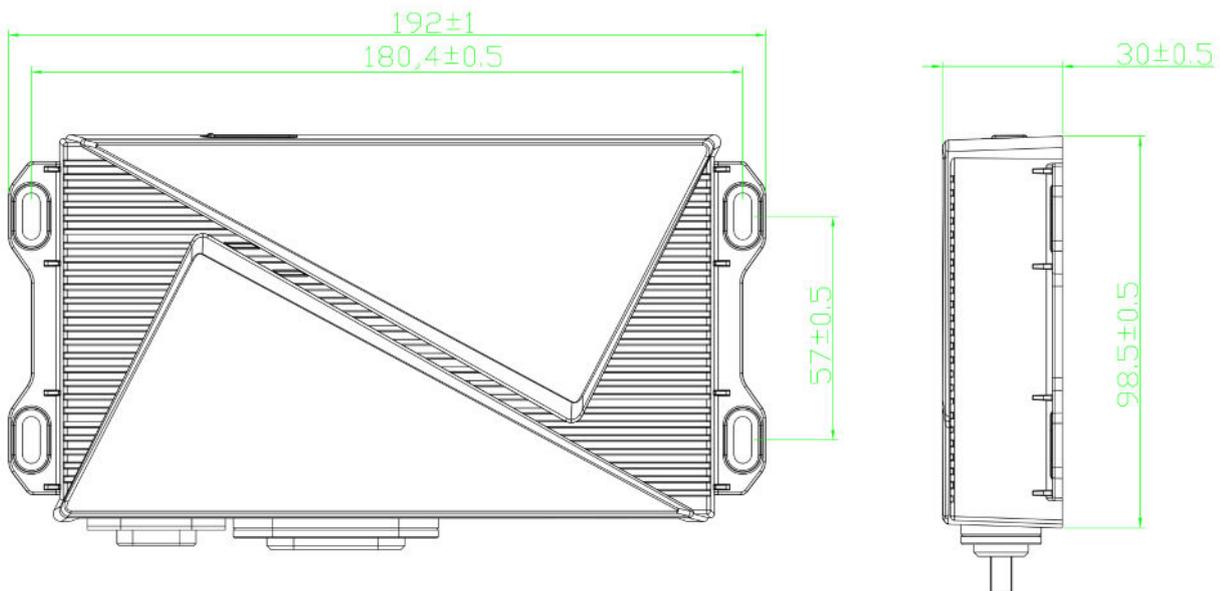
5. Panel interface

Front panel：

Number	Silk screen/Icon	Explanation
1		USB2.0（Type A），Used for local upgrade

Rear panel：
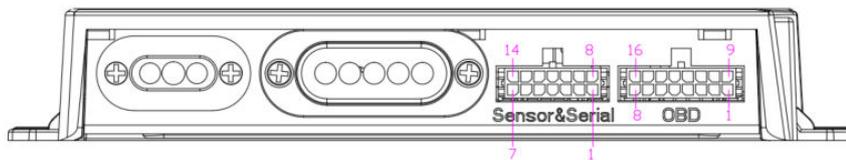
Number	Silk screen/Icon	Explanation
1	Sensor & Serial	External expansion I/O, I-Button and serial.
2	OBD	Connect the vehicle OBD interface
3		Connect to AD Plus 2.0 and video output
4		Video input and IPC input
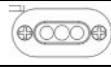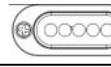
6. Definition of external cable interface

（1）Sensor & Serial, External expansion I/O, I-Button and serial.
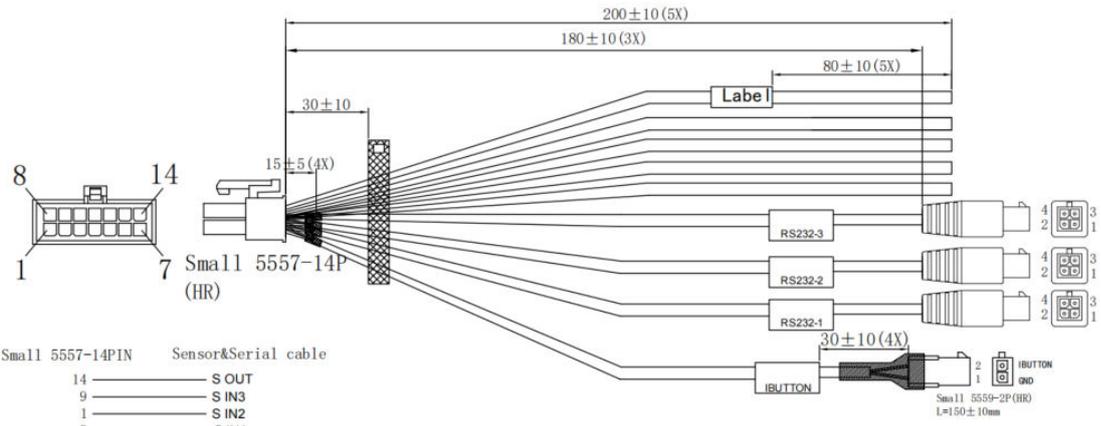
Small 5557-14PIN   Sensor&Serial cable

