

Technical training.
Product information.

I01 Displays and Controls



BMW Service

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General information

Symbols used

The following symbol is used in this document to facilitate better comprehension or to draw attention to very important information:



Contains important safety information and information that needs to be observed strictly in order to guarantee the smooth operation of the system.

Information status and national-market versions

BMW Group vehicles meet the requirements of the highest safety and quality standards. Changes in requirements for environmental protection, customer benefits and design render necessary continuous development of systems and components. Consequently, there may be discrepancies between the contents of this document and the vehicles available in the training course.

This document basically relates to the European version of left-hand drive vehicles. Some operating elements or components are arranged differently in right-hand drive vehicles than shown in the graphics in this document. Further differences may arise as a result of the equipment specification in specific markets or countries.

Additional sources of information

Further information on the individual topics can be found in the following:

- Owner's Handbook
- Integrated Service Technical Application.

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The information contained in this document forms an integral part of the technical training of the BMW Group and is intended for the trainer and participants in the seminar. Refer to the latest relevant information systems of the BMW Group for any changes/additions to the technical data.

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I01 Displays and Controls

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I01 Displays and Controls

1. Displays

A range of displays and operating elements in the I01 ensure that the driver is able to operate the vehicle safely and comfortably and he is properly informed about every condition of the vehicle.

In this reference manual some new or modified displays and operating elements are described.

1.1. Instrument cluster.



Instrument cluster in the I01

1.1.1. Structure.

The driving and operating conditions and the state of charge of the high-voltage battery of the I01 are displayed in the instrument cluster and if desired in the central information display.

The instrument cluster of the I01 is installed at the steering column. The displays of the instrument cluster of the I01 are thus characterized by the fact that the warning lights are illuminated using LEDs and in the central area a 5.7" TFT display shows various pieces of constantly changing information. There is a small speaker installed in the instrument cluster which is used to emit the sounds for the Check Control messages and the acoustic sound when the turn indicator is activated.

On the left side there is a button which can be used to reset the trip distance recorder and call up the system test and service functions.

The instrument cluster is always replaced as an entire unit.

When there is no voltage supply the entire display of the instrument cluster is black.

1.1.2. US version

The lights and displays in the TFT display.

I01 Displays and Controls

1. Displays



Instrument cluster in US version

Index	Explanation
1	TFT display
2	Parking brake
3	ABS warning light
4	Brake system warning light

The information shown on the TFT display is distinguished primarily in the representation of the units. The distances travelled (range, trip distance, odometer) are specified in "miles". The values for ambient temperature are shown in Fahrenheit and for speed (current speed driven and set speed, as well as road sign recognition) in "miles per hour" mph. The warning lights for the brake system, ABS and Automatic Hold brake are displayed with text instead of symbols.

1.1.3. Service functions

By pressing the reset button for an extended period (> 10 s) the following Service functions can be called up in the TFT display:

I01 Displays and Controls

1. Displays

- Identification
- System test
- "Brake test mode"
- Unlocking test functions

The individual menus can be called up as normal by pressing and releasing the button (< 5 s).

Only the first three test functions are freely accessible. All other test functions are locked from the fourth test function onwards. The test functions are unlocked by entering the total of the last five digits of the vehicle identification number. ex. XX22222=10

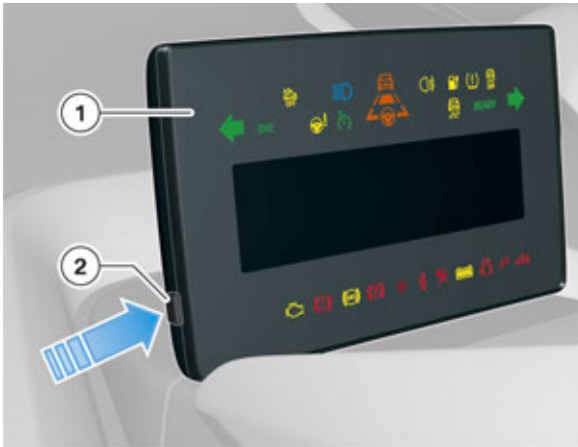
The menu with Condition Based Service scope is accessed by pressing the button for 5 to 10 seconds.

"Brake test mode"

Brake test stands can also be used as performance test stands. For some checks it may be necessary to activate "Brake test mode" depending on the system to be checked. The "Brake test mode" can be activated by the instrument cluster.

