

Vehicle Applications

BMW

1 SERIES

2007 - 2011	1 Series 3-door hatchback
2007 - 2013	1 Series 2-door coupe (1M)
2004 - 2012	1 Series (5-door)
2008 - Up	1 Series Convertible

3 SERIES

2005 - 2011	3 Series Sedan
2005 - 2011	3 Series Wagon
2006 - 2013	3 Series Coupe
2007 - UP	3 Series Convertible

5 SERIES

2004 - 2010	5 Series Sedan
2004 - 2007	5 Series Wagon

6 SERIES

2004 - 2010	6 Series Coupe
2004 - 2010	6 Series Convertible

X SERIES

2007 - 2013	X5 Sports Activity Vehicle
2008-2011	X6 Sports Activity Coupe

Product Features

- Plug and Play Installation
- Media Controller with controls by factory infotainment (iDrive)
- Rear-view camera input
- Front camera input
- Front camera input can also be used as an Auxiliary Video 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 aftermarket 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 Camera System)

Navigation / Radio Compatibility

- E-series with Navigation System or radio with 6.5" or 8.8" monitor and 10-PIN LVDS Connector
- NOT compatible with Alpine made factory screen.

Parts Included



Interface Box



BM-77D Harness



LVDS10 Cable

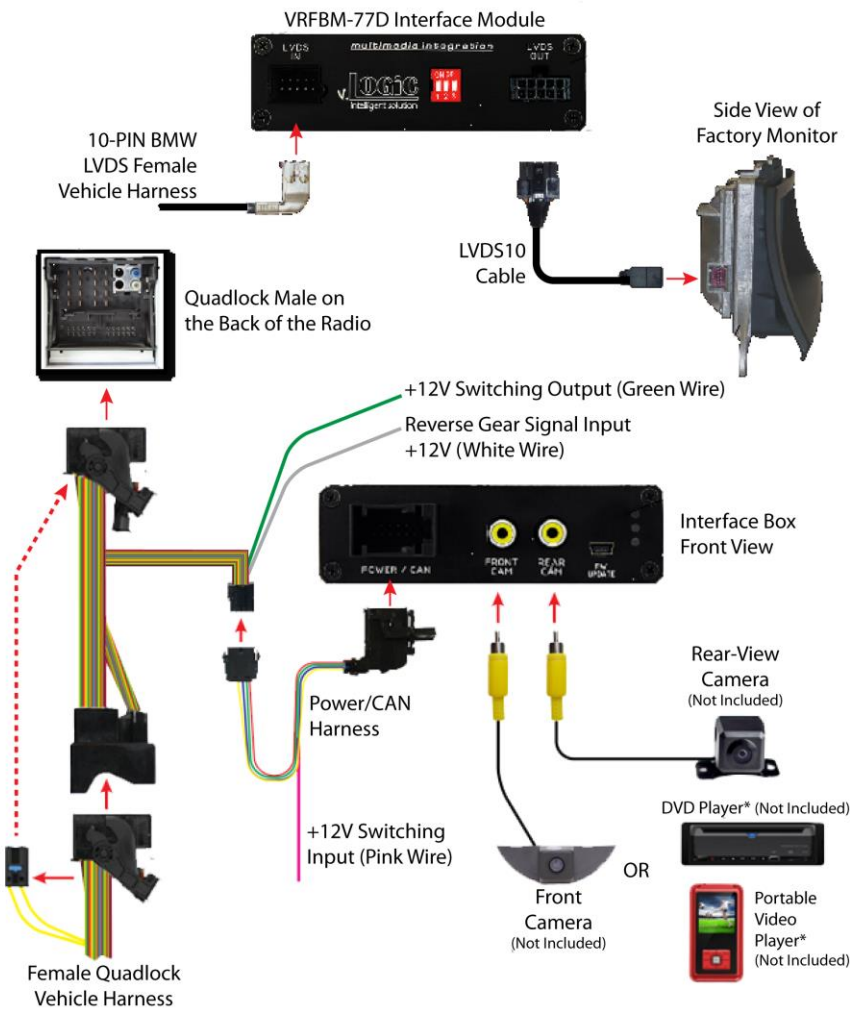


Power/CAN Harness



Wiring Diagram

See Warning Below



Setting the DIP Switches of the VRFBM-77D

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

Vehicle / Navigation	Dip 1	Dip 2	Dip 3
M-ASK Version 1	OFF	OFF	OFF
M-ASK Version 2	OFF	ON	OFF
CCC Version 1	ON	OFF	OFF
CCC Version 2	ON	OFF	ON

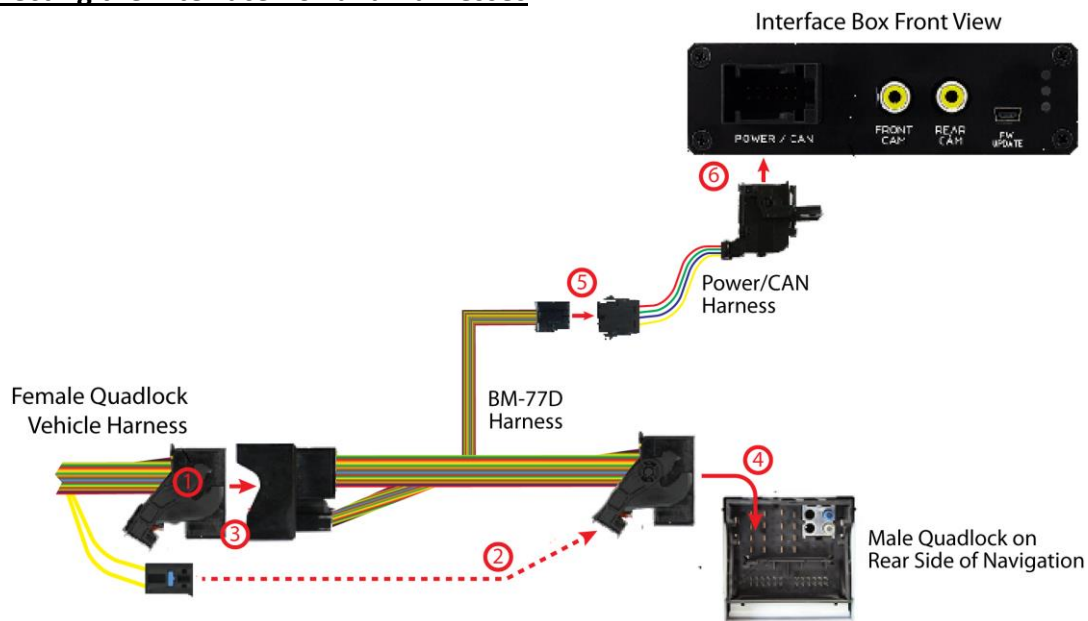
After each change of the DIP Switch settings you have to execute a power reset of the interface!

WARNING:

- DO NOT** connect the Quadlock Connector to Factory Radio CD Headunit **UNLESS** the 10 Pin LVDS Cable has been properly and completely connected to factory display and all the other 10 Pin LVDS cable connections have been made according to the wiring diagram above or the factory display will be damaged;
- DO NOT** connect the 10 Pin LVDS Cable when the Radio is Powering ON or the factory display will be damaged;
- When the Radio CD Headunit is active (powered ON), **DO NOT** disconnect any of the 10 pin LVDS Connections or the factory display will be damaged.

