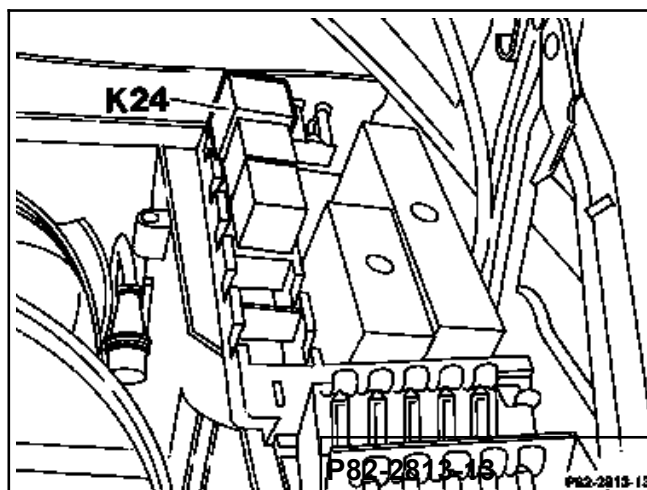


Wiring diagram 4 power windows (as of approx. 01/89)

F1	Fuse and relay box	S21/6	Switch window, rear right (console front)
K24	Relay comfort circuit	S21/7	Safety switch window lifter rear
M10/3	Window lifter motor, front left	W1	Main ground (behind instrument cluster)
M10/4	Window lifter motor, front right	W12	Ground, center console
M10/5	Window lifter motor, rear left	X4/1	Terminal block terminal 30/interior, 2-pole
M10/6	Window lifter motor, rear right	X6/1	Terminal block terminal 58D
S17/3	Door contact switch front left	X16/1	Connector power window feed, 4-pole
S21/1	Switch window, front left	a	Dome lamp with reading lamp and belt warning
S21/2	Switch window, front right		
S21/3	Switch window, rear left		
S21/4	Switch window, rear right		
S21/5	Switch window, rear left (console front)		

Comfort circuit window lifter/seat adjustment

The comfort circuit was changed from approx. 01/89. Diode and plus controlled door contacts left and right are no longer included. The function of the diode is taken over by an electronic relay (K24) located in the fuse and relay box in the field A.



Model all (CAR)

Overview

This document contains the following information:

- **General**
- **Function requirement**
- **Actuating the window lifter**

General

The window lifter is a mechanical lifting device that is driven by an electric motor. It can be used to open and close the respective side window.

Function requirement

- Circuit 15R ON or control unit power-down active (manual operation)

i Control unit power-down

After circuit 15R is OFF, the window lifters can still be operated via the corresponding power window switch for another 5 min.

i The respective window lifter must be normalized for all automatic functions. The normalization ensures that the system can accurately determine the position of the window lifter. The position of the window lifter cannot be determined in the denormalized condition. The function is then limited to manual opening and closing.

Actuating the window lifter

The actuation of the window lifter can be triggered via various different control elements or functions.

Control element/function	Action	Additional information
Power window switch (actuated up to pressure point and held)	Actuation for the duration of operation (max. 25 s)	-
Power window switch (actuated beyond the pressure point and released)	Actuation until the respective end position is reached	-
Web-based via browser (e.g. tablet/PC/smartphone) (Vehicles with Remote Online)	Actuation as per the application	The status of the side windows can be called up any time.
		On the vehicle side, this telematics service is implemented via a mobile radio connection to the Service Center.
Convenience feature	Actuation of all window lifters, if necessary together with the sliding sunroof or panoramic sliding sunroof, from one control point	-
Rain closing	Closing of the side windows to prevent the ingress of rain	-
PRE-SAFE® (Vehicles with PRE-SAFE® system)	Closing of the side windows in potentially hazardous situations to protect the vehicle occupants	-
Crash ventilation	Opening of the side windows after an accident in which the airbag was deployed	-

i If the power window switch is actuated for more than 25 s, the actuation is aborted. The continuous request is assessed as a defect of the power window switch.

A new actuation (triggered via the power window switch) can be performed only after it has been detected that the power window switch is in the rest position.

The driver can use the child safety lock to deactivate operation via the power window switch in the rear passenger compartment.

The individual requests that result in the actuation of the window lifter are prioritized according to their importance. The manual request via the power window switches in the driver's door have the highest priority.

- 1 Driver's door power window switch
- 2 Power window switches of the other doors
- 3 Diagnostic system
- 4 PRE-SAFE® (vehicles with PRE-SAFE® system)
- 5 Crash ventilation

6 Convenience feature

7 Web-based operation (vehicles with Remote Online)

8 Rain closing

Active actuation can be canceled by a higher priority request at any time. The higher priority request is then executed immediately. Lower priority requests are ignored during this actuation.

Safe operation of the window lifters is ensured by the excess force limiter, blockage detection, and overheating protection.

The excess force limiter is available only for normalized window lifters. In the case of manual and automatic closing, the excess force limiter operates in a range of approx. 3 to 230 mm with different levels of sensitivity (escalation stages). It provides protection against severe injuries. The power window motor current serves as a reference for the excessive force.

The individual escalation stages depend on the type of request and its background.

Manual closing	1. Actuation (escalation stage 1)	2nd actuation (escalation stage 2)	3rd actuation (escalation stage 3)
Holding power window switches	Stop at 100 to 115 N	Stop at 130 to 145 N	Actuation remains active.
Releasing power window switches	Reverse by 20 to 25 mm	Reverse by 20 to 25 mm	Actuation is stopped.

Automatic closing	1. Actuation (escalation stage 1)	2nd actuation (escalation stage 2)	3rd actuation (escalation stage 3)
Releasing power window switches	Stop at 50 to 60 N Reverse by 125 to 130 mm	Stop at 70 to 80 N Reverse by 125 to 130 mm	Only manual closing is possible.