Video inserter

HDV-MIB92 / HDA-MIB92

Interface reset
possible via external keypad!

Compatible with

VW vehicles with MIB2/MIB3 High
Discover Pro Infotainment and 9.2inch monitor

Seat vehicles with MIB2/MIB3 High
Media System Plus Infotainment and 9.2inch monitor

Skoda vehicles with MIB2/MIB3 High
Columbus infotainment and 9.2inch monitor

Beispiel/Example
MIB2 High Discover Pro

Product features

- **1 x CVBS/AHD input for rear-view camera**
- **1 x CVBS/AHD input for front camera**
- **2 x CVBS/AHD input for side cameras or additional after-market video-sources (e.g. USB devices, DVB-T2 tuner, etc.)**
- **All inputs NTSC and PAL compatible**
  Supported AHD resolutions 720p NTSC (30Hz)**, 720p PAL** (25Hz)**, 960p NTSC** (30Hz)**, 960p PAL** (25Hz)**, 1080p NTSC** (30Hz)**, 1080p PAL** (25Hz)
- **HDV-MIB92 only: 1 HDMI input for HD rear-view camera or other HDMI source (e.g. iOS/Android device, laptop, streaming stick, DVB-T2 tuner, etc.)**
  Supported HDMI resolutions (**720p NTSC** (60Hz)**, 720p PAL** (50Hz)**, 1080p NTSC** (60Hz)**, 1080p PAL** (50Hz))
- **HDV-MIB92 only: Analog audio output for the HDMI source**
- **Automatic switchover to rear-view camera input while reverse gear is engaged**
- **Automatic front camera shift after reverse gear is engaged for 5, 10, 15 or 20 seconds**
- **Adjustable guide lines (fixed or movable) can be activated for rear-view camera (movable guide lines not available for all vehicles)**
- **PDC graphics can be activated (not available for all vehicles)**
- **Free picture while driving (ONLY for fed-in video sources)**

Attention!
Video signal type of each video source must be preset in OSD-menu of corresponding video-input.

Table of contents

Legal notice

The driver must not be distracted directly or indirectly by moving pictures while driving. This is prohibited by law in most countries/states. We therefore exclude all liability for damage to property and personal injury caused directly or indirectly by the installation and operation of this product. This product is only intended for displaying stationary menus (e.g. MP3 menu of USB devices) or pictures from (rear-view) cameras while driving.

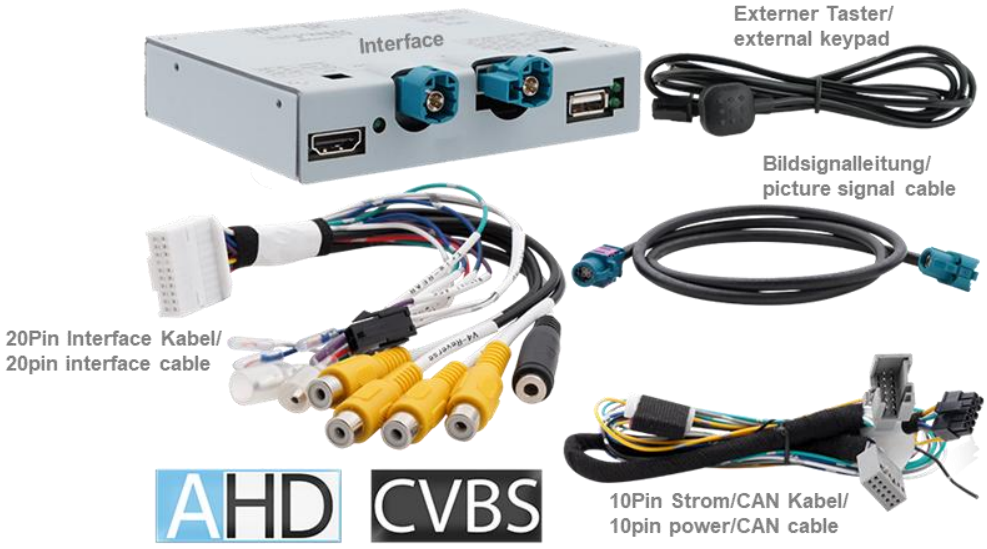
Changes/updates to the vehicle software may impair the functionality of the interface. Software updates for our interfaces are provided to customers free of charge for up to one year after purchase of the interface. The interface must be sent in free of charge for the update. Costs for installation and removal will not be reimbursed.

1 Before installation

These instructions must be read before installation. Specialist knowledge is required for installation. The installation location of the interface must not be near sources of moisture or heat.

Before final installation in the vehicle, we recommend a test run after connection to ensure that the vehicle and interface are compatible. Due to production-related changes made by the vehicle manufacturer, there is always the possibility of incompatibility.

1.1 Scope of delivery



Note the serial number of the interface and keep the instructions for support purposes: _____

1.2 Check interface compatibility with vehicle and accessories

Requirements

Manufacturer	Compatible vehicles	Compatible systems
Seat/Cupra	Arona (KJ7) from model year 2022 Ateca (KH7) from model year 2021 Ibiza (KJ) from model year 2022 Tarraco (KN2) from 12/2018	MIB2 High and MIB3 High - Media System Plus - DIN head unit with separate 9.2 inch monitor (9.2 inch only!)
Skoda	Fabia3 (NJ) from 06/2017 to 08/2021 Fabia4 (PJ) from 09/2021 Kamiq (NW4) from 06/2019 Karoq (NU7) from model year 2018 Kodiaq (NS7) from 03/2017 to 10/2023 Octavia3 (5E) from model year 2018 Scala (NW1) from 01/2019 Superb3 (3V) from model year 2018 to 11/2023	MIB2 High and MIB3 High - Columbus - DIN head unit with separate 9.2 inch monitor (only 9.2 inch!)
VW	Arteon (3H) from model year 2018 Golf7 (5Q) model year 2018-2019 Golf7 Sportsvan (AM1) model years 2018-2020 Passat (B8) from model year 2018 to 10/2023 Polo (AW1) from 06/2021 T-Roc (A11) from 01/2022 T-Cross (C1) from 07/2020 Taigo (CS) from 09/2021 Tiguan2 (AD1) from model year 2018 until 11/2023 Touran (5T) model years from 2018 Touareg3 (CR) from 07/2018 Transporter T6.1 (SH) from 10/2019	MIB2 High and MIB3 High- Discover Pro - DIN head unit with separate 9.2 inch monitor (only 9.2 inch!)

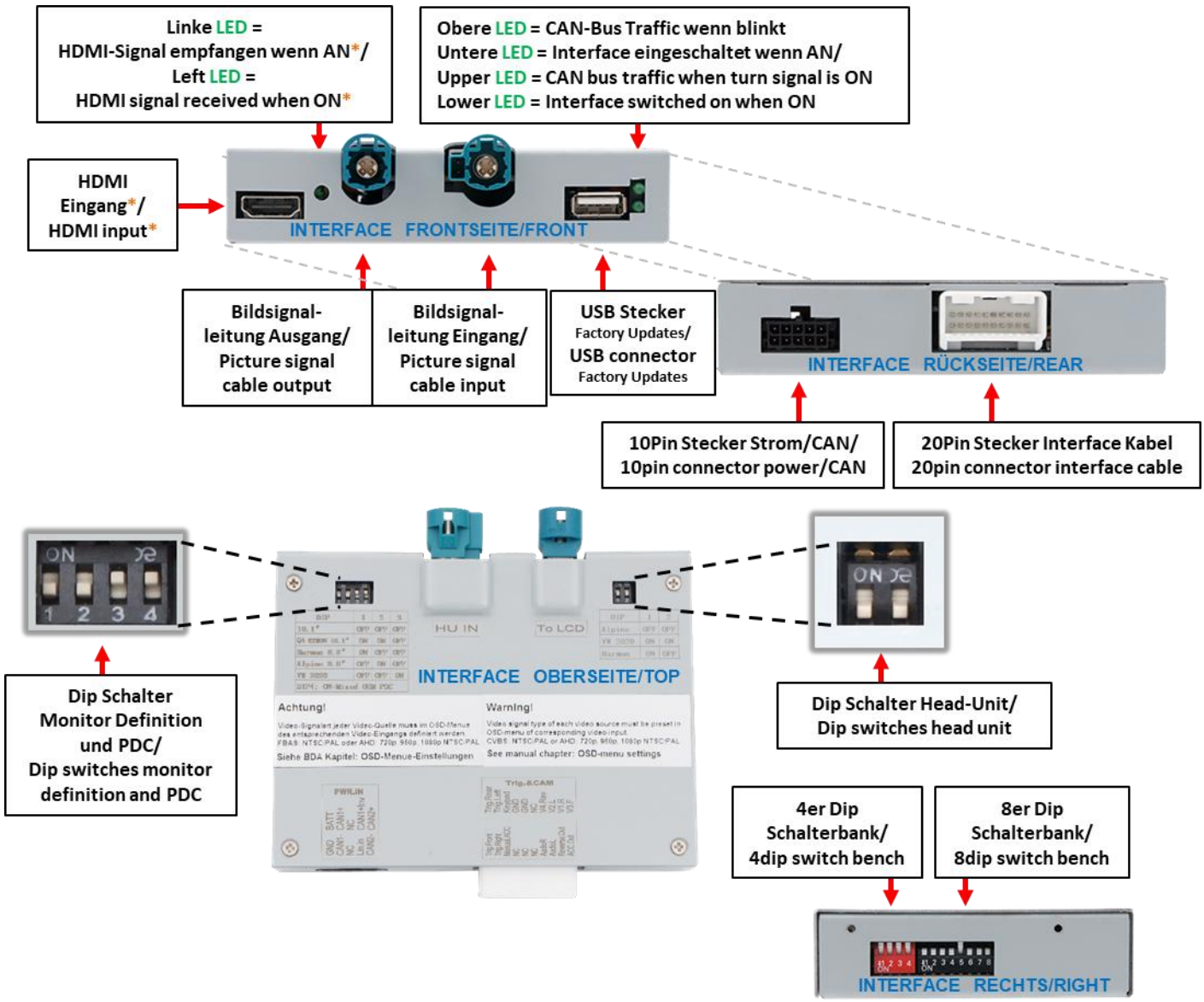
1.3 Limitations

Limitations

CAN bus compatibility	CAN-bus compatibility of interface may to some vehicles have no or limited compatibility. This can show on installation as well as later. Interface and all its video-inputs can be operated with analogue trigger signals, without connection to vehicle CAN-bus. In this case, individual additional functions are omitted, see chapter *2.4.2 Analog connection without CAN bus*
Video only	Interface **does not** insert **any audio signals.** In order to insert audio signals, any factory audio AUX input or optional products must be used (e.g. FM modulator). For an HDMI source that is fed in, audio is output via an analogue audio output (3.5mm jack socket).
Factory rear-view camera	Automatic switching to factory rear-view camera input only takes place while reverse gear is engaged. Optional accessories are required for different switching times.
After-market front camera	Switching to front camera takes place automatically after engaging reverse gear for 5, 10, 15 or 20 seconds (depending on the OSD menu setting). Manual switching to front camera is also possible via the external keypad.
Guide lines for rear-view camera and PDC	If the vehicle CAN bus is not fully compatible with the interface or if the connection is analogue, the movable guide lines and optical PDC display function cannot be used .
Vehicles with Trailer Assist	In vehicles with Trailer Assist, this function is not compatible, i.e. the assistant can no longer be used when the interface is installed.

1.4 Boxes and connections - Interface

The video interface converts video signals from after-market sources into a video signal compatible with the factory head unit. This is inserted into the factory monitor via various switching options. It also reads digital signals from the vehicle CAN bus and converts them for its own functions.



*** HDMI input only available with HDV-MIB92**

1.5 Settings - 8 dip switch bench (interface functions)

Interface box, right side, black

Dip position **UP = OFF** and **DOWN = ON**

Dip	Function	ON (down)	OFF (up)
1	Video 1 / V1-Left	activated	deactivated
2	Video 2 / V2-Right	activated	deactivated
3	Front camera / V3 front	activated*	deactivated
4	Type of rear-view camera (V4 reverse))	After-Market	Plant or none
5	Connection type of the After-market rear-view camera**	**HDMI****	V4 Reverse (CVBS/AHD)
6	HDMI **input****	activated	deactivated
7	No function	-	Set to OFF
8	No function	-	Set to OFF

Power reset interface after each dip change to activate changes!

* Switching to front camera takes place automatically for 5, 10, 15 or 20 seconds (depending on the OSD menu setting) after shifting into reverse gear.

** With **HDA-MIB92**, dip 5 and dip 6 have no function. Set to **OFF**.

See following chapters for detailed information about 8dip switch bench.

1.5.1 Interface video inputs "V1-Left" and "V2 Right" (Dip 1-2)

With Dip 1 (Dip 2) = **ON**, the CVBS/AHD input **V1-Left** (**V2 Right**) is activated for side camera or other video sources. Only activated video inputs can be accessed - both with automatic and manual switching. It is recommended to activate only used inputs, to avoid accidental switching.

