Original BMW Accessory.
Installation Instructions.

Front seat heating system retrofit
BMW 1 Series (E87)
BMW 3 Series Saloon (E90)
BMW 3 Series Touring (E91)
BMW 3 Series Coupé (E92)

Retrofit kit No. 61 11 0 391 644 Retrofit kit for E87 with manual seat adjustment
61 11 0 400 883 Retrofit kit for E90, E91 and E92 with manual seat adjustment
61 11 0 405 003 Retrofit kit for E90, E91 and E92 with electric seat adjustment
61 11 0 413 834 Retrofit kit for E87 with electric seat adjustment

Installation time
The installation time is 3.5 hours, but this may vary depending on the condition of the car and the equipment in it.

The installation of heating elements E is not included in the above installation time and must be calculated separately depending on the equipment in the car (see KSD for installation time and further details).

In general the car must be upgraded to the latest I stage status by flashing before starting the work. Depending on the production age of the car and the work already carried out on the car, the programming times will vary, which means that we cannot quote a specific time at this point.

The installation time does not include any time for programming/encoding, as this depends on the age of the car and the equipment in it.

Important information
These installation instructions are primarily designed for use within the BMW dealership organization and by authorized BMW service companies.

In any event the target group for these installation instructions is specialist personnel trained on BMW cars with the appropriate specialist knowledge.

All work must be completed using the latest BMW repair manuals, circuit diagrams, servicing manuals and work instructions, in a rational order, using the prescribed tools (special tools) and observing current health and safety regulations.

To avoid unnecessary extra work and/or costs, if any installation or function problem occurs, after a brief troubleshooting session (approx. 0.5 hours), please contact the following:
1. Either your national subsidiary or your regional office
2. The Support team via the Aftersales Assistance Portal (ASAP) using the optional technical parts support application.
Specify the chassis number and the part number of the installed retrofit kit and give a precise description of the problem.

Do not archive the hard copy of these installation instructions since daily updates are made by ASAP!

Pictograms:

Denotes instructions that draw your attention to special features.

Denotes the end of the instruction or other text.
**Installation information**

Ensure that the cables/lines are not kinked or damaged as you install them in the car. Costs incurred as a result of this will not be reimbursed by BMW AG.

Additional cables/lines that you install must be secured with cable ties.

If the specified PIN chambers are occupied, bridges, double crimps or twin-lead terminals must be used.

After the installation work, the retrofit must be programmed / coded via the **Retrofit** path.

All the figures show LHD cars, proceed in exactly the same way on RHD cars.

**Ordering instructions for E87**

Check color versions and technical equipment. The following parts are not supplied in the retrofit kit and must be ordered separately (see EPC for part number and details).

- Center console switch center O
- Trim P or R
- Trim for center instrument panel Q

**Ordering instructions for E90, E91 and E92**

Check color versions and technical equipment. The following parts are not supplied in the retrofit kit and must be ordered separately (see EPC for part number and details).

- Center console switch center O
- Trim P

**List of special equipment**

The following special equipment must be taken into consideration when installing the retrofit kit:

- **SA 459** Electric seat adjustment with memory for driver’s seat
- **SA 609** Professional navigation system

**Special tools required**

- 52 0 050, pliers
- 00 9 317, Trim wedge
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1. Parts overview for E87 (cars without SA 459 only)

Legend

A  Wiring harness for driver’s seat
B  Seat cable for driver’s seat
C  Wiring harness for passenger seat
D  Seat cable for passenger seat
E  Heating elements
G  Seat module (2x)
H  Holder (2x)
I  Fillister head screw M4 x 8 mm (4x)
J  Cable tie (20x)
K  13-pin SW plug (2x)
L  Miniature connector (2x)
M  Fusible link 30 A (2x)
N  Fusible link 5 A
O  Center console switch center (not supplied with retrofit kit)
P  Trim (cars with SA 609 only, not supplied in retrofit kit)
Q  Trim for center instrument panel (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
R  Trim (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
2. Parts overview for E87 (cars with SA 459 only)