I01 Displays and Controls

1. Displays



4 01 – Ident
02 – System test
03 – Roller operation

5 01 – Ident
02 – System test
03 – Roller operation

6 03.1 – Start roller operation
(ESC OFF)?

7 Test mode
End with start of driving

Activation of "Brake test mode"

Index	Explanation
1	Instrument cluster
2	Reset button
3	START-STOP button
4	Display in the instrument cluster after the reset button is pressed for approx. 10 seconds
5	Display in the instrument cluster after "Brake test mode" is marked (press and release reset button twice)
6	Display in the instrument cluster after "Brake test mode" is selected (hold down reset button)
7	Display in the instrument cluster after "Brake test mode" is activated

Activating "Brake test mode"

TF13-0544

I01 Displays and Controls

1. Displays

- Switch on terminal 15
Instrument cluster is switched on
- Press and hold reset button for 10 seconds
Then the submenu for selecting various functions appears
- Press and release reset button twice
"Brake test mode" is marked
- Press and hold reset button
"Brake test mode" is now selected
- Press and release reset button
"Brake test mode" is activated

"Brake test mode" can be deactivated manually by a terminal change or automatically by exiting "Brake test mode". The steering angle, the longitudinal acceleration and the yaw rate of the vehicle are evaluated for the automatic deactivation of "Brake test mode". If the stored values are exceeded, as would happen when driving normally, "Brake test mode" is automatically switched off. Deactivated "Brake test mode" is identified when the text message "Test operation ends upon start of the journey" disappears. The full functionality of the Dynamic Stability Control DSC can only be established again by a terminal change.



DSC indicator and warning light

1.2. Displays in central information display

The structure of the main menu in the central information display of the I01 corresponds to the structure of the main menu in the central information display of the current BMW vehicles with Headunit High.



CID main menu in the I01

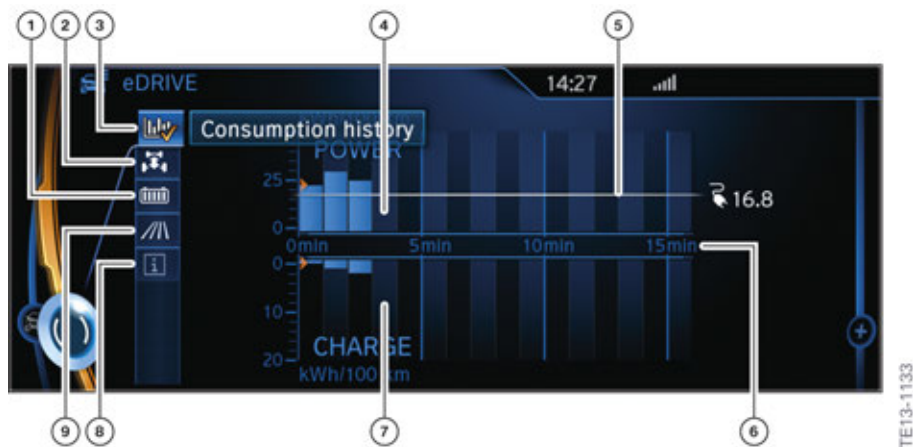
Only the design was modified and adapted to the BMW i design. Some functions in the submenus "Vehicle information" and "Settings" are new.

I01 Displays and Controls

1. Displays

1.2.1. "Vehicle information" submenu

The energy / power flows and the state of charge of the high-voltage battery can be shown in the CID in all the vehicle's operating states. This provides the driver with an overview of the operating principle of the high-voltage system during charging and at different driving conditions, e.g. during energy recovery. The displays are called up in the central information display by the menu selection "Vehicle information > eDRIVE".



Display for consumption history

Index	Explanation
1	Selection of display "Energy distribution"
2	Selection of display "Energy flow"
3	Selection of display "Consumption history"
4	Indication range for electric driving
5	Average consumption (electrical energy)
6	Time axis (for the last 16 minutes)
7	Indication range for energy recovery
8	Selection of display "ECO notes"
9	Selection of display "Driving style analysis"

The upper bars show the average amount of energy consumed during the driving time. The lower bars show the average amount of energy recovered during the driving time.