1.5.2 Front camera input "V3-Front" (Dip 3)

If Dip 3 = **ON**, the interface switches to the CVBS/AHD front camera input V3-Front after the reverse gear is engaged. In addition, manual switching to the front camera input is possible from any picture mode using an external keypad (short press).
In the OSD menu settings, the automatic display time of the front camera can be selected between 5; 10; 15 or 20 seconds or switched off. Another video source could then also be connected to instead of a front camera.

1.5.3 Rear-view camera settings (dip 4)

If Dip 4 = **OFF**, the interface switches to the factory image for the existing factory rear-view camera or factory PDC display as long as reverse gear is engaged.
If Dip 4 = **ON**, the interface switches to its CVBS/AHD rear-view camera input **V4-Reverse** (provided Dip 5 is set to OFF) or the **HDMI input*** (provided Dip 5 and Dip 6 are set to **ON**) when reverse gear is engaged.

Note: **V4 reverse** remains without function when dip 5 = ON, using an HDMI camera.

1.5.4 Connection type of the rear-view camera (Dip 5)

Dip 5 = **ON** selects the **HDMI input*** as the rear-view camera input. In addition, the **HDMI input*** must be activated with dip 6 = **ON**.
With dip 5 = **OFF**, the V4 **-Reverse** input is selected as the rear-view camera input.

Note: The automatic switchover to front camera for the preset time is given in both cases after engaging while reverse gear is engaged.

1.5.5 HDMI input (Dip 6)

With dip 6 = **ON**, the **HDMI input*** is activated and can be used for various HDMI sources (e.g. rear-view camera or 360° camera system, smartphone, laptop, streaming stick, DVB-T2 tuner, etc.) . Dip 5 = **ON** must also be set for rear-view camera/360° camera system.
With Dip 6 = **OFF**, the **HDMI input*** is deactivated.

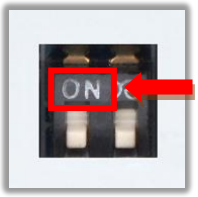
Note: Dip 7 and 8 have no function and must be set to **OFF**!

*** HDMI input only available with HDV-MIB92**

Power reset interface after each dip change to activate changes!

1.6 Settings - 2 dip switch bench (head unit)

Interface box, top side, black



Attention: In contrast to the other switch benches (8 and 4 on the side), the dip position on the top of the 2 switch bench is UP = ON and DOWN = OFF!

Allocation of the 4-pin HSD assignment according to the manufacturer of the head unit/monitor size	Dip 1	Dip 2
Manufacturer LG / Harman / Preh Car Connect / Joynext	ON ↑	ON↑
Manufacturer Alpine	OFF ↓	OFF ↓

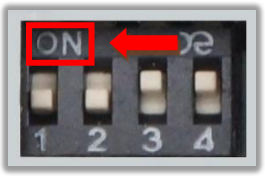
Attention!
Flip the dip switches very carefully with micro tool.

Power reset interface after each dip change to activate changes!

If the factory image is displayed when the interface is installed and the power LED is lit, the 2 dips do not need to be changed!

1.7 Settings - 4 dip switch bench (PDC)

Interface box, top side, black



Attention: In contrast to the other switch banks (8 and 4 on the side) the dip position UP = ON and DOWN = OFF!

PDC function	Dip 1	Dip 2	Dip 3	Dip 4
PDC deactivated	OFF ↓	OFF ↓	OFF ↓	OFF ↓
PDC activated*	OFF ↓	OFF ↓	OFF ↓	ON ↑

Attention!
Flip the dip switches very carefully with micro tool.

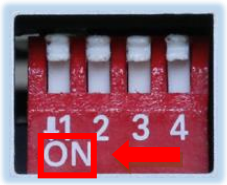
Power reset interface after each dip change to activate changes!

If there are picture problems with the factory picture and/or the fed-in picture or other malfunctions, press the external keypad for 10 seconds to reset the interface.

* If Dip 4 is set to ON, the PDC display is shown as a "picture in picture" in conjunction with the camera image.

Note: If the video interface does not receive the required information from the vehicle CAN bus, the optical PDC display cannot be used.

1.8 Settings - 4 dip switch bench (CAN bus)



Interface box, right side, red

Set the DIP switch positions according to the following table.
Dip position UP = OFF and DOWN = ON

Selection of the manufacturer-specific image signal type	Dip 1	Dip 2	Dip 3	Dip 4
All vehicles	ON ↑	OFF ↓	OFF ↓	OFF ↓

Power reset interface after each dip change to activate changes!

2 Installation

Switch off the ignition and disconnect the vehicle battery according to the factory specifications!
If the vehicle battery must not be disconnected according to the factory specifications, in most cases it is sufficient to put the vehicle into sleep mode. If this does not work, disconnect the vehicle battery with a resistor cable.

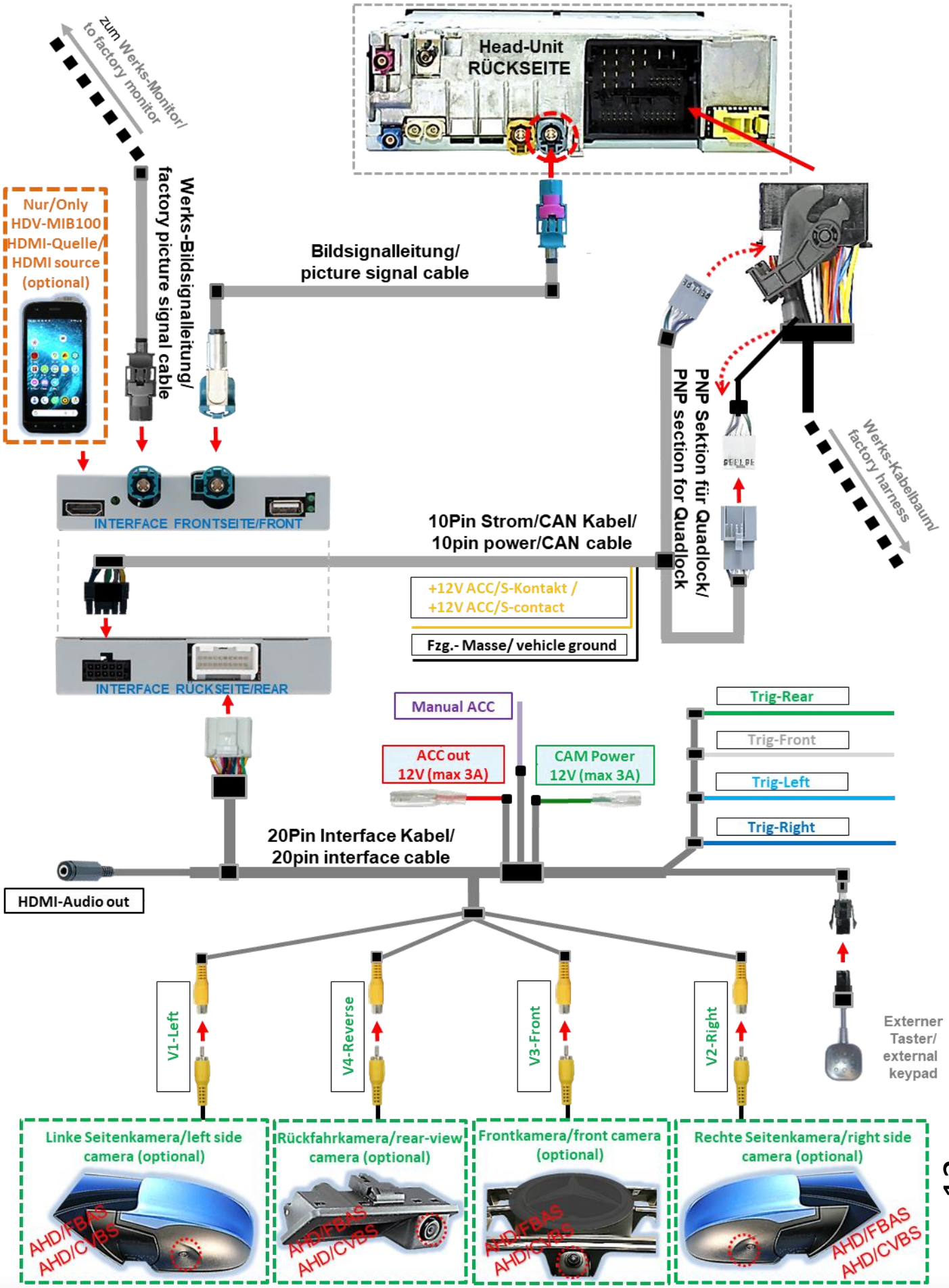
Before final installation, we recommend a test run of the interface with all connected devices to ensure that all parts are compatible. Due to possible changes in the vehicle manufacturer's production at any time, incompatibility can never be ruled out.

As with every installation of retrofit devices, a quiescent current test of all retrofitted devices must be carried out after installation to ensure that the devices are switched off to standby mode in vehicle sleep mode.

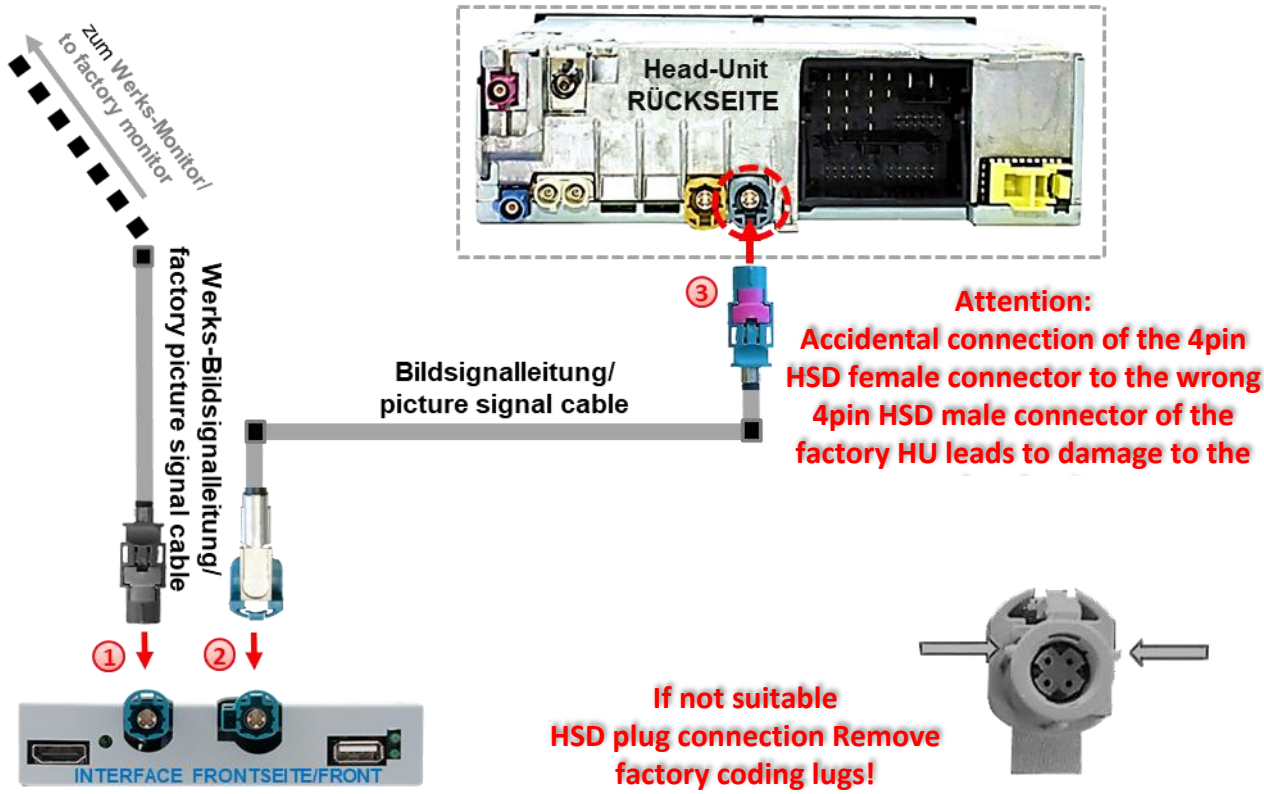
2.1 Place of connection

The video interface is connected to the rear of the head unit.

2.2 Connection schema



2.3 Connection - picture signal cable



Remove the head unit.

1. Disconnect the gray or pink HSD connector (colors may vary) of the factory picture signal cable on the back of the head unit and connect it to the water-blue HSD connector "**TO LCD**" of the interface.
2. Connect the water-blue angled HSD female connector of the picture signal cable to the water-blue HSD+2 male connector "**HU IN**" of the interface.
3. Connect the water blue non-angled HSD connector of the picture signal cable to the gray or pink HSD connector (colors may vary) of the head unit.

Note: Depending on the installation conditions, the picture signal cable supplied may also be installed in a twisted position with regard to its HSD connectors. However, it may only be connected to the head unit!