Small 5557-14PIN		
14	—	S OUT
9	—	S IN3
1	—	S IN2
8	—	S IN1
7	—	GND

Small 5557-14PIN   Small5559-4P(-1)

Small 5557-14PIN		Small 5559-4P(-1)		
7	—	4	GND	Black
232TX-1 4	—	3	232TX-1	Yellow
232RX-1 11	—	2	232RX-1	White
10	—	1	+12V	Red

Small 5557-14PIN   Small 5559-4P(-2)

Small 5557-14PIN		Small 5559-4P(-2)		
7	—	4	GND	Black
232TX-2 5	—	3	232TX-2	Yellow
232RX-2 12	—	2	232RX-2	White
10	—	1	+12V	Red

Small 5557-14PIN   Small 5559-4P(-3)

Small 5557-14PIN		Small 5559-4P(-3)		
7	—	4	GND	Black
232TX-3 6	—	3	232TX-3	Yellow
232RX-3 13	—	2	232RX-3	White
10	—	1	+12V	Red

Small 5557-14PIN   Small 5559-2P

Small 5557-14PIN		Small 5559-2P		
3	—	1	GND	Black
2	—	2	IBUTTON	Red

（2）OBD cable interface definition (standard OBD-II(16PIN), optional 9PIN round head)
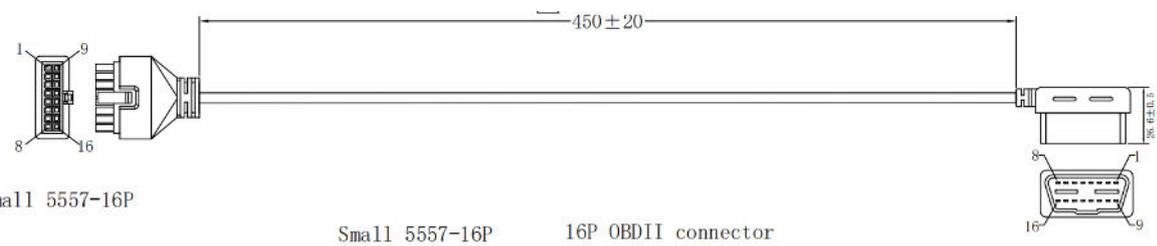
Small 5557-16P
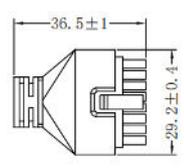
Small 5557-16P   16P OBDII connector

Small 5557-16P				
J1850 Bus+	1	Orange	2	
CAN1-H	2	Yellow	3	
CAN0-H	3	Blue	6	
L-LINE	4	Green	15	
J1708 Bus-	5	Brown	12	
GND	7+8	Black	4	24AWG ⚠
J1850 Bus-	9	Orange-White	10	
CAN1-L	10	White	11	
CAN0-L	11	Blue-White	14	
J1708 Bus+	12	Brown-White	13	
K-LINE	13	Green-White	7	
12/24V	15	Red	16	24AWG
GND	16	Black	5	24AWG

Optional 9PIN wire

450±15

(3A fuse)

50±10

100±10

Small 5557-16P

9PIN round head connector

36.5±1

29.2±0.4

Small 5557-16P | 9PIN round head connector

CAN1-H	2	White-Yellow	H
CAN0-H	3	Yellow	C 22AWG
J1708+	5	Brown	F
GND	7+8	Black	E
CAN1-L	10	Light Green	J
CAN0-L	11	Green	D 22AWG
J1708-	12	Brown-White	G
12/24V	15	Red	B
GND	16	Black	A

Optional wire

200±10(14X)

100±10(2X)

60±10(14X)

small 5557-16P(HR)

POWER
GND
CAN0-H
CAN0-L
GND
CAN1-H
CAN1-L
L-LINE
K-LINE
J1708+
J1708-
J1850+
J1850-
ACC

20±5(4X)

36.5±1

29.2±0.4

Small 5557-16P

J1850 BUS+	Orange	1		J1850+
CAN1-H	Yellow	2		CAN1-H
CAN0-H	Blue	3		CAN0-H
L-LINE	Green	4		L-LINE
J1708 BUS+	Brown	5		J1708+
GND	Black	8		GND
J1850 BUS-	Purple	9		J1850-
CAN1-L	White	10		CAN1-L
CAN0-L	Blue White	11		CAN0-L
J1708 BUS-	White Brown	12		J1708-
K-LINE	Green White	13		K-LINE
ACC	Orange	14	5A保险丝	ACC
POWER	Red	15	5A保险丝	POWER
GND	Black	16		GND