Legend

A  Wiring harness for driver's seat
B  Seat cable for driver’s seat
C  Wiring harness for passenger seat
D  Seat cable for passenger seat
E  Heating elements
F  Seat module for driver’s seat
G  Seat module
H  Holder
I  Fillister head screw M4 x 8 mm (4x)
J  Cable tie (20x)
K  13-pin SW plug (2x)
L  Miniature connector (2x)
M  Fusible link 30 A (2x)
N  Fusible link 5 A
O  Center console switch center (not supplied with retrofit kit)
P  Trim (not supplied with the retrofit kit)
Q  Trim for center instrument panel (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
R  Trim (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
3. Parts overview for E90, E91 and E92 (cars without SA 459 only)

Legend

A  Wiring harness for driver's seat  
B  Seat cable for driver's seat  
C  Wiring harness for passenger seat  
D  Seat cable for passenger seat  
E  Heating elements  
G  Seat module (2x)  
H  Holder (2x)  
I  Fillister head screw M4 x 8 mm (4x)  
J  Cable tie (20x)  
K  13-pin SW plug (2x)  
L  Miniature connector (2x)  
M  Fusible link 30 A (2x)  
N  Fusible link 5 A  
O  Center console switch center (not supplied with retrofit kit)  
P  Trim (not supplied with the retrofit kit)
4. Parts overview for E90, E91 and E92 (cars with SA 459 only)

Legend

A  Wiring harness for driver's seat
B  Seat cable for driver's seat
C  Wiring harness for passenger seat
D  Seat cable for passenger seat
E  Heating elements
F  Seat module for driver's seat
G  Seat module
H  Holder
I  Fillister head screw M4 x 8 mm (4x)
J  Cable tie (20x)
K  13-pin SW plug (2x)
L  Miniature connector (2x)
M  Fusible link 30 A (2x)
N  Fusible link 5 A
O  Center console switch center (not supplied with retrofit kit)
P  Trim (not supplied with the retrofit kit)
## 5. Preparatory work

<table>
<thead>
<tr>
<th>Conduct a brief test</th>
<th>TIS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disconnect negative pole of battery</td>
<td>12 00 ...</td>
</tr>
</tbody>
</table>

### The following components must be removed first of all

<table>
<thead>
<tr>
<th>Component</th>
<th>TIS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front seat, left and right</td>
<td>52 13 000</td>
</tr>
<tr>
<td>Trim for center instrument panel (E87 only)</td>
<td>51 45 310</td>
</tr>
<tr>
<td>Glove box with casing</td>
<td>51 16 366</td>
</tr>
<tr>
<td>Release fuse holder</td>
<td>---</td>
</tr>
<tr>
<td>Pedal trim</td>
<td>51 45 185</td>
</tr>
<tr>
<td>Inside door sill strip, front (inside) right and left</td>
<td>51 47 000</td>
</tr>
<tr>
<td>Side footwell trim on the A pillar, right and left</td>
<td>51 43 070</td>
</tr>
<tr>
<td>Heating/air-conditioning control</td>
<td>64 11 377</td>
</tr>
<tr>
<td>Center console switch center (no longer required)</td>
<td>61 31 052/054</td>
</tr>
<tr>
<td>Seat covers for front seats, left and right</td>
<td>52 13 400</td>
</tr>
<tr>
<td>Backrest covers for front seats, left and right</td>
<td>52 13 405</td>
</tr>
</tbody>
</table>

### Cars with SA 459 only

Replace the existing driver’s seat module with driver’s seat module **F**
6. Connections diagram for driver’s seat