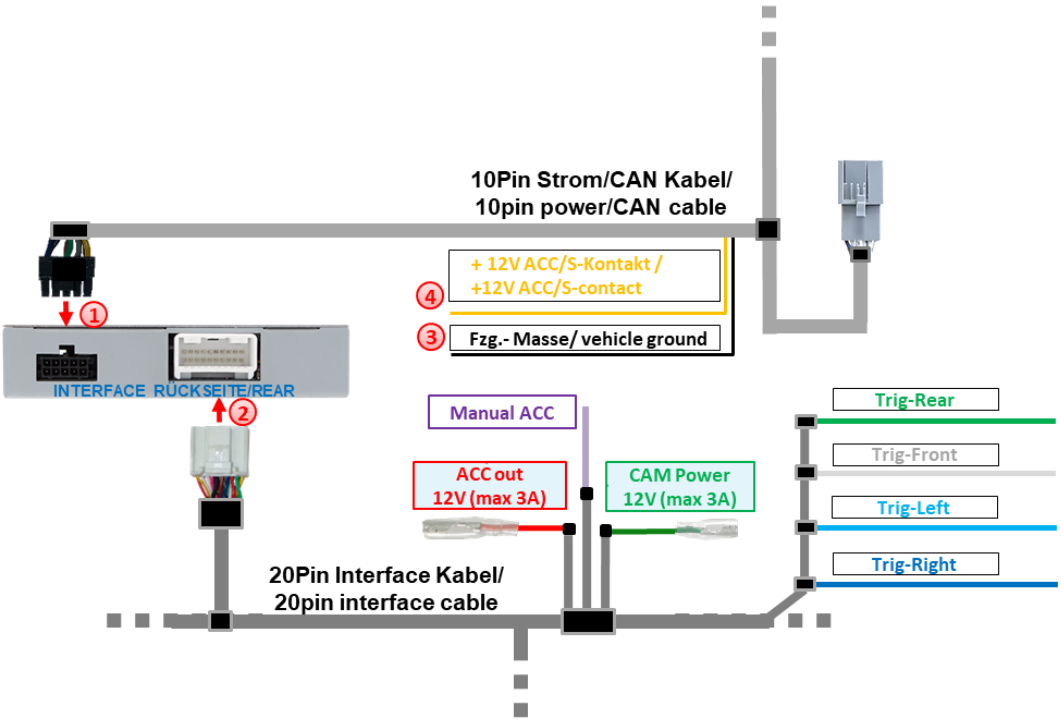
2.4 Connection - cable sets, power supply and CAN bus or analog without CAN bus

The interface can be integrated via CAN bus as well as operated completely logically without connection to the CAN bus.
When integrated via CAN bus, the interface is switched on via the CAN bus and R-gear signal and turn signals are usually recognized from this. In some vehicles, movable guide lines can also be displayed using the CAN bus steering signals.

In exceptional cases, CAN communication is not (fully) compatible. If no interface LED lights up after connecting the 10-pin power/CAN cable set when the ignition is switched on, the analog connection described below must be made. The analog connection is also possible to avoid a possible subsequent CAN bus incompatibility. The interface must be both switched on and switched to its inputs via +12V switching inputs.

The display of movable guide lines for rear-view camera is omitted with analog connection.

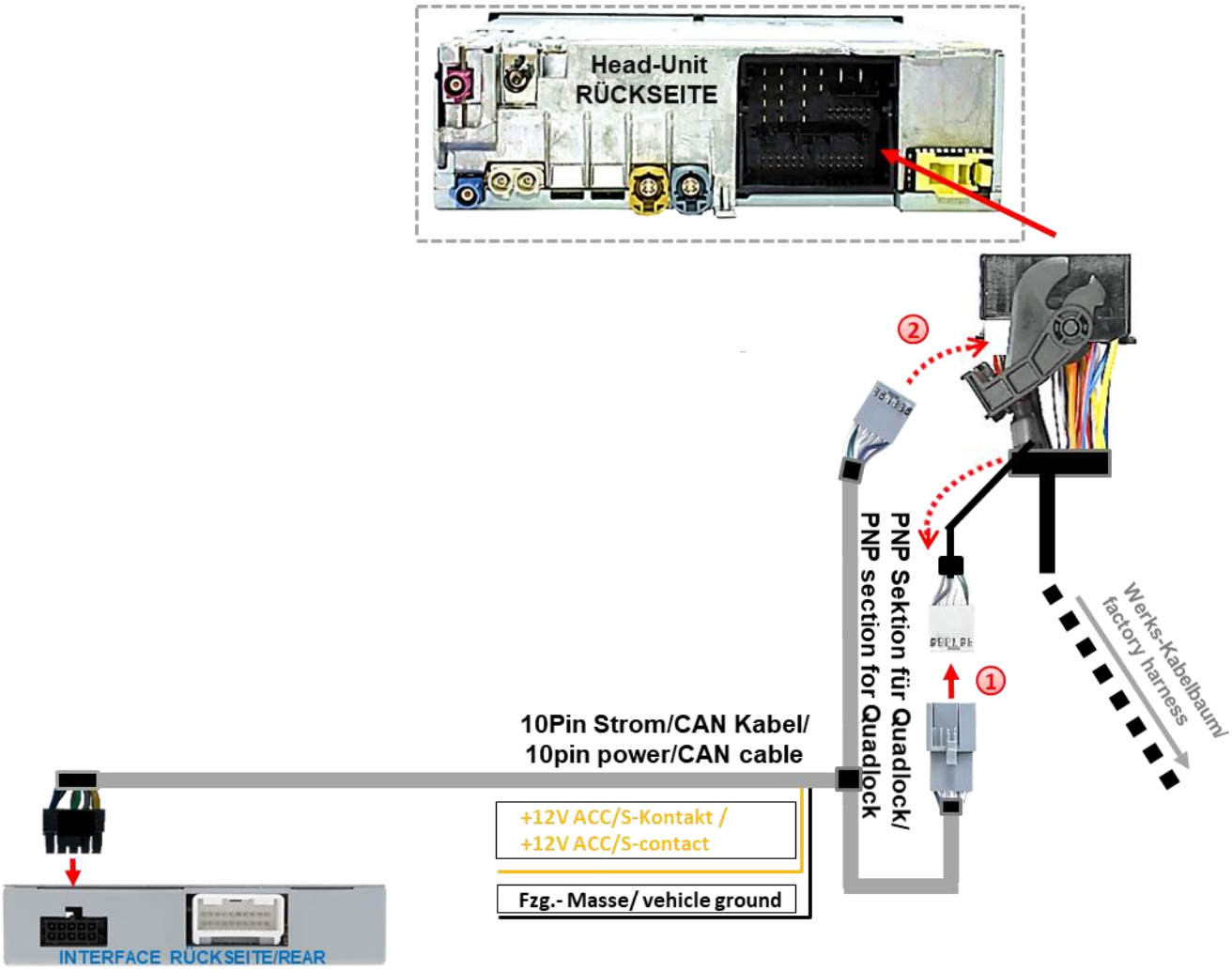
Regardless of whether the connection is made with CAN bus or analog without CAN bus, the **black Ground wire** and the yellow +12V ACC/S contact wire of the 10-pin power/CAN cable must always be connected.



1. Connect the 10-pin female connector of the 10-pin power/CAN cable to the 10-pin male connector of the interface.
2. Connect the 20-pin female connector of the 20-pin interface cable to the 20-pin male connector of the interface.
3. Connect **the black ground wire** of the 10-pin power/CAN cable to vehicle ground.
4. Connect the yellow +12V ACC/S-contact wire of the 10-pin power/CAN cable to **+12V ACC (terminal 15r) or S-contact (terminal 86s)** of the vehicle.

Note: A connection to +12V battery (terminal 30) is also technically possible. However, it cannot be ruled out that the interface will not switch off in sleep mode in the event of (partial) CAN bus incompatibility or a defect. Connection to +12V battery (terminal 30) is at your own risk!

2.4.1 Connection with CAN bus



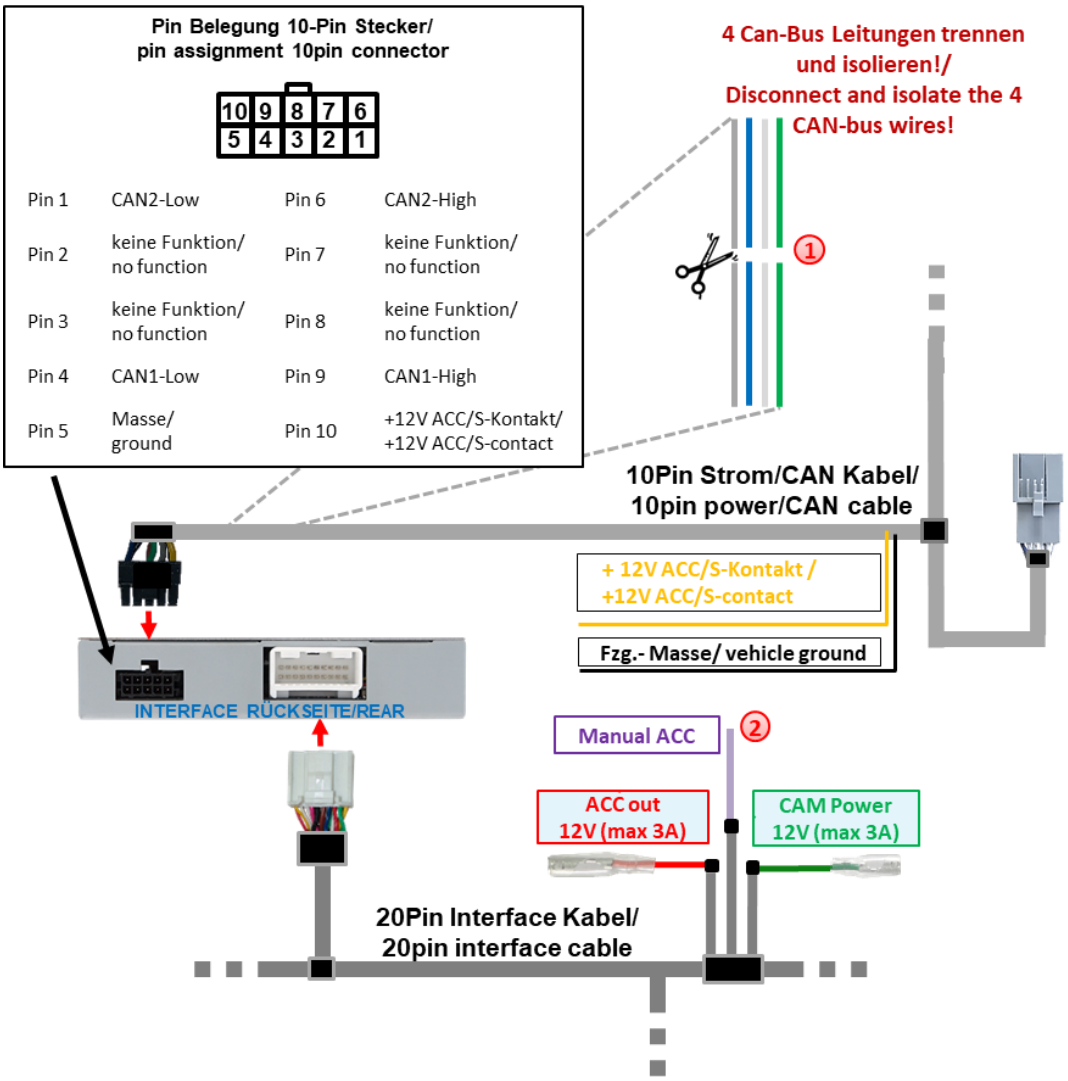
1. Disconnect the female Quadlock connector of the vehicle wiring harness at the rear of the head unit and connect the 12-pin female connector previously unclipped from it to the gray 12-pin male connector of the **10-pin power/CAN cable**.
2. Clip the gray 12-pin female connector of the **10-pin power/CAN cable** into the previously vacated position of the female Quadlock connector.

   Then reconnect the female Quadlock connector on the back of the head unit.

Attention!
In exceptional cases, CAN communication is not (fully) compatible. If, after connecting the 10-pin power/CAN cable with the ignition switched on, no interface LED lights up, the analogue connection described below must be made.

2.4.2 Analog connection without CAN bus

With analogue connection, the four CAN wires of the 10-pin power/CAN cable are not connected - the four wires of the 10-pin power/CAN cable must be disconnected for this!



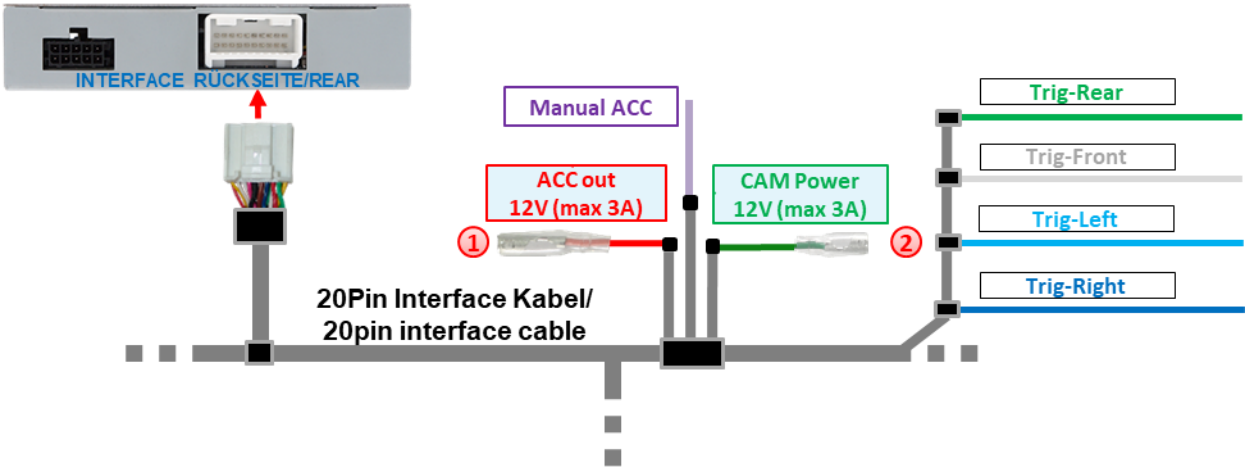
1. Disconnect and insulate the 4 CAN bus wires (**gray**, **blue**, white **and** **green**) of the 10-pin power/CAN cable approx. 4-5 cm behind the black male connector.
2. Connect the violet wire **Manual ACC** of the 20-pin interface cable to the **+12V S contact (terminal 86s) or ACC terminal 15r** (e.g. cigarette lighter, glove compartment lighting).

