

# **v.LOGiC Intelligent Solution Interface**

## **V5-NBT-PNP**

**For the F-series BMW with navigation system or  
radio and 6.5", 7", 8.8" or 10.25" monitor with  
4+2pin HSD2 LVDS connector**

## Product features

- Own on-screen display and setup
- Rear-view camera input
- Automatic switching to rear-view camera input on engagement of reverse gear from all operation modes
- Front camera input
- Manual switching to rear-view camera (only for vehicles with PDC button)
- Manual return from rear-view and front camera (cancellation of automatic switching)
- 2 trigger outputs (+12V max. 1A), separately adjustable switching events (CAN, ACC, camera, reverse gear)
- Picture-in-picture mode combining after-market rear-view and front camera picture(s) with factory parking sensor graphics
- Compatible with all factory video accessories (e.g. rear-view camera, Top-View, nightvision, DVD-changer, TV-tuner)
- USB update-port for software-updates by consumer

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## Legal Information

By law, watching moving pictures while driving is prohibited, the driver must not be distracted. We do not accept any liability for material damage or personal injury resulting, directly or indirectly, from installation or operation of this product. This product should only be used while standing or to display fixed menus or rear-view-camera video when the vehicle is moving, for example the MP3 menu for DVD upgrades.

Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labor cost for and other expenses involved with the software-updates will not be refunded.

## 1. Prior to installation

Read the manual prior to installation. Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources.

### 1.1. Delivery contents

*Take down the SW-version and HW-version of the interface boxes, and store this manual for support purposes.*

Interface-box  
V5C-M637  
HW\_\_\_\_\_ SW\_\_\_\_\_



V5C-UNI01  
harness



LVDS cable  
CAB-HSD2-RR148

TV-BMW01  
harness

### 1.1. Check compatibility of vehicle and accessories

#### Requirements

##### Navigation

F-series with navigation system or radio with 6.5", 7", 8.8" or 10.25" monitor with 4+2pin HSD2 LVDS connector

## 1.2. Setting the dip switches of the interface-box V5C-M637

Dip 1 and 2 on the back of the interface-box V5C-M637 are used to set the monitor type. The default setting is:

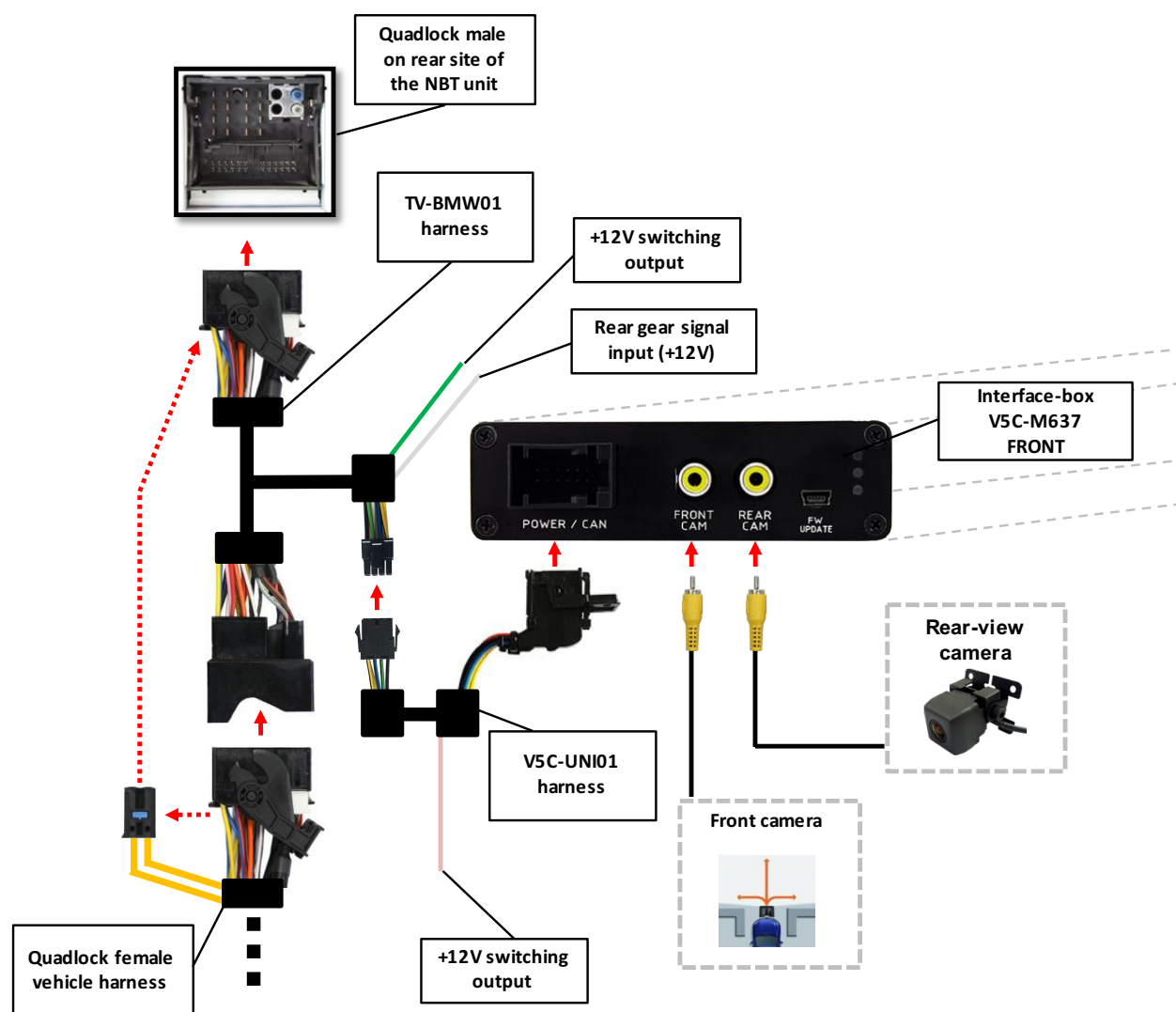
Vehicle/ navigation	Dip 1	Dip 2	Dip 3
6.5" monitor.	OFF	OFF	No function
7" monitor	OFF	OFF	No function
8.8" monitor	ON	OFF	No function
10.25" monitor (ver.1)	ON	OFF	No function
10.25" monitor (ver.2)	ON	ON	No function