<table>
<thead>
<tr>
<th>Branch/Item</th>
<th>Designation</th>
<th>Signal</th>
<th>Cable color/Cross-section</th>
<th>Connection location in car</th>
<th>Abbreviation/Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Wiring harness for driver’s seat</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>A1</td>
<td>Socket contact</td>
<td>Terminal 31</td>
<td>BR</td>
<td>4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>A2</td>
<td>Socket contact</td>
<td>Terminal 30</td>
<td>RT/BR</td>
<td>4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>A3</td>
<td>Socket contact</td>
<td>Terminal 15</td>
<td>GN/RT</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>A4</td>
<td>Socket contact</td>
<td>O_SHFA</td>
<td>BL/VI</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>A5</td>
<td>Eyelet</td>
<td>Terminal 31</td>
<td>BR</td>
<td>4.0 mm²</td>
<td>To joint connector in passenger side footwell</td>
</tr>
<tr>
<td>A6</td>
<td>Blade terminal contact</td>
<td>Terminal 30</td>
<td>RT/BR</td>
<td>4.0 mm²</td>
<td>To fuse holder (natural 6-pin plug)</td>
</tr>
<tr>
<td>A7</td>
<td>Blade terminal contact</td>
<td>Terminal 15</td>
<td>GN/RT</td>
<td>0.35 mm²</td>
<td>To fuse holder (BL 15-pin plug)</td>
</tr>
<tr>
<td>A8</td>
<td>Socket contact</td>
<td>O_SHFA</td>
<td>BL/VI</td>
<td>0.35 mm²</td>
<td>To the junction box (SW 47-pin plug)</td>
</tr>
<tr>
<td></td>
<td>B Seat cable for driver’s seat</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>B1</td>
<td>8-pin socket casing SW</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>To driver’s seat module F or G (SW 8-pin plug)</td>
</tr>
<tr>
<td>B2</td>
<td>Plug contact</td>
<td>Terminal 31</td>
<td>BR</td>
<td>4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>B3</td>
<td>Plug contact</td>
<td>Terminal 30</td>
<td>RT/BR</td>
<td>4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>B4</td>
<td>Plug contact</td>
<td>Terminal 15</td>
<td>GN/RT</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>B5</td>
<td>Plug contact</td>
<td>O_SHFA</td>
<td>BL/VI</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>B6</td>
<td>Plug contact</td>
<td>K_CAN_H</td>
<td>OR/GN</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
<tr>
<td>B7</td>
<td>Plug contact</td>
<td>K_CAN_L</td>
<td>GN</td>
<td>0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
</tr>
</tbody>
</table>

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7. **Passenger seat connections diagram**

![Diagram of passenger seat connections]

<table>
<thead>
<tr>
<th>Branch/Item</th>
<th>Designation</th>
<th>Signal</th>
<th>Cable color/ Cross-section</th>
<th>Connection location in car</th>
<th>Abbreviation/ Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Wiring harness for passenger seat</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>C1</td>
<td>Socket contact</td>
<td>Terminal 31</td>
<td>BR 4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 8</td>
</tr>
<tr>
<td>C2</td>
<td>Socket contact</td>
<td>Terminal 30</td>
<td>RT/BR 4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 4</td>
</tr>
<tr>
<td>C3</td>
<td>Socket contact</td>
<td>Terminal 15</td>
<td>GN/RT 0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 5</td>
</tr>
<tr>
<td>C4</td>
<td>Socket contact</td>
<td>O_SHBF</td>
<td>BL/WS 0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 1</td>
</tr>
<tr>
<td>C5</td>
<td>Eyelet</td>
<td>Terminal 31</td>
<td>BR 4.0 mm²</td>
<td>To joint connector in passenger side footwell</td>
<td>X490</td>
</tr>
<tr>
<td>C6</td>
<td>Blade terminal contact</td>
<td>Terminal 30</td>
<td>RT/BR 4.0 mm²</td>
<td>To fuse holder (SW 6-pin plug)</td>
<td>X11004 PIN 6</td>
</tr>
<tr>
<td>C7</td>
<td>Cable open</td>
<td>Terminal 15</td>
<td>GN/RT 0.35 mm²</td>
<td>With miniature connector L to branch A7</td>
<td>---</td>
</tr>
<tr>
<td>C8</td>
<td>Socket contact</td>
<td>O_SHBF</td>
<td>BL/WS 0.35 mm²</td>
<td>To the junction box (SW 47-pin plug)</td>
<td>X14270 PIN 38</td>
</tr>
<tr>
<td>D</td>
<td>Seat cable for passenger seat</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>D1</td>
<td>8-pin socket casing SW</td>
<td>---</td>
<td>---</td>
<td>To seat module G (SW 8-pin plug)</td>
<td>X13710</td>
</tr>
<tr>
<td>D2</td>
<td>Plug contact</td>
<td>Terminal 31</td>
<td>BR 4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 8</td>
</tr>
<tr>
<td>D3</td>
<td>Plug contact</td>
<td>Terminal 30</td>
<td>RT/BR 4.0 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 4</td>
</tr>
<tr>
<td>D4</td>
<td>Plug contact</td>
<td>Terminal 15</td>
<td>GN/RT 0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 5</td>
</tr>
<tr>
<td>D5</td>
<td>Plug contact</td>
<td>O_SHBF</td>
<td>BL/WS 0.35 mm²</td>
<td>To seat disconnection plug (19-pin GE)</td>
<td>X279 PIN 1</td>
</tr>
</tbody>
</table>
8. Installation and cabling diagram

Legend

A  Wiring harness for driver's seat
B  Seat cable for driver's seat
C  Wiring harness for passenger seat
D  Seat cable for passenger seat
F  Seat module for driver's seat
G  Seat module
O  Switch center, center console

1  Joint connector X490
2  Passenger side footwell
   - Fuse holder, plugs X11003, X11004 and X11005
   - Junction box, plug X14270
3  Seat disconnection plug X279
4  Seat disconnection plug X275
9. To install the seat modules and heating elements

Cars without SA 459 only

Insert both seat modules G into holder H and secure them.

