16669
MI7-MBN7 interface for Sprinter m/NTG7

Compatible with 10.25”
MBUX 2G NTG7 system
with 26pin socket

SEC SET ECOFOSS A/S

MI7-MBN7 interface for Sprinter m/NTG7

16669



Product features

- Own on-screen display and setup
- Can be configured on a PC via a web browser
- Rear-view camera input
- Automatic switching to rear-view camera input on engagement of reverse gear from all operation modes
- Front camera input
- Side camera inputs
- Supported camera systems: CVBS PAL (25Hz), CVBS NTSC (30Hz), AHD 720p PAL (25Hz), AHD 720p NTSC (30Hz), AHD 1080p PAL (25Hz), AHD 1080p NTSC (30Hz)
- Automatic camera video format detection
- Side- or front camera activation via blinker signal
- Manual switching to cameras
- 2 trigger outputs (+12V max. 1A), separately adjustable switching events (CAN, ACC, camera, reverse gear)
- Compatible with all factory video accessories
- USB update-port for software-updates by consumer
- Plug&Play installation for MBUX 2G NTG7 system with 26 pin socket

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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
V8C-M727
HW_____ SW____



GMSL cable
CAB-DFF-YDMF050





V4C-VIDEO harness



V6C-MBN6-SP harness

1.2. Check compatibility of vehicle and accessories

Requirements

Brand	Compatible vehicles	Compatible systems
Mercedes	Sprinter (W907/910) since model year 2024 V-Class (W447) since model year 2024	MBUX 2G NTG7 with 26 pin socket, 10.25” screen

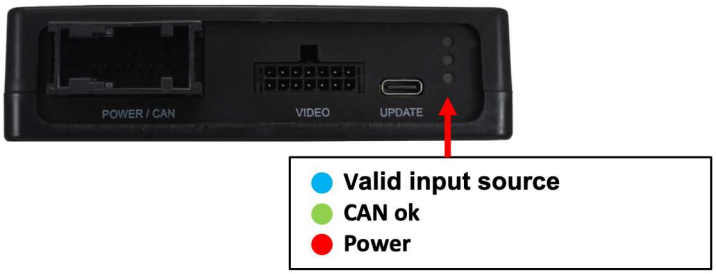
1.3. Setting the DIP switches of the interface-box V8C-M727

DIP switches on the back of the interface-box V8C-M727 are used to set the monitor type.
The default setting is:

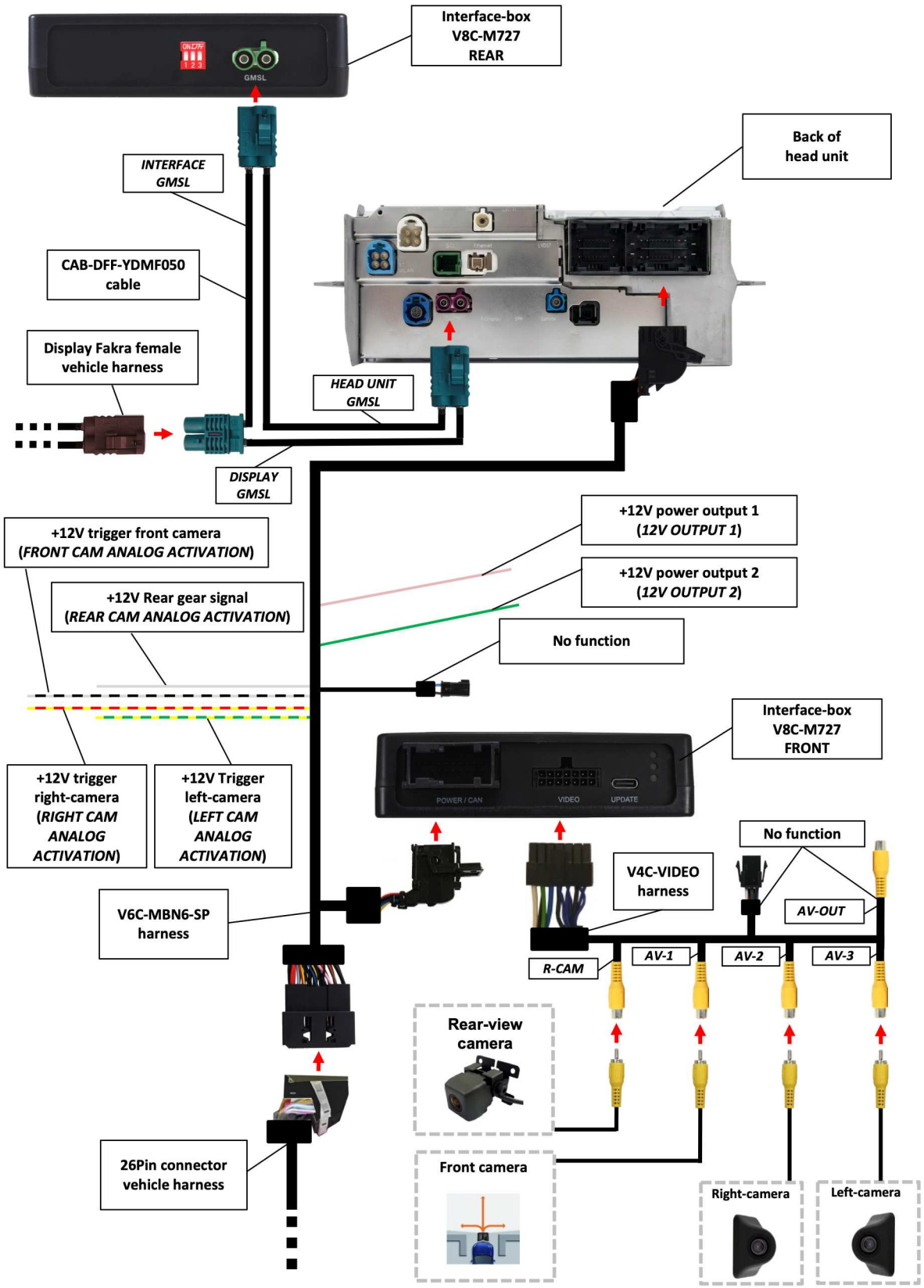
Head unit	DIP 1	DIP 2	DIP 3
10.25“ NTG7 screen	OFF	OFF	OFF