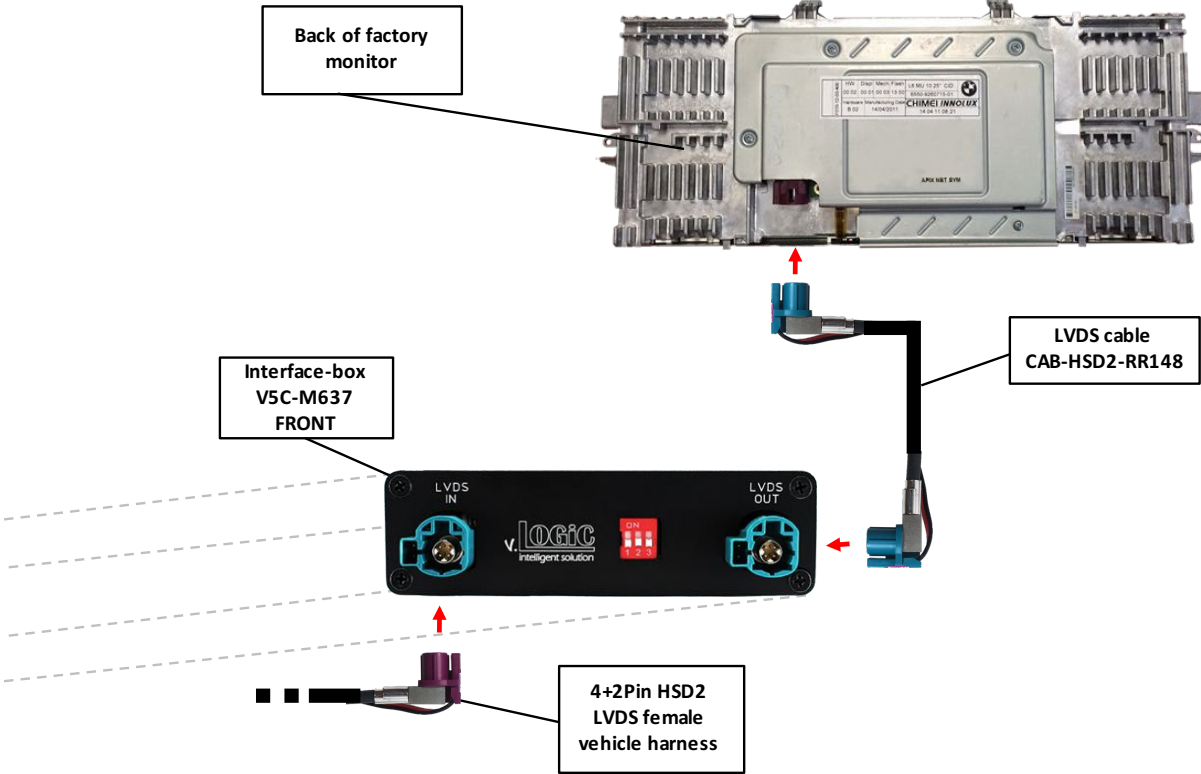
**After each change of the dip switch settings you have to execute a power reset of the interface-box!**