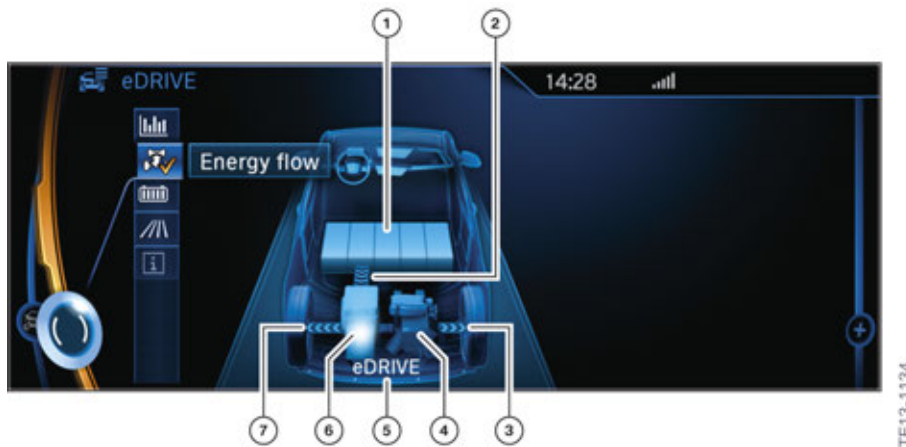
One bar stands for a period of one minute. The height of the bar provides information on the energy used/recovered. Depending on what were selected for consumption, the specification for the Y-axis (energy axis) is kWh/100 km, mls/kWh or km/kWh. The maximum scale for the Y-axis changes accordingly.

I01 Displays and Controls

1. Displays

Unit selected	Maximum scale for electric driving	Maximum scale for energy recovery
kWh / 100 km	50	20
mls/kWh	6	20
km/kWh	10	30

The average consumption of the eDRIVE system is displayed by a line above the bar display and as a value on the right beside the diagram.



Displays for energy flow during electric driving and energy recovery

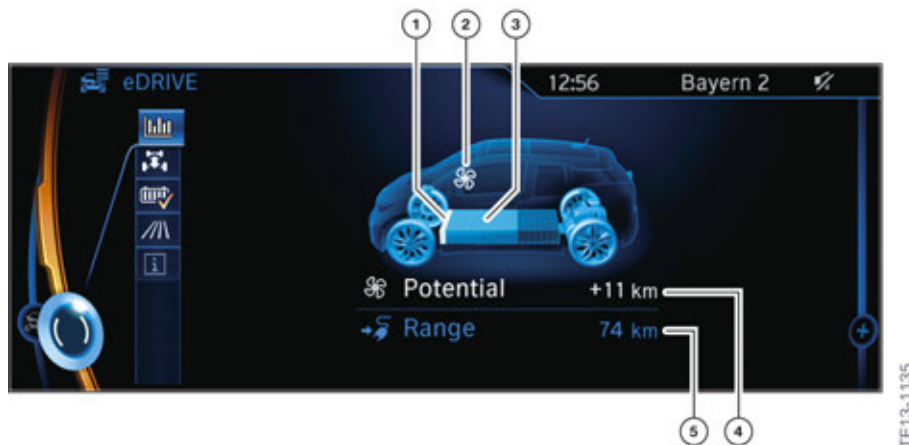
Index	Explanation
1	State of charge of the high-voltage battery
2	Energy flow from high-voltage battery to the electrical machine
3	Power flow from electric motor to right rear wheel
4	Range extender symbol
5	Text message for current driving situation "eDRIVE"
6	Electric motor
7	Power flow from electric motor to right rear wheel

The energy for the vehicle's powertrain is taken from the high-voltage battery. When the selection menu "Electric driving/Energy recovery" is selected in the central information display, the energy flow from the high-voltage battery via the electric motor to the rear wheels is shown with a blue arrow. The text message "eDRIVE" also appears below the vehicle symbol. The high-voltage battery is divided into five segments. The segments are shown as filled depending on the state of charge. In the example above all five segments are filled. This equates to a state of charge of 100 %.

During energy recovery the direction of the arrow from the rear wheels to the electric motor and the high-voltage battery is reversed. The text message "CHARGE" also appears below the vehicle symbol.