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

1.4. LED‘s of the interface-box V8C-M727



2. Connection scheme



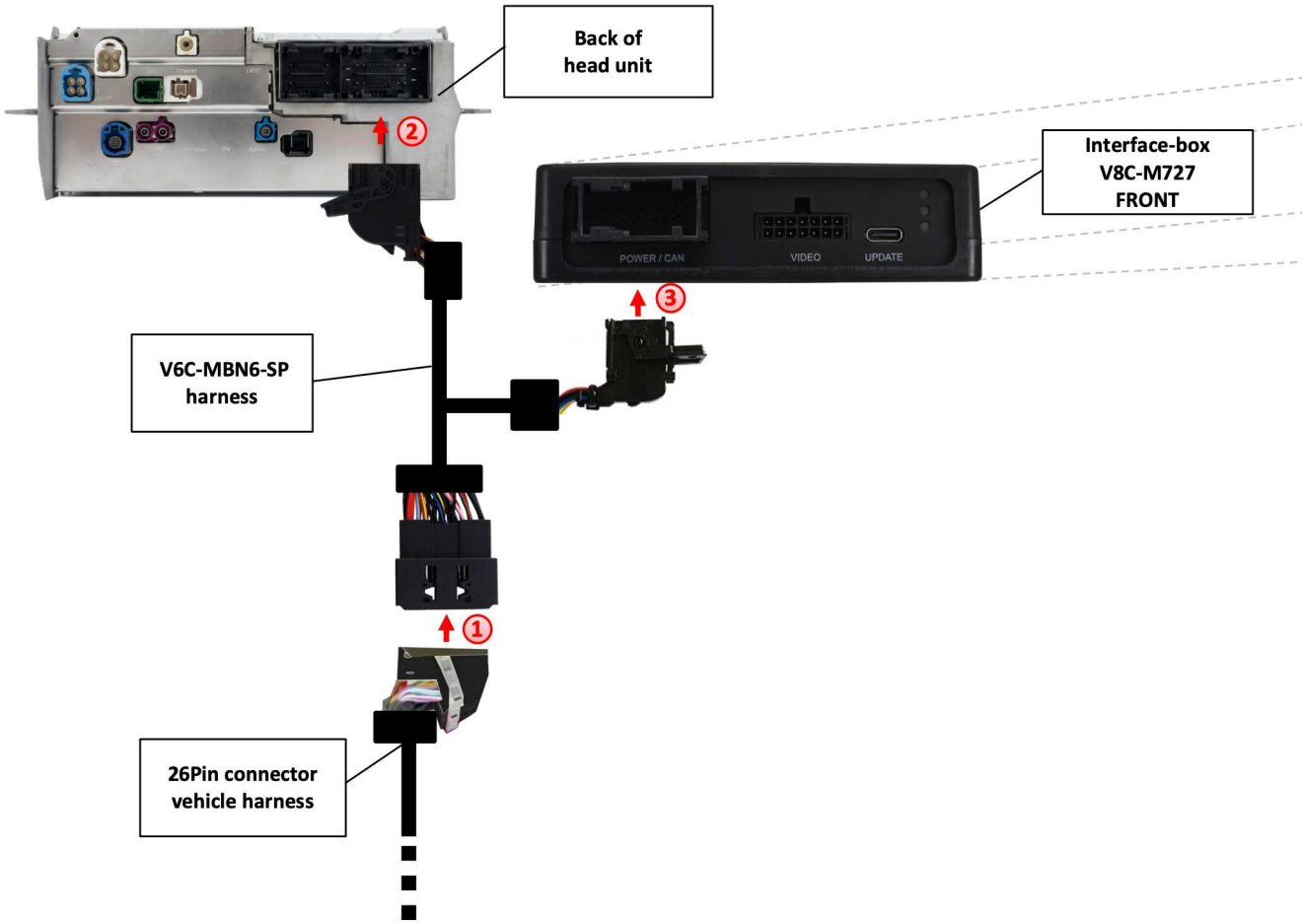
3. Installation

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 is 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.

Sprinter: Behind the factory monitor

3.1. Connecting interface box and harnesses on MBUX 2G NTG7 system



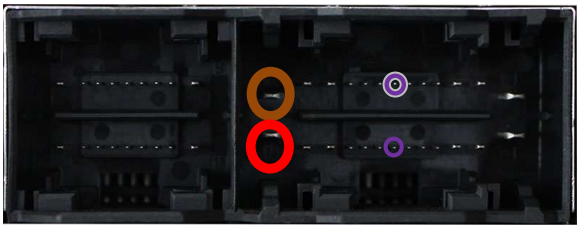
1. Remove the female 26pin connector of the vehicle harness from the rear of the navigation computer and connect it to the male 26pin socket of the V6C-MBN6-SP harness.