Notes

- The screen is only switched on as long as the video interface is switched on via +12V on **Manual ACC**. Otherwise, the factory picture is also black.
  When selecting the switch-on signal, you must check whether the factory picture is available in all desired operating states.
- The display of movable guide lines for rear-view camera is omitted with analog connection.
- If the interface is connected analog (without CAN bus), the rear-view camera and side cameras must also be connected via an analog signal. See points:
  2.6.2 Case 2: Reverse gear signal from analog signal
  2.8.2 Case 2: Turn signals from analog signal

2.5 Power supply outputs

The two **red** and **green** power supply lines **ACC out 12V (max 3A)** and **CAM Power 12V (max 3A)** of the **20-pin interface cable** can either be used as ACC power supply for the exter**nal video sources** connected to V1-Left, **V2-Right**, **V3-Front** or **HDMI** input * (e.g. iOS/Andr**oid devices, laptop, st**reaming stick, DVB-T2 **tuner),** or **as power supply for the external video sources connected to V1-Left, V2-Right,** V3-Front or HDMI input * . iOS/Android devices, laptop, streaming stick, DVB-T2 tuner), or as a power supply for the **after-market cameras** (e.g. side, front and rear-view cameras) connected to **the V1-Left**, **V2-Right**, **V3-Front**, **V4-Reverse** or **HDMI input***.

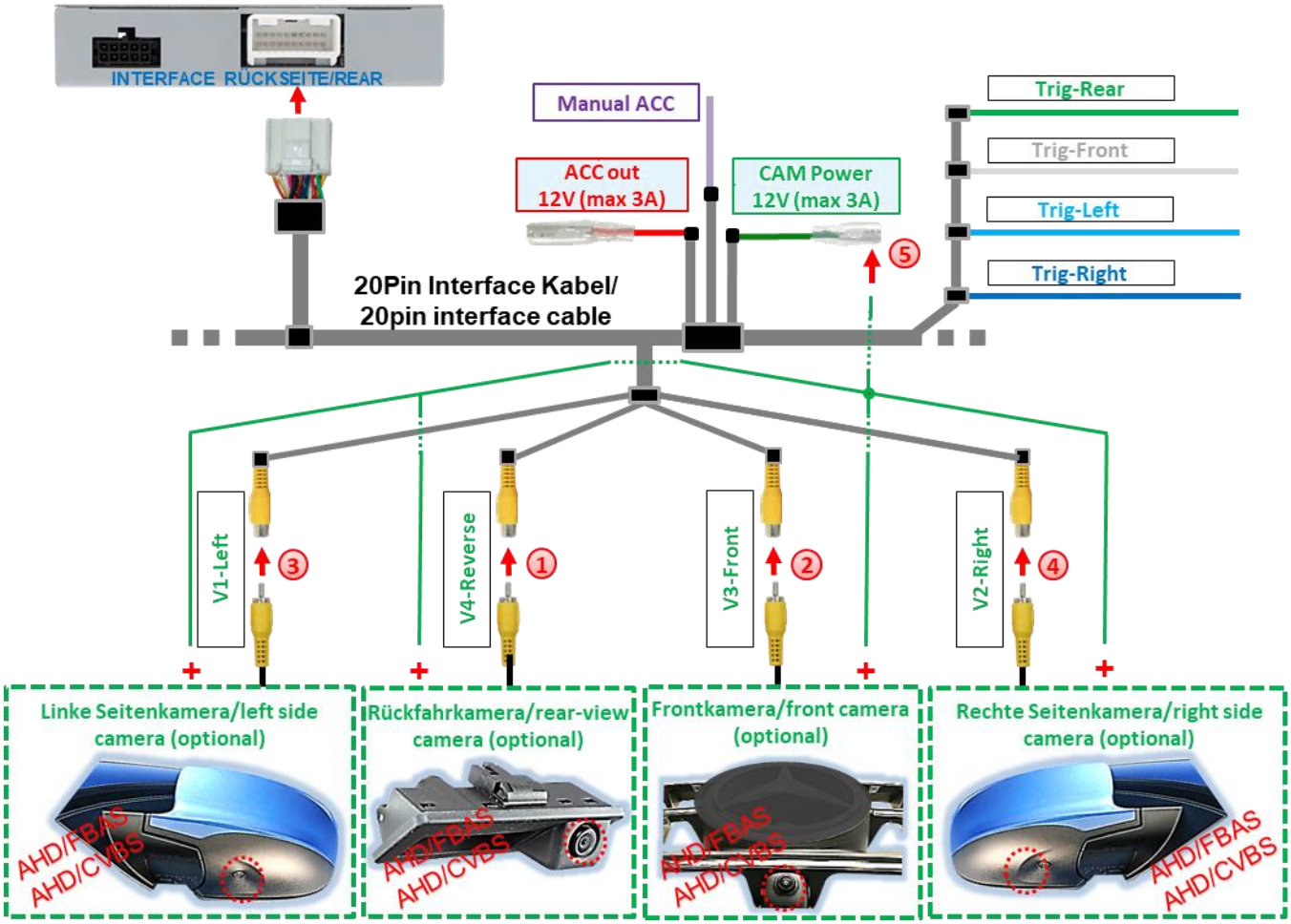


1 The power supply for **external video sources** (no cameras) can be provided via the red **ACC out 12V (max 3A)** power supply line of the **20-pin interface cable**.
The wire carries **a permanent** +12V ACC switching output current while the interface is switched on *(see the following chapter for connection diagrams)*.

2 The power supply for **after-market cameras** (e.g. rear-view, side and front cameras) can be **provided** via the green **CAM Power 12V (max 3A)** power supply line of the **20-pin interface cable**. The wire carries **+12V switching output current** only as long as one of the camera inputs is displayed, regardless of whether the connection is made via the vehicle CAN bus or via one of the trigger wires *(see the following chapter for connection diagrams)*.

*** HDMI input only available with HDV-MIB92**

2.5.1 Connection and power supply - Video sources
Rear-view camera, front camera and 2 side cameras

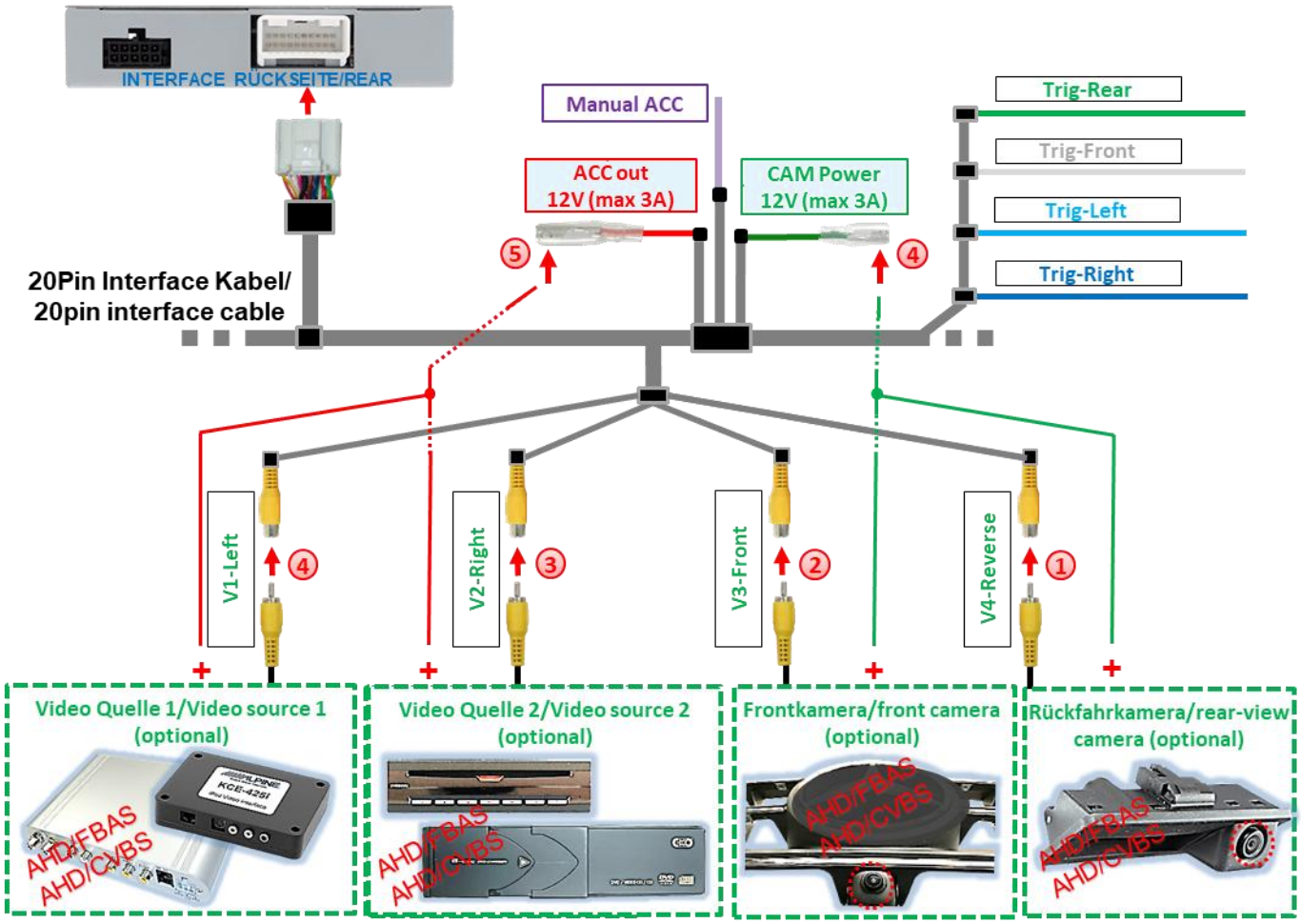


1. Connect the RCA connector of the rear-view camera to the **V4 reverse** female connector of the **20-pin interface cable.**
2. Connect the RCA male connector of the front camera to the RCA **V3 front** female connector of the **20-pin interface cable.**
3. Connect the RCA male connector of the left side camera to the RCA female connector **V1-Left** of the **20-pin interface cable.**
4. Connect the RCA male connector of the right side camera to the RCA female connector **V2-Right** of the **20-pin interface cable.**
5. Connect the power supply for all after-market cameras to the **green wire CAM Power 12V (max 3A)** of the **20-pin interface cable**.

Note: The type of camera selection (via vehicle CAN bus or trigger lines) can be preset individually for each input in the OSD menu settings.

Attention!
Video signal type of each video source must be preset in OSD-menu of corresponding video-input.

2.5.2 Connection and power supply - video sources
Rear-view camera, front camera and 2 video sources



1. Connect the RCA connector of the rear-view camera to the RCA socket V4-Reverse of the 20-pin interface cable .
2. Connect the RCA male connector of the front camera to the RCA female connector V3-Front of the 20-pin interface cable.
3. Connect the male connectors of video sources 1 and 2 to the RCA connectors V1-Left and V2-Right of the 20-pin interface cable.
4. Connect the power supply for after-market cameras to the **green wire CAM Power 12V (max 3A)** of the 20-pin interface cable.
5. Connect the power supply for video sources to the **red wire ACC out 12V (max 3A)** of the 20pin interface cable.

Note: The type of camera selection (via vehicle CAN bus or trigger lines) can be preset individually for each input in the OSD menu settings.