I01 Displays and Controls

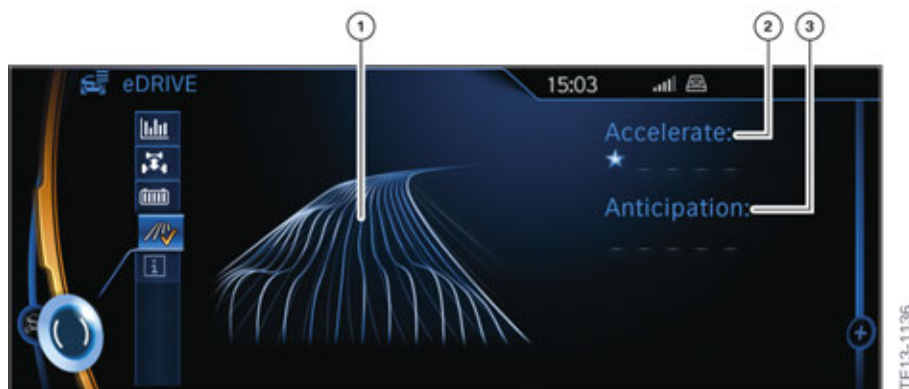
1. Displays



Display for energy distribution

Index	Explanation
1	Energy requirement of activated secondary consumers
2	Symbol for activated consumers (climate control, seat heating, etc.)
3	Available energy for electric driving
4	Savings potential if the secondary consumer(s) is (are) switched off
5	Range with available energy in the high-voltage battery

The display for energy distribution gives the driver information on the current state of charge of the high-voltage battery, the energy requirement of the activated secondary consumers and the possible range extension by switching off the secondary consumers.



Display for driving style analysis

Index	Explanation
1	Graphic diagram of driving style
2	Bonus stars for moderate acceleration
3	Bonus stars for proactive driving

I01 Displays and Controls

1. Displays

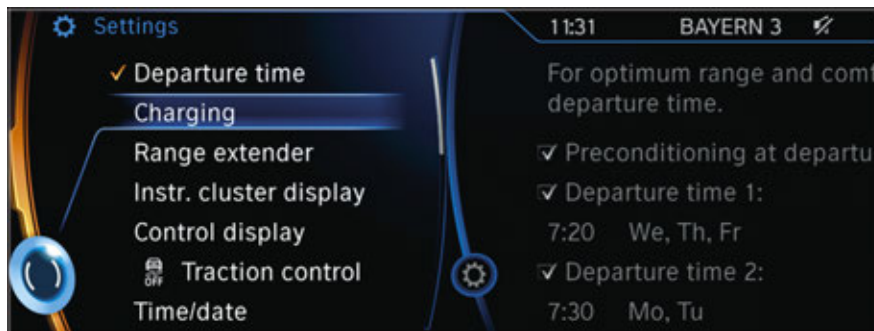
The display of the driving style analysis consists of a symbolized road route and a table of values. The function is available in ECO PRO mode. The system helps to develop a particularly efficient driving style and save energy. The driving style is analyzed for this. The evaluation is effected in different categories for acceleration and proactive driving and is shown in the central information display. Using this display the individual driving style can be oriented towards an energy-saving style. The last fifteen minutes of a trip are evaluated. This way the range of the vehicle can be extended by an efficient driving style.

The road symbolizes the efficiency of the driving style. The more efficient the driving style the smoother the route. The table of values contains stars. The more efficient the driving style, the more stars there are in the table. In contrast, for an inefficient driving style a wavy road and a reduced number of stars are displayed. ECO PRO notes are displayed during the trip as support for an efficient driving style.

1.2.2. "Settings" submenu

In the "Settings" submenu the following settings can be performed, in addition to the previously known settings:

- Departure time settings
- Charging settings
- Range extender settings (not US)
- Displays in the instrument cluster
- Traction control.



"Settings" submenu

Departure time settings

The driver has the option to control the charging procedure so that the charging procedure is completed at the departure time. With a set departure time the vehicle can be preheated/precooled at a set climate control during the charging procedure. This way the passenger compartment is already heated or cooled before the trip begins. The energy requirement for heating and cooling during the trip is reduced, thereby extending the range.

The following settings are possible for the departure time:

I01 Displays and Controls

1. Displays

- Climate control for departure time
- Planning of a departure time
- Planning of up to three regular departure times per day.