2. Connect the female 26pin connector of V6C-MBN6-SP harness to the male 26pin socket of the navigation computer.

3. Connect female 18pin AMP connector of the harness V6C-MBN6-SP to the front site of the V8C-M727 interface box.

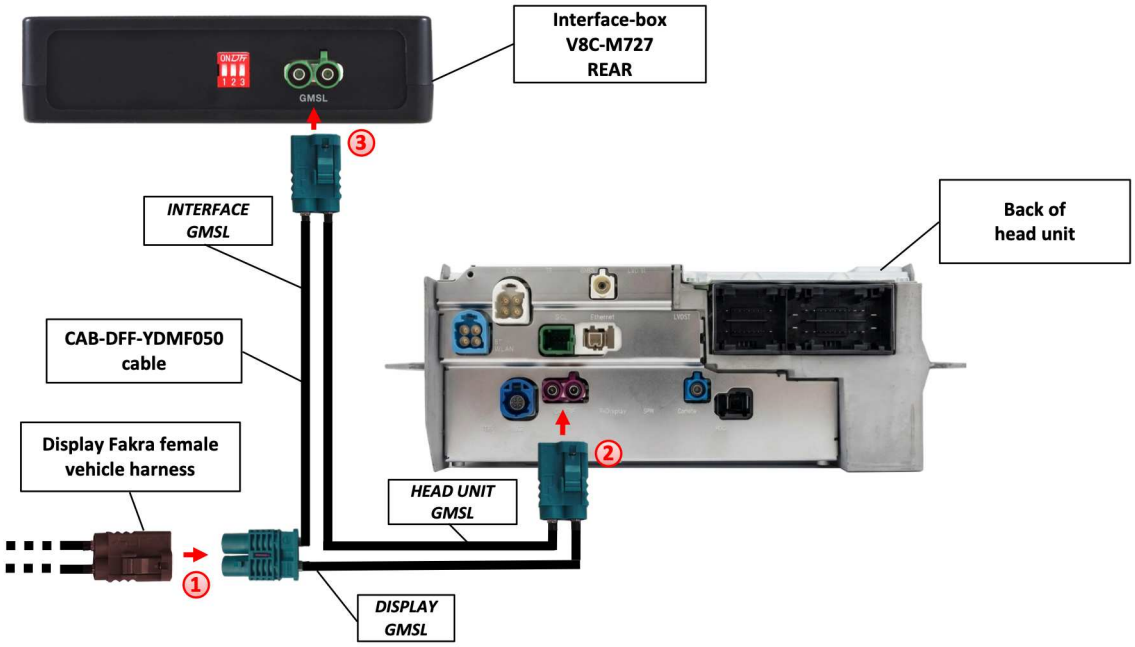
Connection assignment 26pin head unit connector:

Assignment head unit
+12V permanent - Pin 14 (● Red)
Ground - Pin 1 (● Brown)
CAN HIGH - Pin 7 (●● Purple/White)
CAN LOW - Pin 20 (● Purple)



26pin head unit connector

3.2. GMSL connection



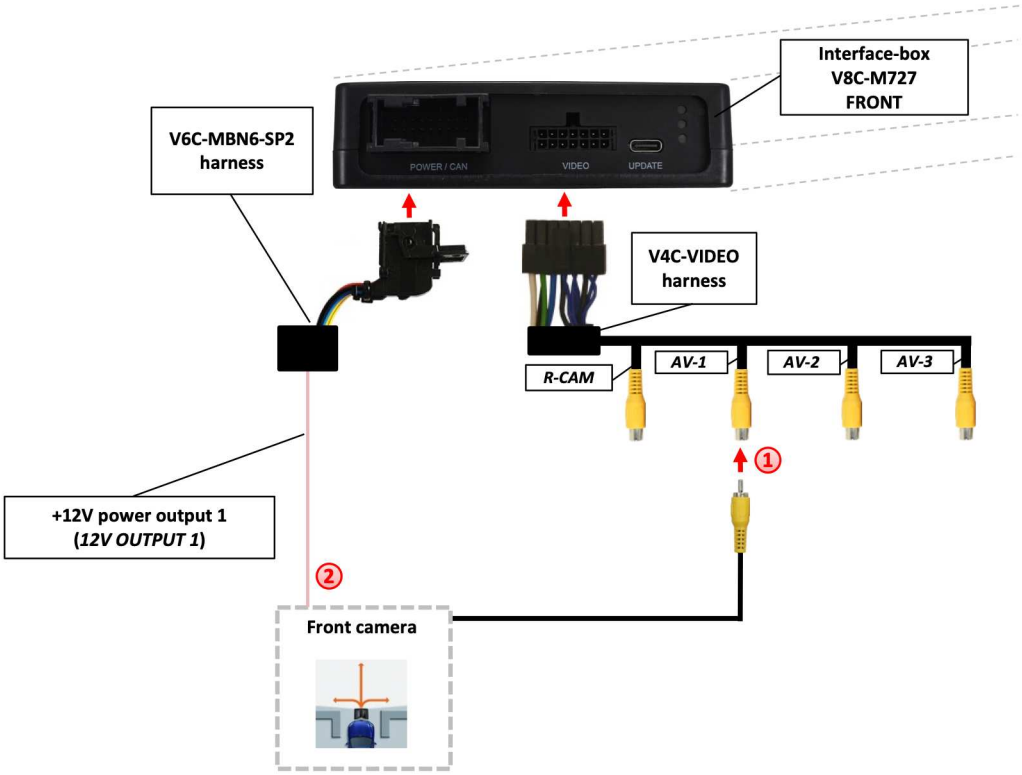
1. Remove the GMSL pink-bordeaux coloured female double Fakra connector of the vehicle harness at the back of the head unit and connect it to the male double Fakra socket (*DISPLAY GMSL*) of the CAB-DFF-YDMF050 GMSL cable.