## 1.3. LED's of the interface-box V5C-M637



## 2. Connection schema







## 3. Installation

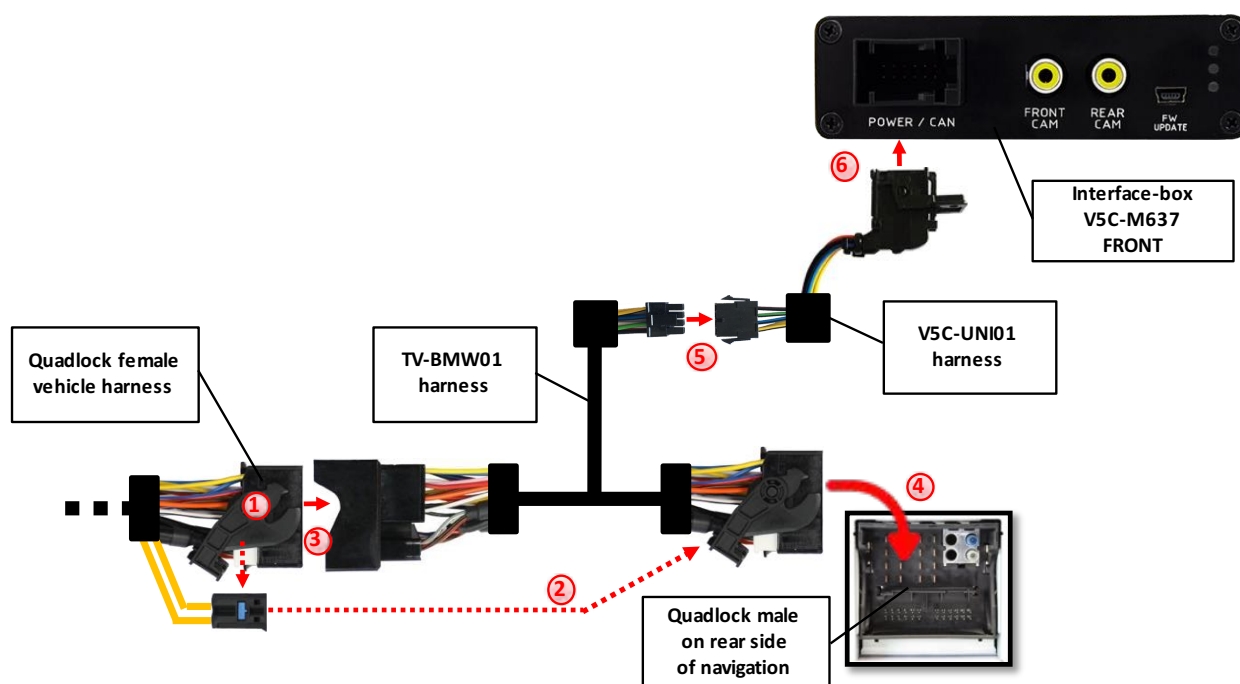
**Switch off ignition and disconnect the vehicle's battery! The interface needs a permanent 12V source. If according to factory rules disconnecting the battery is to be avoided, it is usually sufficient to put the vehicle in sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.**

**If power source is not taken directly from the battery, the connection has to be checked for being start-up proven and permanent.**

**Prior to wire and device installation we suggest to connect and test correct function of all after-market and factory infotainment equipment!**

The interface is installed on the backside of the head unit.