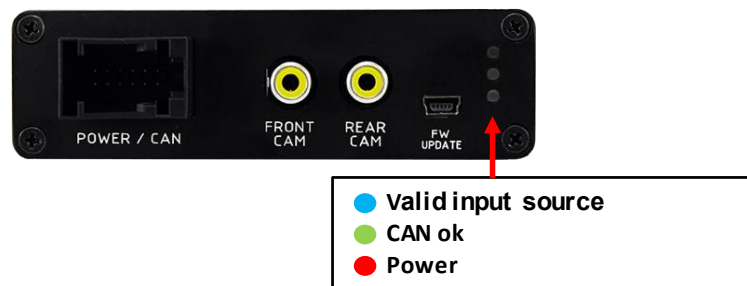


Connecting the Interface Box and Harnesses

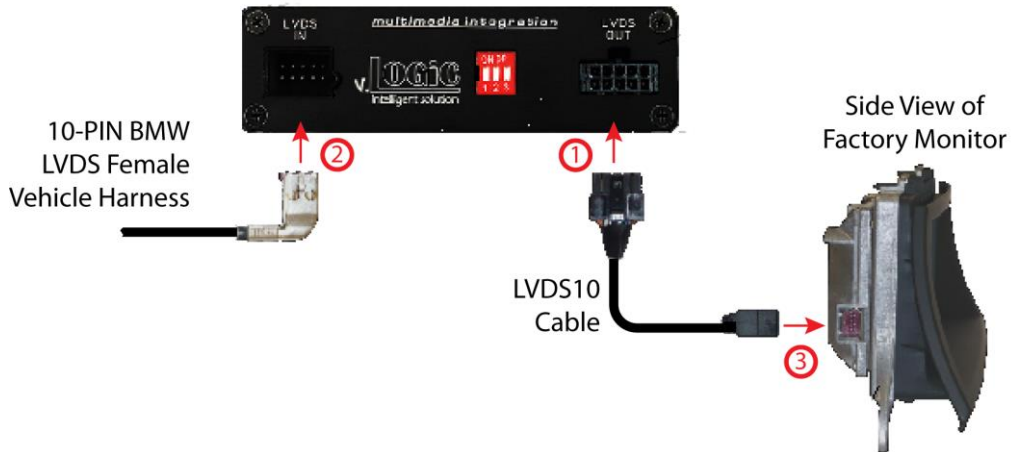


- 1 Remove the female Quadlock connector of the vehicle harness from the rear of the navigation computer.
- 2 Remove optical leads from the female Quadlock connector of the vehicle harness and insert them into the female Quadlock connector of BM-77D harness at the same position.
- 3 Connect female Quadlock connector of vehicle harness to the male Quadlock connector of BM-77D harness.
- 4 **DO NOT** connect the female Quadlock connector of BM-77D to the male Quadlock connector of the navigation radio **UNTIL** the 10-pin LVDS cables are connected or the factory display will be damaged. See next page for 10-Pin LVDS connection before plugging in the female Quadlock connector to the radio.
- 5 Connect female 8 pin molex connector of the BM-77D harness to the male 8 pin molex connector of the Power/CAN harness.
- 6 Connect the female 12pin Power/CAN harness to the front side of the VRFBM-77D interface box.