2. Connect the female double Fakra connector (*HEAD UNIT GMSL*) of the GMSL cable CAB-DFF-YDMF050 to the pink-bordeaux coloured double male Fakra socket on the rear of the head unit.

3. Connect the double female Fakra connector (*INTERFACE GMSL*) of the CAB-DFF-YDMF050 GMSL cable to the double male Fakra socket (GMSL) on the rear of the interface box V8C-M727.

3.2.1. After-market front camera

3.2.1.1. Connection to the after-market front camera



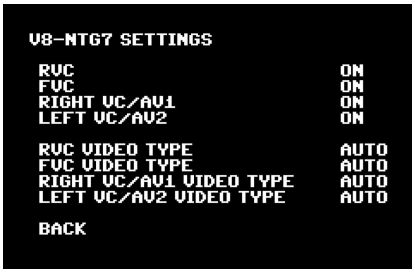
1 Connect the video RCA of the after-market front camera to the female RCA connector “AV-1” of the V4C-VIDEO harness.

2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu “Option 1”, menu item “Power Out 1” the setting “CAM” or “PWS” (see also 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, Option 1 and Option 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).





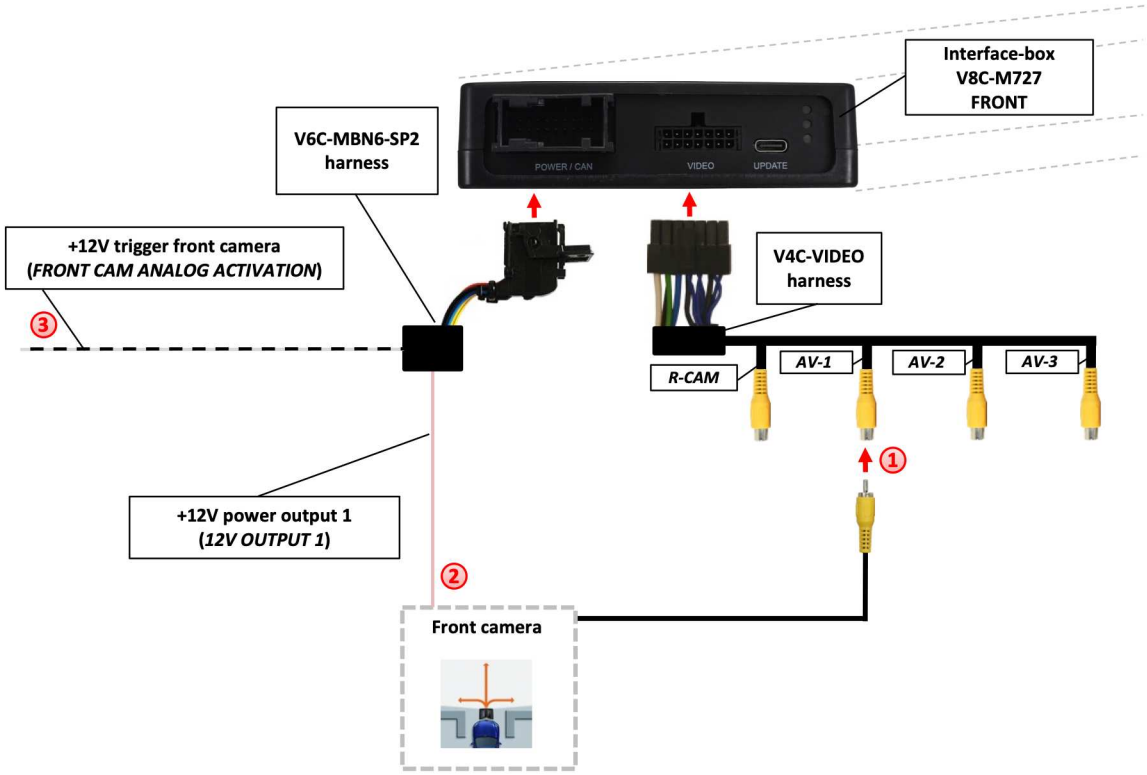


OSD-menu	Menu item	Setting	Explication
INPUT	FVC	OFF	Front camera deactivated
		ON	Switches to front camera if parking process is enabled and reverse gear is released
OPTION 1	PARK LOGIC	RGEAR ONLY	Enabled while parking process (not suitable for front camera operation)
		SPEED & TIME	Enabled while parking process and up to e.g. 10km (speed adjustable) or up to 20 second
OPTION 2	R/F CAM TILL	XX	Speed setting for deactivating of the camera image

Note: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).