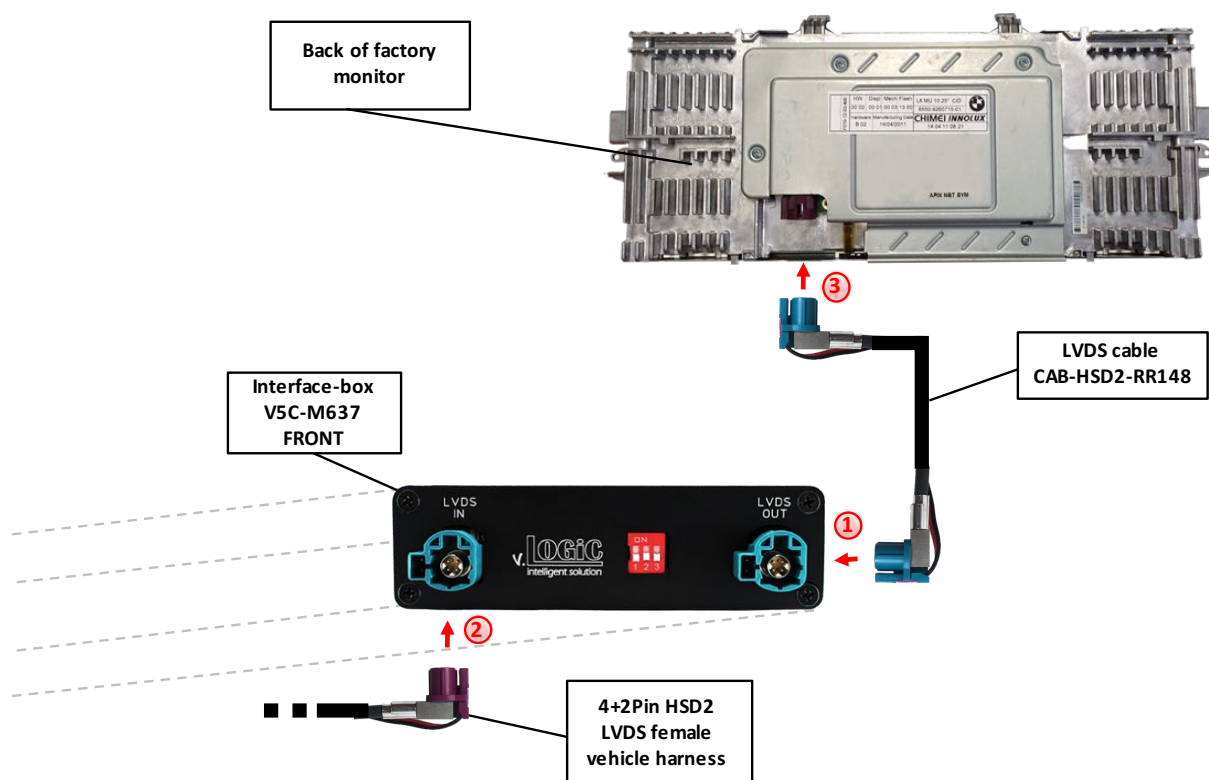
### 3.1. Connecting interface-box and harnesses



- 1 Remove the female Quadlock connector of the vehicle harness from the rear of the navigation computer.
- 2 Remove optical leads from the female Quadlock connector of the vehicle harness and insert them into the female Quadlock connector of harness TV-BMW01 at the same position.
- 3 Connect female Quadlock connector of vehicle harness to the male Quadlock connector of harness TV-BMW01.
- 4 Connect female Quadlock connector of harness TV-BMW01 to the male Quadlock connector of the navigation computer

- 5 Connect female 8 pin molex connector of the harness TV-BMW01 to the male 8 pin molex connector of the harness TV-BMW01.
- 6 Connect female 12pin AMP connector of the harness TV-BMW01 to the front site of the V5C-M637 interface box.