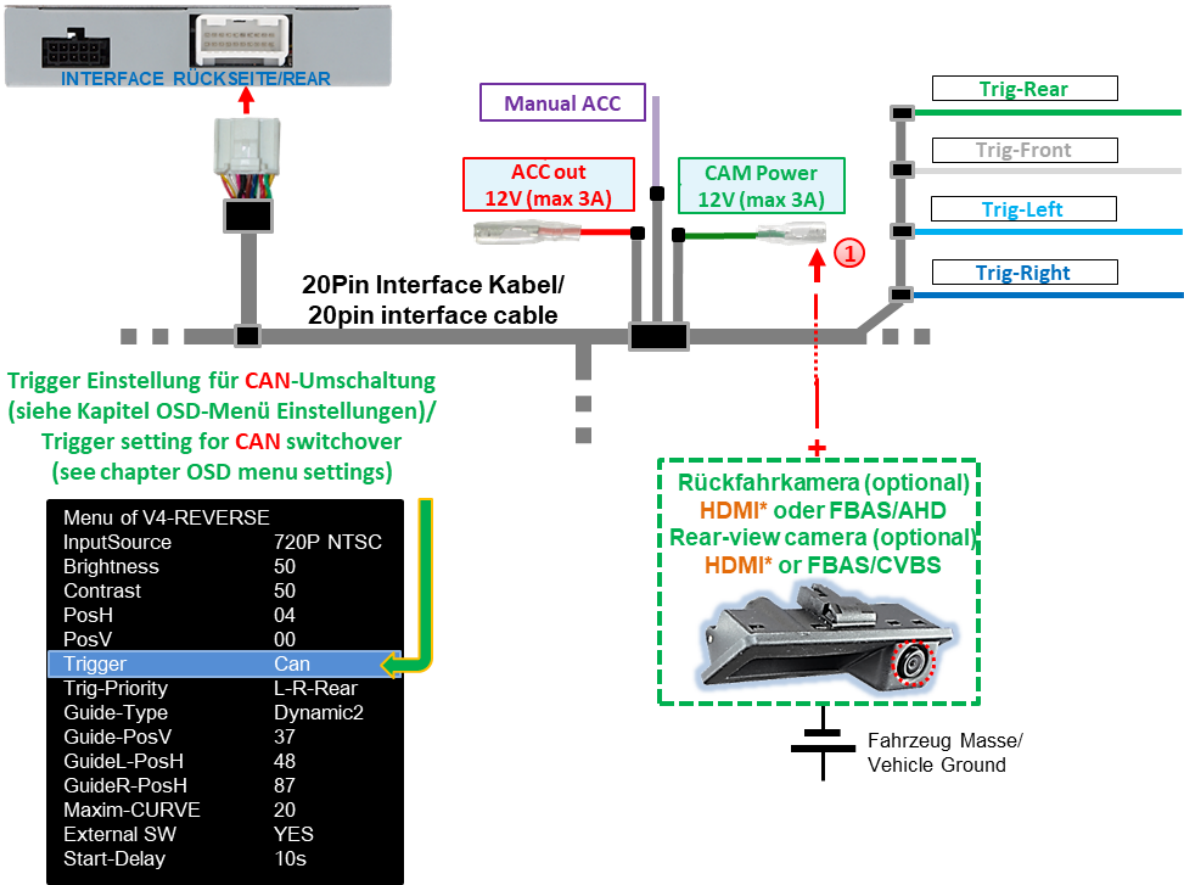
Attention!
Video signal type of each video source must be preset in OSD-menu of corresponding video-input.

2.6 After-market rear-view camera

Automatic switching to rear-view camera can be carried out via the CAN bus or an analogue reverse gear signal.

2.6.1 Case 1: Reverse gear signal from CAN bus

The basic requirement is that the interface is connected via CAN bus. Furthermore, the vehicle CAN bus reverse gear signal and detection by the interface must be compatible. Then the interface supplies +12V on the **green wire CAM Power 12V (max 3A)** of the **20-pin interface cable** while reverse gear is engaged and the interface automatically switches to the rear-view camera input V4-Reverse or the **HDMI- input** *.
See also chapter 1.5Settings - 8 dip switch bench (interface functions)



1 The +12V power supply for the after-market rear-view camera can be provided via the **green wire CAM Power 12V (max 3A)** of the **20-pin interface cable**, as this wire only carries current while the camera inputs are switched on (some cameras are not continuously current-stable).

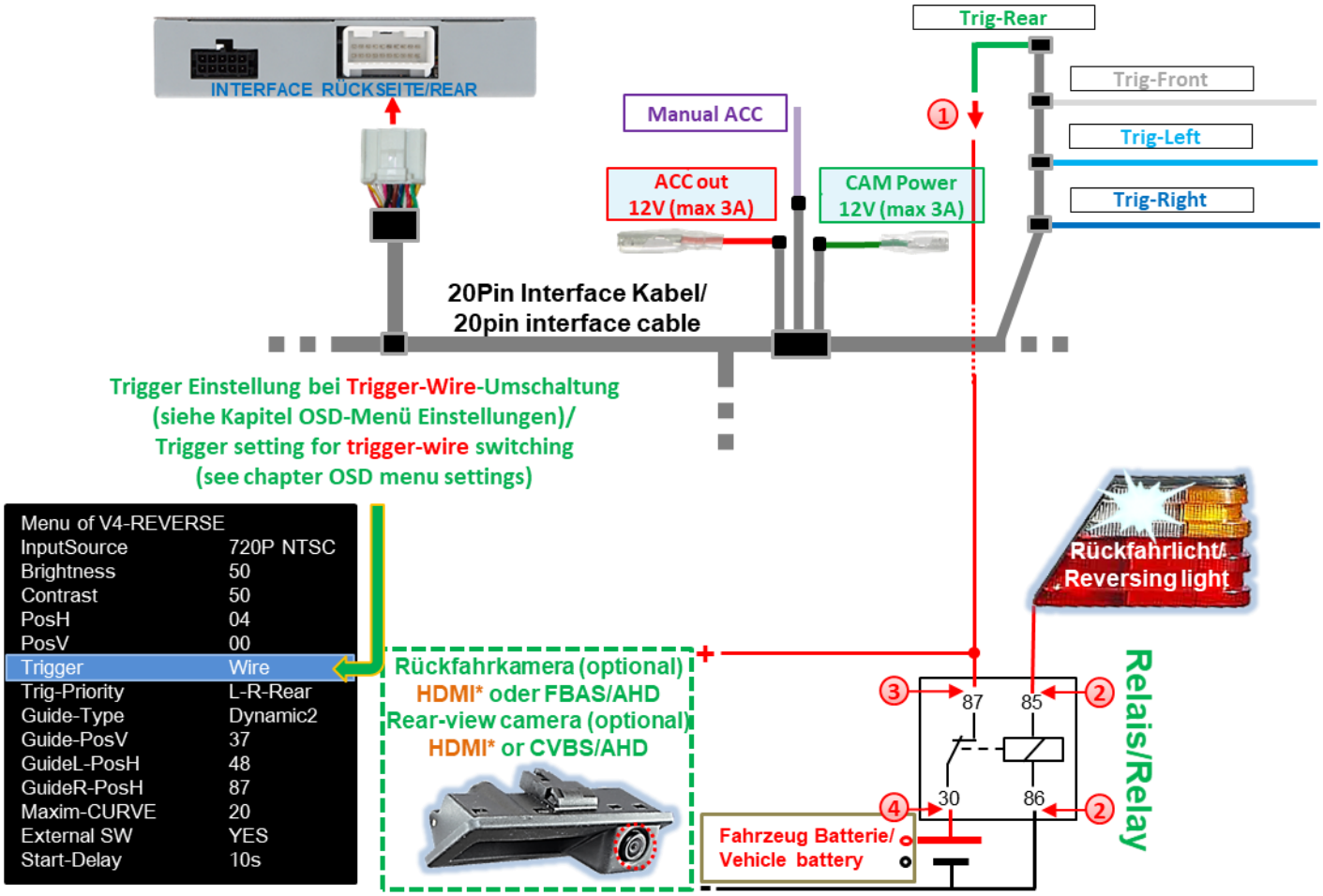
Notes

- If the **HDMI input*** is defined as the rear-view camera input, the **V4 reverse** input has no function!
- If the reverse gear detection of the interface on the CAN bus does not work , the reverse gear signal must be connected analog.

*** HDMI input only available with HDV-MIB92**

2.6.2 Case 2: Reverse gear signal from analog signal

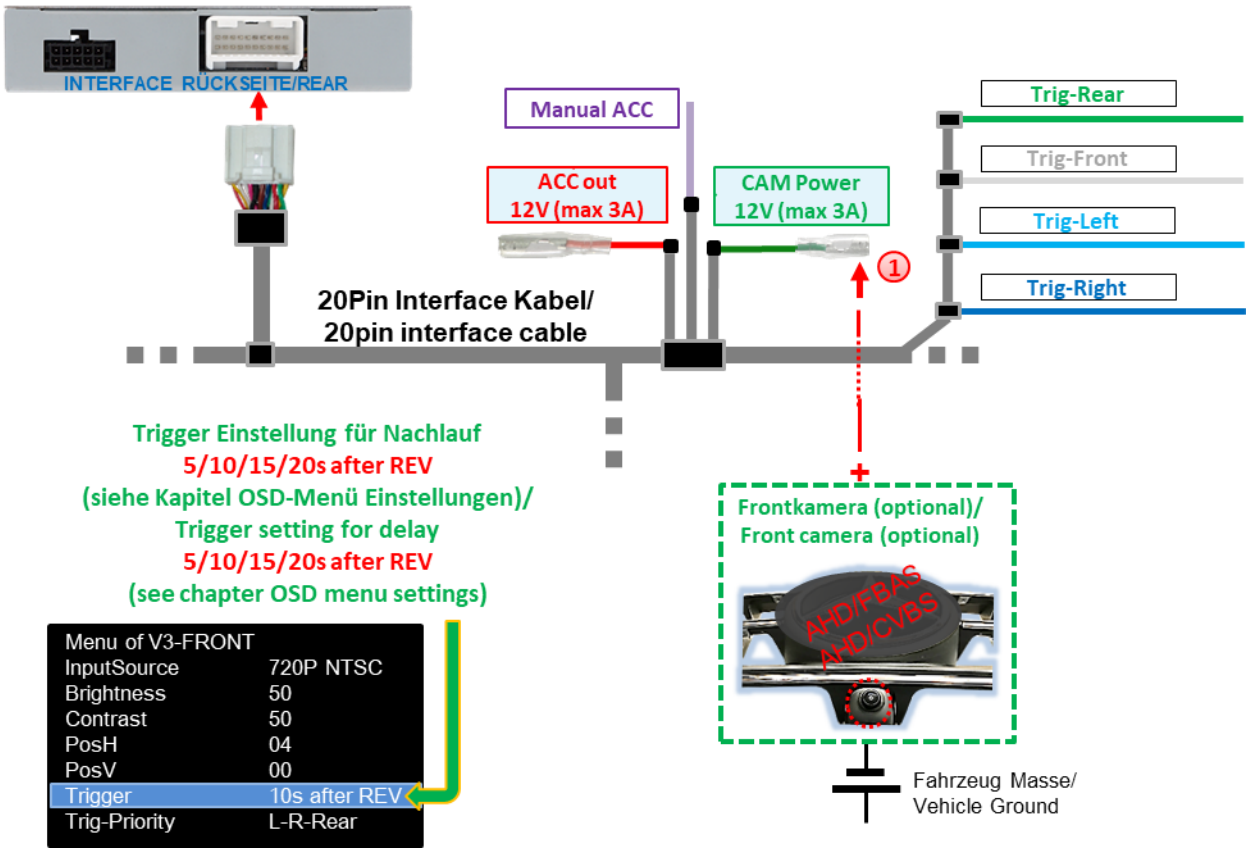
If the interface is connected without CAN bus or if the interface does not supply +12V on the **green wire CAM Power 12V (max 3A)** of the **20-pin interface cable** when connected with CAN bus while reverse gear is engaged (not all vehicles are compatible), an external switching signal from the reversing light is required. As the reversing signal contains electronic interference, a normally open relay (e.g. AC-MR-312 or AC-MR-201) or a noise filter (e.g. AC-PNF-RVC) is required. The following diagram shows the use of a normally open relay.



1. Connect **the green wire Trig-REAR** to the output terminal (87) of the relay.
2. Connect the reversing light power cable to the switching coil terminal (85) and vehicle Ground to the switching coil terminal (86) of the relay.
3. Connect the rear-view camera power supply wire to the output terminal (87) of the relay, in addition to the **green Trig-REAR wire.**
4. Connect continuous current +12V to the input terminal (30) of the relay.

*** HDMI input only available with HDV-MIB92**

2.7 After-market front camera



1 To power the front camera (and all other cameras connected to the video inputs), the **green CAM Power 12V (max 3A) wire** can be used. This is only current-carrying for the duration of any camera activation (some cameras are not continuously current-stable). Requirements are that dip 3 = **ON** (black 8 dip switch bench). The **green wire** then carries +12V (max. 3A) as power supply for the front camera as long as the front camera input is displayed.
The delay time can be individually selected for **5**, **10**, **15** or **20** seconds in the OSD menu settings of the front camera.

Switching to front camera after reverse gear has been engaged for the time set in the OSD menu takes place with reverse gear signal from CAN bus and with analog connection.