LEDs of the Interface Box

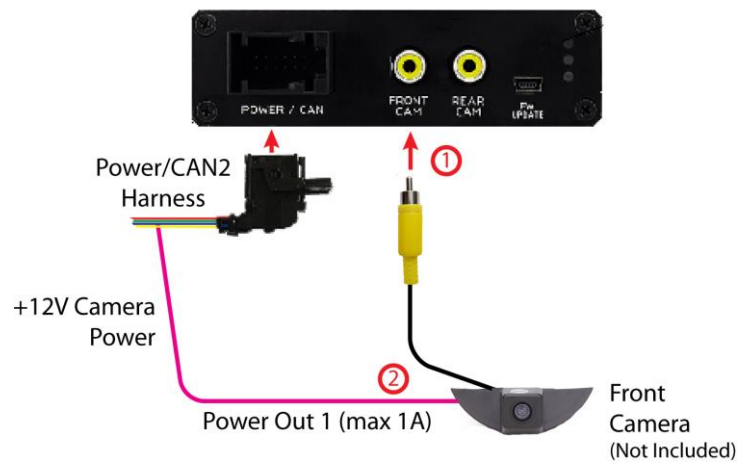


LVDS Connection



- 1 Connect the female 10 Pin Micro-Fit connector of the LVDS10 cable the male 10 Pin Micro-Fit connector (LVDS-OUT) on the rear of the VRFBM-77D interface box.
- 2 Remove the female 10 Pin BMW LVDS connector of the vehicle harness at the side of the factory monitor and connect it to the male 10pin BMW LVDS connector (LVDS-IN) on the front of the VRFBM-77D interface box.
- 3 Connect the female 10 Pin BMW LVDS connector of the LVDS10 cable to the male 10pin BMW LVDS connector of the factory monitor. You can now connect the female Quadlock connector to the back of the radio.

Connection to the Aftermarket Front Camera



- 1 Connect the video RCA of the aftermarket front camera to the female RCA connector "FRONT CAM" of the VRFBM-77D interface box.
- 2 The pink wire of the Power/CAN2 harness can be used for +12V power supply (max. 1A) of the aftermarket front camera. Configure in the OSD-menu "MISC", menu item "POWER OUT 2" the designated power supply (see chapter "Configurable Switching Outputs").



Settings for Connecting an Aftermarket Front Camera

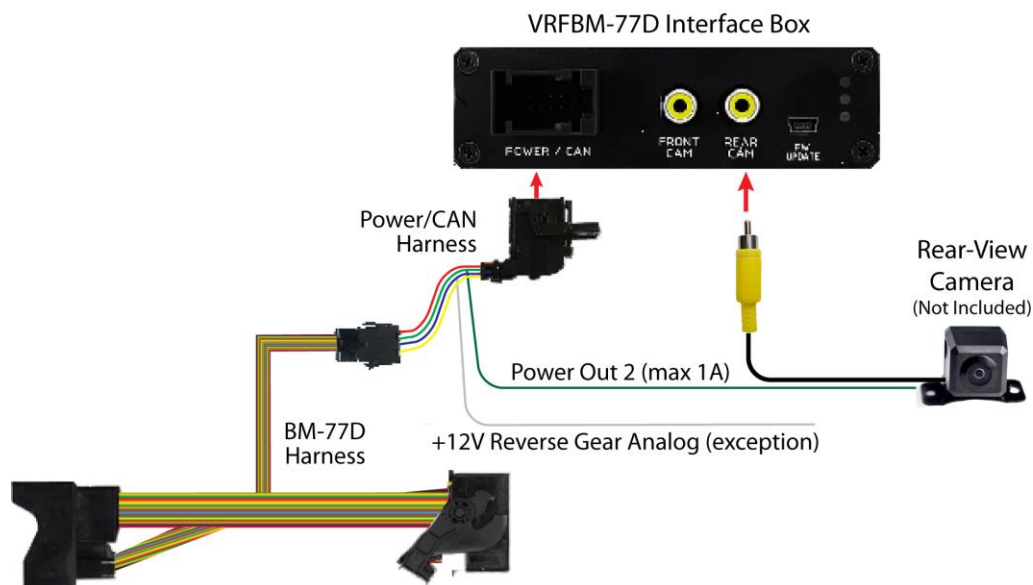
You have to configure some settings in the OSD-menu's INPUTS and MISC if you want to connect an aftermarket front camera (Operation of the OSD: see chapter "OSD-Operation").



OSD-Menu	Menu Item	Setting	Description
INPUTS	FRONT CAM	OFF	No front camera connected
		ON	Switches to front camera if parking process is enabled and reverse gear is released
	Reverse Logic	Intelligent	For vehicles with PDC button. Enabled while parking process and up to 12 mph or together with PDC if existing
		Gear only	For vehicles without PDC button. Enabled while parking process and up to 12 mph.
MISC	OEM PDC CAR	Horizontal	PDC-display of the vehicle is horizontal
		Vertical	PDC-display of the vehicle is vertical

Note: You can deactivate the enabled parking process by pressing the iDrive or by enabling other modes (e.g. radio). After deactivation you cannot enable the parking process again until the vehicle is driving faster than 12 mph and the ignition is switched off and on, or the PDC be disabled and enabled again.