Charging settings

In the "Charging settings" submenu the driver can adopt the following settings:

- Activate "Charge immediately" option. This means the high-voltage battery is charged immediately after the charging cable is connected.
- Set time frame for moderate charging
- Set charge current
- Adjust charging via AC rapid charging cable.



"Charging settings" submenu

Index	Explanation
1	"Current settings" submenu
2	Note "Before increasing the current level: Check suitability of voltage supply. For maximum charge current see charging cable."
3	"Maximum" charge current
4	"Reduced" charge current
5	"Low" charge current
6	Submenu "Settings -> Charging"

The driver has the option to restrict the maximum current level at the power socket via the "Settings" submenu. If the current level at the power socket is insufficient or unknown, it is recommended to adjust the current level to "Reduced" or "Low".

I01 Displays and Controls

1. Displays

Displays in the instrument cluster

In this menu the driver can select which of the following information is shown in the TFT display of the instrument cluster:

- Range (on-board computer)
- Average consumption (on-board computer)
- Current consumption (on-board computer)
- Average speed (on-board computer)
- Road sign recognition.

Traction control

The Dynamic Traction Control DTC cannot be activated or deactivated using a button as before, but must be selected in the central information display CID using the controller.



Activation of the DTC in the I01

Index	Explanation
1	Central information display CID
2	"Settings" menu
3	Dynamic Traction Control DTC
4	Controller
5	Instrument cluster KOMBI
6	DSC indicator and warning light

I01 Displays and Controls

1. Displays

The activation of the DTC is confirmed with a tick. DTC increases the drive on unpaved surfaces as braking takes place very late by the DSC unit. However, this reduces the driving stability. The driver is notified of this condition with the DSC indicator and warning light in the instrument cluster. Above a driving speed of 50 km/h / 30 mph the slip limits are automatically reset again to the normal value. If as a result the driving speed of 50 km/h / 30 mph is not reached, the increased slip limits and the resulting conditions are active again. The DTC is activated following a terminal change.

1.3. Displays on the smartphone

Customers of the I01 have the option to use a variety of remote functions for their vehicle using a smartphone (e.g. iPhone™). Using the My BMW i Remote app they can obtain information, also when outside the vehicle, about the state of charge of the high-voltage battery, range of the vehicle, remaining charge time of the high-voltage battery, inner and ambient temperature of the vehicle, as well as the vehicle location. The app also shows the charging stations on a map, which can be conveniently sent to the vehicle's navigation system. The charging procedure of the high-voltage battery and the preheating/precooling of the passenger compartment can be controlled remotely using his app.

The BMW i Remote app is a further development of the familiar My BMW Remote app, which was designed especially for the specific requirements of electric mobility.

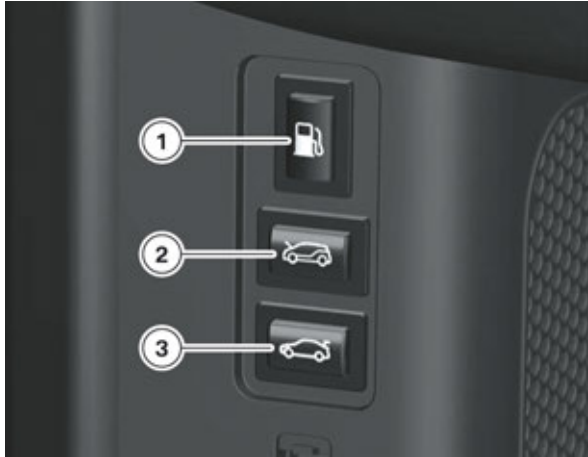


The description for the My BMW i Remote app can be found in the training reference manual "I01 Information and Communication System"

I01 Displays and Controls

2. Operation

2.1. Button on the A-pillar.



Button on the A-pillar

Index	Explanation
1	Refueling button only with range extender
2	Button for unlocking the engine compartment lid
3	Button for unlocking the tailgate