The plugs must point to the rear.

Secure holders H under the seat (1) on both seats using fillister head screws I.

Cars with SA 459 only

The plugs must point to the rear.

Replace the fitted seat module with driver’s seat module F.

Insert seat module G into holder H and secure it.
9. To install the seat modules and heating elements

The plugs must point to the rear. ✗

Secure holders \textbf{H} under the seat (1) on the passenger seat using fillister head screws \textbf{I}.

Affix heating elements \textbf{E} to the seat and backrest padding (1) (see TIS RA 52 13 455).
10. To connect the seat cable for the driver's seat (cars without SA 459 only)

If the SW 13-pin plug (1) is not in seat disconnection plug X275 (19-pin GE), connect branches B2 - B5 to plug K.

Connect branches B2-B5 as follows to seat disconnection plug X257:
- Branch B2, brown cable, to PIN 8
- Branch B3, RT/BR cable, to PIN 4
- Branch B4, GN/RT cable, to PIN 5
- Branch B5, BL/VI cable, to PIN 1

Insulate branch B6, OR/GN cable, and branch B7, GN cable, and tie them back.

Use a cable tie J to secure the cable to the seat disconnection plug X275.

Route the plug for the backrest heating element (2) and seat heating element (3) to seat module G and attach them to the mountings (1).

Connect the plug for the backrest heating element (1) and seat heating element (2) to seat module G.

Connect branch B1 (8-pin SW plug) to seat module G.
11. To connect the seat cable for the driver's seat (cars with SA 459 only)

Disconnect, insulate and tie back the following cables from seta disconnection plug X275 (19-pin GE):
- OR/GN cable from PIN 2
- GN cable from PIN 3

Connect branches B2-B7 as follows to seat disconnection plug X257:
- Branch B2, brown cable, to PIN 8
- Branch B3, RT/BR cable, to PIN 4
- Branch B4, GN/RT cable, to PIN 5
- Branch B5, BL/VI cable, to PIN 1
- Branch B6, OR/GN cable, to PIN 2
- Branch B7, GN cable, to PIN 3

Use a cable tie J to secure the cable to the seat disconnection plug X275.

Route the plug for the backrest heating element (2) and seat heating element (3) to driver's seat module F and attach them to the mountings (1).

Tie back existing plug X13709 (8-pin SW).

Connect the plug for the backrest heating element (2) and seat heating element (3) to driver's seat module F.

Connect branch B1 (8-pin SW plug) to driver's seat module F.
12. To connect the seat cable for the passenger seat (all cars)

If the SW 13-pin plug (1) is not in seat disconnection plug X279 (19-pin GE), connect branches D2 - D5 to plug K. 4

Connect branches D2-D5 as follows to seat disconnection plug X279:
- Branch D2, BR cable, to PIN 8
- Branch D3, RT/BR cable, to PIN 4
- Branch D4, GN/RT cable, to PIN 5
- Branch D5, BL/WS cable, to PIN 1

Use a cable tie J to secure the cable to seat disconnection plug X279.

Route the plug for the backrest heating element (2) and seat heating element (3) to seat module G and attach them to the mountings (1).

Connect the plug for the backrest heating element (1) and seat heating element (2) to seat module G.