Connection to the Aftermarket Rear-View Camera



You have to configure some settings in the OSD-menus INPUTS and MISC if you want to connect an aftermarket rear-view camera (Operation of the OSD: see chapter "OSD-Operation").

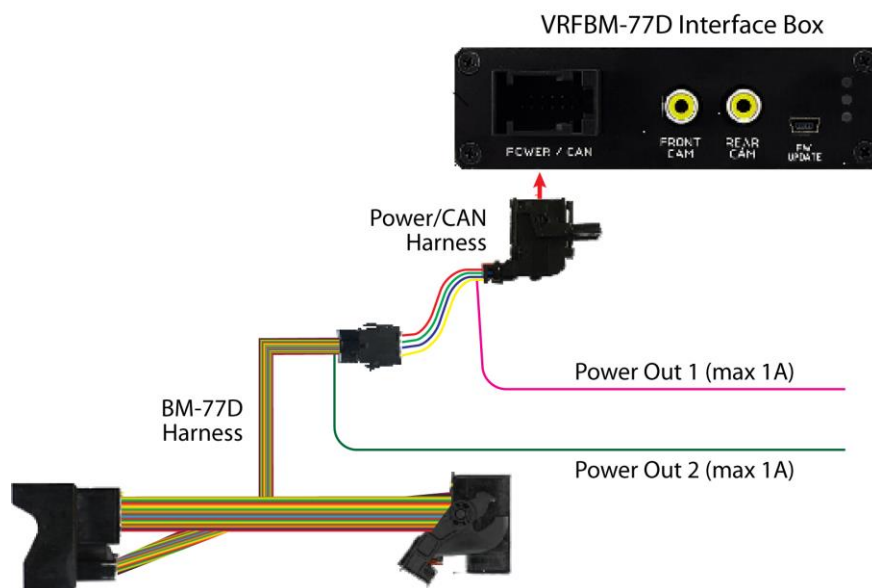




OSD-Menu	Menu Item	Setting	Description
INPUTS	REAR CAM	OFF	No rear-view camera connected
		ON	Switches to rear-view camera if reverse gear is engaged and/or PDC-display is displayed
		OEM	If a factory rear-view camera is connected. Interface turns off, if PDC or reverse gear is enabled and it displays factory rear-view camera and/or PDC-display
	Reverse Logic	Intelligent	For vehicles with PDC button. Enabled while parking process and up to 12 mph or together with PDC if available
		Gear only	For vehicles without PDC button. Enabled while parking process and up to 12 mph.
MISC	OEM PDC CAR	Horizontal	PDC-display of the vehicle is horizontal
		Vertical	PDC-display of the vehicle is vertical

Note: You can deactivate the enabled parking process by pressing the iDrive or by enabling other modes (e.g. radio). After deactivation you cannot enable the parking process again until the vehicle is driving faster than 12 mph, the ignition is switched off and on or the PDC is disabled and enabled again.

Configurable Trigger Outputs



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 both trigger outputs in the OSD-menu MISC separately (for Operation of the OSD: see chapter "OSD-Operation").