3.2.2. After-market wide view front camera

3.2.2.1. Connection to the after-market wide view front camera



1 Connect the video RCA of the after-market wide view front camera to the female RCA connector “AV-1” of the V4C-VIDEO harness.

2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu “OPTION 1”, menu item “POWER OUT 1” the setting “CAM” pr “PWS” (see also chapter “Configurable switching outputs”).



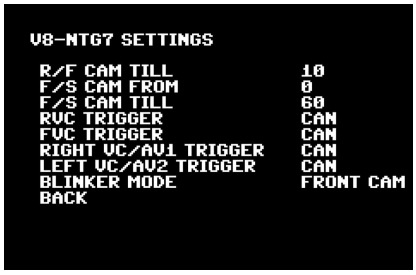
3 **Exception**: Connect the white/black wire of harness V6C-MBN6-SP to the right and left analogue blinker signals (triggered +12V blinker power) and make the menu setting - OPTION 2 / FVC TRIGGER - „CAN“, if the system doesn’t switch to the aftermarket wide view front camera automatically after the described OSD-setup (Option 2 / FVC TRIGGER - „ ANALOGUE “, see next chapter).

3.2.2.2. Settings for connecting an after-market wide view front camera

For the use of a wide view front camera, the interface offers not only manual activation, but also activation via the blinker function. Note: via CAN bus blinker signal detection (menu: Option 2 / FVC TRIGGER - "CAN“), the activation does not take place in "blinker comfort mode" (brief touch of the blinker lever).
You have to configure some settings in the OSD menus INPUT, OPTION 1 and OPTION 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).





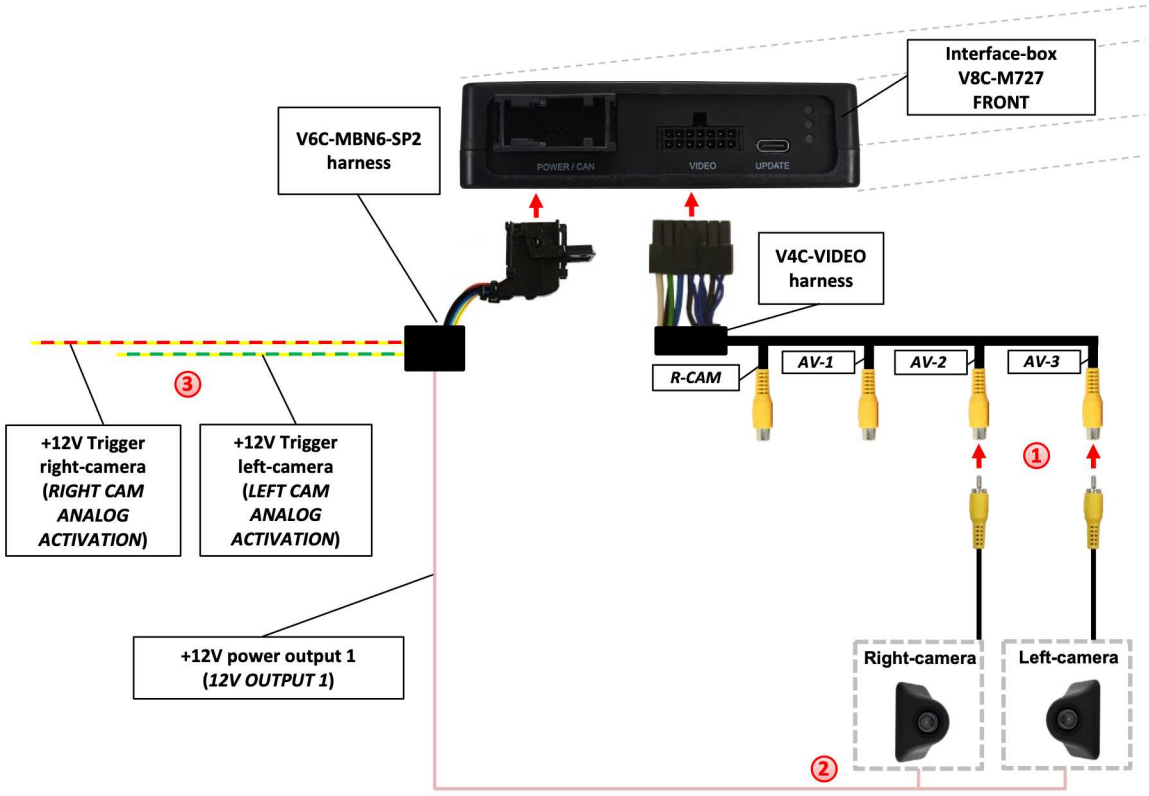


OSD-menu	Menu item	Setting	Explication
INPUT	FVC	OFF	Front camera deactivated
		ON	Switches to front camera if parking process is enabled and reverse gear is released
OPTION 1	PARK LOGIC	RGEAR ONLY	Enabled while parking process (not suitable for front camera operation)
		SPEED & TIME	Enabled while parking process and up to e.g. 10km (speed adjustable) or up to 20 second
OPTION 2	R/F CAM TILL	XX	Speed setting for deactivating of the camera image
OPTION 2	F/S CAM FROM	XX	Speed range setting for front- and side cameras (minimum)
OPTION 2	F/S CAM TILL	XX	Speed range setting for front- and side cameras (maximum)
OPTION 2	BLINKER MODE	FRONT CAM	Activation of the front camera image when the blinker is activated
OPTION 2	FVC TRIGGER	CAN	Blinker signal detection over CAN Bus
		ANALOGUE	Blinker signal detection over analogue +12V signals

Notes: The camera activation via the blinker mode is only available for front camera or for the side view cameras. A parallel use of this function for all cameras is not possible.