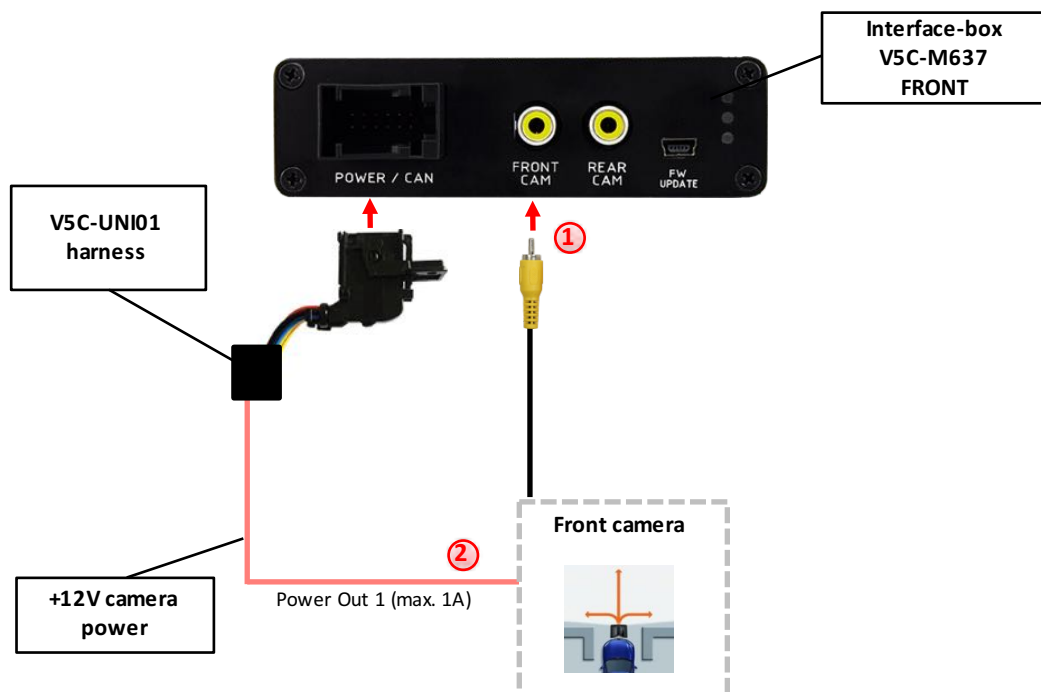
## 3.2. LVDS connection



- 1 Connect the female 4+2pin HSD2 LVDS connector of the LVDS cable CAB-HSD2-RR148 to the male 4+2pin HSD2 LVDS connector (LVDS-OUT) on the front of the interface-box V5C-M637.
- 2 Remove the female 4+2pin HSD2 LVDS connector of the vehicle harness of the factory monitor and connect it to the male 4+2pin HSD2 LVDS connector (LVDS-IN) on the front of the interface-box V5C-M637.
- 3 Connect the second female 4+2pin HSD2 LVDS connector of the LVDS cable CAB-HSD2-RR148 to the male 4+2pin HSD2 LVDS connector of the factory monitor.

## 3.2.1. After-market front camera

### 3.2.1.1. Connection to the after-market front camera



- 1 Connect the video RCA of the after-market front camera to the female RCA connector "FRONT CAM" of the interface box V5C-M637.
- 2 The pink wire of harness V5C-UNI01 can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu "OPTION", menu item "POWER OUT 2" the designated electric power supply (see chapter "Configurable switching outputs").



## 3.2.1.2. Settings for connecting an after-market front camera

You have to configure some settings in the OSD-menus INPUT and OPTION if you want to connect an after-market front camera (Operation of the OSD: see chapter "OSD-Operation").