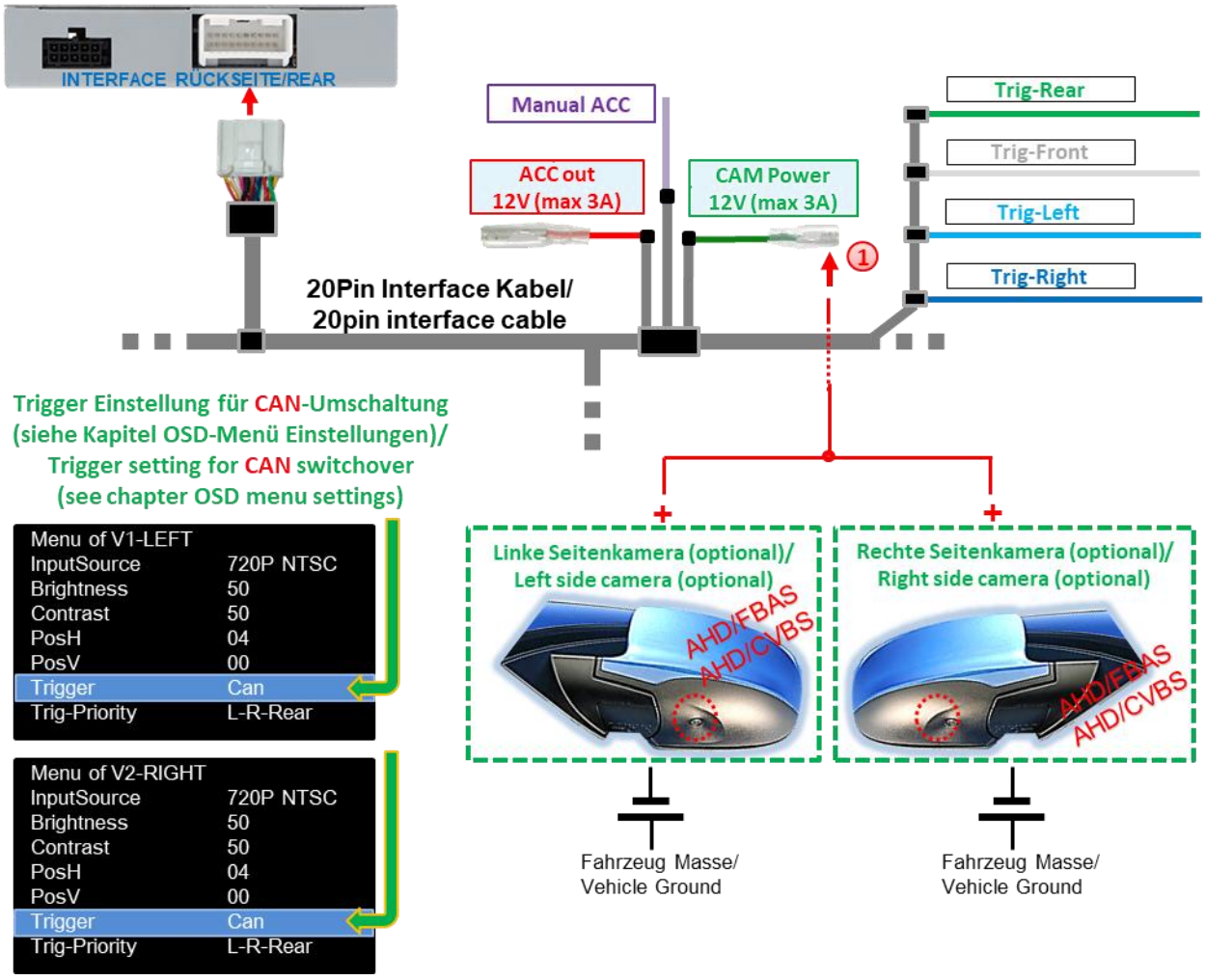
Note: In addition, manual switching to front camera input (short press) is possible from any picture mode using an external keypad (see chapter *3 Operating the video interface*).

2.8 After-market side cameras

Side cameras can be connected with selection via CAN bus or an analog signal.

2.8.1 Case 1: Turn signals from CAN bus

The basic requirement is that the interface is connected via CAN bus. Furthermore, vehicle CAN bus turn signals and their recognition by the interface must be compatible. Then +12V is present on the **green CAM Power 12V wire (max 3A)** of the **20-pin interface cable** for the duration of turn signal operations.

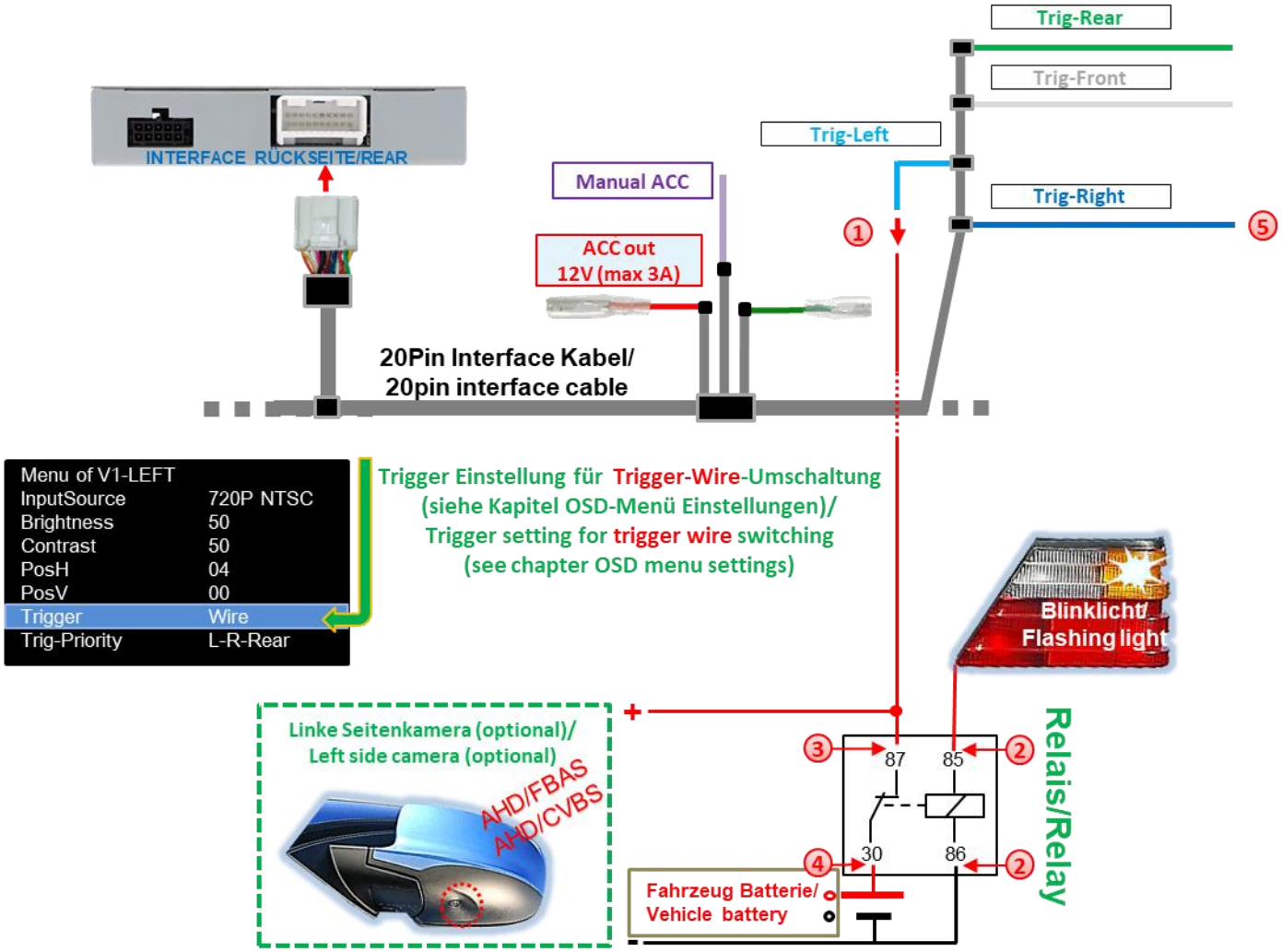


1 The power supply for the side cameras can be supplied via the **green CAM Power 12V wire (max 3A)** of the **20-pin interface cable**, as this wire only carries current during camera activations (some cameras are not continuously current-stable).

Note: If the turn signal detection of the interface on the vehicle CAN bus does not work, the turn signals must be connected analogue.

2.8.2 Case 2: Turn signals from analog signal

If the interface is connected without CAN bus or if the turn signals from the vehicle CAN bus are not recognized when the interface is connected with CAN bus, analogue activation of the side camera inputs is possible via the +12V switching input lines **Trig-Left** and **Trig-Right**. An external switching signal from the turn signal bulbs is required to switch to the side camera inputs. As turn signals may contain electronic interference, a normally open relay (e.g. AC-RW-1230 with AC-RS5 wiring) or a noise filter (e.g. AC-PNF-RVC) is required for each input. The diagram below shows the use of a normally open relay.



1. Connect the **light blue wire Trig-Left** to the output terminal (87) of the relay.
2. Connect the indicator power cable of the left indicator to the switching coil terminal (85) of the relay and the vehicle Ground to the switching coil terminal (86) of the relay.
3. Connect the left side camera power cable to the output terminal (87) of the relay, in addition to the **light blue Trig-Left** wire.
4. Connect continuous current +12V to input terminal (30) of the relay.
5. The same connection method applies to the right side camera via the **dark blue Trig-Right wire**.

2.9 HDMI rear-view camera or other HDMI sources (HDV-MIB92 only)

The **HDMI input *** of the interface can generally be used for any video source connected to it with an HDMI output (e.g. rear-view camera, 360° camera system or other video source such as smartphone, laptop, streaming stick DVB-T2 tuner, etc.).

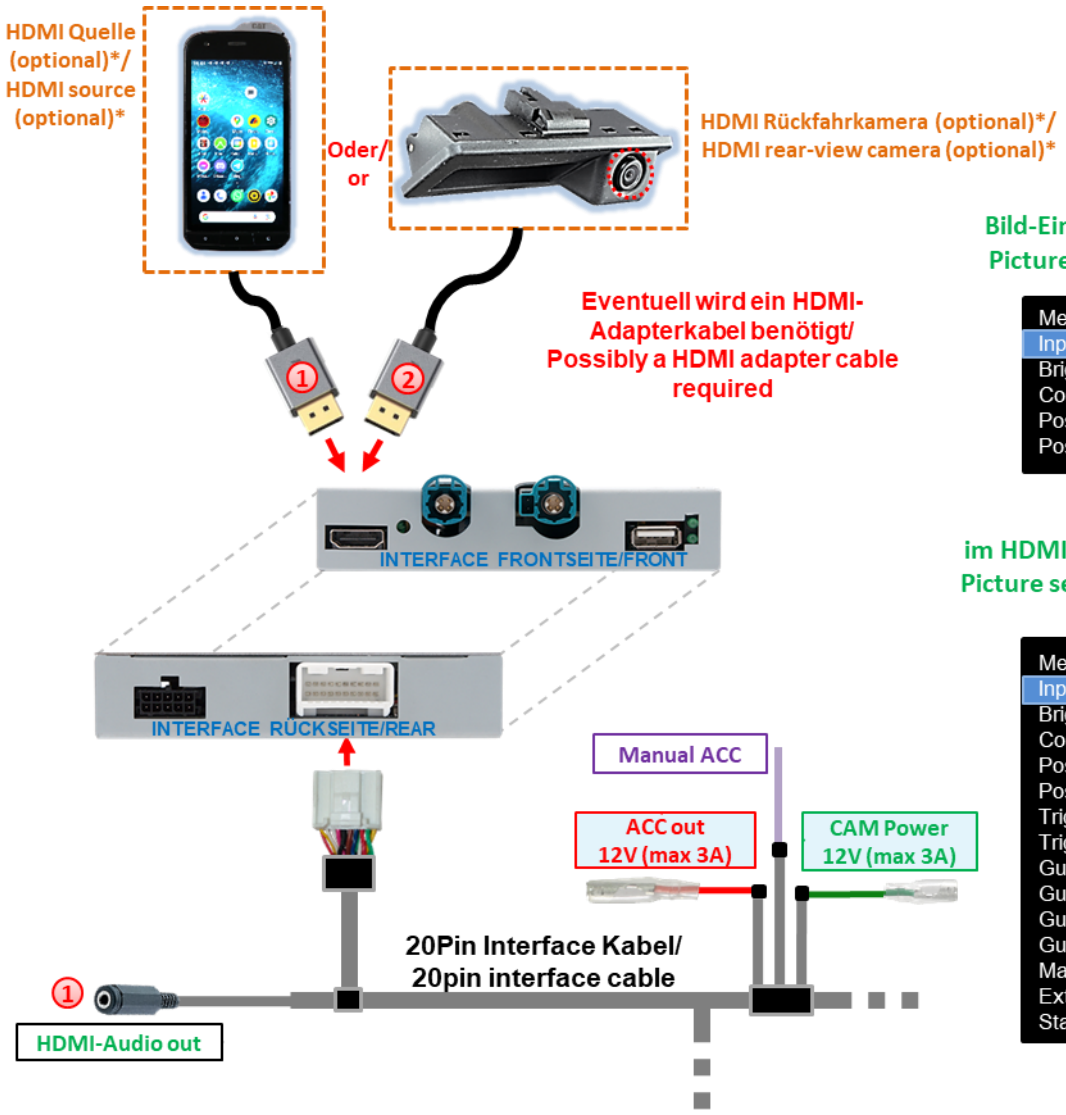


Bild-Einstellungen im HDMI-Menü/ Picture settings in the HDMI menu

Menu of HDMI	
InputSource	AutoDetect
Brightness	50
Contrast	50
PosH	04
PosV	00

Bild-Einstellungen im HDMI-Menü für Rückfahrkamera/ Picture settings in the HDMI menu for rear-view camera

Menu of HDMI-REVERSE	
InputSource	AutoDetect
Brightness	50
Contrast	50
PosH	04
PosV	00
Trigger	Can
Trig-Priority	L-R-Rear
Guide-Type	Dynamic2
Guide-PosV	37
GuideL-PosH	48
GuideR-PosH	87
Maxim-CURVE	20
External SW	YES
Start-Delay	10s

1 If an optional HDMI video source is connected to the **HDMI input***, the picture shown on the display of the source (e.g. smartphone, laptop, etc.) is mirrored on the vehicle monitor. Other sources (e.g. streaming stick, DVD player, DVB-T tuner, etc.) can also be displayed on the vehicle monitor. The video source can be supplied with power via the **red wire ACC out 12V (max3A)**. Received audio signals are output via the 3.5 mm jack socket **HDMI audio out *** of the **20-pin interface cable**. *(See the following chapter 2.10Audio insertion*

2 If a rear-view camera or a 360° camera system is connected to the **HDMI input*** (activated via CAN bus or analogue), the picture from the rear-view camera is displayed for the preset time when reverse gear is engaged and, after it has been laid out, the picture from a front camera connected to the front camera input **V3-Front** is also displayed. Power can be supplied via the **green wire CAM Power 12V (max3A)** .