3.2.3. After-market side view cameras

3.2.3.1. Connection of the after-market side view cameras



1 Connect the video RCA of the right side view camera to the female RCA connector “AV-2” and the video RCA of the left side view camera to the female RCA connector “AV-3”of the V4C-VIDEO harness.

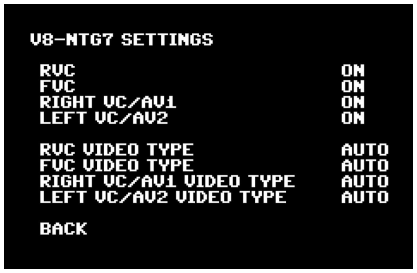
2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP can be used for +12V electric power supply (max. 1A) of the after-market side cameras. Configure in the OSD-menu “OPTION 1”, menu item “POWER OUT 1” the setting “CAM” or “PWS” (see also chapter “Configurable switching outputs”).



3 **Exception**: Connect the yellow/red wire to the right analogue blinker signal and the yellow/green wire to the left analogue blinker signal of harness V6C-MBN6-SP (triggered +12V blinker power) and make the menu setting - OPTION 2 / RIGHT VC , LEFT VC TRIGGER - „ANALOGUE“, if the system doesn’t switch to the aftermarket side view camera automatically after the described OSD-setup (OPTION 2 / RIGHT VC , LEFT VC TRIGGER - „CAN“, see next chapter).

3.2.3.2. Settings for connecting of after-market side view cameras

For the use of side view cameras, the interface offers not only manual activation, but also activation via the blinker function. Note: via CAN bus blinker signal detection (menu: OPTION 2 / RIGHT VC , LEFT VC TRIGGER - "CAN“), the activation does not take place in "blinker comfort mode" (brief touch of the blinker lever).
You have to configure some settings in the OSD menus INPUT, OPTION 1 and OPTION 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).





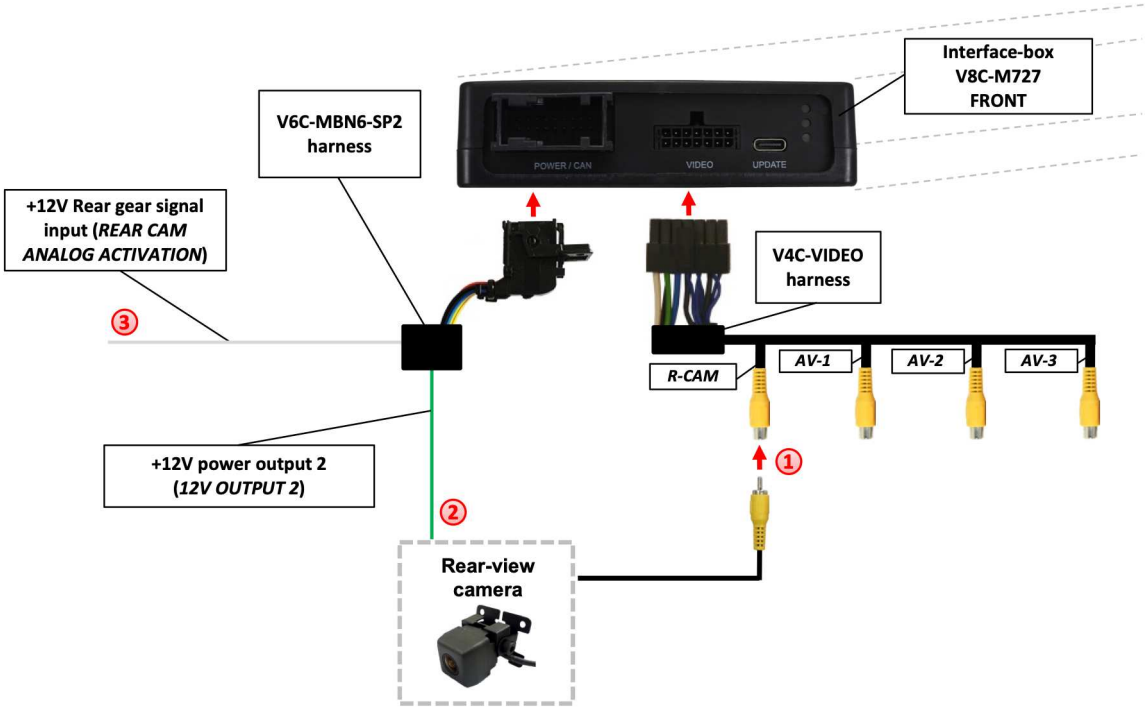


OSD-menu	Menu item	Setting	Explication
INPUT	RIGHT VC	ON	Right camera input activated
	LEFT VC	ON	Left camera input activated
OPTION 1	PARK LOGIC	RGEAR ONLY	Enabled while parking process (not suitable for front camera operation)
		SPEED & TIME	Enabled while parking process and up to e.g. 10km (speed adjustable) or up to 20 second
OPTION 2	R/F CAM TILL	XX	Speed setting for deactivating of the camera image
OPTION 2	F/S CAM FROM	XX	Speed range setting for front- and side cameras (minimum)
OPTION 2	F/S CAM TILL	XX	Speed range setting for front- and side cameras (maximum)
OPTION 2	BLINKER MODE	SIDE CAM	Activation of the side view cameras image when the blinker is activated
OPTION 2	RIGHT TRIGGER	CAN	Blinker signal detection over CAN Bus
		ANALOGUE	Blinker signal detection over analogue +12V signals
OPTION 2	LEFT TRIGGER	CAN	Blinker signal detection over CAN Bus
		ANALOGUE	Blinker signal detection over analogue +12V signals

Notes: The camera activation via the blinker mode is only available for front camera or for the side view cameras. A parallel use of this function for all cameras is not possible.