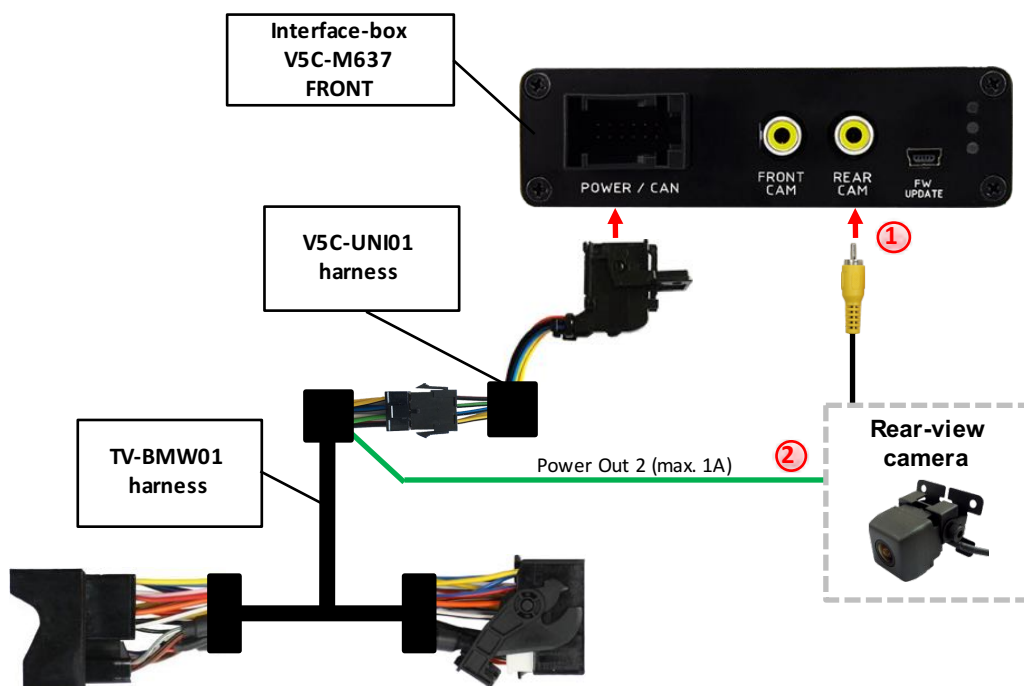


OSD-menu	Menu item	Setting	Explication
INPUT	FVC	OFF	Keine Frontkamera angeschlossen
		ON	Switches to front camera if parking process is enabled and reverse gear is released
OPTION	PARK LOGIC	PDC	For vehicles with PDC button. Enabled while parking process and up to 20 km/h or together with PDC if existing
		RGEAR	Enabled while parking process
		RGEAR+SPEED	Enabled while parking process and up to 20 km/h
		RGEAR+TIME	Enabled while parking process and up to 20 second
	PARK CAM	ON	OEM PDC display of the vehicle

**Note:** You can deactivate the enabled parking process by pressing the iDrive or by enabling other modes (e.g. radio). After deactivation you can't enable the parking process again until the vehicle is diving faster than 20km/h, the ignition is switched off and on or the PDC will be disabled and enabled again, if existing.

## 3.2.2. After-market rear-view camera

### 3.2.2.1. Connection to the after-market rear-view camera



- 1 Connect the video RCA of the after-market rear-view camera to the female RCA connector "REAR CAM" of the interface box V5C-M637.
- 2 The green wire of harness TV-BMW01 can be used for +12V electric power supply (max. 1A) of the after-market rear-view camera. Configure in the OSD-menu "OPTION", menu item "POWER OUT 2" the designated electric power supply (see chapter "Configurable switching outputs").



## 3.2.2.2. Settings for connecting an after-market rear-view camera

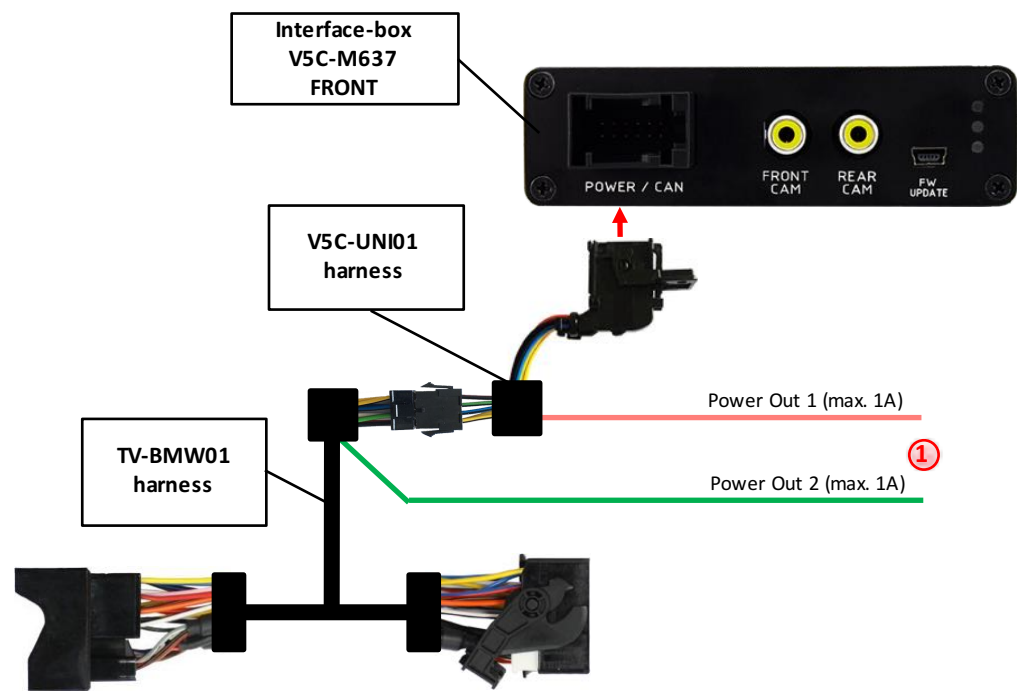
You have to configure some settings in the OSD-menus INPUT and OPTION if you want to connect an after-market rear-view camera (Operation of the OSD: see chapter “OSD-Operation”).