OSD-Menu	Menu Item	Setting	Description
MISC	POWER OUT1 (Pink Wire)	CAN	+12V when the interface is on (Red LED on)
		Ignition	+12V when ignition is on
		Rear Cam	+12V when the rear-view camera input is activated
	POWER OUT2 (Green Wire)	Reverse Gear	+12V when reverse gear is engaged
		OFF	Trigger output deactivated

Picture Settings

Picture Format

You can change the picture format by a **long press** of the **Menu Button (1)** on the BMW iDrive or on the 2-button **(2)** iDrive in Mini while in the respective video mode. The following options are available:

8.8" 24:10 Ultra wide monitor:

- FULL = 24:10 interface full screen mode
- Zoom = 24:10 interface full screen mode zoom
- 16:9 = 16:9 interface picture central
- 4:3 = 4:3 interface picture central
- AV + LVDS = 16:9 interface picture on left side, factory picture on right side
- LVDS + AV = 16:9 factory picture on left side, interface picture on right side



6.5" 16:9 monitor:

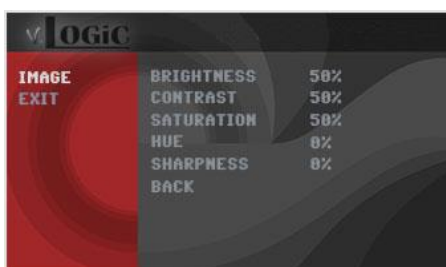
- FULL = 16:9 interface full screen mode
- ZOOM = 16:9 interface full screen mode zoom
- 4:3 = 4:3 interface picture central



Note: The picture format will be retained for each video source separately.

Picture Settings

You can change the picture settings in the OSD-menu IMAGE (Operation of the OSD: see chapter "OSD-Operation").



- Brightness
- Contrast
- Saturation
- Hue
- Sharpness

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



Operation

OSD – On-Screen Display

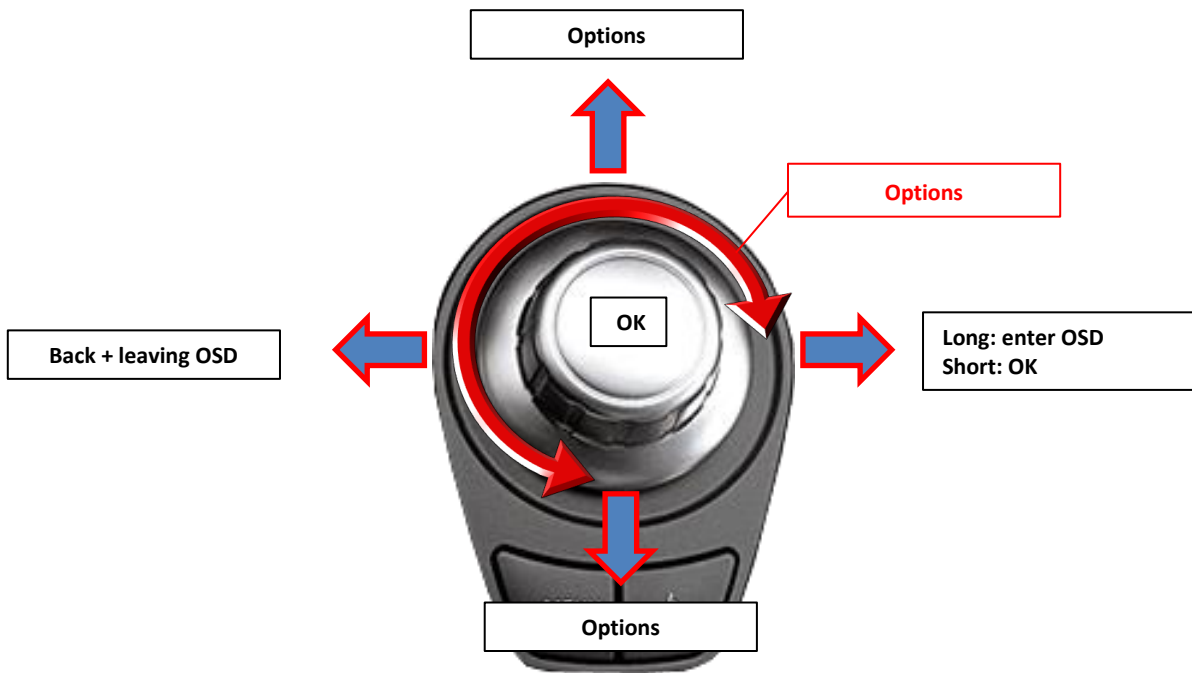
You can change the basic configurations of the interface in the OSD (On Screen Display).