3.2.4. After-market rear-view camera

3.2.4.1. 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 “R-CAM” of the V4C-VIDEO harness.

2 The green wire (12V OUTPUT 2) of harness V6C-MBN6-SP can be used for +12V electric power supply (max. 1A) of the after-market rear-view camera. Configure in the OSD-menu “OPTION 1”, menu item “POWER OUT 2” the setting “CAM” or “PWS” (see also chapter “Configurable switching outputs”).



3 **Exception**: Connect the white wire of harness V6C-MBN6-SP to analogue rear gear signal (+12V) and make the menu setting - OPTION 2 / RVC TRIGGER - „ CAN “, if the system doesn’t switch to the aftermarket rear-view camera automatically after the described OSD-setup (OPTION 2 / RVC TRIGGER - „ ANALOGUE “, see next chapter).

3.2.4.2. Settings for connecting an after-market rear-view camera

You have to configure some settings in the OSD menus INPUT, OPTION 1 and OPTION 2 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	Rear-view camera deactivated
		ON	Switches to rear-view camera if reverse gear is engaged or PDC is activate
OPTION 1	PARK LOGIC	RGEAR ONLY	Enabled while parking process (not suitable for front camera operation)
		SPEED & TIME	Enabled while parking process and up to e.g. 10km (speed adjustable) or up to 20 second
OPTION 2	R/F CAM TILL	XX	Speed setting for deactivating of the camera image
OPTION 2	RVC TRIGGER	CAN	Rear gear signal detection over CAN Bus
		ANALOGUE	Rear gear signal detection over analogue +12V signals

Note 1: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).

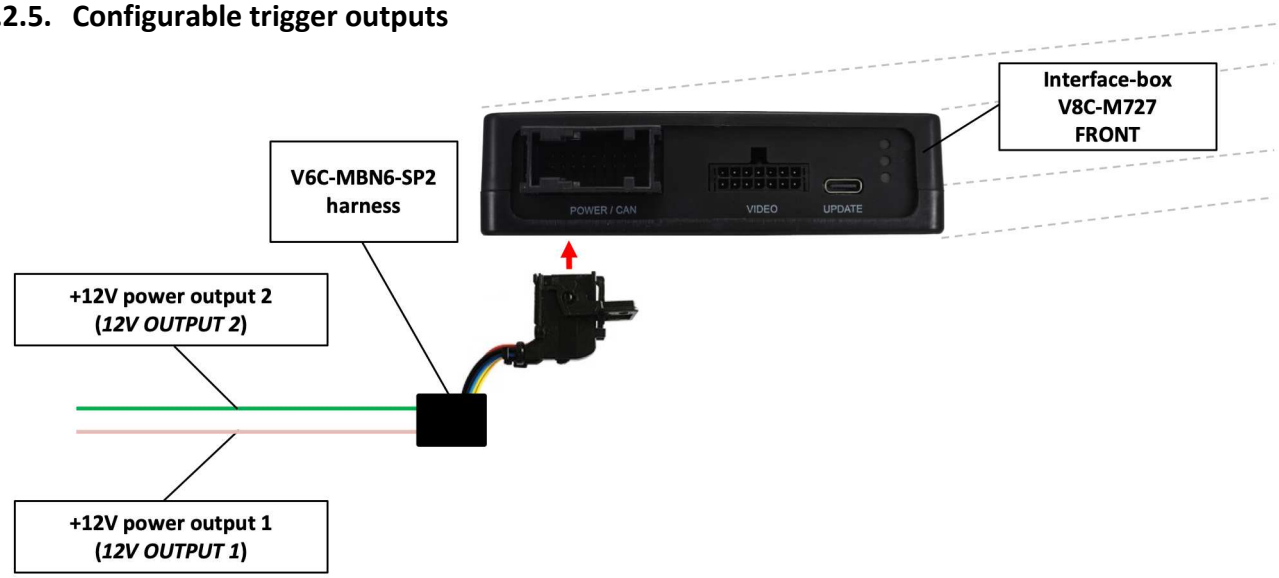
Note 2: You can manually switch the rearview camera image to other activated camera inputs by pressing and holding the “STAR” steering wheel button (on the right side of the steering wheel). Each subsequent short press of the “STAR” steering wheel button switches between the activated camera inputs.

