

Consumer shutoff

General

One of the most important functions of the battery control module (N82) is dynamic load management (consumer shutoff) to safeguard the stability of the on-board electrical system.

The battery control module (N82) transmits the shutoff request or load reduction centrally to all the consumers (control modules) on the on-board electrical system battery circuit as required.

The voltage threshold and the consumer shutoff function differ according to the operating states:

- Shutoff stage 1
- Shutoff stage 2
- Emergency stage 3

Shutoff stage 1

At a voltage of 11 V, shutoff stage 1 is triggered by the battery control module (N82). Thereupon, the consumers listed in the table “Consumer shutoff” shut down automatically.

The following message is displayed to the driver in the instrument cluster (A1):

Battery protection: Comfort functions are temporarily switched off

Shutoff stage 2

At a voltage of 10.7 V, shutoff stage 2 is triggered by the battery control module (N82). Thereupon, the consumers listed in the table ‘Consumer shutoff’ shut down automatically.

The message for the driver in the instrument cluster (A1) remains the same.

Cancellation of shutoff stages

Shutoff stage 2 is canceled at an estimated voltage of > 11.3 V; shutoff stage 1 at > 11.5 V.

The following message is displayed to the driver in the instrument cluster (A1):

Comfort functions are available again

Emergency stage 3 (activation of auxiliary battery [G1/7])

At a voltage of 10.5 V or if the internal resistance of the battery (G1) is too high, the battery control module (N82) triggers the activation of the auxiliary battery (G1/7) via the auxiliary battery relay (K57/2).

This stabilizes the on-board electrical system for a short time; the message in the instrument cluster (A1) remains the same as for shutoff stage 1 and shutoff stage 2.

If the on-board electrical system remains unstable despite activation of the auxiliary battery (G1/7) or if the on-board power supply voltage continues to drop from 10.5 V, the following message is displayed to the driver in the instrument cluster (A1):

Battery/Alternator - Stop Vehicle!

Activation of this so-called “final braking message 10.5 V is designed so that the battery (G1) can still deliver 100 A for at least 15 secs. without the on-board power supply voltage falling below 9.3 V.

Note

As of 6-1-06 the consumer shutoff is controlled by the battery sensor (B95).



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Table of consumer shutoff

Consumer	Shutoff stage 1	Shutoff stage 2
Rear defroster	X	-
Memory	X	-
Comfort opening/closing	X	-
Blower motor (reduced to:	69%	-
Flaps motor	X	-
Headlamp cleaning system	X	-
Front passenger seat adjustment	X	-
Seat heating/ventilation	X	-
Multicontour backrest	X	-
Comfort illumination	X	-
• Entrance lamp	X	X
• Exit lamp	X	X
• Warning lamp	X	X
Steering wheel heater	X	X
Dynamic seat	X	X
Power windows	-	X
Parktronic	-	X
Remote trunk closing	-	X
Washer fluid heater	-	X
Washer nozzle heater	-	X
Telematics	-	X
Mirror heater	-	X



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Consumer	Shutoff stage 1	Shutoff stage 2
Comfort illumination	–	X
Reading lamp	–	X
Interior illumination	–	X
Footwell illumination	–	X
Cargo compartment illumination	–	X
Rear/cargo compartment socket, multicontour backrest	–	X
Front cigarette lighter	–	X
Sliding roof	–	X