OSD-menu	Menu item	Setting	Explication
INPUT	RVC	OFF	No rear-view camera connected
		ON	Switches to rear-view camera if reverse gear is engaged and/or PDC-display is displayed
		OEM	If a factory rear-view camera is existing! The interface turns off, if PDC or reverse gear is enabled and it displays factory rear-view camera and/or PDC-display
OPTION	PARK LOGIC	PDC	For vehicles with PDC button. Enabled while parking process and up to 20 km/h or together with PDC if existing
		RGEAR	Enabled while parking process
		RGEAR+SPEED	Enabled while parking process and up to 20 km/h
		RGEAR+TIME	Enabled while parking process and up to 20 second
	PARK CAM	ON	OEM PDC display of the vehicle

**Note:** You can deactivate the enabled parking process by pressing the iDrive or by enabling other modes (e.g. radio). After deactivation you can't enable the parking process again until the vehicle is driving faster than 20km/h, the ignition is switched off and on or the PDC will be disabled and enabled again, if existing.

3.2.3. Configurable trigger outputs



① You can configure the both +12V trigger outputs separately. The pink wire is POWER OUT 1 and the green wire is POWER OUT 2.

**Note:** You can configure the both trigger outputs in the OSD-menu OPTION separately (Operation of the OSD: see chapter “OSD-Operation”).



OSD-menu	Menu item	Setting	Explication
OPTION	POWER OUT1 (pink) POWER OUT2 (green)	CAN	+12V when the interface is on (red LED on)
		ACC	+12V when ignition is on
		CAM	+12V when the rear-view camera input is activated
		RGEAR	+12V when reverse gear is engaged
		AVS	+12V when interface video-source is active (for external audio switch)
		OFF	Trigger putput deactivated

### 3.3. Picture settings

You can change the picture settings in the OSD-menu IMAGE (activation only from interface video level possible).

- Brightness
- Contrast
- Saturation
- Hue
- Sharpness

**Note:** The picture settings will be retained for each AV-source separately.



## 4. Operation

### 4.1. OSD – On-screen display

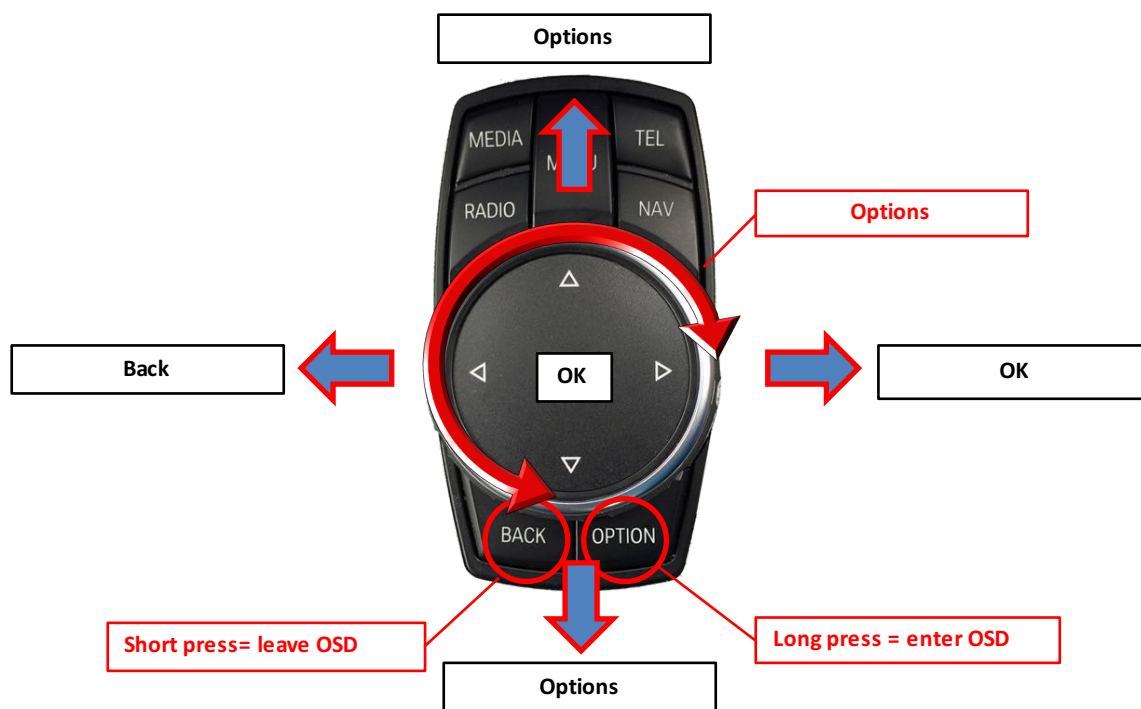
You can change the basic configurations of the interface in the OSD (on screen display).