3.2.4.3. Settings for OEM rear-view camera

OSD-menu	Menu item	Setting	Explication
INPUT	RVC	OEM	If a factory rear-view camera is existing! The interface turns off, if reverse gear is enabled and it displays factory rear-view camera
OPTION 1	PARK LOGIC	SPEED & TIME	Enabled while parking process and up to e.g. 10km (speed adjustable) or up to 20 second
OPTION 2	R/F CAM TILL	XX	Speed setting for deactivating of the camera image

Note: The OEM rearview camera image can be manually switched to other activated camera inputs by pressing and holding the “STAR” steering wheel button (on the right side of the steering wheel). Each subsequent short press of the “STAR” steering wheel button switches between the activated camera inputs.

3.2.5. Configurable trigger outputs



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

Note: You can configure the both trigger outputs in the OSD-menu OPTION 1 separately (Operation of the OSD: see chapter “OSD-Operation”).



OSD-menu	Menu item	Setting	Explication
OPTION 1	POWER OUT 1 (pink) POWER OUT 2 (green)	CAN	+12V when the interface is on (red LED on)
		ACC	+12V when ignition is on
		CAM	+12V when camera input is activated (manually or automatically)
		RGEAR	+12V when reverse gear is engaged
		PWS	+12V when camera input is activated (manually or automatically) and when the speed has dropped below 10 km/h
		OFF	Trigger output deactivated

Tip: We recommend for all camera modes the POWER OUT setting “CAM” and for AV source the power out setting “ACC”. If the camera takes a little longer to become operational (e.g., the camera image flickers briefly when turned on), then the “PWS” setting would be the correct one.

3.3. Camera video format settings

The interface features automatic camera video format detection (CVBS, AHD).
Alternatively, the camera video format setting can be configured manually for each video input in the OSD menu INPUT (operation of the OSD: see chapter “OSD-Operation”).





OSD-menu	Menu item	Setting
INPUT	RVC VIDEO TYPE / FVC VIDEO TYPE / RIGHT VC/AV1 VIDEO TYPE / LEFT VC/AV2 VIDEO TYPE	AUTO
		CVBS PAL
		CVBS NTSC
		720p/25 PAL
		720p/30 NTSC
		1080p/25 PAL
		1080p/30 NTSC

Note: Automatic camera video format detection is performed only once (if successful). To reactivate automatic detection, select the "CAMERA RESET" menu item once in the OSD menu OPTION 1.
Alternatively, automatic camera video format detection can be reactivated using DIP switch "3". To do this, first disconnect the interface from power, set DIP 3 to ON, reconnect the interface to power, and after 10 seconds set DIP 3 back to OFF.

3.4. Picture settings

The camera picture settings can be set in the OSD menu.
For this setting you must at first activate the camera level and push then the „**HOME**“ steering wheel button for 3sec. (right steering wheel side) to activate the settings menu.
With the “**PICK UP**“ (up), “**HANG UP**“ (down) and “**STAR**” (OK) steering wheel buttons you can select and change the "BRIGHTNESS", "CONTRAST" and "COLOUR"menu points.
Over the menu point "Exit" you can leave this settings menu.

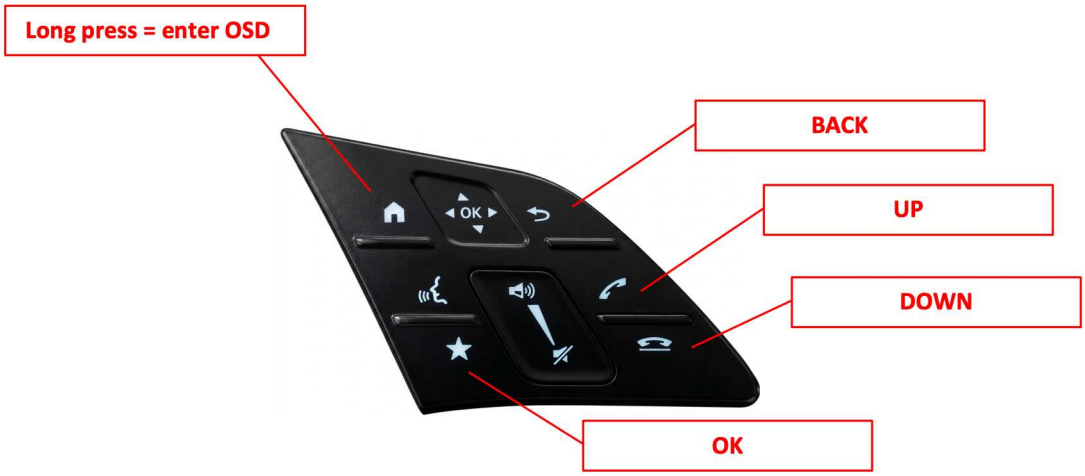


Note: The picture settings will be retained for every camera input separately.

4. Operation

4.1. OSD – Operation

The OSD menu can be controlled via the following buttons:



4.2. Selecting the interface as current video source



Press long "STAR" button to choose the interface as current video source.

Short press "STAR" button switch the video sources (cameras/AV sources). Each short press will switch to the next enabled input. If all inputs are enabled the order would be as follows:

Rear CAM → Front CAM → Right Cam/AV1 → Left Cam/AV2 → …

Inputs which are not enabled are skipped.

The exiting of the interface camera/video level is achieved by **long press** of "**STAR**" button or **short press** of "**BACK**" button.

5. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	1mA
Operation power drain	190mA
Power consumption	2,6W
Temperature range	-20°C to +80°C
Weight (box only)	285g
Measurements (box only) B x H x T	141 x 30 x 105 mm

CE ⎓12V DC

6. Connections (interface-box)