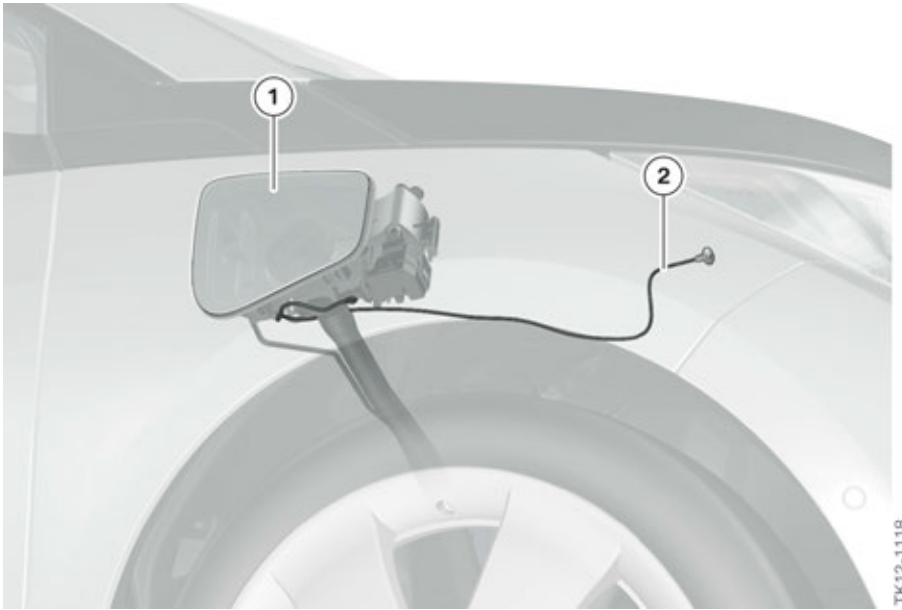
2.1.1. Refuelling

The volatile elements of gasoline are more prevalent as the outside temperature rises. These gases have the ability under pressure absorb a large volume of the respective fluid. This means when the volume ratios remain unchanged (e.g. as they are in the fuel tank) pressure is built up by this outgassing. This is why in the I01 with W20 combustion engine a pressurised fuel tank made from stainless steel is installed. As a result during pure electric driving it is guaranteed that the gasoline fumes remain in the pressurised fuel tank.

This pressurised fuel tank has a fuel tank capacity of 9.0 liters / 2.4 gallons. The pressurised fuel tank must be vented before refuelling. The identifying feature for vehicles with a range extender is the fuel filler flap in the right front fender.

I01 Displays and Controls

2. Operation



Fuel filler flap and emergency operation

Index	Explanation
1	Fuel filler flap
2	Emergency cord

The driver can start the refueling request by pressing the refueling button. The pressure compensation starts in the pressurised fuel tank by pressing the button. An operating message is shown in the TFT display of the instrument cluster. The confirmation of the refueling readiness is also displayed in the instrument cluster. The fuel filler flap is unlocked after the pressure compensation is completed. The fuel filler flap is opened in the normal way. If the fuel filler cap has been unlocked, it is automatically locked again. The position of the fuel filler flap is identified using a hall effect sensor. After the refueling process and the closing of the fuel filler flap this is locked again using the tank fuel electronics (TFE) control unit.

2.2. Gear selector switch



Installation location of the gear selector switch in the I01

I01 Displays and Controls

2. Operation

The gear selector switch is used to select a drive position in the I01. It is installed on the steering column. It is a monostable rotary gear selector switch. This means after the rotary switch is released it returns to its original position. A shaft is also rotated when the rotary switch is turned. At the other end of this shaft is a magnet. Its movement is identified by an evaluation circuit in the gear selector switch and the corresponding drive position is engaged.



Gear selector switch in the I01

Index	Explanation
1	Park button
2	Rotary switch
3	Gear indicator
4	START-STOP button
5	Functional display

By turning the rotary switch in the relevant direction the familiar drive positions "D", "N" and "R" can be selected. The parking lock is engaged by pressing the Park button.

The drive positions are shown as a shift pattern. The current drive position is highlighted and displayed in green.

By pressing the start/stop button the different terminals can be switched on and off. The reactions of the terminals in the I01 corresponds to those known from F series vehicles.

The driving readiness is activated by simultaneously pressing the START-STOP button and the brake pedal. The activation of the driving readiness is indicated to the driver by the blue display and an audible sound. The deactivation of the driving readiness is indicated to the driver by the orange display around the START-STOP button along with an audible sound.

I01 Displays and Controls

2. Operation

2.3. Intelligent Safety.



Control panel for audio and climate

Index	Explanation
1	Intelligent Safety button

The "Intelligent Safety" button is located below the hazard warning switch. Using this button functions such as collision warning and pedestrian warning can be switched on and off.