#### 4.1.1. OSD – Operation

You can control the OSD by iDrive.

##### 4.1.1.1. iDrive High



4.1.1.2. iDrive Low



4.1.2. iDrive selection

OSD menu „OPTION“ – „IDRIVE“ is for setting the right iDrive control knob.



OSD-menu	Menu item	Setting	Explication
OPTION	IDRIVE	LOW	Vehicles with iDrive Low control knob
		HIGH	Vehicles with iDrive High control knob



iDrive High



iDrive Low

## 4.1.3. OSD – Additional setting options

The following settings in the OSD-menus OPTION and OSD can be configured over and above the described settings in this manual (Operation of the OSD: see chapter “OSD-Operation”):



OSD-menu	Menu item	Setting	Explication
OSD	POS. X	0-xxx	Horizontal position of the OSD
	POS. Y	0-xxx	Vertical position of the OSD
	SIZE	SMALL	Small OSD menu windows
		LARGE	Large OSD menu windows
INFO	VERSION	X.XX.XX	Displays the current SW-version
OPTION	FACTORY RESET		Resetting to factory settings

## 4.2. Video-in-motion function

It is possible to activate and deactivate the video-in-motion in the OSD menu “OPTION” (Operation of the OSD: see chapter “OSD-Operation”).



OSD-menu	Menu item	Setting	Explication
OPTION	VIM	ON	Video-in-motion activated
		OFF	Video-in-motion deactivated

## 4.3. Selecting the interface as current video-source



**Long press MEDIA-button** respectively **long press AUDIO-button** to choose the interface as current Video-source.

**Short press MEDIA** button respectively **AUDIO** button to switch the video-sources. Each short press will switch to the next enabled input. If all inputs are enabled the order is:

*RVC → FVC →...*

Inputs which are not enabled are skipped.

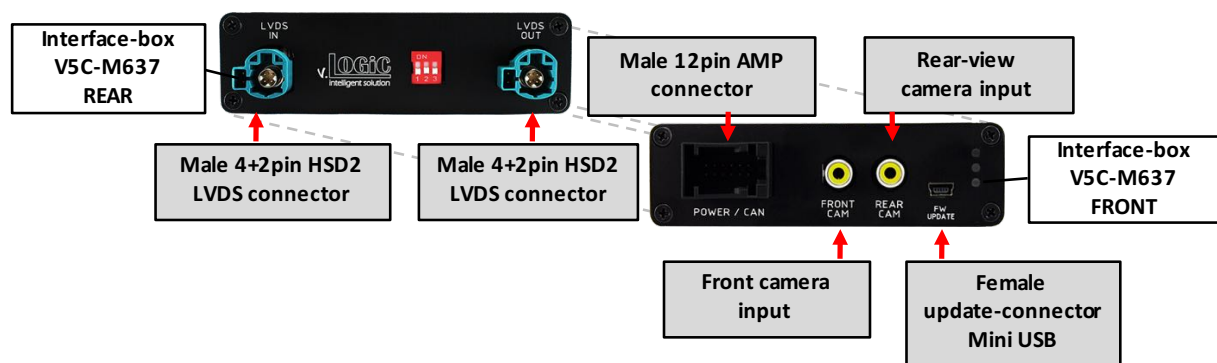
The exiting of the video interface level is achieved by **short press** of **BACK / RADIO / MENU / TEL / NAV** button.

## 5. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	<0,1mA
Operation power drain	190mA
Power consumption	2,6W
Temperature range	-20°C to +80°C
Weight (box only)	208g
Measurements (box only) B x H x T	103 x 30 x 105 mm

CE  $\equiv$  12V DC

## 6. Connections (interface-box)



## 7. Technical Support

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**manufacturer/distribution**  
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 D-67240 Bobenheim-Roxheim

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