*** HDMI input only available with HDV-MIB92**

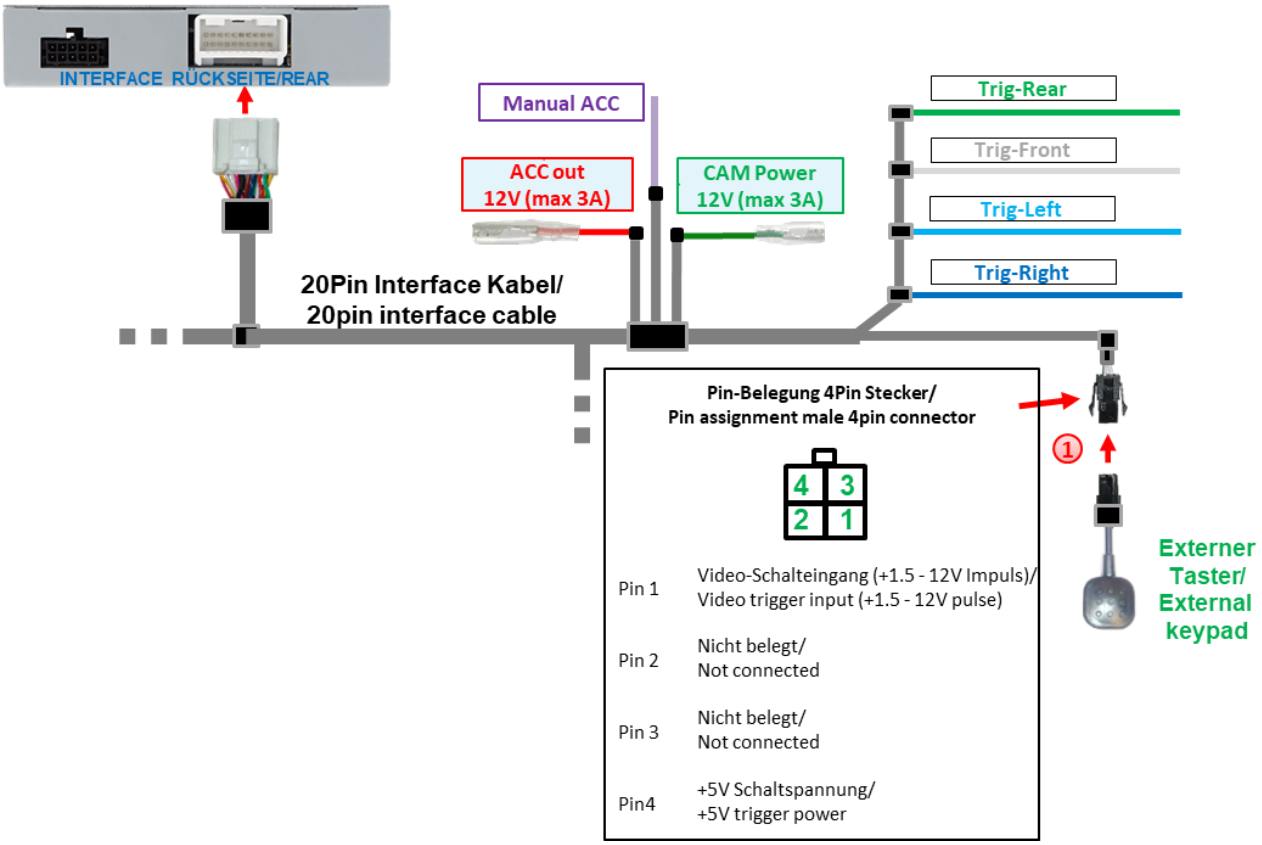
2.10 Audio insertion

The interface can only insert video signals into the factory infotainment.
Audio signals from the **HDMI input*** are output via the 3.5mm jack socket **HDMI audio out** * of the interface. For all connected video sources, their audio output must be connected to the factory AUX input (if available) or an optional Audio inserter (e.g. FM modulator). If several AV sources are connected to the infotainment, an additional audio switch may be necessary.

Video signals fed in can be activated in parallel with any audio mode of the factory infotainment system.

*** HDMI input only available with HDV-MIB92**

2.11 Connection - video interface and external keypad



1 Connect the 4-pin female connector of the external keypad to the 4-pin male connector of the 20-pin interface cable.

Note: Even if the keypad is not required for switching multiple sources, it is strongly recommended that it is connected to the interface and remains invisible. The keypad should then not be installed "pressed".

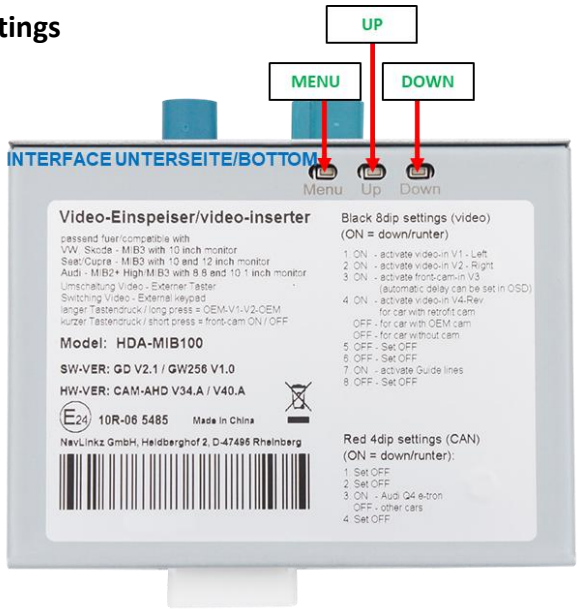
If there are picture problems with the factory picture and/or the fed-in picture or other malfunctions, press the external keypad for 10 seconds to reset the interface.

Optional: Instead of the external keypad, the interface can also be operated using the optionally available "HDA-RC" remote control*, which enables direct selection of the video/camera inputs and more convenient changing of the settings in the respective OSD menus.

Remote control "HDA-RC"
optionally available

* The remote control is compatible with all HDA and HDV interfaces that are labelled with 'RC' at the end of the software version.

2.12 OSD menu settings



Attention!
Video signal type of each video source must be preset in OSD-menu of corresponding video-input.

OSD menu settings can be changed using the 3 keypads on the back of the interface. MENU opens the OSD settings menu or moves the cursor to the next menu item. UP (UP) and DOWN (DOWN) change the values of the current menu item.

The individual OSD settings menu of each video input can only be called up while it is displayed, regardless of whether a video source is connected.

The following setting options are available in the OSD setting menus of the 5 video inputs:

Menu V1-Left (V2-Right)

8 dip switch bench Dip 1 (Dip 2) = ON

Menu of V1-LEFT	
InputSource	720P NTSC
Brightness	50
Contrast	50
PosH	04
PosV	00
Trigger	Can
Trig-Priority	L-R-Rear

Menu of V2-RIGHT	
InputSource	720P NTSC
Brightness	50
Contrast	50
PosH	04
PosV	00
Trigger	Can
Trig-Priority	L-R-Rear

Input Source Video input **signal** type for video source connected to V1-Left (V2-Right).
This **must** be defined for correct image reproduction.
The following video source signal types can be selected:
CVBS video sources: **NTSC, PAL**
AHD video sources: **720p NTSC, 960p NTSC, 1080p NTSC, 720p PAL, 960p PAL, 1080p PAL**

Brightness Brightness

Contrast Contrast

Item H Horizontal image position

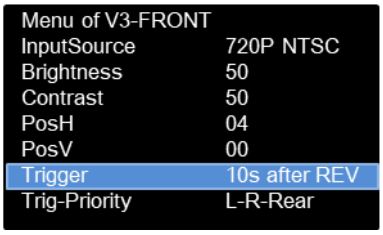
Item V Vertical image position

Trigger Type of selection of video input V1-Left (V2-Right)
"CAN" function for side cameras via CAN bus. Selecting the video input V1-Left (V2-Right) when turn signal operations left (right). Requirements are that the turn signals are recognized by the interface on the vehicle CAN bus. Manual selection of this input via an external keypad does not work with this setting.
"Wire" function for other video sources or side cameras without CAN bus. Video input V1-Left (V2-Right) is selected exclusively via light blue (dark blue) wire Trig-Left (Trig-Right) or manually via external keypad.

Trig priority Priority of switching if switching signals are present for several inputs at the same time (CAN bus or analog +12 V trigger). The signal with the highest priority is displayed:
L-R-Rear: *V1-Left → V2-Right → V4-Reverse*
Rear-R-L: *V4-Reverse → V2-Right → V1-Left*

V3 front menu

8 dip switch bench Dip 3 = ON



Input Source Video input signal **type** for video source connected to **V3 front**.
This **must** be defined for correct image reproduction.
The following video source signal types can be selected:
CVBS video sources: **NTSC, PAL**
AHD video sources: **720p NTSC, 960p NTSC, 1080p NTSC, 720p PAL, 960p PAL, 1080p PAL**

Brightness Brightness

Contrast Contrast

Item H Horizontal image position

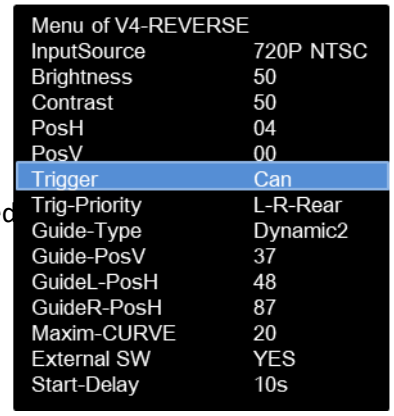
Item V Vertical image position

Trigger Type of selection of video input **V3 front**.
"Delay" function for front camera. The **"Delay"** setting determines the automatic switching of a front camera connected to the V3 **front input** after the reverse gear is engaged as well as its display duration on the display. Available
are 5s after REV, 10s after REV, 15s after REV, 20s after REV.
"Wire" function for other video sources. If another video source is to be connected to **V3-Front** instead of a front camera, select the "Wire" setting. This switches off the **"Delay"** function and the input can only be selected via the white Trig-Front wire or manually via an external keypad.

Trig priority Priority of switching if switching signals are present for several inputs at the same time (CAN bus or analog +12 V trigger). The signal with the highest priority is displayed:
L-R-Rear: ***V1-Left*** → ***V2-Right*** → ***V4-Reverse***
Rear-R-L: ***V4-Reverse*** → ***V2-Right*** → ***V1-Left***

Menu V4-Reverse **8 dip switch bench** Dip 4 = ON, Dip 5 = OFF, Dip 6 = OFF

V4 reverse input is without function if **HDMI input*** is defined as rear-view camera input is defined (Dip 5 = ON).



Input Source Video input **signal** type for video source connected to **V4 reverse**. This **must be** defined for correct image playback can be used. The following video source signal types can be used are used:
CVBS video sources: **NTSC, PAL**
AHD video sources: **720p NTSC, 960p NTSC, 1080p NTSC, 720p PAL, 960p PAL, 1080p PAL**

Brightness Brightness

Contrast Contrast

Item H Horizontal image position

Item V Vertical image position

Trigger Type of selection of rear-view camera input **V4 reverse**.
"CAN" function with CAN bus connection. With the **"CAN"** setting, the system automatically switches to **V4 Reverse** for CVBS/AHD rear-view camera when reverse gear is engaged. Requirements are that the interface recognizes the reverse gear in the CAN bus.
"Wire" function with analog connection. The selection of a rear-view camera connected to the **V4- Reverse** via the **green Trig-Left wire** is possible with both the **"Wire"** and **"CAN"** settings. It is recommended to set **"Wire"** for analog (reversing signal) connection.