The functions collision warning and pedestrian warning are switched on automatically after the driving readiness is switched on. The indicator light in the Intelligent Safety button illuminates in green and indicates that both functions are activated.

After pressing and releasing the Intelligent Safety button the "Intelligent Safety" submenu appears in the CID.



Intelligent Safety: All functions activated

Depending on the setting one or the two functions are switched off.

The select switching on and off of the two functions can also be activated by using the controller.

The indicator light in the Intelligent Safety button illuminates in orange or goes out completely (depending on the setting). The two functions are switched back on again by pressing and releasing the Intelligent Safety button.

I01 Displays and Controls

2. Operation



Intelligent Safety: One of the functions is not activated

Both functions are deactivated by holding down the Intelligent Safety button.

In this case the indicator light in the Intelligent Safety button is not illuminated.

By pressing and releasing the Intelligent Safety button the two functions are switched back on again and the indicator light in the Intelligent Safety button illuminates in green.

2.4. Center Console

2.4.1. Automatic release of the parking brake



I01 center console

Index	Explanation
1	Parking brake button

When the parking brake is activated the parking brake button must not be operated for driving off. It is automatically released when the driver presses the accelerator.

Prerequisites for automatic release of the EMF:

I01 Displays and Controls

2. Operation

- All doors are closed
- Driver's seat belt is fastened
- Driving readiness established
- EMF operated
- Drive position engaged
- Accelerator pedal operated.

2.4.2. Driving experience switch

Driving experience switch:



I01 center console

Index	Explanation
1	Driving experience switch

Using the driving experience switch certain functions of the vehicle can be changed. Three driving modes are available for selection:

- COMFORT (standard, maximum availability of systems and functions)
- ECO PRO (reduced consumption together with extended range)
- ECO PRO+ (coordination for maximum range, maximum speed is 90 km/h / 55 mph).

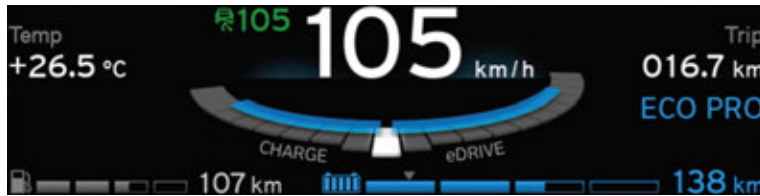
The selection of the individual driving modes is effected by pressing the driving experience switch in the corresponding direction. The driving modes ECO PRO and ECO PRO+ are shown in the TFT display of the instrument cluster. The display at the IHKA also illuminates. The change of driving modes can be shown in the CID (Settings → Driving mode → Driving mode information).

I01 Displays and Controls

2. Operation

2.5. Rolling without energy consumption (coasting).

Coasting is a very efficient feature. Here the vehicle is only decelerated by the driving resistances and there is no energy flow between the high-voltage battery and the electrical machine. In order to coast the accelerator pedal must be pressed so that the mark in the instrument cluster is exactly in the center.



Display in the instrument cluster during coasting

TE13-1141

I01 Displays and Controls

2. Operation

2.6. Emergency operations.



Emergency operations in the I01 with range extender

TE13-1139

I01 Displays and Controls

2. Operation

Index	Explanation
1	Emergency operation of the fuel filler flap
2	Emergency operation of the charging socket cover
3	Emergency operation of the charging plug
4	Emergency operation of the driver's door
5	Emergency operation of the engine compartment lid

2.7. Exhaust-gas test mode of range extender

It is necessary to start the combustion engine for an exhaust-gas test in the I01 with range extender. This is made possible with the following operating sequence:

- Tailgate is open
- Switch on ignition (terminal 15) and engage drive position "P" (without operating the brake)
- Press and hold down the accelerator pedal within 60 seconds
- Press the brake three times within 20 seconds
- Release brake
- Release accelerator
- Press brake and the start/stop button
- The combustion engine starts if the SOC of the high-voltage battery is less than 75 %.

As a Check Control message the status "Exhaust-gas test mode activated" is output when the combustion engine is running. The empty run point is automatically approached during the warm-up phase. Using the pedal sensor position two speed points of the combustion engine are selected for the measurement.

The "Exhaust-gas test" mode is automatically ended:

- after 20 minutes
- or at the start of driving the vehicle
- or by switching off the ignition.



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