Connect branch D1 (8-pin SW plug) to seat module G.
13. To install and connect the wiring harness for the driver’s and passenger seat

Connect driver’s seat wiring harness A to seat disconnection plug X275 (19-pin GE) as follows:
- Branch A1, BR cable, to PIN 8
- Branch A2, RT/BR cable, to PIN 4
- Branch A3, GN/RT cable, to PIN 5
- Branch A4, BL/VI cable, to PIN 1

Route driver’s seat wiring harness A as follows:
- To the left door sill
- Along the standard wiring harness to the footwell on the passenger side (1)

Connect passenger seat wiring harness C to seat disconnection plug X279 (19-pin GE) as follows:
- Branch C1, brown cable, to PIN 8
- Branch C2, RT/BR cable, to PIN 4
- Branch C3, GN/RT cable, to PIN 5
- Branch C4, BL/WS cable, to PIN 1

Route passenger seat wiring harness C as follows:
- To the right door sill
- Along the standard wiring harness to the footwell on the passenger side
13. To install and connect the wiring harness for the driver’s and passenger seat

Secure branch A5, BR cable, and branch C5, BR cable, to joint connector X490.

Route branch A6, RT/BR cable, to the fuse holder (1).

Connect branch A6 to PIN 4 of plug X11005 (6-pin natural color).

Route branch C6, RT/BR cable, to the fuse holder (1).

Connect branch C6 to PIN 6 of plug X11004 (6-pin SW).

Route branch A7 and branch C7, green/red cable, to the fuse holder (1).

Connect branch A7 to PIN 9 of plug X11003 (15-pin BL).

If PIN 9 is already occupied, connect branch A7 to the cable connected to it, GN/RT or GN/BR cable, using miniature connector L.

Connect branch C7 to branch A7 using miniature connector L.

Install the fuse holder (1).
13. To install and connect the wiring harness for the driver’s and passenger seat

Disconnect plug X14270 (47-pin SW) from the rear of the junction box (1).

Connect branches A8 and C8 to plug X14270 as follows:
- Branch A8, BL/VI cable, to PIN 34
- Branch C8, BL/WS cable, to PIN 38

Insert 30 A fusible inserts M into slot F32 and F49.
Insert 5 A fusible insert N into slot F29.
Install the glove box with casing.
14. To install the center console switch center (E87 only)

Cars without SA 609 only

The trims originally fitted in cars without a central console switch center must be replaced by the following: Trim for center instrument panel Q and trim R.

1. Install trim for center instrument panel Q.
2. Clip center console switch center O into trim R.
3. Clip trim R into trim for the center instrument panel Q.
4. Connect the plug (1) from the center console switch center O to the heating/air-conditioning control (2).
5. Clip in the heating/air-conditioning control (2).

Cars with SA 609 only

The trim originally fitted in cars without a central console switch center must be replaced by the following: Trim P.

1. Clip center console switch center O into trim P.
2. Install trim for center instrument panel Q.
3. Clip trim P into the trim for the center instrument panel.
4. Connect the plug (1) from the center console switch center O to the heating/air-conditioning control (2).
5. Clip in the heating/air-conditioning control (2).
15. To install the center console switch center (E90, E91 and E92 only)

Clip center console switch center O into trim P.

Clip in trim P.

Connect the plug (1) from the center console switch center O to the heating/air-conditioning control (2).

Clip in the heating/air-conditioning control (2).
16. **Concluding work and coding**

This retrofit system requires coding.
- Connect the battery
- Encode/program the retrofit via path Retrofit
- Conduct a brief test
- Conduct a function test
Re-assemble the car.
17. Circuit diagram

[Diagram of a circuit with labels and connections]
17. Circuit diagram

Legend

A4010  Fuse holder
A4010a  Junction box

B1*  SW 8-pin plug (X13709)
D1*  SW 8-pin plug (X13710)
E56a  Driver’s seat backrest heating element (E*)
E57a  Driver’s seat cushion heating element (E*)
E59a  Passenger seat backrest heating element (E*)
E58a  Passenger seat cushion heating element (E*)
F*  Driver’s seat module (A187)
G*  Seat module (A186)
L*  Miniature connector
M*  Fusible inserts 30 A (F32 and F49)
N*  Fusible insert 5 A (F29)
X275  Driver’s seat disconnection plug (19-pin GE)
X279  Passenger seat disconnection plug (19-pin GE)
X490  Terminal 31 joint connector
X732  4-pin plug BR
X733  SW 5-pin plug
X740  SW 5-pin plug
X741  4-pin plug BR
X11003  Blue 15-pin plug
X11004  SW 6-pin plug
X11005  6-pin natural-colored plug
X14270  SW 47-pin plug

All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colors

BL  Blue
BR  Brown
GE  Yellow
GN  Green
OR  Orange
RT  Red
VI  Violet
WS  White