Trig priority Priority of switching if switching signals are present for several inputs at the same time (CAN bus or analog +12 V trigger). The signal with the highest priority is displayed:
L-R-Rear: ***V1-Left*** → ***V2-Right*** → ***V4-Reverse***
Rear-R-L: ***V4-Reverse*** → ***V2-Right*** → ***V1-Left***

Guide Type Setting 6 different angles of the guide lines for rear-view camera

Movable guide lines	**Dynamic 1-6**
Fixed guide lines	**Fixed 1-6**
No guide lines	**OFF**

Guide Pos. V	Vertical position of the guide lines	**00-69**
Guide L Pos.H	Horizontal position of the left guide lines	**00-90**
Guide R Pos.H	Horizontal position of the right-hand guide lines	**00-121**
Maxim CURVE	Radius of the guide lines	**01-20**

External SW Selectable via external keypad **V4 Reverse**
YES: *Factory video* → ***HDMI**** → ***V1-Left*** → ***V2-Right*** → ***V4-Reverse*** → *Factory video*
NO: *Factory video* → ***HDMI**** → ***V1-Left*** → ***V2-Right*** → *Factory video*

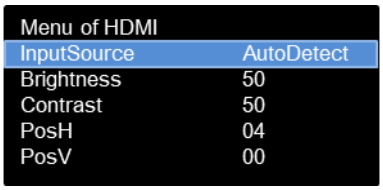
Start delay Switchover delay of the interface at startup. This function is technically necessary for some vehicles because otherwise the factory system may malfunction (e.g. black screen, touch problems): **5s/6s/7s/8s/9s/10s/12s/15s/20s**
Changing the default settings can lead to malfunctions!

*** HDMI input only available with HDV-MIB92**

HDMI* menu

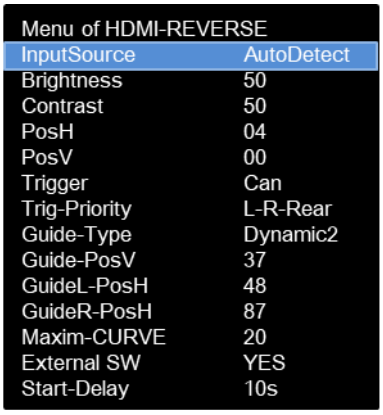
8 dip switch bench (dip 4 = ON, dip 5 = **ON/OFF**, dip 6 = ON)

HDMI AV input (Dip 5 = OFF)



InputSource	The picture resolution of connected HDMI sources is recognized automatically.
Brightness	Brightness
Contrast	Contrast
Item H	Horizontal image position
Item V	Vertical image position

HDMI rear-view camera input (Dip 5 = ON)



InputSource	The picture resolution of connected HDMI sources is automatically recognized.
Brightness	Brightness
Contrast	Contrast
Item H	Horizontal image position
Item V	Vertical image position
Trigger	Type of selection of rear-view camera input **HDMI-REV**. **"CAN" function with CAN bus connection**. With the **"CAN"** setting, the system automatically switches to **HDMI*** for HDMI rear-view camera when reverse gear is engaged. Requirements are that the interface recognizes the reverse gear in the CAN bus. **"Wire" function with analog connection**. The selection of a rear-view camera connected to the **HDMI*** via the **green Trig-Rear wire** is possible with both the **"Wire"** and **"CAN"** settings. It is recommended to set **"Wire"** for analog (reversing signal) connection.
Trig priority	Priority of switching if switching signals are present for several inputs at the same time (CAN bus or analog +12 V trigger). The signal with the highest priority is displayed: **L-R-Rear:** ***V1-Left*** → ***V2-Right*** → ***V4-Reverse*** **Rear-R-L:** ***V4-Reverse*** → ***V2-Right*** → ***V1-Left***
Guide Type	Setting 6 different angles of the guide lines for the rear-view camera Movable guide lines **Dynamic 1-6** Fixed guide lines **Fixed 1-6** No guide lines **OFF**
Guide Pos. V	Vertical position of the guide lines **00-69**
Guide L Pos.H	Horizontal position of the left guide lines **00-90**
Guide R Pos.H	Horizontal position of the right-hand guide lines **00-121**
Maxim-Curve	Radius of the guide lines **01-20**
External SW	Selectable via external keypad **V4 Reverse** **YES**: *Factory video* → ***HDMI**** → ***V1-Left*** → ***V2-Right*** → ***V4-Reverse*** → *Factory video* **NO**: *Factory video* → ***HDMI**** → ***V1-Left*** → ***V2-Right*** → *Factory video*
Start delay	Switchover delay of the interface at startup. This function is technically necessary for some vehicles because otherwise the factory system may malfunction (e.g. black screen, touch problems): **5s/6s/7s/8s/9s/10s/12s/15s/20s** Changing the default settings can lead to malfunctions!

Notes: **V4 reverse** input has no function if the **HDMI input*** is defined as rear-view camera input (dip 5 = **ON**).

*** HDMI input only available with HDV-MIB92**

3 Operating the video interface

3.1 Via factory infotainment keypad

The "Home" keypad of the infotainment can be used to switch all activated inputs.

Video Quellen Anwahl / Select video sources

A long press (3 seconds) on the "Home" keypad switches from factory video to the first activated interface video input. Each subsequent long press switches to the next activated interface video input until the last one switches back to factory video. Deactivated inputs are skipped. If all inputs are activated using the corresponding dip switch, the sequence is as follows:

*Factory picture → **HDMI*** → **V1-Left** → **V2-Right** → **V4-Reverse**** → *Factory picture*

*** HDMI input only available with HDV-MIB92**

****V4-Reverse*** can only be selected via the external keypad if the "External SW" function is set to "Yes" in the **V4-Reverse** menu.

Switching via the "Home" button does not work in all vehicles. In some vehicles, the external keypad must be used.

3.2 Via external keypad

The external keypad can be used to switch all activated inputs and to reset the interface.

- Long press of the keypad (2-3 seconds)

The external keypad switches from factory video to the first activated interface video input with a long press (2-3 seconds). Each further long press switches an activated interface video input until the last press switches back to factory video. Deactivated inputs are skipped. If all inputs are activated using the corresponding dip switch, the sequence is as follows:

*Factory picture → **HDMI*** → **V1-Left** → **V2-Right** → **V4-Reverse**** → *Factory picture*

*** HDMI input only available with HDV-MIB92**

***V4-Reverse** can only be selected via the external keypad if the "External SW" function is set to "Yes" in the **V4-Reverse** menu.

- Short press of the keypad (only possible if dip 3 is ON)

The external keypad switches from the current video mode to the front camera input when pressed briefly.
input V3-Front and back to the previous video mode when pressed briefly again .

Note: Even if the keypad is not required for switching multiple sources, it is strongly recommended that it is connected to the interface and remains invisible. The keypad should then not be installed "pressed".

- Very long press of the keypad for 10 seconds

If there are picture problems with the factory picture and/or the fed-in picture or other malfunctions, press the external keypad for 10 seconds to reset the interface.

3.3 Optional: Operation of the video interface via the "HDA-RC" remote control

Instead of the external keypad, the interface can also be operated using the optionally available "HDA-RC" remote control*, which enables the video/camera inputs to be selected directly and the settings in the respective OSD menus to be changed more conveniently.

Remote control "HDA-RC" optionally available

* The remote control is compatible with all HDA and HDV interfaces that are labelled with 'RC' at the end of the software version.

4 Specifications

BATT/ACC range	9V - 16V
Stand-by power drain	approx. 5mA
Power consumption	350mA @12V
Video input	0.7V - 1V
Video input signal types	CVBS/AHD/HDMI **(HDV version only)**
Signal standards CVBS/AHD	NTSC/PAL
Temperature range	-40°C to +85°C
Video box dimensions	117 x 25 x 109 mm (W x H x D)

5 FAQ - Troubleshooting Interface functions - product-specific

Problem	Possible cause	Solution
Vehicle battery discharges	Power connection made to battery terminal 30	See chapter *2.4 Connection - cable sets, power supply and CAN bus or analog without CAN bus* - Connecting the 10-pin power/CAN cable
Malfunction or no picture	Video-signal type of video-source not defined in OSD-menu of the corresponding video input	See chapter *2.12 OSD menu settings* , menu of the respective input

6 FAQ - Troubleshooting Interface functions - general

For any troubles which may occur, check the following table for a solution before requesting support from your vendor.

Symptom	Possible reason	Possible solution
No picture/black picture (factory picture).	Not all connectors have been reconnected to factory head-unit or monitor after installation.	Connect missing connectors.
	CAN-bus wires connected to CAN-bus in wrong place.	Refer to the manual where to connect to the CAN-bus. If not mentioned, try another place to connect to the CAN-bus.
	No power on video-interface (all LED video-interface are off).	Check power connection of interface.
No picture/black picture/white picture (inserted picture) but factory picture is OK.	No picture from video source.	Check on other monitor whether video source is OK.
	No video-source connected to the selected interface input.	Check settings dips 1 to 5 of 8dip bench of video interface which inputs are enabled and switch to corresponding input(s).
	Setting of video signal type of active video input is not equal to video signal type of connected video-source.	Set the video signal type of the video source correctly in the OSD menu of the corresponding input.
	LVDS cables plugged in wrong place.	Double-check whether order of LVDS cables is exactly connected according to manual. Plugging into head-unit does not work when the manual says to plug into monitor and vice versa.
Inserted picture totally wrong size or position.	Wrong settings of video-interface.	Verify the vehicle-specific dip switch position in the instructions. If necessary, test different positions of the vehicle-specific dip switches. Perform a power reset after each change (briefly remove the black 10-pin micro-fit power socket once).
Inserted picture double or multiple times on monitor.		
Inserted picture distorted, flickering or running vertically.	Video sources output set to AUTO or MULTI which causes a conflict with the interfaces auto detection.	(Only concerns video-sources with selectable output – e.g., DVD-Players, TV-Tuners, etc.) Set video source output fixed to PAL or NTSC. It is best to set all video sources to the same video signal type output.
	If error occurs only after source switching: Connected sources are not set to same video signal type output.	Set all video sources to the same video signal type output.
Inserted picture b/w.	Setting of video signal type of active video input is not equal to video signal type of connected video-source.	Set the video signal type of the video source correctly in the OSD menu of the corresponding input.

Symptom	Possible reason	Possible solution
Only on first inserted video activation after IGN on, the inserted picture is distorted.	Menu item *Trigger* of the corresponding video-input is set to *CAN-bus* though analogue signal triggering is used.	Open OSD-menu of corresponding video input and set the menu item *Trigger* to *Wire.*
Inserted picture qual. bad.	Picture settings have not been adjusted.	Use the 3 switches on interface-box or optional HDA-RC cable remote control to set the desired picture settings for the respective video source in the OSD menu of the interface.
Inserted picture size slightly wrong.		
Inserted picture position wrong.		
Camera input picture flickers.	Camera is being tested under fluorescent light (neon).	Test camera under natural light outside the garage.
Camera input picture is bluish.	Protection sticker not removed from camera lens.	Remove protection sticker from lens.
Camera input picture black.	Camera power taken directly from reverse gear lamp.	Use relay or electronic filter to "clean" reverse gear lamp power. Alternatively, camera power can be taken from green wire CAM Power.
Camera input picture has distortion.		
Switching to inserted video does not work after IGN on or vehicle startup- temporary.	Interface has a start-up delay during which, after interface start-up for certain time, there is no switching to inserted video. Required to prevent the factory system from crashing.	In OSD menu of V4, default delay can be shortened time in menu item *StartDelay*, this might especially make sense on installations without connection to CAN-bus. Note: Too short *StartDelay* setting can cause (sporadically) black-screen of factory picture or loss of factory touch-screen control.
Not possible to switch video sources by OEM button.	Function not supported in this vehicle.	Use external keypad for AV-switching.
Not possible to switch video sources by external keypad.	Pressed too short.	For video source switching a longer press of about 2.5 seconds is required.
Interface does not switch to reverse camera input when reverse gear is engaged or does not switch to side camera input(s) when turn signal in on.	Video-input is not enabled.	Enable corresponding inputs (dips 1 to 5 of 8dip bench).
	CAN-bus of vehicle not fully compatible with interface. Function not supported.	Follow the manual for R-gear signal or turn signal from analogue signal.
	Menu item *trigger* in the OSD of the video-input was set to *Wire.*	Switch on corresponding input by external button or 12V to corresponding trigger input. Open OSD-menu of corresponding video input and set the menu item *Trigger* to *CAN bus.*
OSD-menu of interface cannot be accessed/opened.	No inserted video input of interface is active, factory picture is displayed.	Each video input of interface has its own OSD with its own settings. The OSD for each input can only be opened when the input is displayed.

7 Technical Support

Please note that direct technical support is only available for products purchased directly from NavLinkz GmbH. For products bought from other sources, contact your vendor for technical support.

For any support requests make sure to at least prepare:

- Product code and serial number of all involved products
- Vehicle data such brand, model, year of production, VIN, infotainment model

NavLinkz GmbH
Distribution*/Tech dealer-support*
Heidberghof 2
D-47495 Rheinberg

Tel +49 2843 17595 00

Email mail@navlinkz.de

E24 10R-06 5485

Made in China