OSD – Operation

You can control the OSD by iDrive.

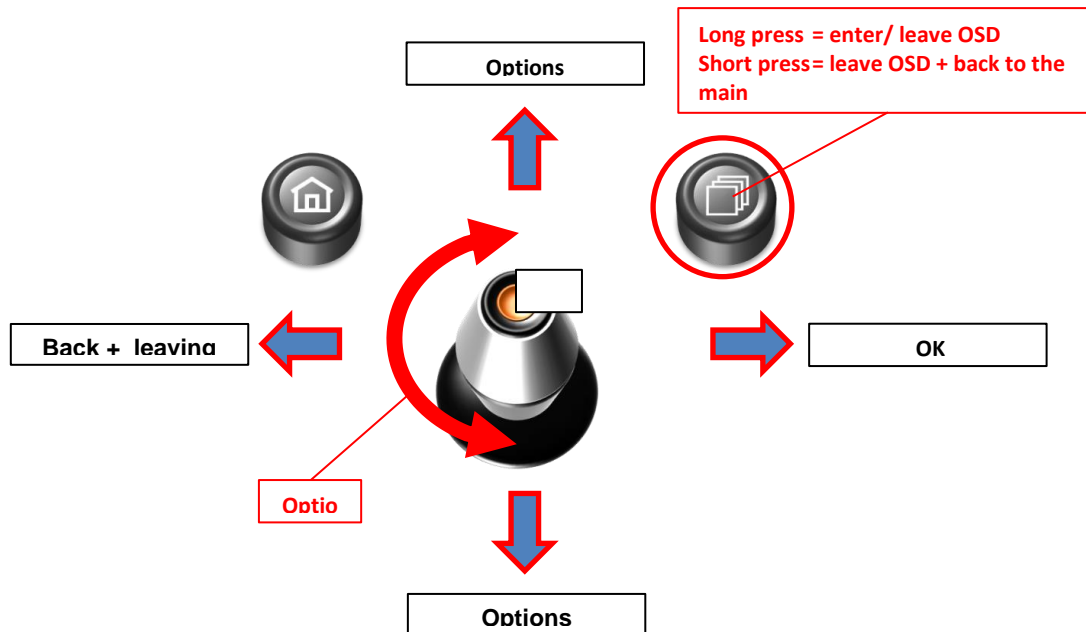
1- and 2-Button iDrive



Note: If the interface is selected as active video source then the OSD menu is activated via iDrive button "OK" (press and hold) + "iDrive-right". In this OSD menu only image adjustments can be made.



2-Button iDrive in Mini



OSD – Additional Setting Options

The following settings in the OSD-menus OSD and MISC 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	Description
	H POSITION	0-xxx	Horizontal position of the OSD
	V POSITION	0-xxx	Vertical position of the OSD
MISC	VERSION	X.XX.XX	Displays the current SW-version
	FACTORY RESET		Reset to Factory Settings



Video-In-Motion Function

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



OSD-Menu	Menu Item	Setting	Description
MISC	VIM	ON	Video-In-Motion activated
		OFF	Video-In-Motion deactivated

NOTE: The Video-In-Motion function is permanently active without disturbing the navigation performance.

Selecting the Interface as Current AV Source



BMW 2-Button iDrive



Mini 2-Button iDrive

A **Long press** of the **Menu-button** will select the interface as current video source.

A **Short press of the CD Button** or the **MENU Button** will switch the video sources (cameras or other video source). Each short press will switch to the next enabled input. If all inputs are enabled the order is:

FRONT CAM → REAR CAM → ...

Inputs which are not enabled are skipped.

CCC Navigation Screen



NOTE: Not compatible with Alpine made factory screen.