（3） Host connecting cable （AD Plus 2.0) and Video output.
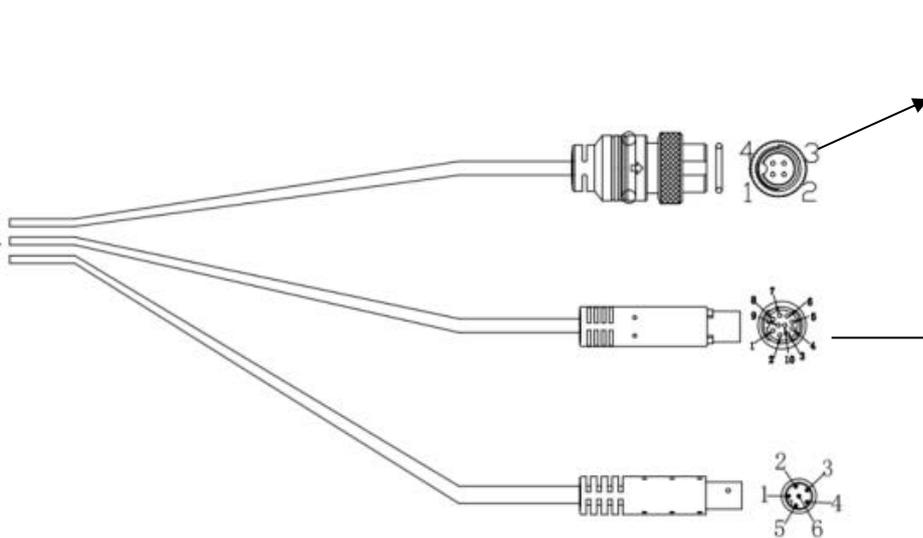
Interface definition
RS765-4 female（AVOUT）

8	4 VOUT	Transparent
6	2 GND	Transparent GND
+12V27		
4	3 AOUT	White

Interface definition
10PIN male connector

26	10 DC IN+	Red
28	10 DC IN+	Red-White
24	9 DC IN-	Black
10	9 DC IN-	Black-White
19	8 TX	White
17	7 RX	Orange
20	6 DTR	Blue
22	5 RI	Gray
12	4 3V3	Brown
18	3 CANH	Yellow
16	2 CANL	Green
15	1 ACC	Pink

Interface definition
6P male connector(LAN)

3	4 RX-	Green
5	5 RX+	Yellow
9	1 TX-	Orange
11	2 TX+	White
SR	6 GND	
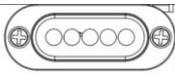
（4） Video input and IPC input.
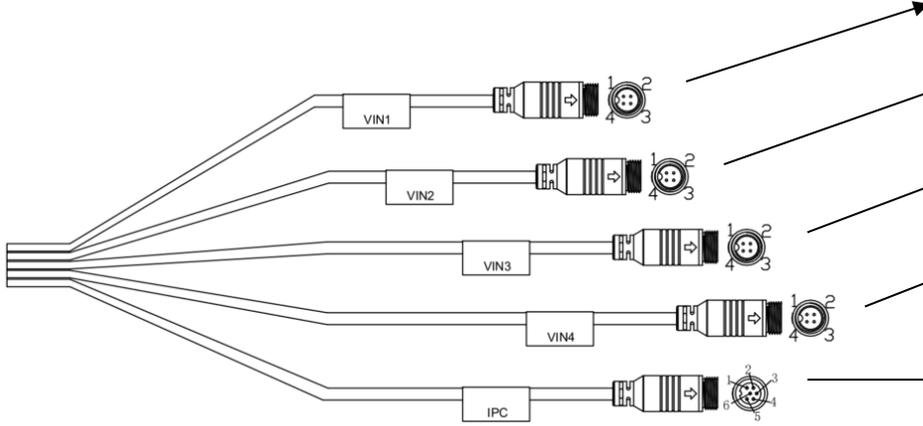
Interface definition
RS765-4 male（VIN1）

4	4 VIN1	Transparent
7	2 GND	Transparent GND
1	1 +12V	Red
2	2 GND	Black

RS765-4 male（VIN2）

8	4 VIN2	Transparent
19	2 GND	Transparent GND
1	1 +12V	Red
6	2 GND	Black

Interface definition
RS765-4 male（VIN3）

12	4 VIN3	Transparent
20	2 GND	Transparent GND
3	1 +12V	Red
10	2 GND	Black

RS765-4 male（VIN4）

16	4 VIN4	Transparent
18	2 GND	Transparent GND
3	1 +12V	Red
14	2 GND	Black

Interface definition
RS765-6 male （IPC）

11	4 RX-	Green
9	5 RX+	Yellow
17	1 TX-	Orange
15	2 TX+	White
5	3 +12V	Red
13	6 GND	Black

7. System connection diagram (Connecting AD Plus 2.0)

AD Plus 2.0

Power Box Max

Displayer

C29N

CA46 Side View Camera

CA46 Side View Camera

Rear View Camera

B3

B3

Video adapter cable

Video adapter cable

R-watch